

**AUCKLAND UNITARY PLAN
OPERATIVE IN PART**

**PROPOSED PLAN CHANGE 121
(Private):**

Karaka Road Precinct

**SUMMARY OF DECISIONS
REQUESTED**

Enclosed:

- **Explanation**
- **Summary of Decisions Requested**
- **Submissions**

Explanation

- You may make a “further submission” to support or oppose any submission already received (see summaries that follow).
- You should use Form 6.
- Your further submission must be received by **27 March 2026 at 5:00 PM.**
- Send a copy of your further submission to the original submitter as soon as possible after submitting it to the Council.

Summary of Decisions Requested

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|-------|-----------|---------------------------------|--|---|
| 1 | 1.1 | Peter Sim | moofmr@xtra.co.nz | Fully support the plan change. |
| 2 | 2.1 | Counties Energy Limited | allen.sneddon@countiesenergy.co.nz | Fully support the plan change. |
| 3 | 3.1 | Catholic Diocese of Auckland | michael@campbellbrown.co.nz | Amend standard IX.6.10 Noise levels within buildings in the Special Purpose – School Zone as follows: The deletion of the words “1m from the façade of any building containing Activities Sensitive to Noise within” within standard IX.6.10 and replace with ‘at the boundary of’. |
| 3 | 3.2 | Catholic Diocese of Auckland | michael@campbellbrown.co.nz | Any other consequential changes that would give effect to the relief sought. |
| 3 | 3.3 | Catholic Diocese of Auckland | michael@campbellbrown.co.nz | That the Karaka Road Precinct provisions otherwise be approved as notified. |
| 4 | 4.1 | Mr and Mrs PJ Hewlett | philipjhewlett@gmail.com | Accept the plan change. |
| 5 | 5.1 | Simon Bainbridge | home@simonbainbridge.com | Decline the plan change. |
| 5 | 5.2 | Simon Bainbridge | home@simonbainbridge.com | If approved, consider another roundabout on SH22 to facilitate safe merging of traffic and dual carriageway from SH1 Drury Interchange through to Glenbrook roundabout. |
| 6 | 6.1 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Seek the changes sought in Table 1. |
| 6 | 6.2 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Seek additional information to assess the effects and any appropriate mitigation prior to hearing as outlined in Table 2 and Table 3 of the submission, this being: intersections, connectivity, highway upgrades, integrated transport assessment, modelling, stormwater and noise. |
| 6 | 6.3 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Any other relief that provides for the adequate consideration and/or mitigation of potential effects on the state highway environment, transport network and its users. |
| 6 | 6.4 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Add new precinct objective as follows: <u>IX.2(10) Ensure that activities sensitive to noise adjacent to the highway are designed with measures to protect health and that such activities do not unduly constrain the operation of the highway network.</u> |
| 6 | 6.6 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend policy IX.3(3)(a) by deleting the wording ' during interpeak periods '. |
| 6 | 6.6 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend policy IX.3(5)(c) by adding ' <u>and State Highway 1 cycling and walking infrastructure</u> '. |
| 6 | 6.7 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend policy IX.3(6) by adding additional clauses as follows: <u>(g) Ensuring stormwater retains hydraulic neutrality at the boundary with State Highway 22.</u> <u>(h) Ensuring that stormwater discharges do not increase the flooding risk to State Highway 22 or its associated infrastructure.</u> |
| 6 | 6.8 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend policy IX.3(9) by adding additional clauses as follows: <u>(b) ensure that activities sensitive to noise adjacent to the highway corridor are designed with acoustic attenuation measures to protect people’s health and that such activities do not unduly constrain the operation of the highway corridor.</u> |
| 6 | 6.9 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend Activity Table IX.4.1(A13) by changing the activity status from Controlled to <u>Discretionary</u> . |

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| 6 | 6.10 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend Table IX.6.2 by adding as follows: Column 1: <u>Prior to construction works commencing onsite.</u> Column 2: <u>Provision of an interim intersection developed in consultation with the Road Controlling Authority to provide for the construction traffic (design details on the proposed standard of intersection design to be supported by a safe system audit and approval from the road controlling authority) located generally at the intersection of Karaka Road and Oira Road, as shown on Precinct Plan 1.</u> |
| 6 | 6.11 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend Table IX.6.2(a) column 2 as follows: Provision of an interim upgraded intersection (roundabout with two approach lanes in each direction or equivalent interim traffic signals, including active mode facilities, developed in consultation with the Road Controlling Authority) located generally at the intersection of Karaka Road and Oira Road, as shown on Precinct Plan 1; and, <u>Active mode facilities connections between the State Highway 1 and the Precinct; and,</u> <u>Active mode facilities connections between the Ngākōroa train station and the Precinct; and,</u> <u>Four lanes of traffic between State Highway 1 and Oira Creek.</u> |
| 6 | 6.12 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend Table IX.6.2(b) as follows: Provision of an ultimate upgraded intersection (design details on the proposed standard of upgraded intersection design to be supported by an updated integrated transport assessment, safe system audit and approval from the road controlling authority (roundabout with three approach lanes from the Precinct or equivalent traffic signals), including active mode facilities, located generally at the intersection of Karaka Road and Oira Road, as shown on Precinct Plan 1; and, <u>Active mode facilities connections between the State Highway 1 cycleway and the Precinct; and,</u> <u>Active mode facilities connections between the Ngākōroa train station and the Precinct; and,</u> <u>Four lanes of traffic between State Highway 1 and Oira Creek.</u> |
| 6 | 6.13 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend Table IX.6.2(c) as follows: Provision of roading improvements developed in consultation with the Road Controlling Authority to provide for the development (design details on the proposed standard of upgraded intersection design to be supported by an updated integrated transport assessment, safe system audit and approval from the road controlling authority. The design may include a second site access, including active mode facilities) located generally at the locations shown on Precinct Plan 1. |
| 6 | 6.14 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend IX.6.3(1) as follows: (1) The maximum number of direct vehicle access points from the precinct to Karaka Road is limited to <u>one</u> three and these shall be located generally at the points shown on Precinct Plan 1. |

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| 6 | 6.15 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend IX.6.8 as follows: [...] <u>(3) Stormwater runoff and discharge must be designed to ensure compliance with the following standards:</u> [...] <u>(g) That the site retains stormwater hydraulic neutrality compared to pre-development levels at the boundary with State Highway 22,</u> <u>(h) That the stormwater discharges do not increase the flooding risk to State Highway 22 or its associated infrastructure.</u> |
| 6 | 6.16 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Add a new standard IX.6.11 as follows: <u>Noise Control for Sensitive Activities</u> <u>(1) Any new building that contains a noise sensitive activity, an alteration to an existing building resulting in an increase in floor area of a noise sensitive activity; or a new noise sensitive activity is located in an existing building; is proposed within 90m of Karaka Road shall be:</u> <u>(a) Designed, constructed and maintained to achieve indoor design noise levels not exceeding the maximum values in [Table 3]; and</u> <u>(b) If windows must be closed to achieve the design noise levels in (a) above, the building is designed, constructed and maintained with a mechanical ventilation system</u> <u>(c) A report is submitted by a suitably qualified and experienced person to the Council demonstrating compliance with a and b above (as relevant) prior to the construction or alteration of any building containing an activity sensitive to noise.</u> |
| 6 | 6.17 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Delete IX.7 Assessment controlled activities in its entirety. |
| 6 | 6.18 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Amend IX.9 Special information requirements as follows: (1) Addendum Transport Assessment to the Integrated Transport Assessment prepared to support the Precinct <u>For each threshold identified in Table IX.6.2 Staging of development with transport upgrades, a A proposal that does not comply with standard IX.6.2 <i>Staging of development with transport upgrades</i> or development exceeding 128,900m² of commercial or industrial gross floor area must be accompanied by an addendum assessment of transportation effects, to be prepared by suitably qualified transport planner or traffic engineer in accordance with the Auckland Transport Integrated Transport Assessment Guidelines applying at the time of the application.</u> |
| 6 | 6.19 | NZ Transport Agency Waka Kotahi | Luke.Braithwaite@nzta.govt.nz; EnvironmentalPlanning@nzta.govt.nz | Revise IX.10.1 Precinct Plan 1 to only indicate one intersection at the intersection with Oira Road. |
| 7 | 7.1 | Ramwall Group | Peter.Faafiu@navigator.kiwi.nz | Decline the plan change. |

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| 7 | 7.2 | Ramwall Group | Peter.Faafiu@navigator.kiwi.nz | Alternative relief if the plan change is approved in part, as follows: - Precinct provisions are included to restrict activities to Fisher and Paykel Healthcare-specific research, development and associated light manufacturing; remove or materially limit warehousing, storage/lock-up, and generic industrial parks; - Require stronger building-scale controls and step-downs at residential and school interfaces; require landscape, lighting and acoustic buffers adjacent to sensitive receivers; - Link occupation thresholds to proven delivery of transport mitigation and Ngākōroa Station capacity upgrades. |
| 7 | 7.3 | Ramwall Group | Peter.Faafiu@navigator.kiwi.nz | Further information is provided on the matters identified in the submission (including temporary access/shuttle effects and station capacity uplift modelling) before approval is contemplated. |
| 8 | 8.1 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | Amend the Karaka Road Precinct as per Attachment A of the submission. |
| 8 | 8.2 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | Add new objective as follows: <u>(10) Development on land subject to natural hazards is managed to ensure natural hazard risks on other properties, infrastructure and the environment are not exacerbated.</u> |
| 8 | 8.3 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | Add three new policies as follows: <u>(10) Ensure development manages flooding effects upstream and downstream of the site and in the Karaka Road Precinct so that the risks to people and property (including infrastructure) are not increased for flood events, up to a 1% AEP flood event.</u> <u>(11) Maintain the function of overland flow paths to convey stormwater runoff safely from a site to the receiving environment.</u> <u>(12) Require risk assessment prior to subdivision, use and development of land subject to instability.</u> |
| 8 | 8.4 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | Add new activities to Table IX.4.1 Activity Table (refer to submission for details) |
| 8 | 8.5 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | Add the following text at the bottom of Table IX.4.1 Activity Table <u>* The activity status listed in Table E36.4.1A of E36 Natural hazards and flooding does not apply and is replaced by IX4.1 (A1A).</u> <u>** The activity status listed in Table E36.4.1B of E36 Natural hazards and flooding does not apply and is replaced by IX4.1 (A1B).</u> |

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| 8 | 8.6 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | <p>Add new standard</p> <p><u>IX.6.11 Natural Hazards and Flooding</u></p> <p><u>(1) Fences, earth bunds and walls in the 1 per cent annual exceedance probability (AEP) floodplain must be designed to allow for the passage of flood waters where those flood waters exceed 300mm in depth.</u></p> <p><u>(2) Goods and materials stored in the 1 per cent annual exceedance probability (AEP) floodplain for longer than 28 consecutive days must:</u></p> <p><u>a) not impede flood flows; and</u></p> <p><u>b) where capable of creating a safety hazard by being shifted by floodwaters, be contained and secured in order to minimise movement in times of floods; and</u></p> <p><u>c) be stored in watertight containers if they are hazardous substances.</u></p> |
| 8 | 8.7 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | <p>Add new matters of control at IX.7 (1)</p> <p><u>(2) Buildings, structures, on-site septic tanks, onsite wastewater treatment and disposal systems and effluent disposal fields on land which may be subject to land instability:</u></p> <p><u>(a) Effects of development subject to land instability.</u></p> |
| 8 | 8.8 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | <p>Add new assessment criteria at IX.7.2 (2)</p> <p><u>(2) Buildings, structures, on-site septic tanks, onsite wastewater treatment and disposal systems and effluent disposal fields on land which may be subject to land instability:</u></p> <p><u>(a) Weather buildings, structures, on-site septic tanks, onsite wastewater treatment and disposal systems and effluent disposal fields on land which may be subject to land instability are constructed in accordance with a geotechnical completion report or similar professional report, approved or endorsed by Council.</u></p> |
| 8 | 8.9 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | Add to IX.8.1 matters of discretion for Activities in the 1 per cent annual exceedance probability (AEP) flood plain (refer to submission for details). |
| 8 | 8.10 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | Add to IX.8.1 matters of discretion for Activities in overland flow paths (refer to submission for details). |
| 8 | 8.11 | Fisher & Paykel Healthcare Properties Ltd | RebeccaS@barker.co.nz | Add new assessment criteria at IX.8.2 for Activities in the 1 per cent annual exceedance probability (AEP) flood plain (refer to submission for details). |
| 9 | 9.1 | Ngaati Te Ata Waiohua | karl_flavell@hotmail.com | That the recommendations in our CIA Report are adopted (those that we had earlier discussed and agreed to with FPH). |
| 9 | 9.2 | Ngaati Te Ata Waiohua | karl_flavell@hotmail.com | That FPH continue to engage and consult with us as the plan change develops. |
| 9 | 9.3 | Ngaati Te Ata Waiohua | karl_flavell@hotmail.com | That the Oiroa Stream has the adequate resourcing afforded to its restoration and protection, including ongoing pest management. |
| 9 | 9.4 | Ngaati Te Ata Waiohua | karl_flavell@hotmail.com | That the MOU Relationship Agreement process is undertaken. |
| 9 | 9.5 | Ngaati Te Ata Waiohua | karl_flavell@hotmail.com | That the corner quadrant area (see map in submission) is designated as a no development zone and instead a conservation biodiversity park is created. This would a great legacy for FPH to leave the community and future generations. |
| 9 | 9.6 | Ngaati Te Ata Waiohua | karl_flavell@hotmail.com | That Ngaati Te Ata Waiohua are re-engaged regarding the waste water option once chosen. We do not support direct discharge into the Oiroa (Oira) Stream. |
| 9 | 9.7 | Ngaati Te Ata Waiohua | karl_flavell@hotmail.com | That Ngaati Te Ata Waiohua have input into the precinct plan provisions. |

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| 10 | 10.1 | Keith Dilley | av8or@actrix.co.nz | Accept the plan change with amendments as follows: - Provide legal public access connection from the eastern plan change area to Ngākōroa Station. - Provide legal public access through Fisher & Paykel Healthcare land for walking and cycling. - Provide a connection at western end of the site out through the part formed and part unformed Woodlyn Drive. - Ideally there would also be a legal public access corridor next to the North Island Main Trunk Line. |
| 11 | 11.1 | New Zealand Steel Ltd | Nathan.Jones@bluescopesteel.com | Accept the plan change. |
| 12 | 12.1 | Prosperous Farms Ltd, Puiz trustee Limited And Sain Family Trustee Ltd | cmcgarr@bentley.co.nz | Approve as notified. |
| 12 | 12.2 | Prosperous Farms Ltd, Puiz trustee Limited And Sain Family Trustee Ltd | cmcgarr@bentley.co.nz | Such alternative relief that retains the intent of PC121 as sought. |
| 13 | 13.1 | NZ Storage Holdings Limited (NZSHL) and New Zealand Agrihub Limited (NZAHL) | cmcgarr@bentley.co.nz | Approve as notified. |
| 13 | 13.2 | NZ Storage Holdings Limited (NZSHL) and New Zealand Agrihub Limited (NZAHL) | cmcgarr@bentley.co.nz | Such alternative relief that retains the intent of PC121 as sought. |
| 14 | 14.1 | Chun-Kai Tseng | chunkaitseng@gmail.com | Accept the plan change. |
| 15 | 15.1 | Franklin Active Trails | nz.paularthur@gmail.com | Accept the plan change with amendments. |
| 15 | 15.2 | Franklin Active Trails | nz.paularthur@gmail.com | Amend the plan change to support the values expressed in Master Plan Report from a car-dominated mode shafting to Active and Public transport modes. |
| 15 | 15.3 | Franklin Active Trails | nz.paularthur@gmail.com | Provide connectivity to Ngākōroa Train Station. |
| 15 | 15.4 | Franklin Active Trails | nz.paularthur@gmail.com | PC121 must have walking/cycling (active mode) connections to Ngākōroa Station, as a requirement, not just the stated intention. |
| 15 | 15.5 | Franklin Active Trails | nz.paularthur@gmail.com | Investigate linking the Unformed Legal Road on Woodlyn road to the North Island Main Trunk Line Active Mode Corridor. |
| 16 | 16.1 | Herenga ā Nuku Aotearoa - the Outdoor Access Commission | Dot.Dalziell@herengaanuku.govt.nz | Amend IX.2.5 by adding the following clauses: (c) provides an active modes corridor to and through the site for public access, along the south-eastern boundary; (d) provides an active mode connection from the corridor in IX.2.5(c) to the legal road bounding the south-western edge of the site; (e) provides public walking access along the Oira Stream, connecting to the legal road network. |
| 16 | 16.2 | Herenga ā Nuku Aotearoa - the Outdoor Access Commission | Dot.Dalziell@herengaanuku.govt.nz | Amend IX.3.5(c) by adding the word "enabling" at the beginning of the clause. |

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| 17 | 17.1 | Angie | angela.qi.lin@gmail.com | Amend the plan change amended so that: <ul style="list-style-type: none"> - At the east end there is a legal public access connection to Ngākōroa Station. - There is legal public access through Fisher & Paykel Healthcare land for walking and cycling. - At the western end there is a connection out through the part formed and part unformed Woodlyn Drive. - Ideally there would also be a legal public access corridor next to the North Island Main Trunk Line. |
| 18 | 18.1 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Seek amendments to ensure its rail operations can continue unimpeded to ensure continuity of services and safety for rail users and the community. |
| 18 | 18.2 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | <p>Include the following (or equivalent) text within Precinct description:</p> <p>IX.1. Karaka Road Precinct description The Karaka Road Precinct applies to approximately 86.5ha of land bordered by Karaka Road which forms part of State Highway 22 to the north, the North Island Main Trunk Railway Line to the south, and Oiroa awa (Creek) to the west. <u>Future capacity improvements on the rail network are proposed which may include four-tracking and associated modifications to Ngākōroa Railway Station</u></p> <p>[...]</p> <p>The Karaka Road Precinct includes a standard to manage operational noise levels received by activities sensitive to noise within the Special Purpose – School Zone. This recognises that Chapter E25 does not include any operational noise standards to control the maximum permitted noise levels received in this zone.</p> <p><u>Provisions are also proposed within the Precinct to protect activities sensitive to noise from adverse effects arising from the proximity of the activities to the North Island Main Trunk Railway Line.</u></p> <p><u>A Rail Vibration Alert Overlay has been applied which identifies the vibration-sensitive area (within 100 metres of Strategic Transport Corridor zone containing the railway designation). No specific plan provisions apply in relation to the Rail Vibration Alert Overlay; the Overlay is to advise property owners of potential vibration effects however it is for the site owner to determine an appropriate response.</u></p> <p><i>The zoning of land within this Precinct is Business – Light Industry. [...]</i></p> |
| 18 | 18.3 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Retain Objective IX.2(5) as notified. |
| 18 | 18.4 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | <p>Include new objective (or equivalent):</p> <p><u>(10) Ensure that activities sensitive to noise arising from the railway corridor are designed with measures to protect health and amenity, and that such activities do not constrain the operation of the railway corridor.</u></p> |
| 18 | 18.5 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Retain Policy IX.3(2) as notified |

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| 18 | 18.6 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Amend policy IX.3(6) (or equivalent): (6) <i>Require development to be consistent with the water sensitive approach outlined in the supporting stormwater management plan, including:</i> (a) [...] <i></i> (f) <i>Ensuring development is coordinated with sufficient stormwater infrastructure to service the development , and</i> (g) <i>Require stormwater management measures to prevent adverse effects on the railway corridor and its associated structures and culverts</i> |
| 18 | 18.7 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Add new policy IX.3 (or equivalent): <u>Ensure that activities sensitive to noise adjacent to the railway designation are designed with acoustic attenuation measures to protect people's health and amenity and that such activities do not constrain the operation of the railway corridor.</u> |
| 18 | 18.8 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Either: Modify (A5) and (A8) to reflect existing defined terms in the AUP; or Provide new definitions to accurately describe the activities within (A5) and (A8). |
| 18 | 18.9 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Amend rule IX.4.1(A2) as follows: <i>Development that does not comply with standards IX.6.4 Yards, IX.6.5 Special Landscape Area, IX.6.6 Maximum impervious area, IX.6.7 Riparian planting, IX.6.8 Stormwater quality, IX.6.9 Water supply and wastewater connections or IX.6.10 Noise levels within buildings in the Special Purpose – School Zone, or IX.6.8 Noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation</i> |
| 18 | 18.10 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Amend IX.6.4 as follows (or equivalent): IX.6.4. Yards Purpose: •To provide a buffer and screening between industrial activities within the Precinct and adjacent land uses to mitigate adverse visual effects; and • Ensure buildings are adequately set back from streams to maintain water quality, amenity, and provide protection from natural hazards. • <u>Ensure safety for workers and users of the rail network as well as the wider community and minimise potential disruptions to the rail network.</u> (1) [...] <i></i> <u>Table IX.6.4.1 Yards</u> (refer to submission for details) |

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| 18 | 18.11 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Amend Standard 6.8. Stormwater quality as follows (or equivalent) <i>Purpose: Contribute to improvement to water quality, stream health and freshwater ecological values.</i> [...] <i>(3) Stormwater runoff and discharge must be designed to ensure compliance with the following standards:</i> [...] <u>(g) That the site retains stormwater hydraulic neutrality compared to pre-development levels at the boundary with the NIMT,</u> <u>(h) That the stormwater discharges do not increase the flooding risk to the rail corridor or its associated infrastructure.</u> |
| 18 | 18.12 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Add new standard <u>IX6.11 Noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation</u> (refer to submission for details) |
| 18 | 18.13 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Amend IX.8.1 Matters of discretion to add the following: <u>(a) Matters of discretion H17.8.1(4) apply; and</u> <u>(b) for side yards adjoining the Strategic Transport Corridor:</u> <u>(i) The location and design of the building as it relates to the ability to safely use, access and maintain buildings without requiring access on, above or over the rail corridor.</u> Add <u>(8) Noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation</u> <u>(a) Effects from non-compliance with Standards IX.6.10</u> |

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| 18 | 18.14 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | <p>Amend IX.8.2 as follows (or equivalent):</p> <p><u>IX.8.2 Assessment Criteria</u> [...]</p> <p><u>(1) Buildings that do not comply with standards IX.6.3 Yards, IX.6.4 Special Landscape Area, IX.6.5 Maximum impervious area:</u></p> <p><u>(a) Whether the proposal achieves policies H17.3(1), H17.3(4), IX.6.3(1), and IX.6.3(2). ; and</u> <u>(b) for side yards adjoining the Strategic Transport Corridor:</u> <u>i. location of the building or structure; ii. methods of providing for building maintenance within site boundaries on a permanent basis; and iii. the outcome of any consultation with KiwiRail.</u></p> <p>Add</p> <p><u>(8) Noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation</u></p> <p><u>(a) Whether the activity sensitive to noise could be located further from the railway corridor</u> <u>(b) the extent to which the noise and vibration criteria are achieved and the effects of any non-compliance</u> <u>(c) The character of and degree of amenity provided by the existing environment and proposed activity.</u> <u>(d) The reverse sensitivity effects on the railway corridor and the extent to which mitigation measures can enable their ongoing operation, maintenance and upgrade.</u> <u>(e) Special topographical, building features or ground conditions which will mitigate vibration impacts;</u> <u>(f) The outcome of any consultation with KiwiRail.</u></p> |
| 18 | 18.15 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Amend Precinct Map to apply a 100m Rail Noise Overlay from the STCZ (with rail designation) Precinct boundary. |
| 18 | 18.16 | KiwiRail Holdings Limited | environment@kiwirail.co.nz | Amend Precinct Map to apply a 100m Rail Vibration Alert Overlay to the Precinct from the STCZ (with rail designation) boundary. |
| 19 | 19.1 | Auckland Transport | spatialplanning@at.govt.nz | Approve the plan change with amendments and subject to further assessment in relation to transport modelling, as set out in the submission. |
| 19 | 19.2 | Auckland Transport | spatialplanning@at.govt.nz | The applicant update the transport modelling and provide a “full build out” assessment prior to the hearing. This modelling should also include further detail on freight volume and timing to better understand the potential impact of this mode on the transport network. |
| 19 | 19.3 | Auckland Transport | spatialplanning@at.govt.nz | <p>1. Amend the plan change and retain the Structure Plan as approved to preserve the future ability to provide a collector road link from SH22 to Burt Road.</p> <p>2. Add a new transport trigger into Table IX.6.2 to ensure the need for this future road is assessed at the appropriate time (i.e. before development of the site exceeds the upper levels).</p> |

Plan Change 121 (Private): Karaka Road Precinct

Summary of Decisions Requested

| Sub # | Sub Point | Submitter Name | Address for Service | Summary of Decisions Requested |
|-------|-----------|--------------------------------|--|---|
| 19 | 19.4 | Auckland Transport | spatialplanning@at.govt.nz | <p>1. Amend Policy IX.3(5) to make it clear that the active mode travel connections need to be in from day one as follows:</p> <p><i>Sustainability</i> <i>(5) Develop the [TBC] Precinct as a sustainable and low-carbon urban environment by:</i> ... <i>(c) Promoting mode shift to public and active modes of transport, including by encouraging safe and efficient access for pedestrians and cyclists within the Precinct to the Ngākōroa train station <u>from day one of operation</u>.</i></p> <p>2. Add a new transport trigger to Table IX.6.2 which requires an active mode connection to be provided from the site to Ngākōroa train station from day one of operation. It could be specified to be an interim solution.</p> |
| 19 | 19.5 | Auckland Transport | spatialplanning@at.govt.nz | Relocate the site's eastern intersection with SH22 to the eastern site boundary and make consequential amendment to Precinct Plan 1: Indicative Access Network. |
| 19 | 19.6 | Auckland Transport | spatialplanning@at.govt.nz | <p>Amend Activity Table IX.4.1 (A13) as follows:</p> <p><i>(A13) Construction of a new vehicle access from that part of a site boundary adjoining an arterial road as identified on the planning maps</i> <i>Activity Status: Controlled Discretionary</i></p> |
| 19 | 19.7 | Auckland Transport | spatialplanning@at.govt.nz | <p>Amend Policy IX.3(3)(a) as follows:</p> <p><i>Transport, infrastructure and staging</i> <i>(3) Ensure that the adverse effects of traffic generation on the surrounding transport network are mitigated, by ensuring:</i> <i>(a) The surrounding road network can operate with reasonable efficiency during interpeak periods;</i></p> |
| 19 | 19.8 | Auckland Transport | spatialplanning@at.govt.nz | Add an additional trigger to Table IX.6.2 which relates to the threshold for the third vehicle crossing. |
| 20 | 20.1 | Watercare Services Limited | planchanges@water.co.nz | Amendments to confirm the Applicant's proposals and timeframes in relation to water supply and wastewater servicing of the Plan Change Area, and to ensure there are provisions in place to provide for the efficient integration of development alongside infrastructure planning and delivery in the Plan Change Area. |
| 21 | 21.1 | Ngāti Tamaoho Settlement Trust | Edith@tamaoho.maori.nz | <p>Amend the Karaka Road Precinct provisions to:</p> <ol style="list-style-type: none"> 1. Require Memoranda of Understanding with Ngāti Tamaoho, for cultural monitoring and design input; 2. Embed principles and values in all precinct design standards and assessment criteria; 3. Amend provisions to allow hybrid solutions incorporating on-site attenuation and naturalised systems, consistent with iwi recommendations; 4. Strengthen accidental discovery protocols and require pre-earthworks cultural monitoring; 5. Commit to naming precinct features after Oiroa Awa and other culturally significant elements. |
| 21 | 21.2 | Ngāti Tamaoho Settlement Trust | Edith@tamaoho.maori.nz | Include precinct provisions to include cultural input into, governance, design principles supported by mana whenua, enhanced stormwater design, archaeological protocols, and cultural naming requirements, acknowledgement and provision of the cultural landscape throughout the campus. |
| 21 | 21.3 | Ngāti Tamaoho Settlement Trust | Edith@tamaoho.maori.nz | Ensure ongoing meaningful engagement with Ngāti Tamaoho throughout all stages of development. |
| 21 | 21.4 | Ngāti Tamaoho Settlement Trust | Edith@tamaoho.maori.nz | Further engagement through the design of any future infrastructure and changes to concept design. |

Plan Change 121 (Private): Karaka Road Precinct

Summary of Decisions Requested

| Sub # | Sub Point | Submitter Name | Address for Service | Summary of Decisions Requested |
|-------|-----------|-------------------------------------|--|--|
| 21 | 21.5 | Ngāti Tamaoho Settlement Trust | Edith@tamaoho.maori.nz | Provide for Cultural provisions within the Precinct Provisions incorporating mātauranga Māori and tikanga Māori through the development process. <ul style="list-style-type: none"> •Incorporating mātauranga Māori and tikanga Māori through the development process; •Incorporation of design elements, art works, naming and historical information to reflect the values and relationships with the Karaka area; •Ecological enhancement including native landscaping, vegetation and design, including retention of mature native trees, and replanting (and consultation on the landscape plans); •Providing for the acknowledgement of our heritage and cultural landscape our stories in the Karaka Area. |
| 21 | 21.6 | Ngāti Tamaoho Settlement Trust | Edith@tamaoho.maori.nz | Provide for Cultural consent conditions for Pre-start meeting, Cultural Inductions and Earthworks Monitoring – Mana Whenua and Accidental Discovery Protocols (refer to submission for details) |
| 22 | 22.1 | Veolia Water Services (ANZ) Pty Ltd | sanjeev.morar@veolia.com | A decision that ensures the water and wastewater capacity and servicing requirements of the Proposal will be adequately met, such that the water and wastewater related effects are appropriately managed. |
| 22 | 22.2 | Veolia Water Services (ANZ) Pty Ltd | sanjeev.morar@veolia.com | The applicant will, at its cost, design and construct a looped Retail water network to the subject site, extending from the Flanagan Road Bulk Supply Point (BSP) and connecting back into Bremner Road. All water infrastructure extending from the Flanagan Road BSP is “Retail”. |
| 22 | 22.3 | Veolia Water Services (ANZ) Pty Ltd | sanjeev.morar@veolia.com | Wastewater disposal from the Plan Change Area is required to be connected to the public wastewater network, discharging to the Bremner Road catchment. |
| 22 | 22.4 | Veolia Water Services (ANZ) Pty Ltd | sanjeev.morar@veolia.com | The Applicant will, at its cost, design and construct: i. any wastewater infrastructure required to enable the connection of the Plan Change Area to the public wastewater disposal and collection system. ii. any water infrastructure required to enable the connection of the Plan Change Area to the public retail water network |
| 22 | 22.5 | Veolia Water Services (ANZ) Pty Ltd | sanjeev.morar@veolia.com | The Applicant obtains approval from Veolia for the connection points to the Retail network to service the Plan Change Area. |
| 23 | 23.1 | Whakaupoko Landcare | andrew.kereru@gmail.com | Provide connectivity to Ngākōroa (Drury West) Train Station, including timeframe, designed or committed to. |
| 23 | 23.2 | Whakaupoko Landcare | andrew.kereru@gmail.com | PC121 must have walking/cycling (active mode) connections to Ngākōroa station, as a requirement, not just the stated intention. |
| 23 | 23.3 | Whakaupoko Landcare | andrew.kereru@gmail.com | Investigate linking the Unformed Legal Road on Woodlyn road to the North Island Main Trunk Line Active Mode Corridor. |

Submissions

From: moofmr@xtra.co.nz
To: [Unitary Plan](#)
Subject: Plan Change 21
Date: Tuesday, 18 November 2025 10:14:22 am

Good Morning,

The affected properties listed below are fully supportive of Plan Change 121 (Fisher and Paykel Healthcare)

1.1

- Sim Holdings (77 Sim Rd, Karaka)
- D & K Sim Ltd (Bycroft Rd, Karaka)
- Trevlyn Enterprises (Sim Rd Karaka)

Regards

Peter Sim

0274941341



27 November 2025

Auckland Council
Private Bag 92300
Auckland 1142
Emailed: unitaryplan@aucklandcouncil.govt.nz

To Auckland Council,

Support for Fisher & Paykel Healthcare Properties Limited – Private Plan Change 121

Counties Energy Limited strongly supports Proposed Plan Change 121 (Karaka Road Precinct) lodged by Fisher & Paykel Healthcare Properties Limited (FPH). This precinct falls within Counties Energy’s electricity distribution area, which spans from South Papakura through the Awhitu Peninsula, south of Port Waikato, and east to the Firth of Thames. We supply power to approximately 50,000 customers and are one of the fastest-growing Electricity Distribution Businesses (EDBs) in New Zealand.

2.1

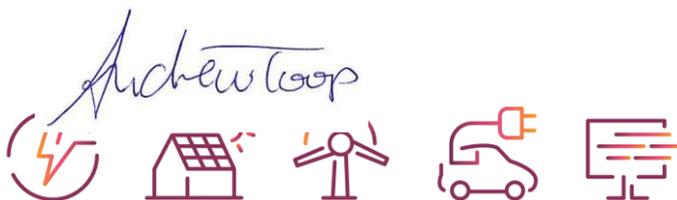
Plan Change 121 represents a critical opportunity to attract high-value employment to South Auckland. This region experiences higher concentrations of households in lower income demographics, and the proposed development will deliver significant socio-economic benefits by creating skilled jobs locally. Local employment will also reduce congestion on State Highway 1, as residents can work closer to home, improving transport efficiency and lowering emissions.

Counties Energy operates a 22kV high-voltage distribution network and a 110kV transmission network. This infrastructure means that there is existing capacity to supply the initial stages of development until a dedicated substation is commissioned. To future-proof supply, Counties Energy has purchased and rezoned land at the corner of Whangapouri and Karaka Road for a new substation, ensuring long-term resilience and capacity for growth.

We commend FPH for prioritizing utility resilience and proposing large-scale solar arrays within the precinct. This aligns with Auckland Council’s climate and sustainability objectives, including Te Tāruke-ā-Tāwhiri: Auckland’s Climate Plan, which calls for integrating renewable energy and reducing emissions. Our Asset Management Plan emphasizes flexible connections and dynamic operating envelopes to integrate renewable generation and manage peak demand efficiently. Plan Change 121 provides an ideal platform to showcase these innovations.

In conclusion, Counties Energy fully supports Proposed Plan Change 121. It is a transformative initiative that will deliver high-value jobs and economic uplift to South Auckland, reduce transport congestion and emissions, and enable sustainable growth through resilient energy infrastructure and renewable integration.

Yours sincerely,



Physical
14 Glasgow Road
Pukekohe 2120
New Zealand

Postal
Private Bag 4
Pukekohe 2340
New Zealand

Energy Reimagined

0800 100 202
countiesenergy.co.nz

Counties Energy Limited
Andrew Toop
GM Commercial

FORM 5

SUBMISSION ON PROPOSED PLAN CHANGE 121 (PRIVATE) AUCKLAND UNITARY PLAN

To: Auckland Council
Private Bag 92300
Auckland 1142

Name of Submitter: Catholic Diocese of Auckland

Catholic Diocese of Auckland ('CDA') provides this submission on Proposed (Private) Plan Change 121 ('**PC121**') to the Auckland Unitary Plan (Operative in Part).

The submitter owns and operates 485 Burt Road, Drury, zoned Special Purpose – School Zone and being the site of St Ignatius of Loyola Catholic College (**the submitters site**).

The Submitter could not gain an advantage in trade competition through this submission and its submission does not raise matters that relate to trade competition or the effects of trade competition.

The submission relates to the proposed rezoning to the Business-Light Industry zone and the associated application of a new precinct and associated provisions (the **Karaka Road Precinct**) to land at 300, 328, 350, 370 and park of 458 Karaka Road, Drury West.

The specific Plan Change provisions that this submission relates to are:

- a) The submitter **opposes** proposed standard IX.6.10 'Noise levels within building in the Special Purpose – School Zone'. In particular, the submitter opposes the measurement of the noise levels 1m from the façade of any building containing Activities Sensitive to Noise. In the submitter's opinion, this should be measured at the site boundary;
- b) The Submitter otherwise **supports** the proposed rezoning and associated provisions with the exception of 'a' above.

Reasons for the submitters opposition are:

- The applicable provisions do not promote the sustainable management of natural and physical resources, contrary to Part 2 of the Resource Management Act 1991 ('the Act');
- The provisions are not soundly based on evidence or an appropriate cost benefit analysis as required by section 32 of the Act;
- The applicable objectives, policies and rules of the AUP, as they relate to the Submitter's sites:
 - i) will not promote the sustainable management of natural and physical resources;
 - ii) are inconsistent with the purpose and principles of the Act;
 - iii) will give rise to adverse effects on the environment that are not avoided, remedied or mitigated;
 - iv) are inappropriate and unjustified in terms of Section 32 of the Act.
- The submitters site is proposed to be developed in stages and may require further development in time as the school roll grows. As a result, it is not currently fully developed and is unlikely to be for some time. The current drafting of standard IX.6.10 requiring the noise level from any activity within the Karaka Road Precinct to be measured from 1m from the façade of any building containing *Activities Sensitive to Noise* is likely to enable higher noise levels on parts of the site generated from the Karaka Road Precinct which may, in the future, be developed into noise sensitive spaces. The standard as proposed is likely to give rise to reverse sensitivity effects and may unduly burden future development potential at the submitter's site. The submitter notes that the relevant standards that apply to the submitters site (zoned Special Purpose – School Zone) enable a building to be constructed up to the boundary when not adjoining an open space, residential, or Future Urban zoned site.

Reasons for the submitters support, where relevant and other than the above, are:

- The proposed provisions promote the sustainable management of natural and physical resources, and are not contrary to Part 2 of the Resource Management Act 1991 ('the Act');
- The proposed amendments are consistent with the objectives and policies of the Auckland Unitary Plan;
- The proposed provisions will enable the efficient use of natural and physical resources.

The Submitter seeks the following decision from Auckland Council in respect of PC12:

- The deletion of the words "*1m from the façade of any building containing Activities Sensitive to Noise within*" within standard IX.6.10 and the replacement with '*at the boundary of*' as outlined below (suggested changes ~~struck through~~, inclusions underlined);

3.1

IX.6.10 Noise levels within buildings in the Special Purpose – School Zone

Purpose: To ensure that occupants of buildings containing Activities Sensitive to Noise within the adjacent Special Purpose – School Zone are protected from unreasonable levels of noise arising from activities within the Karaka Road Precinct.

(1) *The noise (rating) level and maximum noise level from any activity within the Karaka Road Precinct when measured ~~1m from the façade of any building containing Activities Sensitive to Noise within~~ at the boundary of the Special Purpose – School Zone must not exceed the levels in Table IX.6.10.1.*

Table IX.6.10.1 Noise levels arising from any activity within the Karaka Road Precinct when measured ~~1m from the façade of any building containing Activities Sensitive to Noise within~~ at the boundary of the Special Purpose – School Zone Time

| Time | Noise level |
|--------------|-------------|
| At all times | 55dB LAeq |

Noise level At all times 55dB LAeq Noise levels shall be measured and assessed in accordance with the requirements in E25.6.1 General Standards.

- Any other consequential changes that would give effect to the relief sought in this submission. | 3.2
- That the Karaka Road Precinct provisions be otherwise confirmed as notified. | 3.3

The Submitter wishes to be heard in support of its submission. If other parties make a similar submission, the Submitter would consider presenting a joint case with them at any hearing.

Michael Campbell

Campbell Brown Planning Limited

For and on behalf of Catholic Diocese Auckland as its duly authorised agent.

Date: 26 November 2025

Address for service of submitter:

Catholic Diocese of Auckland
C/- Campbell Brown Planning Limited
PO Box 147001
Ponsonby
AUCKLAND 1144

Attention: Michael Campbell

Telephone: (09) 378 4936

Mobile: (021) 2789018

Email: michael@campbellbrown.co.nz

Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991
FORM 5



Send your submission to unitaryplan@aucklandcouncil.govt.nz or post to :

Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300
Auckland 1142

| |
|---------------------|
| For office use only |
| Submission No: |
| Receipt Date: |

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

Mr & Mrs P & J Hewlett

Organisation Name (if submission is made on behalf of Organisation)

Address for service of Submitter

21 Woodlyn Drive RD2 Drury.

Telephone:

09-2949299

Email:

philipjhewlett@email.com

Contact Person: (Name and designation, if applicable)

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number

PC 121 (Private)

Plan Change/Variation Name

Karaka Road Precinct

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s)

300, 328, 350, 370, and Part of 458 Karaka Rd Drury west

Or

Property Address

458 Karaka Rd

Or

Map

Or

Other (specify)

Before you fill out the attached submission form, you should know:

You need to include your full name, an email address, or an alternative postal address for your submission to be valid. Also provide a contact phone number so we can contact you for hearing schedules (where requested).

By taking part in this public submission process your submission will be made public. The information requested on this form is required by the Resource Management Act 1991 as any further submission supporting or opposing this submission is required to be forwarded to you as well as Auckland Council. Your name, address, telephone number, email address, signature (if applicable) and the content of your submission will be made publicly available in Auckland Council documents and on our website.

Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least one of the following applies to the submission (or part of the submission):

- It is frivolous or vexatious.
- It discloses no reasonable or relevant case.
- It would be an abuse of the hearing process to allow the submission (or the part) to be taken further.
- It contains offensive language.
- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991
FORM 5



Send your submission to unitaryplan@aucklandcouncil.govt.nz or post to :

Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300
Auckland 1142

| |
|---------------------|
| For office use only |
| Submission No: |
| Receipt Date: |

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

[Redacted]

Organisation Name (if submission is made on behalf of Organisation)

[Redacted]

Address for service of Submitter

[Redacted]

Telephone:

[Redacted]

Email:

[Redacted]

Contact Person: (Name and designation, if applicable)

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number

PC 121 (Private)

Plan Change/Variation Name

Karaka Road Precinct

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s)

Fisher and Paykel Healthcare

Or

Property Address

[Redacted]

Or

Map

[Redacted]

Or

Other (specify)

[Redacted]

Submission

I seek the following decision by Council:

Accept the proposed plan change / variation

Accept the proposed plan change / variation with amendments as outlined below

Decline the proposed plan change / variation

5.1

If the proposed plan change / variation is not declined, then amend it as outlined below.

5.2

I am concerned that there has been no planning regarding the increased traffic this development will create once completed.

SH22 has been closed on a number following fatal crashes which suggests traffic is at significant levels already

This development will only increase traffic that turns across a state highway (speed limit of 80km/hr)

If the development goes ahead there needs to be consideration of another roundabout on SH22 to facilitate safe merging of traffic

and dual carriageway from SH1 Drury interchange through to the Glenbrook roundabout.

I wish to be heard in support of my submission

I do not wish to be heard in support of my submission

If others make a similar submission, I will consider presenting a joint case with them at a hearing

S Bainbridge

Signature of Submitter

(or person authorised to sign on behalf of submitter)

Date

Notes to person making submission:

If you are making a submission to the Environmental Protection Authority, you should use Form 16B.

Please note that your address is required to be made publicly available under the Resource Management Act 1991, as any further submission supporting or opposing this submission is required to be forwarded to you as well as the Council.

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

I could / could not gain an advantage in trade competition through this submission.

If you could gain an advantage in trade competition through this submission please complete the following:

I am / am not directly affected by an effect of the subject matter of the submission that:

(a) adversely affects the environment; and

(b) does not relate to trade competition or the effects of trade competition.

NZ Transport Agency Waka Kotahi Reference: 2024-0177

9 December 2025

Auckland Council
C/- John Duguid (General Manager – Planning and Resource Consents)
Planning and Resource Consents Department
Private Bag 92300
Auckland 1142

Via email: unitaryplan@aucklandcouncil.govt.nz

Dear John,

Submission on Proposed Plan Change 121 (Private) – Karaka Road Precinct

Attached is the NZ Transport Agency Waka Kotahi (NZTA) submission on Proposed Plan Change 121 (Private) - Karaka Road Precinct.

We welcome the opportunity to discuss the contents of our submission with council officers and Fisher and Paykel Healthcare Ltd in advance of a hearing.

If you have any questions, please contact me.

Yours sincerely



Luke Braithwaite

Senior Planner – Poutiaki Taiao / Environmental Planning
System Design, Transport Services
Environmentalplanning@nzta.govt.nz
Luke.braithwaite@nzta.govt.nz

FORM 5, CLAUSE 6 OF SCHEDULE 1, RESOURCE MANAGEMENT ACT 1991

Submission on Plan Change 121 (Private): Karaka Road Precinct

To: Auckland Council
C/- John Duguid (General Manager – Planning and Resource Consents)
Planning and Resource Consents Department
Private Bag 92300
Auckland 1142

Via email: unitaryplan@aucklandcouncil.govt.nz

From: NZ Transport Agency Waka Kotahi
Level 5, AON Centre, 29 Customs Street West,
Auckland 1010

1. This is a submission on the following:

The Plan Change 121 (Private): Karaka Road Precinct (**PC121**) to the extent the provisions have the potential to compromise NZ Transport Agency Waka Kotahi (**NZTA**) statutory obligations.

NZ Transport Agency Waka Kotahi (NZTA) could not gain an advantage in trade competition through this submission.

2. Role of NZTA

NZTA is a Crown entity with its functions, powers and responsibilities set out in the Land Transport Management Act 2003 (LTMA) and the Government Rounding Powers Act 1989. The primary objective of NZTA under Section 94 of the LTMA is to contribute to an effective, efficient, and safe land transport system in the public interest.

An integrated approach to transport planning, funding and delivery is taken by NZTA. This includes investment in public transport, walking and cycling, local roads and the construction and operation of state highways.

Within the 2024-27 National Land Transport Programme, NZTA has allocated investment in the Auckland Region to the improvement, operation and maintenance of the State Highway network, including public transport investment, walking and cycling and transport planning. In addition, NZTA is a co-funder of the local roading network. NZTA is therefore a significant investor in the infrastructure required to achieve land use change and growth.

3. State highway environment and context

State Highway 22 (**SH22**) is a key connecting road in South Auckland, linking the expanding satellite town of Pukekohe and settlements in west Franklin such as Waiuku and Glenbrook, to the Auckland Southern Motorway (**SH1**) at Drury. PC121 is located immediately south of SH22 where this site is bounded between SH22 and the KiwiRail Corridor. This plan change is solely reliant on SH22 for all vehicle access to and from the site.

South Auckland is growing fast, with an additional 120,000 people expected to make it their home during the next 30 years. NZTA are working to plan and deliver transport improvements in South Auckland to support future growth.

NZTA is currently undertaking an upgrade project on SH22 at the Jesmond Road intersection to provide for the new Ngākōroa Railway Station. NZTA are also constructing stage 1B of the Papakura to Drury project, which includes an upgrade of the Drury Interchange (which connects with SH22) and a widening of SH1. Projects beyond these are currently awaiting confirmation of funding and are not currently programmed.

4. The submission of NZTA is:

- (i) NZTA is Supportive in Part of PC121 to the extent outlined in this submission.
- (ii) NZTA supports the broader concept of providing employment opportunities to the South of Auckland. PC121 notes that it will meet 7.5% of the needs of Auckland for new business in greenfield area identified in the Auckland Future Development Strategy 2023-2053 and will create 6000 jobs, increasing to 12,000 in the long term.
- (iii) PC121 is bringing forward an area of development that is not anticipated to be developed until 2035+, which means that planned infrastructure to provide for development may not be in place prior to the commencement of works onsite. PC121 may require improvements to the transport network so that development can proceed.
- (iv) Where NZTA seek amendments to the provisions of proposed PC121 these are shown in Table 1 appended to this submission. Where NZTA has not commented on a provision, this can be considered to be supported.
- (v) NZTA have identified the information that would need to be provided to be able to fully assess PC121 and address the concerns outlined in this submission. NZTA has outlined this information in Table 2 appended to this submission.

5. NZTA seeks the following decision from the local authority:

- (i) NZTA seeks that the changes sought in Table 1 of this submission are made to the proposed plan change; and, 6.1
- (ii) That sufficient information is provided to be able to assess the effects and any appropriate mitigation prior to hearing as outlined in Table 2 attached to this submission; or, 6.2
- (iii) Any other relief that would provide for the adequate consideration and/or mitigation of potential effects on the state highway environment, transport network and its users. 6.3

6. NZTA does wish to be heard in support of this submission.

- 7. If others make a similar submission, NZTA will consider presenting a joint case with them at the hearing.
- 8. NZTA is willing to work with both Fisher and Paykel Healthcare Ltd and the Auckland Council in advance of a hearing.

Signature:



Luke Braithwaite

Senior Planner – Poutiaki Taiao / Environmental Planning

System Design, Transport Services

Pursuant to an authority delegated by NZ Transport Agency Waka Kotahi

Date: 9 December 2025

Address for service: NZ Transport Agency Waka Kotahi
Level 5, AON Centre,
29 Customs Street West,
Auckland 1010
New Zealand

Contact Person: Luke Braithwaite

E-mail: Luke.Braithwaite@nzta.govt.nz or
EnvironmentalPlanning@nzta.govt.nz

Attachments: Table 1: Amendments Sought on Plan Change 121 (Private): Karaka Road Precinct

Table 1: Amendments Sought on Plan Change 121 (Private): Karaka Road Precinct

The following table sets out the amendments sought to PC121.

Italics = PC121 changes notified text

Underline, not italics = proposed additions.

Strikethrough, italics = ~~*proposed deletions.*~~

| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|------------------|-----------------------|------------------------|---|---|
| IX.2. Objectives | IX.2. Objective (new) | Support | <p>NZTA seeks that those activities identified within PC121 that would be sensitive to noise have adequate provisions to provide for the management of noise effects within proximity to the state highway.</p> | <p>Add New Provision:</p> <p><u>(10) Ensure that activities sensitive to noise adjacent to the highway are designed with measures to protect health and that such activities do not unduly constrain the operation of the highway network.</u></p> |
| IX.3. Policies | IX.3(3)(a) | Support with amendment | <p>NZTA support the inclusion of a policy relating to the consideration of traffic generation and effects on the surrounding network.</p> <p>However, NZTA seeks the removal of the wording ‘during interpeak periods’ to allow for the assessment of effects of traffic generation at all times on the road network, not just when the network is likely to operate most efficiently.</p> <p>NZTA notes that the development is expected to significantly increase the volume of vehicles on the roading network during peak periods of traffic, as such these effects must be appropriately considered.</p> | <p>Amend as follows:</p> <p><i>Transport, infrastructure and staging</i></p> <p><i>(3) Ensure that the adverse effects of traffic generation on the surrounding transport network are mitigated, by ensuring:</i></p> <p><i>(a) The surrounding road network can operate with reasonable efficiency during interpeak periods;</i></p> <p>[...]</p> |
| | IX.3(5) | Support with amendment | <p>NZTA support the objective and policy of developing the precinct in a way that promotes public transport and active modes of travel.</p> <p>However, NZTA seeks inclusion of state highway cycling and walking infrastructure to be a consideration within this provision as this will be critical to provide for the mode shift sought through PC121.</p> | <p>Amend as follows:</p> <p><i>Sustainability</i></p> <p><i>(5) Develop the [Precinct Name TBC] Precinct as a sustainable and low-carbon urban environment by:</i></p> <p>[...]</p> <p><i>(c) Promoting mode shift to public and active modes of transport, including by encouraging safe and efficient access for pedestrians and cyclists within the Precinct to the Ngākōroa train station and State Highway 1 cycling and walking infrastructure.</i></p> |

6.4

6.5

6.6

| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|---------|----------------|------------------------|---|---|
| | IX.3(6) | Support with amendment | <p>NZTA support the inclusion of a stormwater management policy to control the effects of stormwater.</p> <p>However, NZTA seek the inclusion of policies insofar as these relate to the avoidance of adverse stormwater effects on the highway network.</p> <p>NZTA notes that within the immediate plan change area there are flood plains, flood prone areas and overland flow paths. NZTA seeks that consideration be given for the hydraulic neutrality of the site at the boundary with State Highway 22 and ensuring that development and associated discharges do not increase the flooding effects on the state highway or its infrastructure which would otherwise compromise NZTA ability to operate a safe and efficient transport network.</p> <p>NZTA also notes that the site seeks to discharge into the Oira Creek culvert system the flows beneath SH22. The Woods stormwater assessment incorrectly identifies this culvert as an Auckland Council asset, when this is a NZTA-owned and managed major culvert structure. Given this, NZTA seeks a policy that provides for the consideration of the flooding risk of discharges into this system so the capacity of the culvert can be assessed.</p> | <p>Amend as follows:</p> <p><i>Stormwater Management</i></p> <p><i>(6) Require development to be consistent with the water sensitive approach outlined in the supporting stormwater management plan, including:</i></p> <p><i>[...]</i></p> <p><i>(f) Ensuring development is coordinated with sufficient stormwater infrastructure to service the development.</i></p> <p><u>(g) Ensuring stormwater retains hydraulic neutrality at the boundary with State Highway 22.</u></p> <p><u>(h) Ensuring that stormwater discharges do not increase the flooding risk to State Highway 22 or its associated infrastructure.</u></p> |
| | IX.3(9) | Support with amendment | <p>NZTA support the consideration of noise standards in the precinct, however NZTA seeks that the precinct also take into consideration external noise impacting on the precinct noise sensitive activities.</p> <p>As such, NZTA seeks that any noise sensitive activities within the precinct are designed with acoustic attenuation.</p> | <p>Noise</p> <p>(9) Set appropriate noise standards to:</p> <p><u>(a)</u> reflect the [Precinct Name TBC] Precinct function and permitted activities, while ensuring that the potential adverse effects on activities sensitive to noise within the adjacent Special Purpose – School zone are avoided, remedied or mitigated; and,</p> |

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| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|--|--------------------|------------------------|---|---|
| | | | | <p>(b) <u>ensure that activities sensitive to noise adjacent to the highway corridor are designed with acoustic attenuation measures to protect people's health and that such activities do not unduly constrain the operation of the highway corridor.</u></p> |
| Table IX.4.1 Activity Table | Table IX.4.1 (A13) | Support with amendment | <p>NZTA support the inclusion of a rule restricting the opening of a new access onto the state highway.</p> <p>However, NZTA consider that a Controlled Activity status is an inappropriate activity status and should instead be a Discretionary Activity. A Discretionary Activity status provides for adequate assessment of the suitability of a new access and the associated effects.</p> <p>NZTA does not consider that sufficient justification has been provided to date to justify either the appropriate standard of access onto the highway or the need for three accesses. Given the lack of detail NZTA cannot support a Controlled Activity Status for any new access onto State Highway 22.</p> | <p>Amend Activity A13 as follows:</p> <p><i>(A13) Construction of a new vehicle access from that part of a site boundary adjoining an arterial road as identified on the planning maps</i></p> <p>Activity Status: Controlled <u>Discretionary</u></p> |
| Table IX.6.2: Threshold for Development in the Karaka Road Precinct. | Table IX.6.2 (New) | Support | <p>NZTA support providing thresholds of development for when specific upgrades are required. However, we note that PC121 seeks to undertake construction works but has not advised on the standard of access required to provide for this activity.</p> <p>Construction traffic can have significant implications on the highway network both in terms of the physical infrastructure and the efficiency of the network. NZTA seeks that the access to the site is of sufficient standard to provide for these vehicles.</p> | <p><u>Column 1:</u></p> <p><u>Prior to construction works commencing onsite.</u></p> <p><u>Column 2:</u></p> <p><u>Provision of an interim intersection developed in consultation with the Road Controlling Authority to provide for the construction traffic (design details on the proposed standard of intersection design to be supported by a safe system audit and approval from the road controlling authority) located generally at</u></p> |

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| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|---------|------------------|------------------------|--|---|
| | | | <p>As such, NZTA seeks that prior to the commencement of construction onsite that the access to the site is built to accommodate these vehicles and their associated effects.</p> | <p><u>the intersection of Karaka Road and Oira Road, as shown on Precinct Plan 1.</u></p> |
| | Table IX.6.2 (a) | Support with amendment | <p>NZTA support providing thresholds of development for when specific upgrades are required.</p> <p>However, the ITA provided has not assessed the suitability of traffic signals at this location; and at this point in time NZTA does not consider that traffic signals in this location are appropriate. Without a proper assessment NZTA cannot support this provision.</p> <p>PC121 mentions that the staging of development is ‘to manage the adverse effects of traffic on the safety and efficiency of the surrounding road network for all modes of transport by ensuring development is coordinated with transport infrastructure’. However, PC121 only focuses on the immediate infrastructure required to support the development and not the connectivity or effects on the wider network.</p> <p>As the precinct is reliant on both the transport network and active modes of transport to support the development, these facilities must be in place prior to the occupation of the site.</p> | <p>Amend Column 2 as follows:</p> <p>Provision of an interim upgraded intersection (roundabout with two approach lanes in each direction or equivalent interim traffic signals, including active mode facilities, <u>developed in consultation with the Road Controlling Authority</u>) located generally at the intersection of Karaka Road and Oira Road, as shown on Precinct Plan 1; and,</p> <p><u>Active mode facilities connections between the State Highway 1 and the Precinct; and,</u></p> <p><u>Active mode facilities connections between the Ngākōroa train station and the Precinct; and,</u></p> <p><u>Four lanes of traffic between State Highway 1 and Oira Creek.</u></p> |
| | Table IX.6.2 (b) | Support with amendment | <p>NZTA support providing thresholds of development for when specific upgrades are required.</p> <p>However, the ITA provided has not assessed the suitability of traffic signals at this location; and at this point in time NZTA does not consider that traffic signals in this location are appropriate. Without a proper assessment NZTA cannot support this provision.</p> | <p>Amend Column 2 as follows:</p> <p>Provision of an ultimate upgraded intersection (<u>design details on the proposed standard of upgraded intersection design to be supported by an updated integrated transport assessment, safe system audit and approval from the road controlling authority</u> (roundabout with three approach lanes from the Precinct or equivalent traffic signals), including active mode facilities,</p> |

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| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|------------------------|------------------|------------------------|--|--|
| | | | <p>PC121 mentions that the staging of development is 'to manage the adverse effects of traffic on the safety and efficiency of the surrounding road network for all modes of transport by ensuring development is coordinated with transport infrastructure'. However, PC121 only focuses on the immediate infrastructure required to support the development and not the connectivity or effects on the wider network.</p> <p>As the precinct is reliant on both the transport network and active modes of transport to support the development, these facilities must be in place prior to the occupation of the site.</p> | <p>located generally at the intersection of Karaka Road and Oira Road, as shown on Precinct Plan 1; and,</p> <p><u>Active mode facilities connections between the State Highway 1 cycleway and the Precinct; and,</u></p> <p><u>Active mode facilities connections between the Ngākōroa train station and the Precinct; and,</u></p> <p><u>Four lanes of traffic between State Highway 1 and Oira Creek.</u></p> |
| | Table IX.6.2 (c) | Support with amendment | NZTA is not satisfied that there is sufficient assessment of the need for an alternative access arrangement. NZTA does not support more than one connection direct to State Highway 22 without sufficient reasoning. | <p>Upgrades in (b) above; and</p> <p><u>Provision of roading improvements developed in consultation with the Road Controlling Authority to provide for the development (design details on the proposed standard of upgraded intersection design to be supported by an updated integrated transport assessment, safe system audit and approval from the road controlling authority. The design may include a second site access, including active mode facilities) located generally at the locations shown on Precinct Plan 1.</u></p> |
| IX.6.3. Vehicle Access | IX.6.3(1) | Support with amendment | NZTA is not satisfied that there is sufficient assessment of the need for an alternative access arrangement. NZTA does not support more than one connection direct to State Highway 22 without appropriate assessments or justification being provided to support this arrangement. | <p>Purpose: To ensure vehicle access to and from the Precinct occurs in a safe and efficient manner.</p> <p>(1) The maximum number of direct vehicle access points from the precinct to Karaka Road is limited to <u>one</u> three and these shall be located generally at the points shown on Precinct Plan 1.</p> |

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| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|----------------------------|----------------|------------------------|--|--|
| IX.6.8. Stormwater quality | IX.6.8. | Support with amendment | <p>NZTA support the inclusion of a stormwater rule to control the effects of stormwater.</p> <p>However, NZTA seek the inclusion of rules insofar as these relate to the avoidance of adverse stormwater effects on the highway network.</p> <p>NZTA notes that within the immediate plan change area there are flood plains, flood prone areas and overland flow paths. NZTA seeks that that consideration be given for the hydraulic neutrality of the site at the boundary with State Highway 22 and ensuring that development and associated discharges do not increase the flooding effects on the state highway or its infrastructure which would otherwise compromise NZTA ability to operate a safe and efficient transport network.</p> <p>NZTA also notes that the precinct seeks to discharge into the Oira Creek culvert system the flows beneath SH22. The Woods stormwater assessment incorrectly identifies this culvert as an Auckland Council asset, when this is a NZTA-owned and managed major culvert structure. Given this, NZTA seeks a rule that provides for the consideration of the flooding risk of discharges into this system so the capacity of the culvert can be assessed.</p> | <p>Amend as follows:</p> <p>IX.6.8. Stormwater quality</p> <p>Purpose: Contribute to improvement to water quality, stream health and freshwater ecological values.</p> <p>[...]</p> <p><u>(3) Stormwater runoff and discharge must be designed to ensure compliance with the following standards:</u></p> <p>[...]</p> <p><u>(g) That the site retains stormwater hydraulic neutrality compared to pre-development levels at the boundary with State Highway 22.</u></p> <p><u>(h) That the stormwater discharges do not increase the flooding risk to State Highway 22 or its associated infrastructure.</u></p> |
| IX.6.11 | New Provision | Support | <p>NZTA support the consideration of noise standards in the precinct, however NZTA seeks that the precinct also take into consideration external noise impacting on the precinct noise sensitive activities.</p> <p>As such, NZTA seeks that any noise sensitive activities within the precinct are designed with acoustic attenuation.</p> | <p><u>Noise Control for Sensitive Activities</u></p> <p>(1) <u>Any new building that contains a noise sensitive activity, an alteration to an existing building resulting in an increase in floor area of a noise sensitive activity; or a new noise sensitive activity is located in an existing building; is proposed within 90m of Karaka Road shall be:</u></p> |

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| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|---|--|---------------|--|---|
| | | | | <p>(a) <u>Designed, constructed and maintained to achieve indoor design noise levels not exceeding the maximum values in [Table 3]; and</u></p> <p>(b) <u>If windows must be closed to achieve the design noise levels in (a) above, the building is designed, constructed and maintained with a mechanical ventilation system</u></p> <p>(c) <u>A report is submitted by a suitably qualified and experienced person to the Council demonstrating compliance with a and b above (as relevant) prior to the construction or alteration of any building containing an activity sensitive to noise.</u></p> |
| IX.7 Assessment – controlled activities | IX.7.1 Matters of control & IX.7.2 Assessment criteria | Seek Deletion | <p>Although NZTA is generally supportive of the matters of control, NZTA does not consider that a Controlled Activity Status is appropriate for accesses to a highway given the scale of the development, and the lack of supporting information.</p> <p>As NZTA seek the amendment of the Controlled Activity Status NZTA also seek the removal of Sections IX.7.1 Matters of Control insofar as they relate to</p> | <p>IX.7 Assessment – controlled activities IX.7.1 Matters of control</p> <p>The Council will reserve its control to the following matters when assessing a controlled activity resource consent application:</p> <p>(1) Construction of a new vehicle access from that part of a site boundary adjoining an arterial road as identified on the planning maps:</p> <p>(a) Effects of the design and location of access on the transport network;</p> <p>(b) Effects on the safety of all road users; and</p> <p>(c) The provision of active mode facilities.</p> <p>IX.7.2 Assessment criteria</p> <p>The Council will consider the relevant assessment criteria below for controlled activities, in addition to the matters specified for the relevant controlled activities in the overlays, Auckland-wide or zones provisions:</p> |

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| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|--|--|------------------------|--|---|
| | | | | <p>(1) Construction of a new vehicle access from that part of a site boundary adjoining an arterial road as identified on the planning maps:</p> <p>(a) Effects of the design and location of access on the safe and efficient operation of the transport network, having regard to:</p> <p>Visibility and safe sight distances; and</p> <p>Existing and future traffic conditions, including speed, volume, type, current accident rate, and the need for safe manoeuvring.</p> <p>(2) Whether the design of access will integrate with existing and planned active mode facilities.</p> |
| IX.9 Special information requirements | IX.9 Special information requirements | Support with amendment | <p>NZTA considers that for each of the thresholds identified in Table IX.6.2 - Staging of development with transport upgrades, an updated integrated transport assessment should be required to take into account the roading environment at the time. The roading environment is anticipated to change over the time that the development is being built, therefore any transport upgrades will need to take into consideration the current road environment.</p> <p>However, NZTA does not consider the current ITA nor the modelling that informed it to be of an appropriate standard to justify the use of this intergraded transport assessment for all stages of development should these be compliant with the staging of development.</p> | <p>IX.9 Special information requirements</p> <p>(1) Addendum Transport Assessment to the Integrated Transport Assessment prepared to support the Precinct</p> <p><i>For each threshold identified in Table IX.6.2 Staging of development with transport upgrades, a A proposal that does not comply with standard IX.6.2 Staging of development with transport upgrades or development exceeding 128,900m² of commercial or industrial gross floor area must be accompanied by an addendum assessment of transportation effects, to be prepared by suitably qualified transport planner or traffic engineer in accordance with the Auckland Transport Integrated Transport Assessment Guidelines applying at the time of the application.</i></p> <p>[...]</p> |

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| Chapter | Plan Provision | Position | Reasons | Relief Sought |
|-----------------------|--|------------------------|--|--|
| IX.10. Precinct plans | IX.10.1 Karaka Road Precinct: Precinct Plan 1: Indicative Access Network | Support with amendment | <p>NZTA is supportive of an intersection at the Oira Road intersection to provide for the development.</p> <p>However, NZTA does not consider that there is sufficient information to be able to determine the suitability of the need and location of the additional two accesses.</p> <p>As such, NZTA seeks the remove of the indicative locations of the two additional accesses to the east and west of the Oira Road Intersection.</p> | Revise the Precinct Plan to only indicate one intersection at the intersection with Oira Road. |

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Table 2: Information Required for Assessment by NZTA

NZTA seeks that the applicant provides the following information to be able to adequately assess the impacts on the state highway network and infrastructure including any required mitigation to address those effects identified. NZTA will then be able to undertake a complete assessment of PC121.

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| Area of Interest | Statement on Information Required |
|------------------|---|
| Intersections | <p>NZTA has not been provided the opportunity to comment on the acceptability of the intersections proposed. The following should be addressed:</p> <ul style="list-style-type: none"> a) The suitability of the access locations – NZTA has significant concerns regarding the suitability and safety of the access locations. For example, the access between Oira Road and Jesmond Road is a location with a poor crash history and unfavourable terrain for an intersection. The Access west of Oira Road has significantly restricted visibility that would not provide a suitable intersection location. b) Safety audit information has not been provided within the plan change proposal and it is unclear if safety audits are intended to be undertaken, and when these will be undertaken. c) The suitability of access standard – NZTA does not consider that the accesses proposed within the application provide sufficient detail to understand the proposed intersections of how their suitability have been determined. It is also not clear whether the design has considered the balance between safety and efficacy of the state highway and the plan change site. d) The timing of access upgrades – there does not appear to be sufficient reasoning for the timing of the access upgrades at the level of development proposed, and why these figures were determined. e) The land required to form the accesses are greater than the land that is within the highway corridor. It is unclear how the intersection will be provided and if this is within the plan change site if this will require the realignment of the State Highway 22 corridor. f) The impacts on the state highway 22 assets to provide for the proposal. |
| Connectivity | <p>Collector Road:</p> <p>NZTA notes that the existing structure plan provides for a collector road through the plan change site. SH22 is already at capacity and collector roads are a method to disperse and take pressure off the transport system. The plan change does not appropriately consider the removal of this collector road from the site and how this will impact on State Highway 22 and the plan change site. A collector road could potentially address some of the identified traffic concerns from both the site and State Highway 22 itself. NZTA considers that this aspect be appropriately assessed and determine if the provision of a collector road on the site (potentially on the western boundary) could mitigate many of the effects of the development on the transport network longer term.</p> <p>Mode Shift and Connectivity:</p> <p>NZTA notes that the precinct is heavily reliant within the ITA on pedestrian and cycling infrastructure and an uptake of these modes of travel. However, have not proposed mitigation or pre-requisites to the development. The tactical improvements (e.g. shared path connection and corridor widening between Oira Road and State Highway 1) should ideally occur no later than the timeframe of when the first of the buildings are occupied. If not existing at this time then the development will need to provide for this.</p> |
| Highway Upgrades | <p>The acceptability of the proposal has been based on multiple state highway upgrades within the ITA. The ITA fails to consider the scenario where planned infrastructure remains unfunded. In regard to state highway infrastructure within the immediate area the SH 22 Drury (four-laning) upgrade</p> |

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| | <p>is the only funded project which at this stage only includes an interim intersection upgrade at Jesmond Road intersection to provide for the train station.</p> |
| <p>Integrated Transport Assessment</p> | <p>The ITA lacks adequate assessment and relying on information from this assessment has made understanding the effects of the development on the transport network difficult. NZTA notes that the following should be addressed:</p> <ul style="list-style-type: none"> a) Why the ITA only considers partial development of the precinct site rather than the complete development of this site. Unless the precinct sets limits at the extent of the proposal currently assessed the ITA should be developed taking into consideration the full construction of the precinct site. b) Why the ITA concludes that the existing highway can accommodate the development when parts of the ITA concludes that State Highway 22 currently operates at 100% capacity. c) The ITA does not adequately demonstrate that development traffic can be accommodated without substantial adverse effects on safety, level of service and corridor resilience. d) The development remains out of sequence with the future development strategy, with the supporting roading network upgrades potentially not in place by the time the buildings are occupied onsite. The ITA also need to consider the scenarios where future upgrades are not undertaken before the plan change development and operation. e) The ITA has relied heavily on a mode shift from private transport to transport to methods such as via the train, walking, cycling. However, there is currently no committed funding for this infrastructure, aside from the train station. The ITA needs to include an assessment based on the development without this infrastructure. The ITA should also propose mitigation for those pieces of infrastructure needed to provide for the development. f) ITA is heavily dependent on a survey of the East Tamaki site to gauge future travel patterns and this site and surrounding area is different. More detail needs to be provided around why the East Tamaki site is appropriate to use given the proposed timing and location of the development. Alternatively survey results from a similar environment or a conservative estimate may be more useful to undertake or consider. |
| <p>Modelling</p> | <p>NZTA has concern with the modelling undertaken to date, specifically:</p> <ul style="list-style-type: none"> a) The assessment of the current scenario not taking into account the most recent traffic counts, not using SIDRA assessments and the detail provided on the current level of service. b) The assumption that 40% of trips will come from the west – it is unclear why this value has been selected. c) The modelling does not include an associated report or peer review – as such, this modelling is unable to be reviewed to check the validity of this. d) The V/C plots showing that State Highway 22 already at capacity without the plan change, and how the proposal can be accommodated. e) The use of SATURN modelling rather than SIDRA modelling for all 7 intersections under various scenarios. Much of the modelling conclusions are hard to understand (e.g. Scenario 10 Intersection 1 AM Peak 2048 - 2048 no development is 74, Council Session Initiation Protocol (SIP) evaluating system performance is a 75 seconds delay - With the plan change this is 105 – and no explanation is offered for this). |

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| | <p>f) We would expect to see all intersections (7) in the ITA to be tested in SIDRA at the following scenarios:</p> <ul style="list-style-type: none"> o 2038 - Do Nothing Scenario - i.e. all SGA network removed and SH22 in current status. o 2038 With F&P - Building on the above with the F&P site in place o 2048 Do Nothing o 2048 with F&P o Sensitivity tests with SH22 at 4 lanes. <p>g) No assessment of re-routing has been carried out – this should be undertaken.</p> <p>h) The removal of a collector road from the structure plan area, and if the removal of this collector road adversely impacts the traffic environment.</p> <p>i) It is unclear what the level of service plots used relate to which scenario is being tested given these are not named.</p> |
| <p>Stormwater</p> | <p>The precinct will be discharging to Oira Creek which flows under the highway via a 3mx4m twin box culvert. The application notes that Auckland Council are the owners, however this is incorrect and NZTA are the asset owners and operators. There has been no assessment on the impact on the highway or our assets.</p> <p>It is also noted that the precinct has not considered the existing culvert under Karaka Road west of the Oira Road intersection and the associated discharge into the plan change site. NZTA seeks clarification that the flowpath will be retained as part of the proposal.</p> |
| <p>Noise</p> | <p>The precinct is in close proximity to the state highway carriageway which can have adverse effects on sensitive receivers from noise. It is noted that the Precinct may include uses such as education and health, which would be considered sensitive receivers (see Table 3). NZTA would want to be advised how these effects are managed or see that provisions are included in the plan change to provide for appropriate mitigation of effects.</p> |

Table 3: Design Parameters for Sensitive Activities

| Building Type | Occupancy/ Activity | Maximum indoor noise level L _{Aeq(24h)} |
|---------------------------|---|---|
| Residential | <ul style="list-style-type: none"> Living space, sleeping spaces (including visitor and retirement accommodation) | 40 dB |
| Educational | <ul style="list-style-type: none"> Assembly halls Lecture rooms and theatres Music studios | 35 dB |
| | <ul style="list-style-type: none"> Conference rooms Drama studios Sleeping areas in education facilities Teaching areas | 40 dB |
| | <ul style="list-style-type: none"> Libraries | 45 dB |
| Health | <ul style="list-style-type: none"> Overnight medical care, wards Clinics, consulting rooms, theatres, nurses' stations | 45 dB |
| Cultural buildings | <ul style="list-style-type: none"> Places of worship Marae | 35 dB |

6.16

Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991
FORM 5



Send your submission to unitaryplan@aucklandcouncil.govt.nz or post to :

Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300
Auckland 1142

| |
|---------------------|
| For office use only |
| Submission No: |
| Receipt Date: |

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

Peter Fa'afiu

Organisation Name (if submission is made on behalf of Organisation)

Ramwall Group

Address for service of Submitter

c/o Arjun Sami, PO BOX 76260, Manukau City, Auckland 2241

Telephone:

0274522012

Email:

pfaafiu@navigator.kiwi.nz

Contact Person: (Name and designation, if applicable)

Peter Fa'afiu, Consultant to Ramwall Group

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number

PC 121 (Private)

Plan Change/Variation Name

Karaka Road Precinct

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s)

All plan provisions.

Or

Property Address

Or

Map

Or

Other (specify)

Submission

I seek the following decision by Council:

Accept the proposed plan change / variation

Accept the proposed plan change / variation with amendments as outlined below

Decline the proposed plan change / variation

If the proposed plan change / variation is not declined, then amend it as outlined below.

| |
|-------------------------------------|
| <input type="checkbox"/> |
| <input type="checkbox"/> |
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |

See attached document to this cover note.

I wish to be heard in support of my submission

I do not wish to be heard in support of my submission

If others make a similar submission, I will consider presenting a joint case with them at a hearing

| |
|-------------------------------------|
| <input checked="" type="checkbox"/> |
| <input type="checkbox"/> |
| <input type="checkbox"/> |

P. [Signature]

11/12/2025

Signature of Submitter
(or person authorised to sign on behalf of submitter)

Date

Notes to person making submission:

If you are making a submission to the Environmental Protection Authority, you should use Form 16B.

Please note that your address is required to be made publicly available under the Resource Management Act 1991, as any further submission supporting or opposing this submission is required to be forwarded to you as well as the Council.

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

I could / could not gain an advantage in trade competition through this submission.

If you could gain an advantage in trade competition through this submission please complete the following:

I am / am not directly affected by an effect of the subject matter of the submission that:

- (a) adversely affects the environment; and
- (b) does not relate to trade competition or the effects of trade competition.

RAMWALL GROUP

SUBMISSION FROM RAMWALL GROUP — Plan Change 121 (Karaka Road Precinct)

Date: 11 December 2025

Introduction / Submitter Details / Position

Ramwall Group is a family-owned development company. Its Founder and Managing Director is Arjun Sami.

Over 20 years, Ramwall Group has constructed over 620 residential homes and over 300 residential lots. It has also designed and constructed commercial projects, predominantly across Southern Auckland.

We have an interest in this private plan change (PPC) because Ramwall Group owns two sites within Drury West: one proposed for residential development and the other a commercial project within the proposed Auranga Town Centre.

We also hold interests in other sites across several master-planned communities. This PPC introduces material uncertainty for orderly housing and infrastructure sequencing across Drury West, which in turn affects development decisions. The development of this submission has been supported by our partner organisation, Navigator Limited.

We oppose in part the plan change. Our opposition relates to strategic inconsistency with higher-order planning, the scale and intensity of effects enabled by a B-LIZ outcome, and material information gaps that prevent Council being satisfied the PPC is sound. We welcome our concerns being considered and, if necessary, engagement occurring with the Applicant directly or indirectly through this PPC process.

Scope and Nature of Private Plan Change 121 – Karaka Road Precinct

This private plan change seeks that approximately 86.5 hectares of land be rezoned from Future Urban Zone (FUZ) to Business Light Industrial Zone (B-LIZ) in the Auckland Unitary Plan (AUP). The land comprises 300, 328, 350, 370 and part of 458 Karaka Road and sits between Karaka Road/SH22 to the north and the North Island Main Trunk (NIMT) line to the south. The PPC site is adjacent to St Ignatius of Loyola Catholic College. The PPC request also proposes a new 'Karaka Road Precinct' to cover the entire plan-change area.

The PPC area is within the planned Drury West urban expansion context and directly adjoins sensitive receivers including the existing secondary school and future residential growth catchments.

Key concerns from Ramwall Group

The starting point for Ramwall Group is whether the environmental effects from rezoning FUZ to B-LIZ, and its subsequent operative provisions, will be more than minor. We submit that the PPC and new precinct will have significant impacts in nature, scale and likelihood, giving rise to more than minor adverse effects.

In summary, our key concerns are:

1. Strategic inconsistency with Drury-Opāheke Structure Plan (DOSP):

The DOSP identifies this plan-change area for a residential-led outcome (Mixed Housing Urban/Suburban). Rezoning this specific landholding to B-LIZ is therefore inconsistent with the DOSP mapped outcome for the site and the intended land-use balance for Drury West.

2. Conflict with FDS sequencing and system assumptions:

FPH anticipates the East Tāmaki campus will reach capacity by ~2030, providing the driver for this rezoning. However, the Future Development Strategy (FDS) sequences bulk-infrastructure support for this landholding later in the programme, with development readiness identified as 2035+. Rezoning ahead of that sequencing risks undermining coordinated infrastructure delivery and growth outcomes for Drury West.

3. No demonstrated offset for lost housing supply / integrated outcomes:

Rezoning a Structure-Plan-identified residential landholding removes a substantial portion of the planned Drury West housing pipeline. The PPC documentation does not demonstrate how that loss is to be offset elsewhere in the Drury/Ōpaheke growth area, nor how integrated urban outcomes will be maintained alongside other red-flagged/removal sites under the FDS.

4. Intensity and compatibility effects:

The PPC enables development at a scale equivalent to a small town. The indicative masterplan provides for approximately 10,550 people on site at any one time, with a total rostered workforce up to ~18,000 across shifts, including a significant night-shift manufacturing component. This intensity is fundamentally different from a benign “campus-style light industrial” concept and is incompatible with a residential-led growth area adjoining schools.

5. Transport and station capacity uncertainty:

There is no assessment of temporary access/shuttle arrangements from Ngākōroa Station, nor evidence that station capacity assumptions (park-and-ride, bus interchange, TOD catchment) have been reassessed for a workforce of this magnitude. Ngākōroa Station was planned on the basis that surrounding land, including this site, remained FUZ.

6. Lack of alignment between workforce growth and housing delivery:

The PPC provides no evidence of an agreed linkage between workforce ramp-up and the pace/location of housing build across Drury, Ōpaheke, Hingaia, or Paerata. This implies significant in-commuting in the early years, with associated cumulative transport and amenity effects.

7. Social infrastructure insufficiency:

There is no confirmed plan or commitment for social infrastructure sufficient to support the enabled workforce and surrounding growth, including confirmation that the Drury West public secondary school will be delivered, confirmed tertiary/vocational provision, clarity on hospital planning interface, and confirmed parks/community facilities delivery. These gaps matter because they demonstrate that population-scale employment is being enabled without the integrated community outcomes assumed by the DOSP/FDS framework.

8. Over-breadth of permitted activities:

The underlying B-LIZ provisions permit a wide range of industrial uses including warehousing, storage/lock-up and industrial parks. This permissiveness could enable a generic industrial-park outcome rather than a bespoke FPH campus, with materially different effects for neighbouring residential areas.

9. Information gaps undermine plan-change soundness:

Across transport, three-waters, hazards, ecology/biodiversity, landscape/visual, noise/air and cumulative effects, the PPC lacks assessments required for Council to conclude effects are appropriately understood and mitigated.

Statutory Framework and Legal Tests

The Applicant has outlined relevant RMA provisions, the AUP (operative in part), the Future Development Strategy, and other private plan changes affecting Drury.

Ramwall assessment of statutory tests: In our submission, the PPC fails the relevant statutory tests because:

- RMA Schedule 1 and s32: The Applicant has not demonstrated that rezoning 86.5ha of FUZ to B-LIZ is the most appropriate way to achieve the relevant objectives, nor that

reasonable alternatives (including retention of urban sequencing or a more targeted precinct approach) have been adequately evaluated.

- AUP strategic alignment: The PPC does not implement the DOSP's intended residential outcome for this landholding.
- NPS-UD: By removing a major DOSP-identified residential area without a verified offset, the PPC risks undermining housing capacity enablement and integrated outcomes for Drury West.
- Part 2 overall judgement: Given the scale of effects, incompatibility with sensitive receivers, and strategic conflicts identified above, PPC121 is not consistent with sustainable management in this location.

Lack of strategic justification

In general terms, the lack of strategic justification arises through:

- Inconsistency with DOSP objectives, policies and mapped outcomes for this landholding.
- Inconsistency with the FDS sequencing pathway, adding to cumulative loss of Future Urban housing supply across Drury East and Ōpaheke.

Uncertainty with sequencing of infrastructure

The effects of moving from FUZ to B-LIZ are significant. The infrastructure demands of the enabled industrial intensity are materially greater than those envisaged under FUZ and therefore negatively impact the planned residential-led nature of Drury West.

The Applicant proposes rules to coordinate capacity release with delivery of transport and three-waters infrastructure and asserts developer-led funding solutions allow business capacity to be made available earlier.

However, Council's sequencing framework indicates later development readiness for this PPC landholding. A developer-led solution for the PPC area does not provide certainty for other live zones and their developers, including Ramwall Group. The PPC therefore introduces material uncertainty for infrastructure sequencing across Drury West that is not subject to, or funded by, FPH's developer-led solutions.

FPH does not expect occupation prior to 2030. If direct access from Ngākōroa Station cannot be achieved, temporary shuttle arrangements are proposed. There is no assessment of how these temporary solutions would affect transport modelling for Drury West under either FUZ or B-LIZ assumptions. Without these missing assessments, Council cannot be satisfied that the sequencing mechanisms proposed will avoid or appropriately mitigate more than minor effects on the wider Drury transport and servicing networks.

Ngākōroa Train Station capacity: Ngākōroa Station is planned to open with bus interchange and park-and-ride facilities. Capacity assessments were undertaken with the PPC land as FUZ. With a workforce of this magnitude in addition to residents and students, there is no station-specific reassessment showing how this uplift has been integrated into station planning assumptions.

Future residential population doesn't mean future employees

The majority of FPH employees are tertiary-trained specialists. Future Drury West residents will not necessarily comprise the campus workforce. No evidence is provided of any housing programme, key-worker supply arrangement, or other mechanism to accommodate the workforce within planned residential growth.

Waihoehoe / Jesmond arterial road

A future arterial road will be Jesmond Road and across to Waihoehoe. Frequent and express bus lanes from Jesmond Road to Ngākōroa Station are anticipated over time.

Roading and active-mode connections were designed on DOSP assumptions. The PPC provides no modelling showing impacts of a workforce of this scale on roading and active-mode systems serving Waipupuke, Auranga, Drury East, and Drury South.

Social infrastructure gaps

While FPH asserts early delivery of network infrastructure is feasible through developer-led solutions, social infrastructure remains unconfirmed, including delivery certainty for the Drury West public secondary school; tertiary/vocational provision; clarity on Te Whatu Ora hospital planning interface; and parks/community facilities programme.

These gaps demonstrate that the PPC enables population-scale employment without integrated community outcomes assumed by higher-order planning, increasing cumulative effects on Drury West residents and sensitive receivers.

A 24-hour industrial operation

The indicative masterplan provides for ~10,550 people on site at any one time and up to ~18,000 rostered employees across shifts, including a night shift and large manufacturing component. A further 6ha partnership area enables additional commercial activities and workers.

The PPC assessments do not adequately evaluate the scale and intensity of effects arising from a 24-hour multi-shift operation of this size, particularly within a residential-led growth area. This creates risk that effects have been underestimated across traffic and transport; network servicing; natural hazards; ecology/biodiversity; landscape/visual/amenity; and noise/vibration/air-quality impacts.

Not a “campus-style light industrial” outcome

The B-LIZ framework enables larger buildings and broad industrial activity permissiveness. Assessments relying on East Tāmaki are not comparable given East Tāmaki’s industrial setting and Drury West’s residential-led growth context.

The PPC enables a broad industrial framework over a long horizon. Without tighter activity controls, future operational changes could materially alter effects in ways not assessed at plan-change stage, reinforcing the risk of a standard industrial-park outcome rather than a bespoke campus.

Permitted activities – too wide

Permitted B-LIZ activities include manufacturing, warehousing, storage/lock-up, and industrial parks exceeding 100,000m² GFA. These are broad industrial outcomes. We therefore seek either decline or, at minimum, precinct rules narrowing permitted activities to FPH-specific campus functions and excluding generic industrial-park, warehousing and storage outcomes.

Stakeholder engagement

We acknowledge mana whenua engagement and cultural narrative inclusion. We note limited evidence of proactive engagement with St Ignatius of Loyola Catholic College despite its proximity and planned roll growth, and limited assessment of effects on the school beyond noise compliance.

Relief sought

Ramwall Group seeks:

- 1. Primary relief: That PPC121 be declined.
- 2. Alternative relief if approved in part: That any approval be subject to modifications that restrict precinct activities to FPH-specific research, development, and associated light manufacturing; remove or materially limit warehousing, storage/lock-up, and generic

7.1

7.2

industrial parks; require stronger building-scale controls and step-downs at residential and school interfaces; require landscape, lighting and acoustic buffers adjacent to sensitive receivers; and link occupation thresholds to proven delivery of transport mitigation and Ngākōroa Station capacity upgrades.

3. Further information sought: That the Applicant provide the missing assessments identified in this submission (including temporary access/shuttle effects and station-capacity uplift modelling) before any approval is contemplated.

7.3

From: [Peter Faafiu](#)
To: [Unitary Plan](#)
Subject: RE: RESEND - this time with Council cover note/ submitter details form: Submission from Ramwall Group to PPC121 – Karaka Road Precinct
Date: Friday, 12 December 2025 9:08:38 am
Attachments: [Outlook-4bg2sb5u.png](#)
[Outlook-w3zyiwrv.png](#)
[PPC121_Ramwall_Submission_FINAL_v2.pdf](#)
[Peter Fa'afiu.pdf](#)
Importance: High

Dear Council.

Please find a resend of our submission from yesterday, see email exchange below - this time with the cover note with submitter details.

Please note the title of the cover note was scanned with a mis-spelling so title of document should say "Peter Fa'afiu".

Again, I have the authority from Ramwall Group to make this submission on their behalf and that authority is reflected in the submitter details.

I am the contact person for Ramwall Group on their submission.

Ngaa mihi,

Peter Fa'afiu

Tiumalu Peter Fa'afiu

Partner | m. 027 452 2012 | e. peter.faafiu@navigator.kiwi.nz

www.navigator.co.nz



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From: Peter Faafiu <Peter.Faafiu@navigator.kiwi.nz>
Sent: Thursday, 11 December 2025 10:23 am
To: unitaryplan@aucklandcouncil.govt.nz <unitaryplan@aucklandcouncil.govt.nz>
Subject: RE: Submission from Ramwall Group to PPC121 – Karaka Road Precinct

Kia ora Council PPC Team,

Please find attached Ramwall Group's submission on PPC 121 (Karaka Road Precinct).

Ramwall owns sites within the Drury West area and will be impacted by the proposed PPC. As noted in the submission proper, I have authority from Ramwall Group to submit this on their behalf.

Ramwall Group **opposes** PPC 121. We submit that it should be declined.

The submission provides the details of our opposition however at a high level:

- inconsistent with the Drury-Opaheke Structural Plan (DOSP) and Future Development Strategy (FDS) plans which were publicly notified
- brings the DOSP/FDS alignment issues forward which will be inconsistent with the infrastructure sequencing negotiated and agreed for Drury West
- the proposed enabled scale and intensity of effects is significant
- there are significant information gaps
- lack of authentic engagement on the proposed PPC including a change of scale / intensity of activity after their 'town hall' meetings and stakeholder engagement
- it's a 24-hour industrial park, not an innovation precinct
- the permissive activities under B-LIZ are wide ranging
- provide relief and alternative relief

The Applicant is part of a community and that community consists of the public, stakeholders, landowners, and other developers. The development that this PPC will enable is not what was envisaged and marketed to the communities of interest in the area.

Ramwall Group supports a constructive long-term planning outcome for Drury West and to assist Council in evaluating an approvable pathway, if one exists.

Grateful for confirmation of receipt of submission.

Vinaka / Regards,

Tiumalu Peter Fa'afiu

(On behalf of Ramwall Group)

Tiumalu Peter Fa'afiu

Partner | m. 027 452 2012 | e. peter.faafiu@navigator.kiwi.nz

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From: [Peter Faafiu](#)
To: [Unitary Plan](#)
Cc: [Arjun Sami](#)
Subject: RE: PPC 121 Karaka Road Precinct - Request for access to two CVAs / Cultural Values Assessments
Date: Saturday, 13 December 2025 8:45:01 pm
Attachments: [Outlook-ztnntta51.png](#)

Hi Team,

Ramwall Group is a residential developer with sites within the Drury West area. Ramwall Group has submitted to the PPC process. Our submission will be made public by yourselves in due course. We submit that the application for plan change should be DECLINED.

Three CVAs in relation to PPC 121 - Karaka Road Precinct - were provided in confidence. I would like access to two of these:

- Te Akitai Waiohua
- Ngaati Tamaoho

Unfortunately, the lack of access to CVAs did hinder the development of our own submission particularly in relation to understanding the perspective of those two iwi in relation to environmental effects and cultural values.

Notwithstanding that, Ramwall Group would like access to those two CVAs for our own better understanding of the Applicant's submission. I have also read the engagement report from Barkers and Associates in which there are Minutes (presumed approved by all parties) of hui with iwi authorities; the CVAs will again complete our understanding of their position / perspective.

If you need permission from those iwi authorities then grateful you seek them. I give consent for my name and reasons above to be made available to them.

Again:

*Tiumalu Peter Fa'afiu
Partner, Navigator Limited
On behalf of Ramwall Group, residential developer with sites in Drury West.
Ramwall Group has submitted to decline the application given the significant environmental effects on Drury West / Ngaakoroa areas.*

Ngaa mihi,

Peter.

Tiumalu Peter Fa'afiu

Partner | m. 027 452 2012 | e. peter.faafiu@navigator.kiwi.nz

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Submission on Proposed Private Plan Change 121 – Karaka Road Precinct to the Auckland Unitary Plan (Operative in Part)

Clause 6 of Schedule 1, Resource Management Act 1991 (Form 5)

.....

To: **Auckland Council**

1. SUBMITTER DETAILS

Name of Submitter: **Fisher & Paykel Healthcare Properties Ltd**

This is a submission on Proposed Private Plan Change 121 (PC121) to the Auckland Unitary Plan – Operative in Part (AUP).

Fisher & Paykel Healthcare Properties Ltd (FPH) could not gain an advantage in trade competition through this submission.

2. SCOPE OF SUBMISSION

The specific aspects and provisions of PC121 that this submission relates to are:

- a) Amendments are proposed to the Karaka Road Precinct to introduce a site specific approach to managing natural hazards that introduces bespoke provisions which replace provisions included in the Auckland wide Chapter E36 Natural Hazards and Flooding.

3. SUBMISSION

3.1 Introduction

PC121 is a private plan change requested by FPH to rezone 86.5 hectares of Future Urban Zone land at 300, 328, 350, 370 and part of 458 Karaka Road to Business Light Industrial Zone. PC121 also proposes to introduce a new precinct called the 'Karaka Road Precinct' into the AUP to cover the entire plan change area.

Consistent with other greenfield precincts within the Auckland Unitary Plan, PC121 proposes to apply the Karaka Road Precinct which includes place-based provisions that create a spatial framework for development. The Karaka Road Precinct provisions are appropriately focused on the layout of development necessary to achieve the objectives of the AUP, including:

- Achieving an appropriate urban layout;
- Providing an integrated and connected street network;
- Providing a network of open space which integrates with the natural features of the area;
- Enhancing riparian margins and freshwater quality; and
- Ensuring development integrates with public transport and coordinates with the required infrastructure upgrades.

In addition to the Karaka Road Precinct, the Auckland-wide stormwater quality and Stormwater Management Area Flow 1 (SMAF 1) provisions will apply within the PC121 area, to manage sediment and contaminant runoff.

Following acceptance by the Council of PC121, the Council notified Plan Change 120 Housing Intensification and Resilience (PC120). PC120 proposes extensive amendments to the Regional Policy Statement (RPS) and Chapter E36 Natural Hazards.

Aspects of PC120 are inconsistent with the notified version of PC121. As FPH has undertaken significant hazard and geotechnical analysis to inform PC121, FPH proposes that a precinct specific approach should apply to the PC121 area (rather than the provisions of PC121).

FPH now proposes amendments to the notified version of the Karaka Road Precinct, as summarised below and detailed in **Attachment A**.

3.2 Plan Change 120 and Natural Hazard risk

The proposed approach in PC121 as notified to managing natural hazard risk within the Karaka Road Precinct is to utilise the existing AUP provisions. The E36 Natural Hazard and flooding provisions are proposed to be substantially amended through PC120.

FPH considers the reliance on Auckland wide E36 Natural Hazard and flooding provisions, as proposed to be amended through PC120, will result in repetitious and inefficient (unnecessary) technical assessment and risk assessment processes for subsequent development within the PC121 area. Extensive stormwater and flood modelling has been undertaken by FPH to support PC121. Any existing flood hazard areas within the PC121 area will be mitigated in the post development state by raising development out of any hazard risk areas. Overall, the modelling undertaken by FPH has demonstrated that in the post development state, there is no increase to hazard risks upstream or downstream of the PC121 area.

FPH has undertaken geotechnical analysis to support the development of the Karaka Road Precinct. FPH considers that the Karaka Road Precinct should be amended to enable natural hazard risk from flooding and landslides (instability) to be managed by -specific provisions within the Karaka Road Precinct that reflect the modification of the landform to remedy hazard exposure and comprehensively address hazard risk to acceptable levels. Precinct specific policy direction (objective and policies) and corresponding activities tables, standards and matters for discretion are proposed within the Karaka Road Precinct to achieve the efficient management of risk within and beyond the Precinct in a manner which is proportionate and accords with the best available information pertaining to flood and landslide/land instability risk for the Karaka Road Precinct.

The proposed amendments are set out in **Attachment A**.

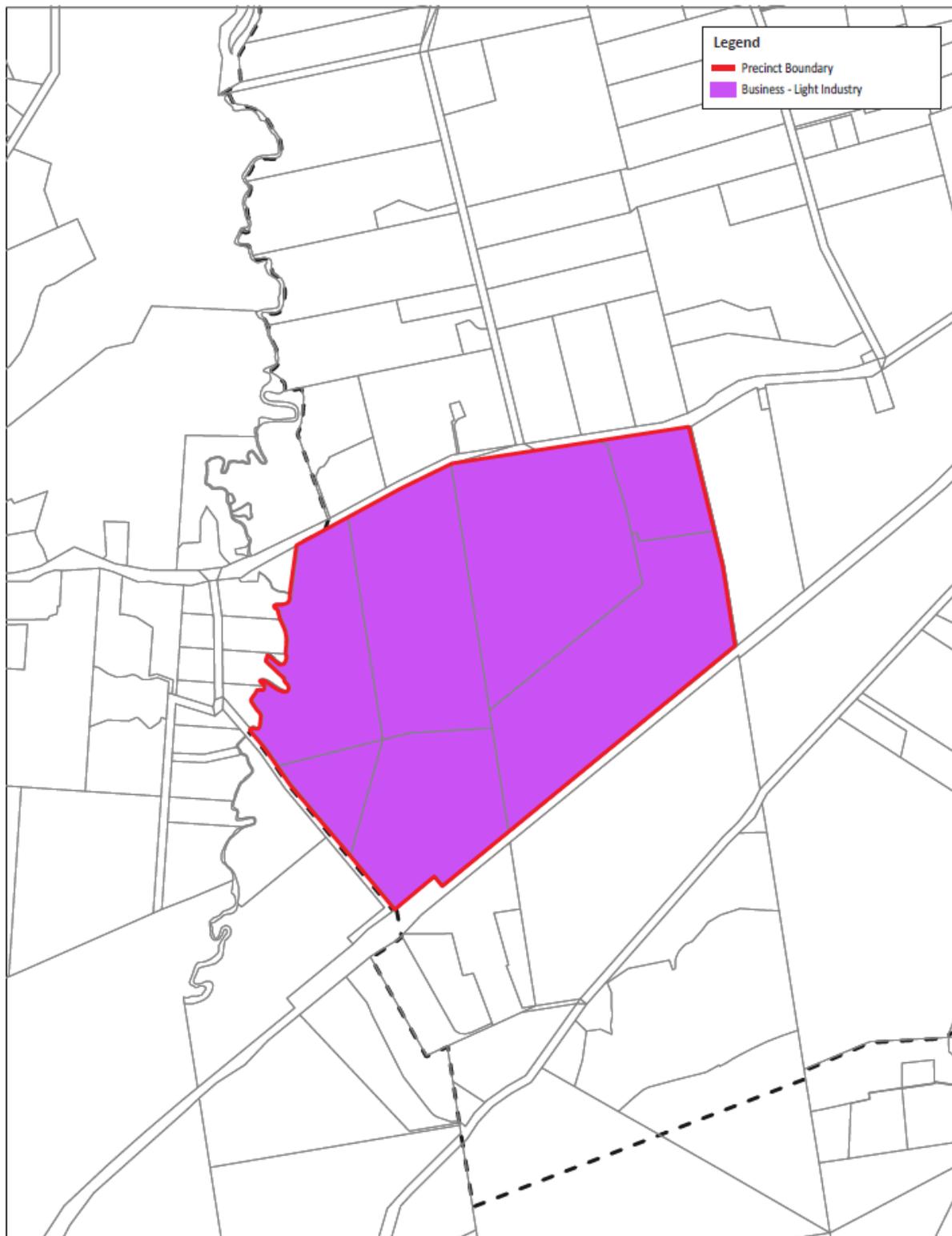
4. Decision Sought

FPH seeks the following relief from Auckland Council (or other relief or other consequential amendments as are considered appropriate or necessary to address the concerns set out in this submission):

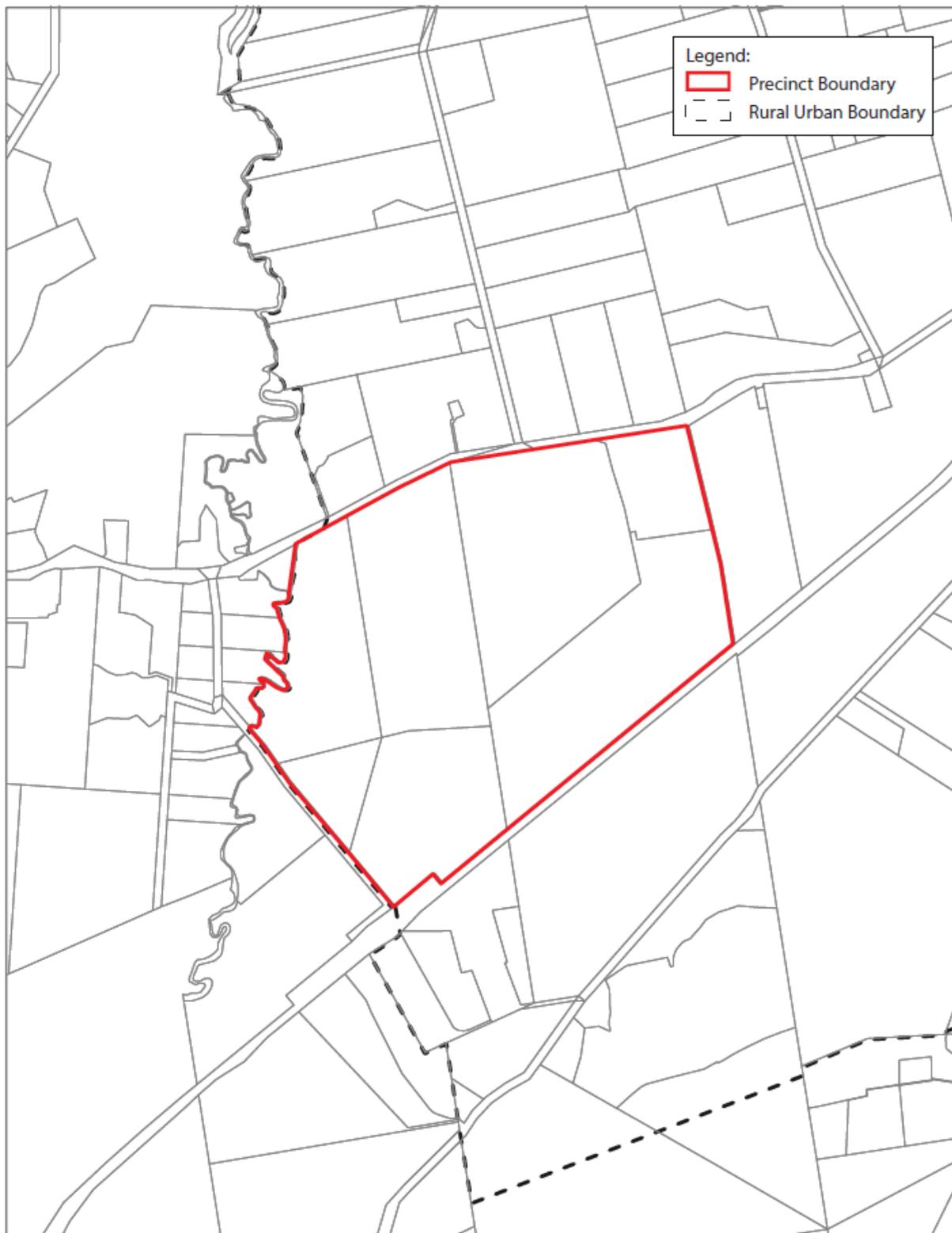
- a) Amend the Karaka Road Precinct as per the amendments set out within **Attachment A**

FPH wishes to be heard in support of this submission. If others make a similar submission FPH will consider presenting a joint case with them at the hearing.

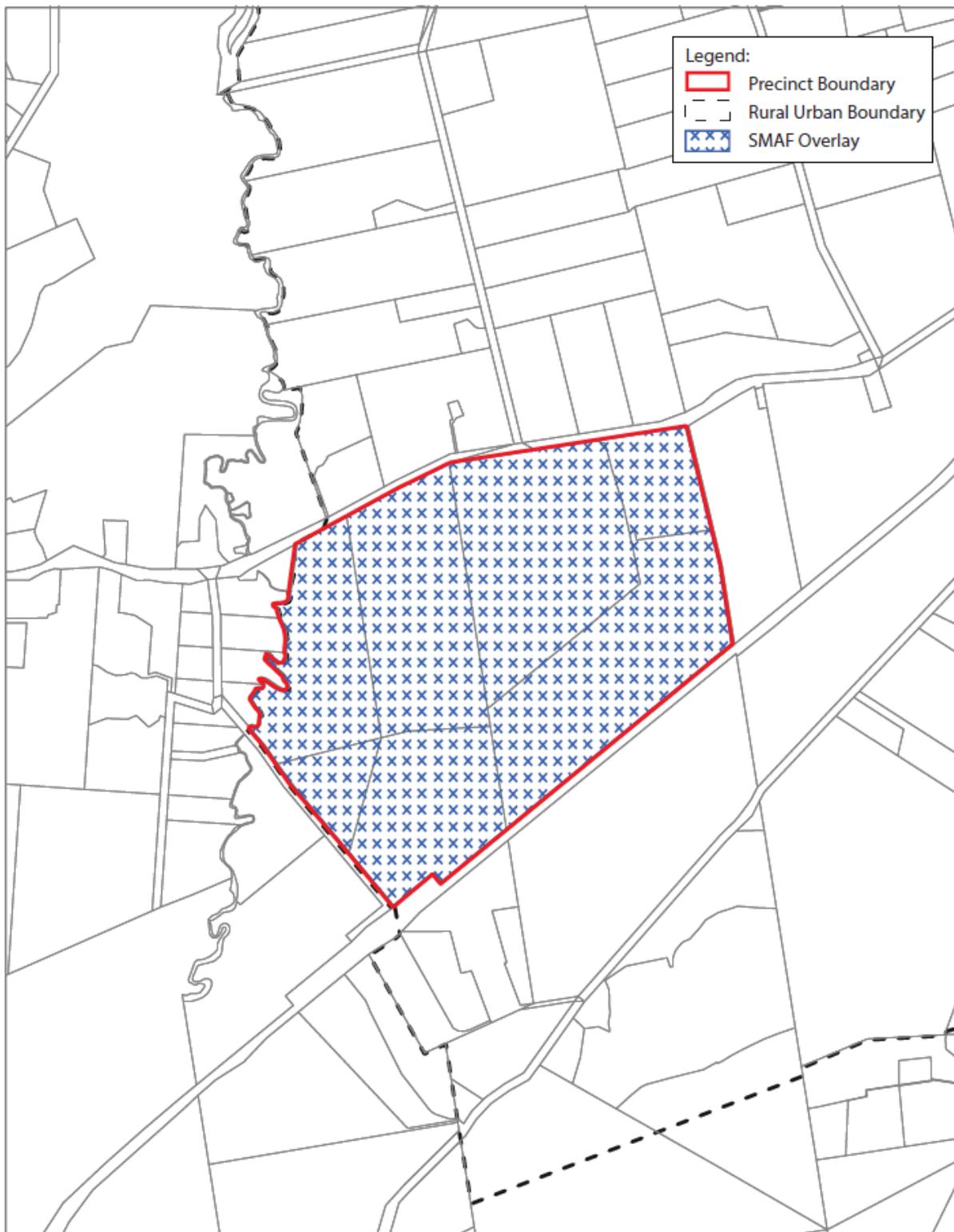
Karaka Road Precinct - Zoning Plan



Karaka Road Precinct - Precinct Plan



Karaka Road Precinct – SMAF Overlay



IX.1. Karaka Road Precinct description

The Karaka Road Precinct applies to approximately 86.5ha of land bordered by Karaka Road which forms part of State Highway 22 to the north, the North Island Main Trunk Railway Line to the south, and Oiroa awa (Creek) to the west.

The purpose of the Karaka Road Precinct is to enable a transition from rural and future urban land uses, and provide for the development of an industrial campus in a comprehensive and integrated manner. The Precinct provides for a range of industrial activities, including manufacturing, research and development, accessory office use, and staff facilities including cafeterias.

The development of buildings in a campus-like environment is enabled, providing significant employment opportunities in the south of Auckland, while acknowledging the Oiroa awa (Creek) and the adjacent rural environment to the west, and integrating with the existing and planned Drury-Opāheke Future Urban area.

The Precinct seeks to promote the enhancement of ecological values present within the network of existing waterbodies, and recognise their cultural importance to Ngāti Tamaoho, Ngaati Te Ata Waiohua and Te Ākitai Waiohua (and other relevant tangata whenua).

The Precinct recognises the cultural values associated with the site as it forms part of the cultural landscape, of importance to Ngāti Tamaoho, Ngaati Te Ata Waiohua and Te Ākitai Waiohua (and other relevant tangata whenua).

A key attribute of the Precinct is sustainability, contributing to mitigating the effects of climate change and supporting a reduction in greenhouse gas emissions. The Precinct achieves this by enabling the provision of employment opportunities and jobs close to existing and future residential areas and within walking distance of the Ngākōroa train station and promoting the use of active and public modes of transport.

An alert area for encountering archaeological sites during any earthworks is shown on Precinct Plan 3.

The Karaka Road Precinct includes a standard to manage operational noise levels received by activities sensitive to noise within the Special Purpose – School Zone. This recognises that Chapter E25 does not include any operational noise standards to control the maximum permitted noise levels received in this zone.

The zoning of land within this Precinct is Business – Light Industry.

All relevant overlay, Auckland-wide and zone provisions apply in this Precinct unless otherwise specified below.

IX.2. Objectives

- (1) The Karaka Road Precinct enables the development of a significant employment node with a primarily light industrial land use.
- (2) The Karaka Road Precinct contributes to a well-functioning urban environment, integrates with the natural environment and respects Mana Whenua values.
- (3) The development of a high-quality campus environment is enabled.
- (4) Access to and from the precinct occurs in an efficient and safe manner that mitigates adverse effects of traffic generation on the surrounding road network.
- (5) The Karaka Road Precinct develops and functions in a way that:

- (a) Promotes public transport use and active modes of transport including walking and cycling; and
 - (b) Encourages the safe and effective active mode movement between the Ngākōroa train station and the Precinct.
- (6) Development is coordinated with the supply of sufficient three waters infrastructure to service the Precinct.
- (7) The Karaka Road Precinct is a sustainable, low carbon, urban environment.
- (8) Freshwater quality, sediment quality and biodiversity are improved.
- (9) Occupants of buildings containing activities sensitive to noise within the adjacent Special Purpose – School zone are protected from unreasonable levels of noise.
- (10) Development on land subject to natural hazards is managed to ensure natural hazard risks on other properties, infrastructure and the environment are not exacerbated.

IX.3. Policies

General

- (1) Enable light industrial activities to operate efficiently within the Precinct.
- (2) Karaka Road Precinct is a comprehensively developed industrial campus that integrates with the surrounding area, the natural environment, and supports public and active transport use.

Transport, infrastructure and staging

- (3) Ensure that the adverse effects of traffic generation on the surrounding transport network are mitigated, by ensuring:
 - (a) The surrounding road network can operate with reasonable efficiency during inter-peak periods;
 - (b) Any upgrades or new connections to the transport network are safe for pedestrians, cyclists and motorists; and
 - (c) The transport network operates safely at all times.
- (4) Ensure that development in the Karaka Road Precinct is coordinated with sufficient stormwater, wastewater, and water supply, infrastructure to service the Precinct.

Sustainability

- (5) Develop the Karaka Road Precinct as a sustainable and low-carbon urban environment by:
 - (a) Enabling employment opportunities in proximity to existing and planned residential activities in the surrounding area;
 - (b) Encouraging the implementation of water sensitive design principles in all development to maintain and enhance water quality in the receiving environment;
 - (c) Promoting mode shift to public and active modes of transport, including by encouraging safe and efficient access for pedestrians and cyclists within the Precinct to the Ngākōroa train station.

- (d) Contributing to mitigating the effects of climate change by encouraging native revegetation within riparian margins to enhance carbon sequestration and biodiversity values.

Stormwater management

- (6) Require development to be consistent with the water sensitive approach outlined in the supporting stormwater management plan, including:
 - (a) Application of water sensitive design to achieve water quality and hydrology mitigation;
 - (b) Requiring the use of low contaminant generating building materials to minimise the generation and discharge of contaminants;
 - (c) Requiring treatment of runoff from road carriageways by a water quality device designed in accordance with GD01;
 - (d) Requiring runoff from other trafficked impervious surfaces to apply a treatment train approach to treat contaminant generating surfaces;
 - (e) Providing planting on the riparian margins of permanent or intermittent streams; and
 - (f) Ensuring development is coordinated with sufficient stormwater infrastructure to service the development.

Ecology

- (7) Contribute to improvements to water quality, ecological habitat and biodiversity, including by providing native planting on the riparian margins of permanent and intermittent streams and natural inland wetlands.

Mana whenua values

- (8) Development recognises, protects and enhances the cultural, spiritual and historical values and relationships associated with the cultural landscape, including by:
 - (a) Delivering a green corridor following the Oiroa awa (Creek);
 - (b) Taking an integrated approach to stormwater management;
 - (c) Ensuring the design of communal green spaces incorporate Te Aranga design principles;
 - (d) Engaging with Mana Whenua to inform the design of development in the Karaka Road Precinct; and
 - (e) Managing the impact of earthworks on Mana Whenua cultural heritage, including within the archaeological alert area in Precinct Plan 3 and protecting, where practicable, identified archaeological and cultural features.

Noise

- (9) Set appropriate noise standards to reflect the Karaka Road Precinct function and permitted activities, while ensuring that the potential adverse effects on activities sensitive to noise within the adjacent Special Purpose – School zone are avoided, remedied or mitigated.

Natural Hazards

- (10) Ensure development manages flooding effects upstream and downstream of the site and in the Karaka Road Precinct so that the risks to people and property (including infrastructure) are not increased for flood events, up to a 1% AEP flood event.
- (11) Maintain the function of overland flow paths to convey stormwater runoff safely from a site to the receiving environment.
- (12) Require risk assessment prior to subdivision, use and development of land subject to instability.

8.3

IX.4. Activity table

All relevant overlay, Auckland-wide and zone activity tables apply unless the activity is listed in Activity Table IX.4.1 below.

Activity Table IX.4.1 specifies the activity status of subdivision and development in the Karaka Road Precinct pursuant to sections 9(3) and 11 of the Resource Management Act 1991.

Table IX.4.1 Activity table

| Activity | | Activity status |
|----------------------------|--|-----------------|
| Use and Development | | |
| (A1) | New buildings | P |
| (A1A) | <u>New buildings and structures located in 1 per cent annual exceedance probability (AEP) floodplain*</u> | RD |
| (A1B) | <u>Fences, earth bunds, walls and storage of goods and materials in the 1 per cent annual exceedance probability (AEP) floodplain*</u> | P |
| (A1C) | <u>Roads, accessways and surface parking in the the 1 per cent annual exceedance probability (AEP) floodplain*</u> | P |
| (A1D) | <u>On-site septic tanks, onsite wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) floodplain and flood prone areas*</u> | RD |
| (A1E) | <u>Construction and operation of stormwater management devices or flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain*</u> | P |
| (A1F) | <u>All infrastructure in 1 per cent annual exceedance probability (AEP) floodplain not otherwise provided for*</u> | RD |
| (A1G) | <u>Diverting the entry or exit point, piping or reducing the capacity of any part of an overland flow path</u> | RD |
| (A1H) | <u>Any buildings or other structures located within an overland flow path with a catchment greater than 4,000m²</u> | RD |
| (A1I) | <u>Buildings, structures, On-site septic tanks, onsite wastewater treatment and disposal systems and effluent disposal fields in the</u> | C |

8.4

| | | |
|------------------|--|----|
| | <u>1 per cent annual exceedance probability (AEP) floodplain and flood prone areas **</u> | |
| (A2) | Development that does not comply with standards IX.6.4 Yards, IX.6.5 Special Landscape Area, IX.6.6 Maximum impervious area, IX.6.7 Riparian planting, IX.6.8 Stormwater quality, IX.6.9 Water supply and wastewater connections or IX.6.10 Noise levels within buildings in the Special Purpose – School Zone | RD |
| (A3) | Development that does not comply with standards IX.6.1. Informing Iwi or IX.6.2 Staging of Development with Transport Upgrades | D |
| (A4) | Development exceeding 128,900m ² of commercial or industrial gross floor area | D |
| Industry | | |
| (A5) | Manufacturing, research, and development of medical products and systems and ancillary activities | P |
| (A6) | Warehousing | P |
| (A7) | Storage and lock-up facilities | P |
| (A8) | Industrial parks enabling over 100,000m ² gross floor area of mixed light industrial activities | P |
| (A9) | Other industrial activities not provided for | RD |
| Commerce | | |
| (A10) | Food and beverage accessory to the primary activity on the site | P |
| (A11) | Offices that are accessory to the primary activity on the site and the office gross floor area does not exceed 40 per cent of all buildings on the site | P |
| (A12) | Offices that are accessory to the primary activity activity on the site and the office gross floor area exceeds 40 per cent of all buildings on the site | RD |
| Transport | | |
| (A13) | Construction of a new vehicle access from that part of a site boundary adjoining an arterial road as identified on the planning maps | C |
| (A14) | Construction of a new vehicle access that does not comply with standard IX.6.3 Vehicle Access | D |

* The activity status listed in Table E36.4.1A of E36 Natural hazards and flooding does not apply and is replaced by IX4.1 (A1A).

** The activity status listed in Table E36.4.1B of E36 Natural hazards and flooding does not apply and is replaced by IX4.1 (A1B).

IX.5. Notification

- (1) Any application for resource consent for an activity listed in Table IX.4.1 Activity will be subject to the normal tests for notification under the relevant sections of the Resource Management Act 1991.
- (2) When deciding on who is an affected person in relation to any activity for the purposes of section 95E of the Resource Management Act 1991 the Council will give specific consideration to those persons listed in Rule C1.13(4).

IX.6. Standards

- (1) All relevant overlay, Auckland-wide and zone standards apply to the activities listed in Activity Table IX.4.1 above except for the following:
 - (a) E27.6.1 Trip generation
 - (b) E27.6.4.1 Vehicle Access Restrictions
 - (c) H17.6.4 Yards
 - (d) E36.6.A1 General Standards
 - (e) E36.6.1 Permitted Standards
- (2) All activities listed in Activity Table IX.4.1 must also comply with the following standards.
- (3) Where there is any conflict or difference between standards in this Precinct and the Auckland-wide and zone standards, the standards in this Precinct will apply.

IX.6.1. Informing Iwi

Purpose: To ensure that Te Waiohua are informed of development within the Precinct.

- (1) All development requiring resource consent within the Precinct must be communicated with written advice to Ngāti Tamaoho, Ngaati Te Ata Waiohua, and Te Ākitai Waiohua.
- (2) For any land disturbance within the archaeological alert area in Precinct Plan 3, an archaeological and cultural assessment must be developed with iwi, in accordance with IX.9(3).

IX.6.2. Staging of Development with Transport Upgrades

Purpose: To manage the adverse effects of traffic on the safety and efficiency of the surrounding road network for all modes of transport by ensuring development is coordinated with transport infrastructure.

- (1) Development within the Precinct must not exceed the thresholds in Table IX.6.2.1 Threshold for Development in Karaka Road Precinct until such time that the identified infrastructure upgrades are constructed and are operational.

Table IX.6.2: Threshold for Development in the Karaka Road Precinct.

| Column 1 Activities or development enabled by Transport infrastructure in column 2 | | Column 2 Transport infrastructure required to enable activities or development in column 1 |
|--|--|--|
| (a) | Prior to the occupation of any building and up to a maximum of 79,750m ² commercial and industrial gross floor area | Provision of an interim upgraded intersection (roundabout with two approach lanes in each direction or equivalent interim traffic signals), including active mode facilities, located generally at the intersection of Karaka Road and Oira Road, as shown on Precinct Plan 1. |
| (b) | Occupied development greater than 79,750m ² and up to a maximum of 88,000m ² commercial and industrial gross floor area | Provision of an ultimate upgraded intersection (roundabout with three approach lanes from the Precinct or equivalent traffic signals), including active mode facilities, located generally at the intersection of Karaka Road and Oira Road, as shown on Precinct Plan 1. |
| (c) | Occupied development greater than 88,000m ² and up to a maximum of 128,900m ² commercial and industrial gross floor area | Upgrades in (b) above; and Provision of a second site access, including active mode facilities, located generally at the locations shown on Precinct Plan 1. |

(2) For the purpose of this standard:

- (a) 'Occupied development' or 'occupation' means occupation and use for the building's intended purpose, but not including occupation by personnel engaged in construction fit out or decoration; and
- (b) 'Operational' means the relevant upgrade is available for use and open to all traffic.

IX.6.3. Vehicle Access

Purpose: To ensure vehicle access to and from the Precinct occurs in a safe and efficient manner.

- (1) The maximum number of direct vehicle access points from the precinct to Karaka Road is limited to three and these shall be located generally at the points shown on Precinct Plan 1.

IX.6.4. Yards

Purpose:

- To provide a buffer and screening between industrial activities within the Precinct and adjacent land uses to mitigate adverse visual effects; and
- Ensure buildings are adequately set back from streams to maintain water quality, amenity, and provide protection from natural hazards.

- (1) A building or parts of a building must be set back from the relevant boundary by a minimum depth listed in Table IX.6.4.1.

Table IX.6.4.1 Yards

| Yard | Minimum depth |
|---------------|---|
| Front | 5m |
| Side | 5m where the side boundary adjoins a residential zone, an open space zone, the Special Purpose – Māori Purpose Zone, the Special Purpose – School Zone or Future urban zone |
| Rear | 5m |
| Riparian yard | 20m from the edge of the Oiroa awa (Creek) 10m from the edge of other permanent and intermittent streams or natural inland wetlands |

Note 1

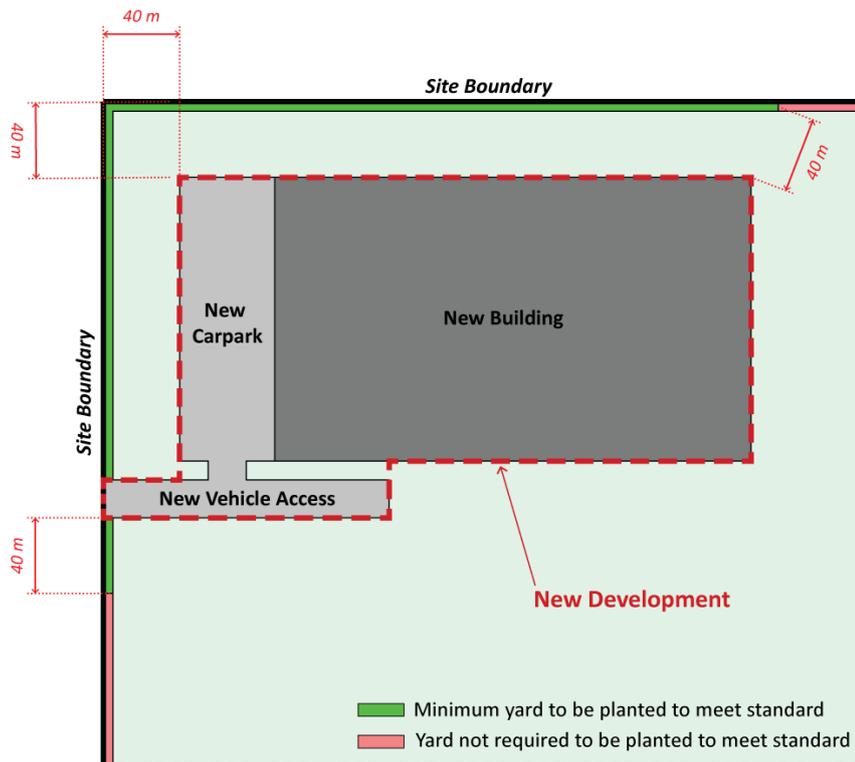
Yards are not required for internal roads, internal site boundaries, or service lanes.

Note 2

Side yards are not required where the side boundary does not adjoin one of the zones specified in Table IX.6.4.1.

- (2) All yards must be planted and appropriately maintained thereafter as follows:
- (a) As shown in Figure IX.6.4.1 below, that part of a front yard (excluding access points) located within 40m of any new development must be planted with a mixture of trees, shrubs or ground cover plants (including grass);
 - (b) As shown in Figure IX.6.4.1 below, that part of a side or rear yard located within 40m of any new development must be planted with a mixture of trees, shrubs or ground cover plants (including grass) to provide a densely planted visual buffer for a depth of at least 3m.

Figure IX.6.4.1 Front, side, and rear yard landscaping.



IX.6.5. Special Landscape Area

Purpose: To provide for a visual transition between industrial activities within the Precinct and adjacent land uses within the Rural – Mixed Rural zone.

- (1) Prior to any subdivision of a site adjoining the Special Landscape Area, or the occupation of any building within a site which adjoins the Special Landscape Area as shown on Precinct Plan 2, the Special Landscape Area must be planted with a mixture of trees, shrubs or ground cover plants to provide a densely planted visual buffer, to a depth of at least 10m, and maintained thereafter.
- (2) No buildings or parts of the building shall be constructed within the Special Landscape Area identified on Precinct Plan 2.

IX.6.6. Maximum impervious area

Purpose:

- To manage the amount of stormwater runoff generated by a development, particularly in relation to the capacity of the stormwater network and potential flood risks; and
 - To limit paved areas to maintain the appearance of the Karaka Road Precinct.
- (1) The total impervious area within the Karaka Road Precinct must not exceed 80 per cent.

IX.6.7. Riparian and wetland margin planting

Purpose: Contribute to improvements to water quality, ecological habitat and biodiversity.

- (1) Prior to any subdivision of a site adjoining Oiroa awa (Creek), or the occupation of any building within a site which adjoins Oiroa awa (Creek) as shown on Precinct Plan 2, those riparian margins of the Oiroa awa (Creek) that are located within the Karaka Road Precinct boundary must be planted to a minimum width of 20m measured from the top of the bank of the stream, provided that:
 - (a) This rule shall not apply to road crossings over streams; and
 - (b) Walkways and cycleways must not locate within 10m of the streambank.
- (2) Prior to any subdivision of a site, or the occupation of any building within a site adjoining any permanent or intermittent stream other than the Oiroa awa (Creek) or natural inland wetlands, the riparian margins must be planted either side to a minimum width of 10m measured from the top of bank of the stream or the edge of the wetland area, provided that:
 - (a) This rule shall not apply to road crossings over streams; and
 - (b) Walkways and cycleways must not locate within the riparian planting area.
- (3) For the purpose of this standard:
 - (a) 'Occupied development' or 'occupation' means occupation and use for the building's intended purpose, but not including occupation by personnel engaged in construction fit out or decoration.

IX.6.8. Stormwater quality

Purpose: Contribute to improvement to water quality, stream health and freshwater ecological values.

- (1) Stormwater runoff from new, or redevelopment of existing, carparks exposed to rainfall, all roads, and trafficked impervious surfaces must be treated with a stormwater management device(s) meeting the following standards:
 - (a) The device or system must be sized and designed in accordance with 'Guidance Document 2017/001 Stormwater Management Devices in the Auckland Region (GD01)'; or
 - (b) Where alternative devices are proposed, the device must demonstrate it is designed to achieve an equivalent level of contaminant or sediment removal performance to that of 'Guidance Document 2017/001 Stormwater Management Devices in the Auckland Region (GD01)'.
- (2) New buildings, and additions to buildings must be constructed using low contaminant generating cladding, roofing, spouting and building materials that avoid the use of high contaminant yielding building products which have:
 - (a) Exposed surface(s) or surface coating of metallic zinc of any alloy containing greater than 10% zinc; or
 - (b) Exposed surface(s) or surface coating of metallic copper or any alloy containing greater than 10% copper; or

- (c) Exposed treated timber surface(s) or any roof material with a copper-containing or zinc-containing algaecide.

IX.6.9. Water supply and wastewater connections

Purpose: To ensure the coordinated delivery of water and wastewater infrastructure to support development in the Karaka Road Precinct.

- (1) Prior to occupation, buildings shall be connected to a functioning water supply and wastewater network, or serviced by alternative on-site solution.
- (2) For the purpose of this standard:
 - (a) ‘Occupied development’ or ‘occupation’ means occupation and use for the building’s intended purpose, but not including occupation by personnel engaged in construction fit out or decoration.

IX.6.10 Noise levels within buildings in the Special Purpose – School Zone

Purpose: To ensure that occupants of buildings containing Activities Sensitive to Noise within the adjacent Special Purpose – School Zone are protected from unreasonable levels of noise arising from activities within the Karaka Road Precinct.

- (1) The noise (rating) level and maximum noise level from any activity within the Karaka Road Precinct when measured 1m from the façade of any building containing Activities Sensitive to Noise within the Special Purpose – School Zone must not exceed the levels in Table IX.6.10.1.

Table IX.6.10.1 Noise levels arising from any activity within the Karaka Road Precinct when measured 1m from the façade of any building containing Activities Sensitive to Noise within the Special Purpose – School Zone

| Time | Noise level |
|--------------|----------------------|
| At all times | 55dB _{LAeq} |

Noise levels shall be measured and assessed in accordance with the requirements in E25.6.1 *General Standards*.

IX.6.11 Natural Hazards and Flooding

- (1) Fences, earth bunds and walls in the 1 per cent annual exceedance probability (AEP) floodplain must be designed to allow for the passage of flood waters where those flood waters exceed 300mm in depth.
- (2) Goods and materials stored in the 1 per cent annual exceedance probability (AEP) floodplain for longer than 28 consecutive days must:
 - a) not impede flood flows; and
 - b) where capable of creating a safety hazard by being shifted by floodwaters, be contained and secured in order to minimise movement in times of floods; and
 - c) be stored in watertight containers if they are hazardous substances.

IX.7 Assessment – controlled activities

IX.7.1 Matters of control

The Council will reserve its control to the following matters when assessing a controlled activity resource consent application:

- (1) Construction of a new vehicle access from that part of a site boundary adjoining an arterial road as identified on the planning maps:
 - (a) Effects of the design and location of access on the transport network;
 - (b) Effects on the safety of all road users; and
 - (c) The provision of active mode facilities.
- (2) Buildings, structures, on-site septic tanks, onsite wastewater treatment and disposal systems and effluent disposal fields on land which may be subject to land instability:
 - (a) Effects of development subject to land instability.

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IX.7.2 Assessment criteria

The Council will consider the relevant assessment criteria below for controlled activities, in addition to the matters specified for the relevant controlled activities in the overlays, Auckland-wide or zones provisions:

- (1) Construction of a new vehicle access from that part of a site boundary adjoining an arterial road as identified on the planning maps:
 - (a) Effects of the design and location of access on the safe and efficient operation of the transport network, having regard to:
 - (i) Visibility and safe sight distances; and
 - (ii) Existing and future traffic conditions, including speed, volume, type, current accident rate, and the need for safe manoeuvring.
 - (b) Whether the design of access will integrate with existing and planned active mode facilities.
- (2) Buildings, structures, on-site septic tanks, onsite wastewater treatment and disposal systems and effluent disposal fields on land which may be subject to land instability:
 - (a) Weather buildings, structures, on-site septic tanks, onsite wastewater treatment and disposal systems and effluent disposal fields on land which may be subject

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to land instability are constructed in accordance with a geotechnical completion report or similar professional report, approved or endorsed by Council.

IX.8. Assessment – restricted discretionary activities

IX.8.1. Matters of discretion

The Council will restrict its discretion to the following matters when assessing a restricted discretionary activity resource consent application, in addition to the matters specified for the relevant restricted discretionary activities in the overlays, Auckland-wide or zones provisions:

- (1) Buildings that do not comply with standards IX.6.4 Yards, IX.6.5 Special Landscape Area, IX.6.6 Maximum impervious area:
 - (a) Matters of discretion H17.8.1(4) apply.
- (2) Development that does not comply with standard IX.6.7 Riparian planting:
 - (a) Effects on water quality, biodiversity, natural inland wetland habitat and stream erosion.
- (3) Development that does not comply with standard IX.6.8 Stormwater quality:
 - (a) Matters of discretion E9.8.1(1) apply.
- (4) Development that does not comply with standard IX.6.9 Water supply and wastewater connections:
 - (a) Infrastructure and servicing.
- (5) Offices that are accessory to the primary activity on the site and the office gross floor area exceeds 40 per cent of all buildings on the site:
 - (a) Matters of discretion H17.8.1(2) apply.
- (6) Development that does not comply with IX.6.10 Noise levels within buildings in the Special Purpose – School Zone:
 - (a) Matters of discretion E25.8.1(1) apply.
- (7) Development of other industrial activities to those listed as Permitted activities within Table IX.4.1:
 - (a) Effects on the efficiency and effectiveness of the transport network.

Activities in the 1 per cent annual exceedance probability (AEP) flood plain

- (8) Development that does not comply with IX6.11 Natural Hazards and Flooding:
 - (a) For fences, earth bunds and walls in the 1 per cent annual exceedance probability (AEP) floodplain:
 - i. The design of the fence or the wall;
 - ii. the effects on flood depth and velocity from blocking or channelling of water; and
 - iii. the effects of the flood hazard within the site and on other properties upstream or downstream of the site.

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- (b) For the storage of hazardous substances in the 1 per cent annual exceedance probability (AEP) floodplain:
- i. the location, design and management of facilities where hazardous substances are stored, used or disposed;
 - ii. the potential risk to public health; and
 - iii. the potential contamination of water
- (9) New buildings and structures located in 1 per cent annual exceedance probability (AEP) floodplain:
- (a) the effects of the location of the structures and building platforms;
 - (b) the effects of flood hazards on the structural integrity of a building or structure;
 - (c) the effects of storage of outdoor goods and materials;
 - (d) the effects of the location and design of roads, accessways and parking areas;
 - (e) the extent of any associated earthworks;
 - (f) the effects of potential changes in flood depth, velocity and frequency on adjoining sites, including upstream and downstream from buildings and structures;
 - (g) the extent to which methods for long term maintenance of areas affected by flooding, such as easements, are provided;
 - (h) the effects of the use of spaces under buildings; and
 - (i) the effects on the operational or functional needs of network utilities and infrastructure.
- (10) On-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) flood plain:
- (a) the design of the device including flood proofing;
 - (b) the potential risk to public health; and
 - (c) the potential contamination of groundwater.
- (11) Construction of other land drainage works, stormwater management devices and flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain:
- (a) the effects that the flooding may have on the function of the device including the potential mobilisation of accumulated contaminants.

Activities in overland flow paths

- (12) Diverting the entry or exit point, piping or reducing the capacity in any part of an overland flow path:
- (a) the potential impacts on the overland flow path including:
 - i. the obstruction of flows; and
 - ii. any change to location and capacity; and

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- iii. any changes in depth and velocity of flow; and
 - iv. any change to overland flow on other properties.
- (b) the provision of alternative overland flow paths;
- (c) the extent of any associated earthworks; and
- (d) the extent to which methods for long term maintenance of areas affected by flooding, such as easements, are provided.
- (13) Buildings or structures including retaining walls (but excluding permitted fences and walls) located within an overland flow path with a catchment greater than 4,000m²:
- (a) the effects of flooding on the activity proposed, including whether it is a more or less vulnerable activity;
 - (b) the effects on the location of habitable rooms;
 - (c) the design of the building and how it provides for safe access and the potential effects of flood hazards on chosen access routes; and
 - (d) the effects on people during a flood event and the ability to avoid, remedy or mitigate these.
- (14) For all other infrastructure in flood hazard areas, coastal hazard areas and high and medium landslide susceptibility assessment areas not otherwise provided for:
- (a) the functional and/or operational need to locate within the hazard area;
 - (b) the risk of adverse effects to other people, property and the environment including all of the following:
 - i. risk to public health and safety;
 - ii. impacts on landscape values and public access associated with the proposed activity including a need for hard protection structures to be required to protect the utility from the natural hazard or increased dependency on existing hard protection structures;
 - iii. the management or regulation of other people and property required to mitigate natural hazard risks resulting from the location of the infrastructure;
 - iv. the storage or use of hazardous substances in relation to the activity;
 - v. any exacerbation of an existing natural hazard or creation of a new natural hazard as a result of the structure;
 - vi. the use of non-structural solutions instead of hard engineering solutions; and
 - vii. the ability to relocate or remove structures; and
 - viii. the benefits of the infrastructure.

IX.8.2. Assessment criteria

The Council will consider the relevant assessment criteria below for restricted discretionary activities, in addition to the assessment criteria specified for the relevant restricted discretionary activities in the overlays, Auckland-wide or zones provisions:

- (1) Buildings that do not comply with standards IX.6.3 Yards, IX.6.4 Special Landscape Area, IX.6.5 Maximum impervious area:

- (a) Whether the proposal achieves policies H17.3(1), H17.3(4), IX.6.3(1), and IX.6.3(2).
- (2) Development that does not comply with IX.6.7 Riparian planting:
 - (a) Whether the proposal achieves Policy IX.3(7).
- (3) Development that does not comply with Standard IX.6.8 Stormwater quality:
 - (a) Assessment criteria E9.8.2(1); and
 - (b) Whether the proposal achieves Policies E1.3(1)-(10), (12)-(14) and IX.3(6).
- (4) Development that does not comply with standard IX.6.9 Water supply and wastewater connections:
 - (a) Whether there is adequate infrastructure to service the proposed development.
 - (b) Whether the proposal achieves Policy IX.3(4).
- (5) Offices that are accessory to the primary activity on the site and the office gross floor area exceeds 40 per cent of all buildings on the site:
 - (a) Assessment criteria H17.8.2(2);
 - (b) Whether the proposal achieves Policies IX.6.3(1) and IX.6.3(2).
- (6) Development that does not comply with IX.6.10 Noise levels within buildings in the Special Purpose – School Zone:
 - (a) Assessment criteria E25.8.2(1); and
 - (b) Whether the proposal achieves Policy IX.3(9).
- (7) Development of other industrial activities to those listed as Permitted activities within Table IX.4.1:
 - (a) Whether the transport infrastructure upgrades identified in Standard IX.6.2 are required earlier than what is specified in Table IX.6.2.1 to manage traffic generation associated with other industrial activities.

Activities in the 1 per cent annual exceedance probability (AEP) flood plain

- (8) Development that does not comply with IX6.11 Natural Hazards and Flooding:
 - (a) For fences, earth bunds and walls in the 1 per cent annual exceedance probability (AEP) floodplain:
 - i. whether the fence or wall will result in changes to the flood hazard experienced within the site, or on other sites including upstream or downstream of the site;
 - ii. whether the fence or wall will result in changes to flood depths and velocities from the blocking or channelling of flood waters; and
 - iii. the extent to which the fence or wall is necessary to maintain privacy, security, biosecurity or safety of the site or adjoining sites.
 - (b) For the storage of hazardous substances in the 1 per cent annual exceedance probability (AEP) floodplain:
 - i. the extent to which the proposal ensures that hazardous substances stored in flood hazard areas are protected from flooding, spillage and leakage should a flood hazard event occur;

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- ii. the extent of public health hazards that may result from a flood hazard event and how these are proposed to be avoided; and
 - iii. whether groundwater contamination in a flood event can be avoided.
- (9) New buildings and structures located in 1 per cent annual exceedance probability (AEP) floodplain:
- (a) whether the building platform can be located outside of the 1 per cent AEP floodplain so as not to block or impede the flood waters;
 - (b) where the building cannot be practically located outside or above the flood plain, how the building can be designed and managed to minimise increase in flood related risks experienced by other properties, including those upstream or downstream such as, maintaining a clear undercroft, allowing for the passage of flood waters;
 - (c) whether buildings likely to be affected by flood waters should be wet proofed or dry proofed to minimise damage to the building and its contents; and
 - (d) site layout and management to avoid hazardous and floatable materials including cars and other stored items being carried off site.
- (10) On-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 per cent annual exceedance probability (AEP) flood plain:
- (a) Whether the design of the device impedes flood flows or otherwise increases flood risk upstream or downstream of the site and how such effects can be avoided or mitigated;
 - (b) whether the design of the device is resilient to damage from a range of flood events;
 - (c) whether access to the device for maintenance and maintenance plans are provided and the potential effects that may result from the proposed access route;
 - (d) the extent of public health hazards that may result from a flood hazard event and how these are proposed to be avoided; and
 - (e) Whether groundwater contamination in a flood event can be avoided.
- (11) Construction of other land drainage works, stormwater management devices and flood mitigation works in the 1 per cent annual exceedance probability (AEP) floodplain:
- (a) whether the design of and works or devices impede flood flows or otherwise increases flood risk upstream or downstream of the site and how such effects can be avoided or mitigated;
 - (b) whether the design of the works or any device is resilient to damage from a range of flood events; and
 - (c) whether access to the works or device for maintenance and maintenance plans are provided and the potential effects that may result from the proposed access route

Activities in overland flow paths

- (12) Diverting the entry or exit point, piping or reducing the capacity in any part of an overland flow path:
- (a) the extent to which the continuity of the overland flow paths both within the site and upstream and downstream of the site will be maintained;
 - (b) the extent to which and how the effects on other properties from the diversion or alteration of the overland flow path will be avoided or mitigated;
 - (c) the extent to which and how scouring and erosion will be managed;
 - (d) the extent to which and how the proposal will avoid, or mitigate adverse effects on stream ecology;
 - (e) the extent of long-term maintenance proposed, ensuring that, when appropriate, an easement in favour of Council is created to limit further changes to the overland flow path; and
 - (f) the extent to which design and management measures are proposed to manage risk to a building, its occupants or contents.
- (13) Buildings or structures including retaining walls (but excluding permitted fences and walls) located within an overland flow path with a catchment greater than 4,000m²:
- (a) the extent to which the overland flow path is maintained to convey stormwater runoff safely from a site to the receiving environment;
 - (b) the location of habitable rooms in relation to the overland flow path;
 - (c) the extent to which the design of the building provides for safe access and the potential effects of flood hazards on chosen access routes; and
 - (d) the extent to which people are affected during flood events and the extent to which effects are avoided, remedied or mitigated.

IX.9 Special information requirements

- (1) Addendum Transport Assessment to the Integrated Transport Assessment prepared to support the Precinct

A proposal that does not comply with standard IX.6.2 Staging of development with transport upgrades or development exceeding 128,900m² of commercial or industrial gross floor area must be accompanied by an addendum assessment of transportation effects, to be prepared by suitably qualified transport planner or traffic engineer in accordance with the Auckland Transport Integrated Transport Assessment Guidelines applying at the time of the application.

Without limiting the scope of the integrated transport assessment, the integrated transport assessment must assess and provide details of the following:

- (a) Whether the proposal maintains the safe and efficient operation of the transport network, including Karaka Road;
- (b) Whether the proposal achieves Policy IX.3(3);
- (c) The available capacity and effectiveness of the surrounding transport network, including having regard to whether any of the following provide additional available capacity:

- (i) Whether the actual rate of development in the wider area is slower than anticipated;
 - (ii) Whether the proposal would have lesser peak hour trip generation than anticipated, which would provide additional capacity within the transport network;
 - (iii) Whether increased use of public transport within Drury has provided additional capacity within the transport network.
- (d) Whether the proposal demonstrates methods that promote or provide for the increased use of public transport, including details of how those methods would be implemented, monitored and reviewed through a staff travel plan so as to contribute to a reduction in vehicle trips; and
- (e) The effect of the timing and development of any other transport upgrades or transport infrastructure.

(2) Integrated Transport Assessment for any other industrial activities to those listed as Permitted activities within Table IX.4.1:

An application for development of other industrial activities to those listed as Permitted activities within Table IX.4.1 must be accompanied by a new Integrated Transport Assessment that assesses and provides details of the following:

- (a) Whether the proposal maintains the safe and efficient operation of the transport network, including Karaka Road;
 - (b) Whether the proposal achieves Policy IX.3(3);
 - (c) The available capacity and effectiveness of the surrounding transport network, including having regard to whether any of the following provide additional available capacity:
 - (i) Whether the actual rate of development in the wider area is slower than anticipated;
 - (ii) Whether the proposal would have lesser peak hour trip generation than anticipated, which would provide additional capacity within the transport network;
 - (iii) Whether increased use of public transport within Drury has provided additional capacity within the transport network.
 - (d) Whether the proposal demonstrates methods that promote or provide for the increased use of public transport, including details of how those methods would be implemented, monitored and reviewed through a staff travel plan so as to contribute to a reduction in vehicle trips; and
 - (e) The effect of the timing and development of any other transport upgrades or transport infrastructure.
- (3) Riparian and wetland margin planting plan
- (a) An application for land modification, development and subdivision which adjoins a permanent or intermittent stream and/or natural inland wetland must be accompanied by a riparian planting plan identifying the location, species, planter bag size and density of the plants. Plant species should be native. The riparian planting

plan must be prepared in accordance with Appendix 16 - Guideline for native revegetation plantings.

(4) Archaeological and Cultural assessment

- (a) An application for land modification must be accompanied by an archaeological assessment, including a survey. The purpose of this assessment is to evaluate the effects on archaeological and cultural values and must include a detailed assessment of those values developed in partnership with Mana Whenua, prior to any land disturbance, planting or demolition of a pre-1900 building, with the goal to protect any identified features where practicable.

(5) Monitoring of Standard IX.6.2 Staging of Development with Transport Upgrades

- (a) Any proposal for land use must demonstrate compliance with Standard IX.6.2 Staging of Development with Transport Upgrades. Any application must contain details of the maximum amount of commercial or industrial GFA proposed to be enabled.

(6) Monitoring of Standard IX.6.6 Maximum Impervious Area

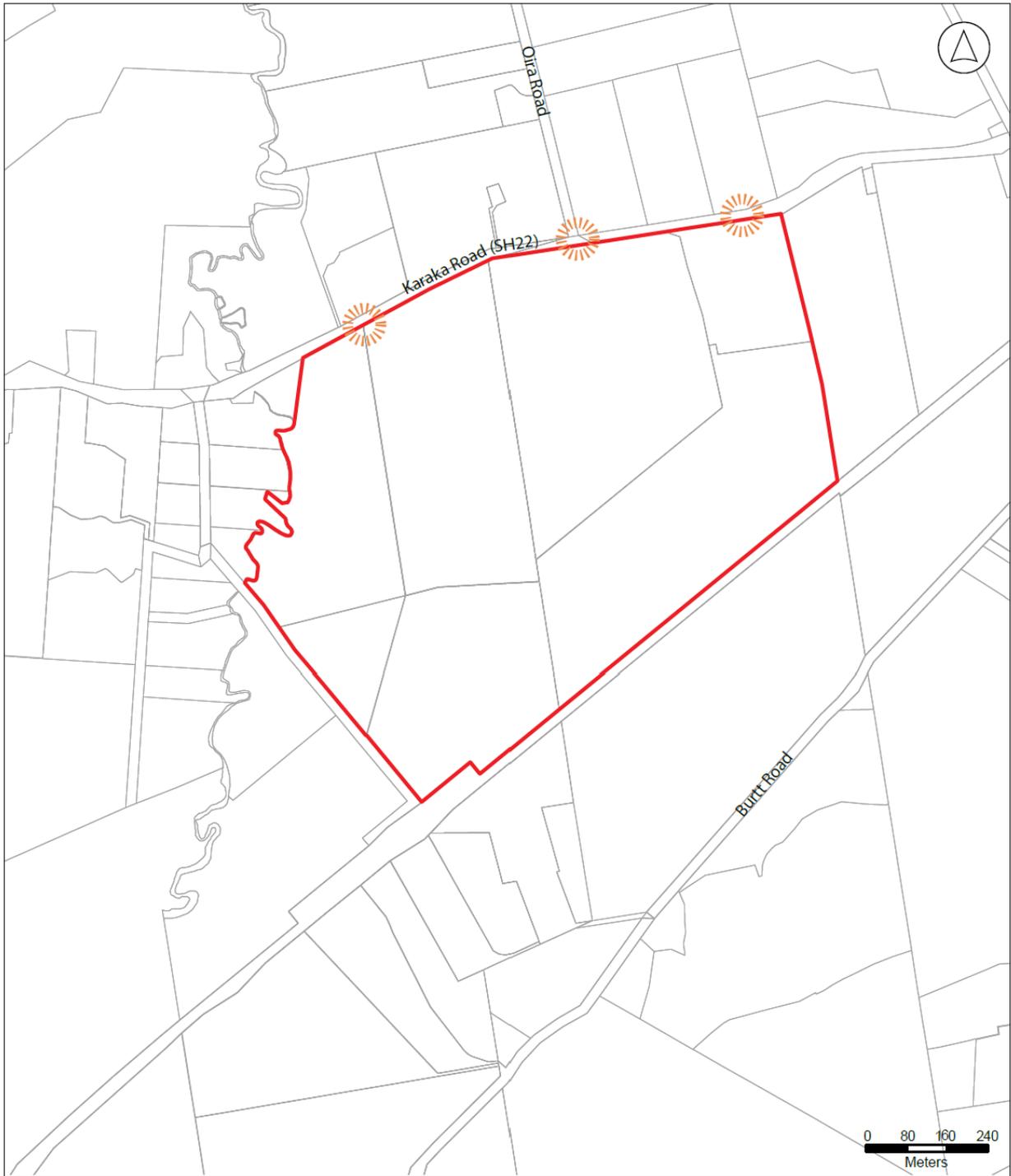
- (a) Any proposal for development must demonstrate compliance with Standard IX.6.6 Maximum Impervious Area. Any application must contain details of the amount of impervious area proposed to be enabled, and must demonstrate that the total maximum impervious area within the Precinct of 80 per cent has not been exceeded.

(7) Site-Specific Watercourse Assessment

- (a) An application for any land modification, subdivision or development within 100m of the Oiroa awa (Creek) must be accompanied by a Site-Specific Watercourse Assessment prepared by a suitably qualified person. The assessment must include a stream reach assessment identifying any erosion hotspots, stream bank erosion and appropriate erosion mitigation measures.

IX.10. Precinct plans

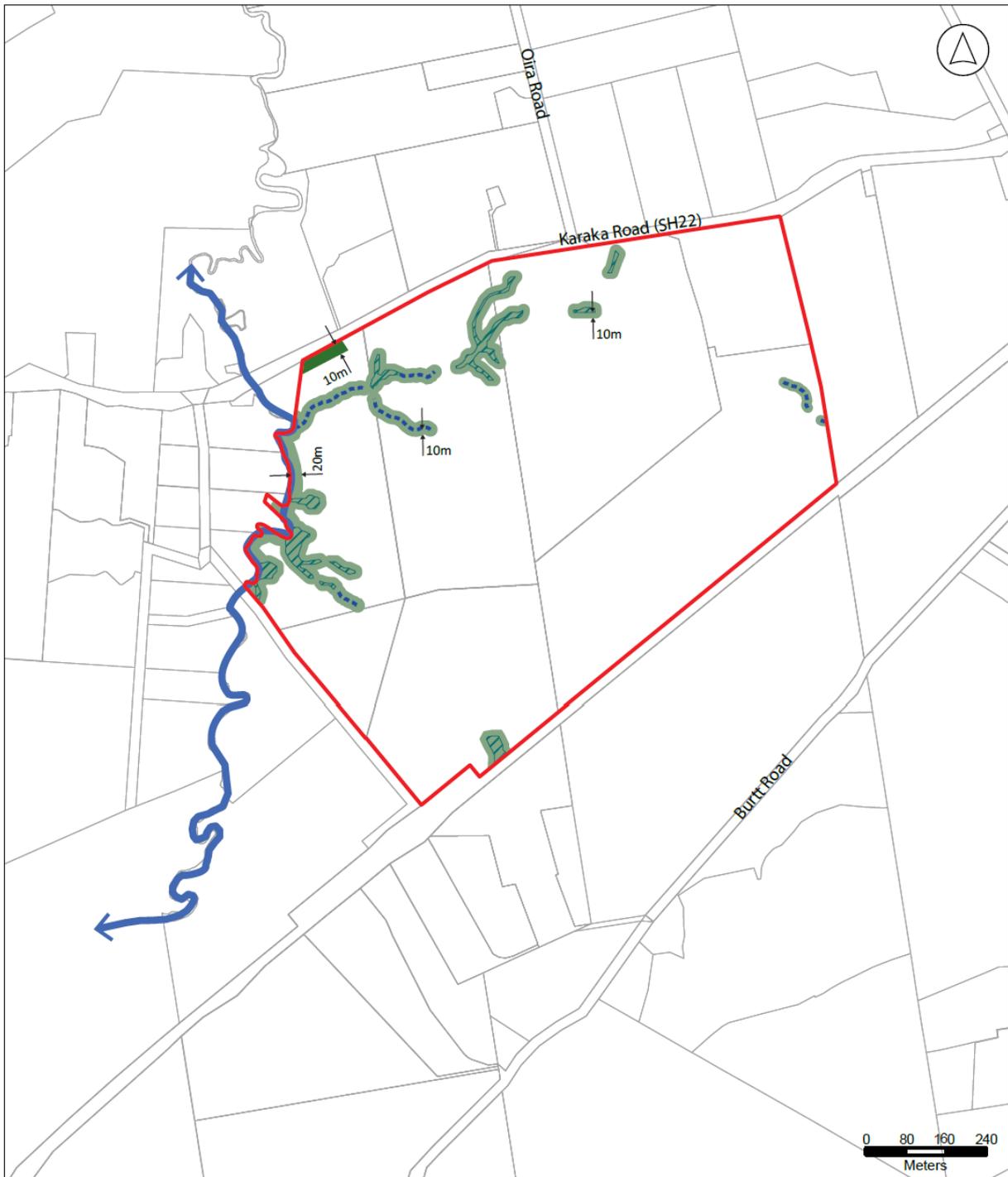
IX.10.1 Karaka Road Precinct: Precinct Plan 1: Indicative Access Network



Karaka Road - Indicative Access Network Plan

-  Precinct Boundary
-  Parcels
-  Indicative Access Locations

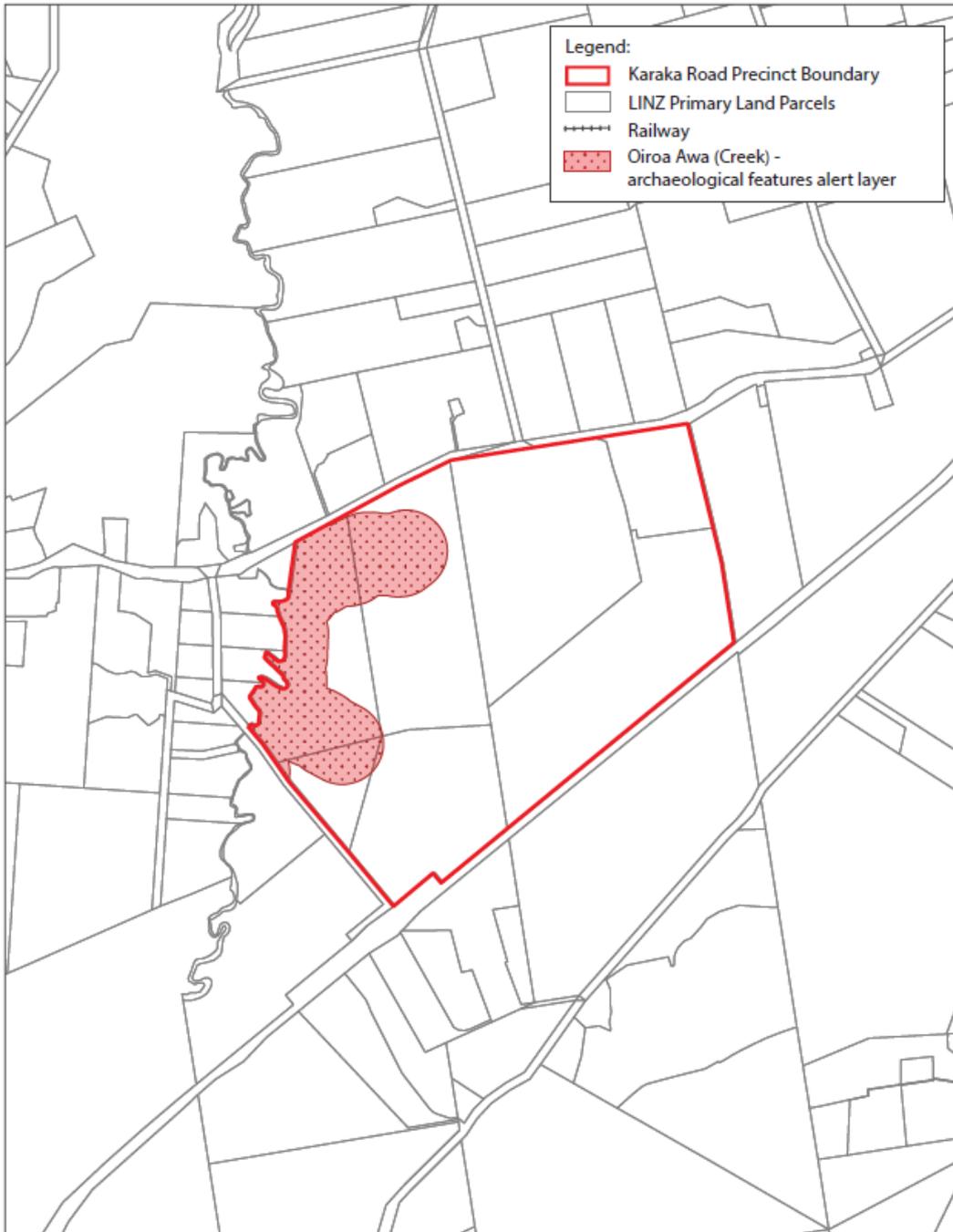
IX.10.2 Karaka Road Precinct: Precinct Plan 2: Indicative Riparian Margins and Special Landscape Area Plan



Karaka Road - Indicative Riparian Margin and Special Landscape Area Plan

- Precinct Boundary
- Parcels
- Oira awa (Creek)
- Other permanent or intermittent streams
- Indicative Natural Inland Wetlands
- Indicative Riparian Margins
- Special Landscape Area

IX.10.3 Karaka Road Precinct: Precinct Plan 3: Archaeological Sites



Karaka Road - Archaeological Features Alert Layer

The "Archaeological features alert layer" notation along the Oiroa awa (creek) identifies areas that may encounter archaeological features, in particular relating to Māori horticulture.





NGAATI TE ATA WAIOHURIA

“Ka whiti te raa ki tua o rehua ka ara a Kaiwhare i te rua”

11th December 2025

SUBMISSION REGARDING:

Auckland Unitary Plan Proposed Plan Change 121 (Private) – Karaka Road Precinct

AUCKLAND COUNCIL
 Unitary Plan Department
 Submissions
 Attention: Jimmy Zhang
unitaryplan@aucklandcouncil.govt.nz

Application Details

Auckland Unitary Plan Proposed Plan Change 121 (Private) – Karaka Road Precinct
 Auckland Council has accepted a private plan change request to the Auckland Unitary Plan (Operative in Part) (AUP) from Fisher and Paykel Healthcare Ltd under Schedule 1 to the Resource Management Act 1991 (RMA). Plan Change 121 seeks that approximately 86.5 hectares of land be rezoned from Future Urban Zone (FUZ) to Business Light Industrial Zone (LIZ) in the AUP. The land comprises 300, 328, 350, 370 and part of 458 Karaka Road and sits between Karaka Road/SH22 to the north and the North Island Main Trunk (NIMT) Line to the south. The private plan change request also proposes to introduce a new precinct called the ‘Karaka Road Precinct’ into the AUP to cover the entire plan change area.

Background

Numerous meetings and several onsite have been undertaken with FPH staff and their consultants.

Ngaati Te Ata recognises the following:

“The purpose of the [Precinct Name TBC] Precinct is to enable a transition from rural and future urban land uses, and provide for the development of an industrial campus in a comprehensive and integrated manner. The Precinct provides for a range of industrial activities, including manufacturing, research and development, accessory office use, and staff facilities including cafeterias.

The development of buildings in a campus-like environment is enabled, providing significant employment opportunities in the south of Auckland, while acknowledging the Oiroa awa (Creek) and the adjacent rural environment to the west, and integrating with the existing and planned Drury-Opāheke Future Urban area. The Precinct seeks to promote the enhancement of ecological values present within the network of existing waterbodies, and recognise their cultural importance to Ngaati Te Ata Waiohuria.

The Precinct recognises the cultural values associated with the site as it forms part of the cultural landscape, of importance to Ngaati Te Ata Waiohua”.

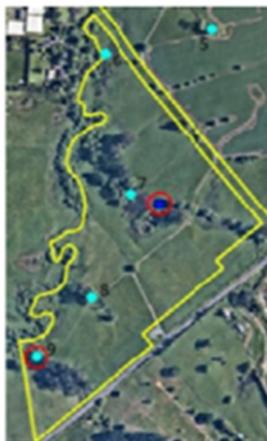
In general, the following issues of interest were raised with FPH:

- Cultural heritage protection
- Cultural design, artworks, and other cultural elements (like Pou/Sculpture) and interpretative signage to recognise our whakapapa and relationship to the whenua
- All archaeological related matters including input into discovery protocols and cultural monitoring of earthworks
- Restoration and planting of the Oiroa (Oira) Stream and surrounding environs
- A covenanted reserve area (currently outside of the plan change) to be put aside as an ecological sanctuary (see CIA report)
- Ongoing plant and animal pest control
- Open space green / landscape design
- Stormwater (concerns with a pass forward approach) including attenuation.
- Waste water treatment solutions (nothing finalised to date)
- Spatial layout of buildings (a campus look as opposed to a hard industrial look).
- Traffic issues regarding SH22 and entry / exit points into the development
- Input into the precinct provisions
- Employment and commercial opportunities
- Cultural opportunities and environmental initiatives through the Fisher & Paykel Healthcare Foundation
- Input into the precinct plan provisions.
- A MOU Relationship Agreement (to continue discussion through to implementation)

Position

Ngaati Te Ata Waiohua provides **conditional support** regarding the proposed Karaka Road Plan Change on condition that the following are provided for:

- | | |
|---|-----|
| 1. That the recommendations in our CIA Report are adopted (those that we had earlier discussed and agreed to with FPH). | 9.1 |
| 2. That FPH continue to engage and consult with us as the plan change develops. | 9.2 |
| 3. That the Oiroa Stream has the adequate resourcing afforded to its restoration and protection, including ongoing pest management. | 9.3 |
| 4. That the MOU Relationship Agreement process is undertaken. | 9.4 |
| 5. That the corner quadrant area (see map below) is designated as a no development zone and instead a conservation biodiversity park is created. This would a great legacy for FPH to leave the community and future generations. | 9.5 |



- 6. That we are re-engaged regarding the waste water option once chosen. We do not support direct discharge into the Oiroa (Oira) Stream. | 9.6
- 7. That we have input into the precinct plan provisions. | 9.7

This submission represents only a starting point for initial engagement and will require further consultation and dialogue between Ngāti Te Ata and FPH. Further discussion will be needed around the matters raised in this submission, implications of the future development of the proposed plan change and the issues that will be raised as a result of the hearing.

It is intended that this submission will assist with ongoing decision making from all relevant parties involved and ensure that Ngaati Te Ata Waiohua issues, concerns, interests and values are provided for, including resource consent requirements.

We wish to be heard in support of our submission.



Karl Flavell
Te Taiao (Manager Environment)
Ngaati Te Ata Waiohua
Ph: 027 932 8998
karl_flavell@hotmail.com



From: [Keith Dilley](#)
To: [Unitary Plan](#)
Subject: PC121 Karaka Road Precinct
Date: Thursday, 11 December 2025 7:56:30 pm
Attachments: [PC121-Form5_KDilley_Submission_20251211.pdf](#)

Attached please find my submission on PC121 Karaka Road Precinct.

Please note that I have used the highlighter tool to show that I could not gain an advantage in trade competition through this submission, as the tick boxes in the pdf form were not functioning properly.

In Firefox, when I select the 'could not' box, all four boxes in the Notes section of the form were selected. In Xreader (Linux app), when I select 'could not', both the 'could' and 'could not' boxes were ticked, and when I unticked them, the 'am' and 'am not' boxes below were ticked.

Regards,

Keith Dilley

Before you fill out the attached submission form, you should know:

You need to include your full name, an email address, or an alternative postal address for your submission to be valid. Also provide a contact phone number so we can contact you for hearing schedules (where requested).

By taking part in this public submission process your submission will be made public. The information requested on this form is required by the Resource Management Act 1991 as any further submission supporting or opposing this submission is required to be forwarded to you as well as Auckland Council. Your name, address, telephone number, email address, signature (if applicable) and the content of your submission will be made publicly available in Auckland Council documents and on our website.

Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least one of the following applies to the submission (or part of the submission):

- It is frivolous or vexatious.
- It discloses no reasonable or relevant case.
- It would be an abuse of the hearing process to allow the submission (or the part) to be taken further.
- It contains offensive language.
- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991
FORM 5



Send your submission to unitaryplan@aucklandcouncil.govt.nz or post to :

Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300
Auckland 1142

| |
|---------------------|
| For office use only |
| Submission No: |
| Receipt Date: |

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

Keith Dilley

Organisation Name (if submission is made on behalf of Organisation)

Address for service of Submitter

1 Teak Grove, Totara Heights, Auckland 2105

1 Teak Grove, Totara Heights, Auckland 2105

Telephone: 09 262 0391

Email: av8or@actrix.co.nz

Contact Person: (Name and designation, if applicable)

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number PC 121 (Private)

Plan Change/Variation Name Karaka Road Precinct

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s)

Or

Property Address

Or

Map

Or

Other (specify)

PC121 Appendix 9 Integrated Transport Assessment - 4.4 Other Projects

PC121 Appendix 6 Urban Design

Submission

I seek the following decision by Council:

Accept the proposed plan change / variation

Accept the proposed plan change / variation with amendments as outlined below

Decline the proposed plan change / variation

If the proposed plan change / variation is not declined, then amend it as outlined below.

10.1

The proposed Plan Change mentions some provision for active modes, mainly in relation to connections to and from the new Ngākōroa railway station.

Appendix 6 Urban Design - Site Opportunities hints at "possible active mode connections", and under Design Principle 4: 'Connection into the wider network' states that "Key transport connections which increase the accessibility to and from the site are provided."

Appendix 9 section 4.4 mentions the "SH1 Strategic Cycleway", but neither of these appendices explicitly ensures future-proof provision for east-west active mode connections parallel to the North Island Main Trunk Line.

Please amend the plan change so that at the east end there is a legal public access connection to Ngakarōa Station. There is legal public access through Fisher & Paykel Healthcare land for walking and cycling. At the western end there is a connection out through the part formed and part unformed Woodlyn Drive. Ideally there would also be a legal public access corridor next to the North Island Main Trunk Line.

I wish to be heard in support of my submission

I do not wish to be heard in support of my submission

If others make a similar submission, I will consider presenting a joint case with them at a hearing

Keith Dilley

Signature of Submitter

(or person authorised to sign on behalf of submitter)

11 December 2025

Date

Notes to person making submission:

If you are making a submission to the Environmental Protection Authority, you should use Form 16B.

Please note that your address is required to be made publicly available under the Resource Management Act 1991, as any further submission supporting or opposing this submission is required to be forwarded to you as well as the Council.

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

I could / could not gain an advantage in trade competition through this submission.

If you could gain an advantage in trade competition through this submission please complete the following:

I am / am not directly affected by an effect of the subject matter of the submission that:

(a) adversely affects the environment; and

(b) does not relate to trade competition or the effects of trade competition.



By email to unitaryplan@aucklandcouncil.govt.nz

Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300 Auckland 1142

12 December 2025

Re: Plan Change PC121 (Private), Karaka Road Precinct

Dear Sir/Madam,

This submission relates to Plan Change/Variation Number "PC 121 (Private)", and Plan Change/Variation Name "Karaka Road Precinct". It refers to Fisher & Paykel Healthcare Properties Ltd's private plan change request for approximately 83.5 hectares of land at 300, 328, 350, 370, and part of 458 Karaka Road, Drury West, to be rezoned from Future Urban Zone to Business – Light Industry Zone.

We seek the following decision by Council: That it accept the proposed plan change / variation. **11.1**

In our view the change request and underlying proposal reflects a balanced development which aligns well with the growth contemplated by the Auckland Unitary Plan.

We support the proposal's desire for growth in employment opportunities, its ecological focus, the prioritising of low carbon technologies, and the identification of renewable energy opportunities.

We do not wish to be heard in support of this submission.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Nathan Jones", written over a white background.

Nathan Jones
Property and Infrastructure
New Zealand Steel Limited

**SUBMISSION ON A PUBLICLY NOTIFIED PLAN CHANGE
UNDER CLAUSE 6 OF THE FIRST SCHEDULE TO THE
RESOURCE MANAGEMENT ACT 1991**

From: Prosperous Farms Ltd, Puiz trustee Limited, Sain Family Trustee Ltd
(together, the Submitters)

Address: C/- Bentley & Co Limited
PO Box 4492,
Shortland Street
Auckland 1140
Attn: Craig McGarr

To: Auckland Council

Address: Private Bag 92300, Auckland 1142

Submission on: Plan Change 121 – Karaka Road Precinct

Introduction

The Submitters own and operate a substantial property portfolio, inclusive of commercial, industrial and Future Urban zoned land in the Auckland region in the vicinity of the land subject to Proposed Plan Change 121 (PC121), including 364a Karaka Road (Lot 2 DP 464886), 1159 Great South Road (Part allotment 39 parish of Opaheke), and 1329 Great South Road (PT Lot 1 of a lot 42 parish Opaheke District).

The Submitters are concerned with ensuring that the use of land is enabled and provided for (and zoned) in a manner that can be used efficiently and effectively to support the growth and development of well-functioning environments that enable all people and communities to provide for their social, economic, and cultural wellbeing (and for their health and safety), now and into the future. This includes enabling the use and development of land that is located within the Future Urban Zone (FUZ) and neighbouring Rural zone that is suitable for different business sectors in terms of location and site size, where it can be demonstrated that:

1. the effects of the activity enabled can be sustained by the receiving environment;
2. the form, nature, scale (and tenure) of the activity enabled does not compromise the integrated future urban development of the locality;
3. the form, nature, scale (and tenure) of the activity enabled does not fragment the land in a way which compromises its future integration;
4. the activity enabled can be serviced with sufficient infrastructure, without inhibiting or conflicting with the future provision of infrastructure in a coordinated way; and

5. the transport network can sustain the activity to be enabled, and does not place undue pressure of the prospective future transport network that is forecast to serve the future urbanisation.

As a landowner and business operator within the locality, the Submitters are directly affected by the provisions which are proposed to be introduced by PC121, and have an interest in PC121 that is greater than the interest that the general public has.

The Submitters could not gain an advantage in trade competition through this submission.

Scope of submission

This Submission is made by Prosperous Farms Ltd, Puiz trustee Limited, Sain Family Trustee Ltd (together, the Submitters).

The specific matters/provisions of PC121 that the Submitters submission relates to is the whole of the Plan Change, noting that:

- a) The supporting technical assessments confirm that the Plan Change area can be developed with targeted infrastructure upgrades, supporting earlier sequencing than indicated in the Auckland Future Development Strategy 2023-2053 ('FDS');
- b) Rezoning to the land to Light Industry will enable the applicant to establish a facility that creates a significant employment node in Drury West close to existing and planned residential areas and proximate to the future Ngākōroa Railway Station;
- c) The proposed precinct provisions and stormwater management approach ensure that adverse effects on streams, wetlands and other natural features can be effectively managed, with opportunities for enhancement through riparian and landscape planting;
- d) PC121 includes suitable provisions to provide for the coordination of development with the delivery of required transport, water supply and wastewater infrastructure, ensuring staging occurs in accordance with available capacity;
- e) Developer-led funding solutions are available to deliver the necessary infrastructure to support development over the long term;
- f) The rezoning is consistent with the Updated Karaka Road Structure Plan and gives effect to relevant objectives of the AUP (OP) and the National Policy Statement Urban Development ('NPS-UD').

The Submitters support the outcome that PC121 seeks to achieve, as it is considered to satisfy the above matters, and will provide for the efficient use and development of the land subject to PC121, and will not undermine the form or nature of future urban development.

The proposal is an appropriate land use relative to its context, and will:

- (a) promote the sustainable management of physical resources, including enabling people and communities to provide for their health and safety, and their social, economic and cultural well-being, and enable well serviced employment land in a strategic location;
- (b) promote the efficient use and development of physical resources;
- (c) ensure consistency with good resource management practice; and
- (d) adequately manage adverse effects on the environment.

Relief Sought

The Submitters seek the following relief:

- That PC121 be approved as notified. | 12.1

or such alternative relief that retains the intent of PC121 as sought. | 12.2

The submitters wish to be heard in support of this submission.

If others make a similar submission, consideration would be given to presenting a joint case with them at any hearing.

PROSPEROUS FARMS LTD, PUIZ TRUSTEE LIMITED, SAIN FAMILY TRUSTEE LTD

Date: 12 December 2025

Address for Service: Craig McGarr

Bentley & Co Ltd

PO 4492 Shortland St

AUCKLAND 1140

Telephone: 021741418

Email: cmcgarr@bentley.co.nz

**SUBMISSION ON A PUBLICLY NOTIFIED PLAN CHANGE
UNDER CLAUSE 6 OF THE FIRST SCHEDULE TO THE
RESOURCE MANAGEMENT ACT 1991**

From: NZ Storage Holdings Limited (NZSHL) and New Zealand Agrihub Limited (NZ AHL) (together, the Submitters)

Address: C/- Bentley & Co Limited
PO Box 4492,
Shortland Street
Auckland 1140
Attn: Craig McGarr

To: Auckland Council

Address: Private Bag 92300, Auckland 1142

Submission on: Plan Change 121 – Karaka Road Precinct

Introduction

The Submitters own and operate a substantial property portfolio across New Zealand, inclusive of commercial, industrial and Future Urban zoned land in the Auckland region. More particularly the Submitters own a combined 30 properties totalling 124.5 hectares that are located in the vicinity of the land subject to Proposed Plan Change 121 (PC121).

The Submitters are concerned with ensuring that the use of land is enabled and provided for (and zoned) in a manner that can be used efficiently and effectively to support the growth and development of well-functioning environments that enable all people and communities to provide for their social, economic, and cultural wellbeing (and for their health and safety), now and into the future. This includes enabling the use and development of land that is located within the Future Urban Zone (FUZ) that is suitable for different business sectors in terms of location and site size, where it can be demonstrated that:

1. the effects of the activity enabled can be sustained by the receiving environment;
2. the form, nature, scale (and tenure) of the activity enabled does not compromise the integrated future urban development of the locality;
3. the form, nature, scale (and tenure) of the activity enabled does not fragment the land in a way which compromises its future integration;
4. the activity enabled can be serviced with sufficient infrastructure, without inhibiting or conflicting with the future provision of infrastructure in a coordinated way; and
5. the transport network can sustain the activity to be enabled, and does not place undue pressure of the prospective future transport network that is forecast to serve the future urbanisation.

As a landowner and business operator within the locality, the Submitters are directly affected by the provisions which are proposed to be introduced by PC121, and have an interest in PC121 that is greater than the interest that the general public has.

The Submitters could not gain an advantage in trade competition through this submission.

Scope of submission

This Submission is made by NZ Storage Holdings Limited (NZSHL) and New Zealand Agrihub Limited (NZAHL) (together, the Submitters).

The specific matters/provisions of PC121 that the Submitters submission relates to is the whole of the Plan Change, noting that:

- a) The supporting technical assessments confirm that the Plan Change area can be developed with targeted infrastructure upgrades, supporting earlier sequencing than indicated in the Auckland Future Development Strategy 2023-2053 ('FDS');
- b) Rezoning to the land to Light Industry will enable the applicant to establish a facility that creates a significant employment node in Drury West close to existing and planned residential areas and proximate to the future Ngākōroa Railway Station;
- c) The proposed precinct provisions and stormwater management approach ensure that adverse effects on streams, wetlands and other natural features can be effectively managed, with opportunities for enhancement through riparian and landscape planting;
- d) PC121 includes suitable provisions to provide for the coordination of development with the delivery of required transport, water supply and wastewater infrastructure, ensuring staging occurs in accordance with available capacity;
- e) Developer-led funding solutions are available to deliver the necessary infrastructure to support development over the long term;
- f) The rezoning is consistent with the Updated Karaka Road Structure Plan and gives effect to relevant objectives of the AUP (OP) and the National Policy Statement Urban Development ('NPS-UD').

The Submitters support the outcome that PC121 seeks to achieve, as it is considered to satisfy the above matters, and will provide for the efficient use and development of the land subject to PC121, and will not undermine the form or nature of future urban development.

The proposal is an appropriate land use relative to its context, and will:

- (a) promote the sustainable management of physical resources, including enabling people and communities to provide for their health and safety, and their social, economic and cultural well-being, and enable well serviced employment land in a strategic location;

- (b) promote the efficient use and development of physical resources;
- (c) ensure consistency with good resource management practice; and
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Relief Sought

The Submitters seek the following relief:

- That PC121 be approved as notified. | 13.1

or such alternative relief that retains the intent of PC121 as sought. | 13.2

The submitters wish to be heard in support of this submission.

If others make a similar submission, consideration would be given to presenting a joint case with them at any hearing.

NZ STORAGE HOLDINGS LIMITED (NZSHL) AND NEW ZEALAND AGRIHUB LIMITED (NZ AHL)

Date: 12 December 2025

Address for Service: Craig McGarr

Bentley & Co Ltd

PO 4492 Shortland St

AUCKLAND 1140

Telephone: 021741418

Email: cmcgarr@bentley.co.nz

Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991
FORM 5



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Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300
Auckland 1142

For office use only

Submission No:

Receipt Date:

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

CHUN-KAI TSENG

Organisation Name (if submission is made on behalf of Organisation)

Address for service of Submitter

57 Riverlea Rd Whenuapai 0618 Auckland.

Telephone:

0210490957

Email:

chunkaitseng@gmail.com

Contact Person: (Name and designation, if applicable)

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number

PC 121 (Private)

Plan Change/Variation Name

Karaka Road Precinct

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s)

Or

Property Address

Or

Map

Or

Other (specify)

Entire PC 121 (Private)

Before you fill out the attached submission form, you should know:

You need to include your full name, an email address, or an alternative postal address for your submission to be valid. Also provide a contact phone number so we can contact you for hearing schedules (where requested).

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- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

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Auckland 1142

| |
|---------------------|
| For office use only |
| Submission No: |
| Receipt Date: |

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

Paul Arthur

Organisation Name (if submission is made on behalf of Organisation)

Franklin Active Trails

Address for service of Submitter

1 Torkar Road, Clarks Beach

1 Torkar Road, Clarks Beach

Telephone: 021 770999

Email: nz.poularthur@gmail.com

Contact Person: (Name and designation, if applicable)

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number PC 121 (Private)

Plan Change/Variation Name Karaka Road Precinct

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s) All provisions dealing with Transport Planning to and around the Campus, in particular Integrated Planning Assessment - Appendix 9

Or
Property Address

Or
Map

Or
Other (specify)

Submission

I seek the following decision by Council:

Accept the proposed plan change / variation

Accept the proposed plan change / variation with amendments as outlined below

Decline the proposed plan change / variation

If the proposed plan change / variation is not declined, then amend it as outlined below.

15.1

We believe the FPH Campus is an excellent opportunity for the wider Franklin area and all who live work and play here.

The values expressed in the Campus Masterplan Report from car-dominated Mode shifting to Active & Public transport are great.

Plan Change documentation outside of the campus does not support this aspiration, and as such ammendments are required

No Connectivity Ngākōroa (Drury West) Train Station timelined, designed or committed to. Unfunded, Undesigned Link. Ammend

No Active mode connectivity to wider communities. Zero Active Transport connection to Drury, Paerata or Pukekohe is committed.

TERP Goals of VKT and Carbon reduction are not realistic with no Active mode connections or wider non vehicle network plans

The Transport assessment focus is reduction of congestion, no evidence of high quality alternatives are provided to support.

15000 staff the campus is designed for may be able to use the train station, but most will be locked into private vehicle dependency

PC121 must have walking/cycling (active mode) connections to Ngakaroa station, as a requirement, not just the stated intention

The Integrated Transport Plan's calculations of reducing active mode transport from 5-6% currently to 3% in 10 years needs challenging, along with the significant increase in carbon and vehicle traffic

Investigate linking the Unformed Legal Road on Woodln road to the North Island Main Trunk Line Active Mode Corridor

This campus will be a defining hub for the region, defining the transport links at this stage will define our transport future.

Carbon Assessment excludes Active Mode considerations. Potentially most of the 15000 FTE would use AT if available.

Franklin Active Trails supports the restoration of wetlands, Green Trails and reconnecting the people with the land. Nga Mihi.

I wish to be heard in support of my submission

I do not wish to be heard in support of my submission

If others make a similar submission, I will consider presenting a joint case with them at a hearing

P. Arthur

Signature of Submitter

(or person authorised to sign on behalf of submitter)

12/12/2025

Date

Notes to person making submission:

If you are making a submission to the Environmental Protection Authority, you should use Form 16B.

Please note that your address is required to be made publicly available under the Resource Management Act 1991, as any further submission supporting or opposing this submission is required to be forwarded to you as well as the Council.

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I could /could not gain an advantage in trade competition through this submission.

If you could gain an advantage in trade competition through this submission please complete the following:

I am / am not directly affected by an effect of the subject matter of the submission that:

(a) adversely affects the environment; and

(b) does not relate to trade competition or the effects of trade competition.

From: [Dot Dalziel](#)
To: [Unitary Plan](#)
Cc: [Kirsti Douglas](#)
Subject: Plan Change 121 Submission from Herenga ā Nuku Aotearoa Outdoor Access Commission
Date: Friday, 12 December 2025 2:59:08 pm
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[pc121-form5-HerengaāNukuAotearoaSubmission.pdf](#)

Please see our submission – on form 5 downloaded from Auckland Council’s website today:
<https://www.aucklandcouncil.govt.nz/en/plans-policies-bylaws-reports-projects/our-plans-strategies/unitary-plan/auckland-unitary-plan-modifications/proposed-plan-changes/pc-121-private-karaka-road-precinct.html>

I have also provided screenshots of the completed form below. **Please note that the PDF form supplied by AC had the following errors:**

- Once I had saved the form I could no longer go back and edit it further.
- It didn’t allow me to only select the “could not” box for trade competition statement, nor could I only select the am not box regarding the directly affected statement.
- It allowed me to sign and date it (with today’s date) but when printed out as a PDF the signature and date have disappeared.

Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991
FORM 5



Send your submission to unitaryplan@aucklandcouncil.govt.nz or post to :

Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300
Auckland 1142

| | |
|---------------------|--|
| For office use only | |
| Submission No: | |
| Receipt Date: | |

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

Dot Dalziell

Organisation Name (if submission is made on behalf of Organisation)

Herenga ā Nuku Aotearoa Outdoor Access Commission

Address for service of Submitter

Herenga ā Nuku Aotearoa, PO Box 11181, Manners Street, Wellington 6142, New Zealand

Attention: Operations Manager

Telephone: 021 379132 Email: dot.dalziell@herengaanuku.govt.nz

Contact Person: (Name and designation, if applicable)

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number PC 121 (Private)

Plan Change/Variation Name Karaka Road Precinct

The specific provisions that my submission relates to are:
(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s) IX.2.5
IX.3.5
PC121 - Appendix 4 - Karaka Road Structure Plan

Or
Property Address

Or
Map

Or
Other (specify)

| |
|--|
| |
| |
| |
| |

Submission

I seek the following decision by Council:

- Accept the proposed plan change / variation
- Accept the proposed plan change / variation with amendments as outlined below
- Decline the proposed plan change / variation
- If the proposed plan change / variation is not declined, then amend it as outlined below.

Amend IX.2.5 by adding clause: ...(c) provides an active modes corridor to and through the site for public access, along the south-eastern boundary

16.1

Amend IX.2.5 by adding clause: ...(d) provides an active mode connection from the corridor in IX.2.5(c) to the legal road bounding the south-western edge of the site

Amend IX.2.5 by adding clause: ...(e) provides public walking access along the Oira Stream, connecting to the legal road network

Amend IX.3.5(c) by adding the word "Enabling" at the beginning of the clause.

16.2

- I wish to be heard in support of my submission
- I do not wish to be heard in support of my submission
- If others make a similar submission, I will consider presenting a joint case with them at a hearing

D M Dalziell

12 December 2025

Signature of Submitter

Date

(or person authorised to sign on behalf of submitter)

Notes to person making submission:

If you are making a submission to the Environmental Protection Authority, you should use Form 16B.

Please note that your address is required to be made publicly available under the Resource Management Act 1991, as any further submission supporting or opposing this submission is required to be forwarded to you as well as the Council.

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

I **could** / could not gain an advantage in trade competition through this submission.

If you **could** gain an advantage in trade competition through this submission please complete the following:

I **am** / am not directly affected by an effect of the subject matter of the submission that:

- (a) adversely affects the environment; and
- (b) does not relate to trade competition or the effects of trade competition.



Connecting people
Connecting places

Dot Dalziell

Kaitohutohu ā-Rohe | Regional Field Advisor
Herenga ā Nuku Aotearoa
Outdoor Access Commission

+64 21379132
herengaanuku.govt.nz



I work part-time and variable hours, and will respond to enquiries as soon as possible.

The information in this email is confidential and may be legally privileged. It is intended solely for the addressee. Access to this email by anyone else is unauthorised. If you have received this communication in error, please notify us by return email immediately with the subject heading "Received in error", then delete the email and destroy any copies of it. If you are not the intended recipient, any disclosure, copying, distribution or any action taken or omitted to be taken in reliance on it, is prohibited and may be unlawful. Herenga ā Nuku Aotearoa cannot guarantee that email communications are secure or error-free, as information could be intercepted, corrupted, amended, lost, destroyed, arrive late or incomplete, or contain viruses.

Before you fill out the attached submission form, you should know:

You need to include your full name, an email address, or an alternative postal address for your submission to be valid. Also provide a contact phone number so we can contact you for hearing schedules (where requested).

By taking part in this public submission process your submission will be made public. The information requested on this form is required by the Resource Management Act 1991 as any further submission supporting or opposing this submission is required to be forwarded to you as well as Auckland Council. Your name, address, telephone number, email address, signature (if applicable) and the content of your submission will be made publicly available in Auckland Council documents and on our website.

Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least one of the following applies to the submission (or part of the submission):

- It is frivolous or vexatious.
- It discloses no reasonable or relevant case.
- It would be an abuse of the hearing process to allow the submission (or the part) to be taken further.
- It contains offensive language.
- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991
FORM 5



Send your submission to unitaryplan@aucklandcouncil.govt.nz or post to :

Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300
Auckland 1142

| |
|---------------------|
| For office use only |
| Submission No: |
| Receipt Date: |

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

Organisation Name (if submission is made on behalf of Organisation)

Address for service of Submitter

Telephone: Email:

Contact Person: (Name and designation, if applicable)

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number

Plan Change/Variation Name

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s)

Or
Property Address

Or
Map

Or
Other (specify)

Submission

I seek the following decision by Council:

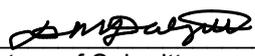
Accept the proposed plan change / variation

Accept the proposed plan change / variation with amendments as outlined below

Decline the proposed plan change / variation

If the proposed plan change / variation is not declined, then amend it as outlined below.

- I wish to be heard in support of my submission
- I do not wish to be heard in support of my submission
- If others make a similar submission, I will consider presenting a joint case with them at a hearing



 Signature of Submitter
 (or person authorised to sign on behalf of submitter)

 Date

Notes to person making submission:
 If you are making a submission to the Environmental Protection Authority, you should use Form 16B.

Please note that your address is required to be made publicly available under the Resource Management Act 1991, as any further submission supporting or opposing this submission is required to be forwarded to you as well as the Council.

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

I could /could not gain an advantage in trade competition through this submission.
If you could gain an advantage in trade competition through this submission please complete the following:

I am / am not directly affected by an effect of the subject matter of the submission that:

- (a) adversely affects the environment; and
- (b) does not relate to trade competition or the effects of trade competition.

From: [Angela Lin](#)
To: [Unitary Plan](#)
Subject: Proposed Plan Change 121 – Karaka Road Precinct
Date: Friday, 12 December 2025 3:05:23 pm

Good afternoon,

I am writing feedback in response to the private plan change for Fisher and Paykel site in Karaka.

I suggest changes to the proposed plan change, and support the feedback from local advocates to improve walking and cycling in the area and rely on their expertise. With the imminent development of Karaka and Drury, I believe these are critical, future focussed elements to be taken seriously into account.

“This is not future based planning to be proud of,” say local advocates.

“We want the plan to be amended so that at the east end there is a legal public access connection to Ngakaroa Station. There is legal public access through Fisher & Paykel Healthcare land for walking and cycling. At the western end there is a connection out through the part formed and part unformed Woodlyn Drive. Ideally there would also be a legal public access corridor next to the North Island Main Trunk Line.

17.1

“Overall this is an example of how Auckland Council needs to have better planning processes in place to help better Active Corridor Connections between communities.”

Their response to the plan change is taken from this [link](#).

Many thanks,

Angie

12 December 2025

Auckland Council
Plans and Places
Private Bag 92300
Auckland 1142
Attn: Planning Technician

By email to: unitaryplan@aucklandcouncil.govt.nz

SUBMISSION ON PUBLICLY NOTIFIED PROPOSAL FOR PLAN, CHANGE OR VARIATION (FORM 5)

Plan Change 121: Karaka Road Precinct

NAME OF SUBMITTER: KiwiRail Holdings Limited (KiwiRail)

ADDRESS FOR SERVICE: Level 1
Wellington Railway Station
Bunny Street
PO Box 593
WELLINGTON 6140

Attention: Joe McDougall

Ph: +64 27 279 0374

Email: environment@kiwirail.co.nz

KiwiRail Submission on Auckland Unitary Plan Operative in Part Private Plan Change 121

KiwiRail Holdings Limited (KiwiRail) is the state-owned enterprise responsible for the construction, maintenance, and operation of the national railway network. This includes managing railway infrastructure and land, as well as rail freight and passenger services within New Zealand. KiwiRail is also the Requiring Authority for land designated for 'Railway Purposes' (or similar) in District Plans throughout New Zealand.

KiwiRail's national railway network (which comprises of 3,700km of track, over 200 locomotives, 18,100 hectares of land and 1,350 modern and heritage buildings)¹ is a nationally and regionally significant infrastructure asset. The rail network is critical to the safe and efficient movement of freight and passengers throughout New Zealand, and forms an essential part of the national transportation network and the wider supply chain. New Zealanders have invested significantly in the rail network, and it is a critical public asset.

The benefits of rail to the New Zealand economy were estimated to be \$3.3 billion to New Zealand each year in 2024, comprising approximately \$1 billion in Gross Domestic Product (GDP) benefits as well as \$2.3 billion of economic externality impacts.² Transport modal shifts to more climate-friendly modes of transport, like rail, are critical to reduce carbon emissions. Substantial investments have been made and continue to be made in rail infrastructure and rolling stock assets. KiwiRail is actively pursuing the growth of its freight and passenger business.

The North Island Main Trunk (NIMT) is a designated rail corridor along the southern boundary of the proposed plan change area and is a key part of the KiwiRail network nationally. The NIMT carries both rail

¹ Half Year Annual Report 2024 and Unaudited Financial Statements for the Six Months Ended 31 December 2023 (KiwiRail, 2024) at page 4.

² The Benefit of Rail to New Zealand, 2024, Ernst & Young, Prepared for the Australian Railway Association at page 1.



freight traffic and Metro passenger services, and forms part of the golden triangle network for rail freight between Auckland, Tauranga and Hamilton. KiwiRail seeks to protect its ability to develop, operate, maintain and upgrade the NIMT into the future.

To achieve this, KiwiRail encourages land uses near the railway corridor that do not compromise the short or long-term ability to operate a safe and efficient rail network, both day and night. Where sensitive activities are proposed on land near the railway corridors, appropriate controls should be imposed to ensure the long-term amenity of sensitive uses. Associated with that is the risk of objections and complaints leading to restraints on the operation, maintenance and enhancement of the rail corridor.

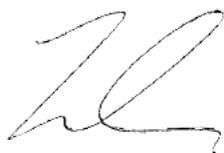
KiwiRail is not opposed in principle to the intent of PPC 121 but seeks amendments to ensure its rail operations can continue unimpeded to ensure continuity of services and safety for rail users and the community. The specific provisions of the plan that this submission relates to are set out in the attached table.

18.1

KiwiRail could not gain an advantage in trade competition through this submission.

KiwiRail wishes to speak to our submission and will consider presenting a joint case at the hearing with other parties who have a similar submission.

Yours faithfully,



Joe McDougall
Senior RMA Advisor
KiwiRail Holdings Limited

| Provision | Position | Reason | Relief |
|--|------------------------|---|---|
| IX.1. Karaka Road Precinct description | Support with amendment | <p>The Precinct directly adjoins the North Island Main Trunk Railway Line (NIMT). The Applicant has identified activities which would be sensitive to noise and/or vibration³. However, no Precinct provisions are proposed to manage these effects. Changes are sought throughout the Precinct provisions (as detailed below) to enable management of potential noise and vibration effects. Changes to the Precinct Description are also proposed to this effect.</p> <p>KiwiRail also plans future improvements (four tracking) of the NIMT between Pukekohe and Westfield junction; while no specific provisions are sought in relation to this, it is helpful to recognise as it will increase attractiveness of rail as a transport option for the Precinct.</p> | <p>Include the following (or equivalent) text within Precinct description:</p> <p><i>IX.1. Karaka Road Precinct description</i></p> <p><i>The Karaka Road Precinct applies to approximately 86.5ha of land bordered by Karaka Road which forms part of State Highway 22 to the north, the North Island Main Trunk Railway Line to the south, and Oiroa awa (Creek) to the west. <u>Future capacity improvements on the rail network are proposed which may include four-tracking and associated modifications to Ngākōroa Railway Station</u></i></p> <p>[...]</p> <p><i>The Karaka Road Precinct includes a standard to manage operational noise levels received by activities sensitive to noise within the Special Purpose – School Zone. This recognises that Chapter E25 does not include any operational noise standards to control the maximum permitted noise levels received in this zone.</i></p> <p><u>Provisions are also proposed within the Precinct to protect activities sensitive to noise from adverse effects arising from the proximity of the activities to the North Island Main Trunk Railway Line.</u></p> <p><u>A Rail Vibration Alert Overlay has been applied which identifies the vibration-sensitive area (within 100 metres of Strategic Transport Corridor zone containing the railway designation). No specific plan provisions apply in relation to the Rail Vibration Alert Overlay; the Overlay is to advise property owners of potential vibration effects however it is for the site owner to determine an appropriate response.</u></p> <p><i>The zoning of land within this Precinct is Business – Light Industry. [...]</i></p> |
| IX.2. Objective 5 | Support | KiwiRail supports provisions which encourage and provide for public and active modes. Kiwirail notes however that direct access between Ngākōroa train station and the Precinct is not proposed by the applicant. | Retain as notified. |
| IX.2. Objective (new) | Support | The Precinct directly adjoins the NIMT. The Applicant has identified activities which would be sensitive to noise and/or vibration ⁴ , including workers accommodation. However, no Precinct provisions are proposed to manage these effects. A new objective is proposed to support provisions enabling management of potential noise effects. | <p>Include new objective (or equivalent):</p> <p><u>(10) Ensure that activities sensitive to noise arising from the railway corridor are designed with measures to protect health and amenity, and that such activities do not constrain the operation of the railway corridor.</u></p> |

18.2

18.3

18.4

³ PPC121 Appendix 14, Assessment of Noise and Vibration Effects Structure Plan and Plan Change Request Karaka Road, prepared by Styles Group, 5 June 2024, Section 5.2.

⁴ PPC121 Appendix 14, Assessment of Noise and Vibration Effects Structure Plan and Plan Change Request Karaka Road, prepared by Styles Group, 5 June 2024, Section 5.2.

| | | | | |
|-----------------------------|------------------------|---|---|------|
| | | Attachment A: <i>Standard Railway Noise and Vibration Reverse Sensitivity Provisions and Section 32 Report dated 16 August 2023 prepared by Louise Taylor and Lisa Thorne</i> provides more detail on the noise and vibration and alternatives considered. | | |
| IX.3. Policy 2 | Support | The Precinct directly adjoins the NIMT and enables buildings up to 20m ⁵ to be constructed immediately adjacent to the rail designation boundary where located in a side yard ⁶ . Policy 2 supports integration with the surrounding environment (including the NIMT) and offers policy support for proposed amendments (detailed below) including a building (yard) setback from the Strategic Transport Corridor Zone where it contains the rail designation. | Retain as notified | 18.5 |
| IX.3. Policy 6 | Support in part | KiwiRail seeks this amendment to ensure stormwater infrastructure is designed and staged to prevent surcharge or flooding at KiwiRail land and or culverts under the NIMT. The Stormwater Management Plan (SMP) provided by the applicant proposes diversion and wetlands, but without explicit reference to downstream or upstream rail assets, there is a risk of adverse effects during construction or operation. | Amend policy (or equivalent): Policy 6 <i>(6) Require development to be consistent with the water sensitive approach outlined in the supporting stormwater management plan, including:</i> <i>(a) [...]</i> <i>(f) Ensuring development is coordinated with sufficient stormwater infrastructure to service the development, and</i> <i>(g) Require stormwater management measures to prevent adverse effects on the railway corridor and its associated structures and culverts</i> | 18.6 |
| IX.3. Policy (new) | | The Precinct directly adjoins the North Island Main Trunk Railway Line (NIMT). The Applicant has identified activities which would be sensitive to noise and/or vibration ⁷ . However, no Precinct provisions are proposed to manage these effects. A new policy is proposed to support provisions enabling management of potential noise effects. | Include new policy (or equivalent): <u>Ensure that activities sensitive to noise adjacent to the railway designation are designed with acoustic attenuation measures to protect people's health and amenity and that such activities do not constrain the operation of the railway corridor.</u> | 18.7 |
| Table IX.4.1 Activity table | Oppose in part | PC121 includes two new permitted activities: <ul style="list-style-type: none"><i>(A5) Manufacturing, research, and development of medical products and systems and ancillary activities; and</i><i>(A8) Industrial parks enabling over 100,000m² gross floor area of mixed light industrial activities.</i> It is unclear if these activities would be sensitive to noise generated by the rail corridor as they are not defined terms, particularly the phrase <i>research, and development of medical products and systems and ancillary activities</i> . | Either: Modify (A5) and (A8) to reflect existing defined terms in the AUP; or Provide new definitions to accurately describe the activities within (A5) ad (A8). | 18.8 |
| Table IX.4.1 Activity table | Support with amendment | The reasons for noise criteria are set out below. Activities that do not meet those standards should be classified as restricted discretionary activities to | Modify rule IX.4.1(A2) as follows: | 18.9 |

⁵ Auckland Unitary Plan, Standard H17.6.1.

⁶ PC121 – Appendix 1 - Plan Change Provisions, Table IX.6.4.1 Yards.

⁷ PPC121 Appendix 14, Assessment of Noise and Vibration Effects Structure Plan and Plan Change Request Karaka Road, prepared by Styles Group, 5 June 2024, Section 5.2.

| | | allow the effects of such non-compliances to be assessed on an application-by-application basis. | <i>Development that does not comply with standards IX.6.4 Yards, IX.6.5 Special Landscape Area, IX.6.6 Maximum impervious area, IX.6.7 Riparian planting, IX.6.8 Stormwater quality, IX.6.9 Water supply and wastewater connections or IX.6.10 Noise levels within buildings in the Special Purpose – School Zone, or IX.6.8 Noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation</i> | | | | | | | | | | |
|--------------|--|---|--|-------------|----------------------|--------------|-----------|-------------|--|-------------|-----------|--------------|--|
| IX.6.4 | Support with amendment | <p>KiwiRail recognises and supports the 5m front and rear yard setback as (by default) this provides suitable setback from the Strategic Transport Corridor Zone/rail designation to minimise critical health and safety issues for both communities and users of the rail network.</p> <p>A modification to apply the 5m side yard control where it adjoins the Strategic Transport Corridor Zone (STCZ) with a rail designation is proposed to manage risks for people undertaking activities on properties adjoining the rail designation (e.g. building construction or maintenance, objects falling onto tracks, etc).</p> <p>An integrated planning approach is critical to ensure that urban environments are developed in a way that both provides for the ongoing operation and future development of the transport network while also ensuring that communities are protected from health and safety effects.</p> <p>The purpose of the control is to:</p> <p>a. manage health and safety effects on communities from the potential conflict between the rail corridor and people; and</p> <p>b. minimise rail operation and ensure efficiency is not compromised due to disruption resulting from unplanned incursions into the rail corridor.</p> <p>For the avoidance of doubt, a safety setback's primary function is as a safety buffer. It is distinct from noise and vibration provisions.</p> <p>Attachment B: <i>Assessment under Section 32 of the Resource Management Act 1991 Rail Safety Setback July 2024</i> provides more detail on the setback distance and alternatives considered.</p> | <p>Modify IX.6.4 as follows (or equivalent):</p> <p><i>IX.6.4. Yards</i></p> <p><i>Purpose:</i></p> <ul style="list-style-type: none"> • <i>To provide a buffer and screening between industrial activities within the Precinct and adjacent land uses to mitigate adverse visual effects; and</i> • <i>Ensure buildings are adequately set back from streams to maintain water quality, amenity, and provide protection from natural hazards.</i> • <u>Ensure safety for workers and users of the rail network as well as the wider community and minimise potential disruptions to the rail network.</u> <p><i>(1) [...]</i></p> <p><u>Table IX.6.4.1 Yards</u></p> <table border="1"> <thead> <tr> <th><i>Yard</i></th> <th><i>Minimum depth</i></th> </tr> </thead> <tbody> <tr> <td><i>Front</i></td> <td><i>5m</i></td> </tr> <tr> <td><i>Side</i></td> <td><i>5m where the side boundary adjoins a residential zone, [...], the Special Purpose – School Zone, or Future urban zone, or KiwiRail Rail designation boundary.</i></td> </tr> <tr> <td><i>Rear</i></td> <td><i>5m</i></td> </tr> <tr> <td><i>[...]</i></td> <td></td> </tr> </tbody> </table> | <i>Yard</i> | <i>Minimum depth</i> | <i>Front</i> | <i>5m</i> | <i>Side</i> | <i>5m where the side boundary adjoins a residential zone, [...], the Special Purpose – School Zone, or Future urban zone, or KiwiRail Rail designation boundary.</i> | <i>Rear</i> | <i>5m</i> | <i>[...]</i> | |
| <i>Yard</i> | <i>Minimum depth</i> | | | | | | | | | | | | |
| <i>Front</i> | <i>5m</i> | | | | | | | | | | | | |
| <i>Side</i> | <i>5m where the side boundary adjoins a residential zone, [...], the Special Purpose – School Zone, or Future urban zone, or KiwiRail Rail designation boundary.</i> | | | | | | | | | | | | |
| <i>Rear</i> | <i>5m</i> | | | | | | | | | | | | |
| <i>[...]</i> | | | | | | | | | | | | | |
| IX.6.8 | Support with amendment | KiwiRail supports the inclusion of a stormwater rule to control the effects of stormwater. | Amend as follows (or equivalent) | | | | | | | | | | |

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18.11

| | | <p>However, KiwiRail seek the inclusion of rules insofar as these relate to the avoidance of adverse stormwater effects on the highway network.</p> <p>KiwiRail notes that within the immediate plan change area there are flood plains, flood prone areas and overland flow paths. KiwiRail seeks that that consideration be given for the hydraulic neutrality of the site at the boundary with NIMT and ensuring that development and associated discharges do not increase the flooding effects on the rail corridor or its infrastructure which would otherwise compromise KiwiRail's ability to operate a safe and efficient transport network.</p> | <p>6.8. Stormwater quality <i>Purpose: Contribute to improvement to water quality, stream health and freshwater ecological values.</i> [...] (3) <i>Stormwater runoff and discharge must be designed to ensure compliance with the following standards:</i> [...] (g) <u>That the site retains stormwater hydraulic neutrality compared to pre-development levels at the boundary with the NIMT.</u> (h) <u>That the stormwater discharges do not increase the flooding risk to the rail corridor or its associated infrastructure.</u></p> | | | | | | | | | | | | | | | | | | |
|----------------------|--|--|--|----------------------|---------------------------|---|--------------------|------------------------|--------------|----------------------------------|--------------|------------------|--|--------------|--|--------------|------------------|--------------|---------------|--------------------------------------|--------------|
| IX.6.11 (new) | Support with amendment | <p>The Applicant has identified activities which would be sensitive to noise⁸. However, no Precinct provisions are proposed to manage these effects.</p> <p>KiwiRail acknowledges that developing and intensifying land near transport corridors is good planning practice and initiatives to create sustainable and liveable urban development in accordance with national policy documents is fully supported. However, this can bring new occupants close to existing noise and vibration effects areas.</p> <p>A key part of ensuring the safe and efficient operation of the Auckland railway network is ensuring that reverse sensitivity effects on the railway corridor are appropriately mitigated. These effects can arise from the impact of noise and vibration arising from railway operations on nearby residents. It is also widely accepted nationally and internationally that sound and vibration from road and rail networks have the potential to cause adverse health and amenity effects on people living nearby. Railways are generally an accepted part of the urban environment, but many don't appreciate the actual effects of living with rail sound and vibration when they choose to live near existing railway designations. Railway operations occur 24/7 and include maintenance activities.</p> <p>For new buildings being constructed near the railway it is relatively straight-forward to control internal sound through the building location, design and provision of adequate ventilation systems. Likewise, acoustic screening can be used to achieve reasonable external sound levels. With careful design, future occupants can be protected from the most significant adverse effects associated with railway noise. It is not possible nor appropriate to expect that the railway corridor can mitigate new development, especially at height.</p> <p>Rail noise effects will extend approximately 100m from the railway designation. The Plan Change process permits a full assessment of noise and vibration effects and given the future potential for rail within the region, it is reasonable that effects on this critical transport infrastructure are addressed under the plan change process in terms of effects on adjacent sites.</p> | <p>Add to IX.6 Standards a new standard IX.6.11 to manage potential human health effects from rail noise and vibration where buildings containing noise sensitive activities are located adjacent to the railway corridor, as follows:</p> <p><i>IX.6.11 Noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation</i></p> <p><u>Indoor railway noise</u></p> <p><u>1. Any new building or alteration to an existing building that contains an activity sensitive to noise where the building or alteration:</u></p> <p><u>(a) Shall be designed, constructed and maintained to achieve indoor design noise levels resulting from the railway not exceeding the maximum values in the following table; or</u></p> <table border="1"> <thead> <tr> <th><u>Building type</u></th> <th><u>Occupancy/activity</u></th> <th><u>Maximum railway noise level LAeq(1h)</u></th> </tr> </thead> <tbody> <tr> <td rowspan="2"><u>Residential</u></td> <td><u>Sleeping spaces</u></td> <td><u>35 dB</u></td> </tr> <tr> <td><u>All other habitable rooms</u></td> <td><u>40 dB</u></td> </tr> <tr> <td rowspan="3"><u>Education</u></td> <td><u>Lecture rooms/theatres, music studios, assembly halls</u></td> <td><u>35 dB</u></td> </tr> <tr> <td><u>Teaching areas, conference rooms, drama studios, sleeping areas</u></td> <td><u>40 dB</u></td> </tr> <tr> <td><u>Libraries</u></td> <td><u>45 dB</u></td> </tr> <tr> <td><u>Health</u></td> <td><u>Overnight medical care, wards</u></td> <td><u>40 dB</u></td> </tr> </tbody> </table> | <u>Building type</u> | <u>Occupancy/activity</u> | <u>Maximum railway noise level LAeq(1h)</u> | <u>Residential</u> | <u>Sleeping spaces</u> | <u>35 dB</u> | <u>All other habitable rooms</u> | <u>40 dB</u> | <u>Education</u> | <u>Lecture rooms/theatres, music studios, assembly halls</u> | <u>35 dB</u> | <u>Teaching areas, conference rooms, drama studios, sleeping areas</u> | <u>40 dB</u> | <u>Libraries</u> | <u>45 dB</u> | <u>Health</u> | <u>Overnight medical care, wards</u> | <u>40 dB</u> |
| <u>Building type</u> | <u>Occupancy/activity</u> | <u>Maximum railway noise level LAeq(1h)</u> | | | | | | | | | | | | | | | | | | | |
| <u>Residential</u> | <u>Sleeping spaces</u> | <u>35 dB</u> | | | | | | | | | | | | | | | | | | | |
| | <u>All other habitable rooms</u> | <u>40 dB</u> | | | | | | | | | | | | | | | | | | | |
| <u>Education</u> | <u>Lecture rooms/theatres, music studios, assembly halls</u> | <u>35 dB</u> | | | | | | | | | | | | | | | | | | | |
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| | <u>Libraries</u> | <u>45 dB</u> | | | | | | | | | | | | | | | | | | | |
| <u>Health</u> | <u>Overnight medical care, wards</u> | <u>40 dB</u> | | | | | | | | | | | | | | | | | | | |

18.12

⁸ PPC121 Appendix 14, Assessment of Noise and Vibration Effects Structure Plan and Plan Change Request Karaka Road, prepared by Styles Group, 5 June 2024, Section 5.2.

| | | | | | | | | | |
|-------------------------------|--|--|---|--|--|--------------|-----------------|---------------------------------|--------------|
| | | | <table border="1"> <tr> <td></td> <td><u>Clinics, consulting rooms, theatres, nurses' stations</u></td> <td><u>45 dB</u></td> </tr> <tr> <td><u>Cultural</u></td> <td><u>Places of worship, marae</u></td> <td><u>35 dB</u></td> </tr> </table> <p><u>(b) is at least 50 metres from any railway network, and is designed so that a noise barrier completely blocks line-of-sight from all parts of doors and windows, to all points 3.8 metres above railway tracks</u></p> <p><u>Mechanical ventilation</u></p> <p><u>2. if windows must be closed to achieve the design noise levels in clause 1(a), the building is designed, constructed and maintained with a mechanical ventilation system that</u></p> <p><u>(a) For habitable rooms for a residential activity, achieves the following requirements:</u></p> <p><u>i. provides mechanical ventilation to satisfy clause G4 of the New Zealand Building Code; and</u></p> <p><u>ii. is adjustable by the occupant to control the ventilation rate in increments up to a high air flow setting that provides at least 6 air changes per hour; and</u></p> <p><u>iii. provides relief for equivalent volumes of spill air;</u></p> <p><u>iv. provides cooling and heating that is controllable by the occupant and can maintain the inside temperature between 18°C and 25°C; and</u></p> <p><u>v. does not generate more than 35 dB LAeq(30s) when measured 1 metre away from any grille or diffuser.</u></p> <p><u>(b) For other spaces, is as determined by a suitably qualified and experienced person.</u></p> | | <u>Clinics, consulting rooms, theatres, nurses' stations</u> | <u>45 dB</u> | <u>Cultural</u> | <u>Places of worship, marae</u> | <u>35 dB</u> |
| | <u>Clinics, consulting rooms, theatres, nurses' stations</u> | <u>45 dB</u> | | | | | | | |
| <u>Cultural</u> | <u>Places of worship, marae</u> | <u>35 dB</u> | | | | | | | |
| IX.8.1. Matters of discretion | Support with amendment | <p>Specific matters of discretion are proposed to ensure that applications for buildings within a side yard adjacent to the STCZ are appropriately assessed</p> <p>Specific matters of discretion are proposed to ensure that applications for noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation are appropriately assessed.</p> | <p>Modify IX.8.1 as follows (or equivalent):</p> <p><u>IX.8.1. Matters of discretion</u></p> <p>[...]</p> <p><u>(1) Buildings that do not comply with standards IX.6.4 Yards, IX.6.5 Special Landscape Area, IX.6.6 Maximum impervious area:</u></p> <p><u>(a) Matters of discretion H17.8.1(4) apply, and</u></p> <p><u>(b) for side yards adjoining the Strategic Transport Corridor:</u></p> <p><u>(i) The location and design of the building as it relates to the ability to safely use, access and maintain buildings without requiring access on, above or over the rail corridor.</u></p> <p>And</p> | | | | | | |

| | | | | |
|--------------------------------------|------------------------|---|--|-------|
| | | | <p><u>(8) Noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation</u></p> <p>(a) <u>Effects from non-compliance with Standards IX.6.10</u></p> | |
| IX.8.2 Assessment Criteria | Support with amendment | <p>Specific assessment criteria are proposed to ensure that applications for buildings within a side yard adjacent to the STCZ are appropriately assessed.</p> <p>Specific assessment criteria are proposed to ensure that applications for noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation are appropriately assessed. The assessment criteria proposed reflect criteria developed by a Network Utilities industry working group. These include considerations for required mitigation based on how far removed from the rail corridor a building is. The ability to consider applications and the effects arising as a result of an application providing reduced mitigation, along with the ability to require written approval from KiwiRail will enable specific circumstances to be taken into account as necessary for each application.</p> | <p><u>Modify IX.8.2 as follows (or equivalent):</u></p> <p><u>IX.8.2 Assessment Criteria</u> <u>[...]</u> <u>(1) Buildings that do not comply with standards IX.6.3 Yards, IX.6.4 Special Landscape Area, IX.6.5 Maximum impervious area:</u> <u>(a) Whether the proposal achieves policies H17.3(1), H17.3(4), IX.6.3(1), and IX.6.3(2)-; and</u> <u>(b) for side yards adjoining the Strategic Transport Corridor:</u></p> <ul style="list-style-type: none"> i. <u>location of the building or structure;</u> ii. <u>methods of providing for building maintenance within site boundaries on a permanent basis;</u> <u>and</u> iii. <u>the outcome of any consultation with KiwiRail.</u> <p>And</p> <p><u>(8) Noise sensitive spaces within 100 metres of the Strategic Transport Corridor Zone subject to a KiwiRail designation</u></p> <ul style="list-style-type: none"> <u>(a) Whether the activity sensitive to noise could be located further from the railway corridor</u> <u>(b) the extent to which the noise and vibration criteria are achieved and the effects of any non-compliance</u> <u>(c) The character of and degree of amenity provided by the existing environment and proposed activity.</u> <u>(d). The reverse sensitivity effects on the railway corridor and the extent to which mitigation measures can enable their ongoing operation, maintenance and upgrade.</u> <u>(e) Special topographical, building features or ground conditions which will mitigate vibration impacts;</u> <u>(f) The outcome of any consultation with KiwiRail.</u> | 18.14 |
| Karaka Road Precinct - Precinct Plan | Support in part | <p>The Applicant has identified activities which would be sensitive to noise⁹. However, no Precinct provisions are proposed to manage these effects. A new overlay is proposed to support provisions enabling management of potential noise effects.</p> | <p>Amend Precinct Map to apply a 100m Rail Noise Overlay from the STCZ (with rail designation)/Precinct boundary.</p> | 18.15 |
| Karaka Road Precinct - Precinct Plan | Support in part | <p>A Rail Vibration Alert Overlay is proposed. The Vibration Alert Overlay would be included within the Precinct maps (100m from STCZ containing a rail designation) and be explained in an additional paragraph under the <i>Overview</i> heading, immediately preceding the Objectives Table in the Noise chapter.</p> | <p>Amend Precinct Map to apply a 100m Rail Vibration Alert Overlay to the Precinct from the STCZ (with rail designation) boundary.</p> | 18.16 |

⁹ PPC121 Appendix 14, Assessment of Noise and Vibration Effects Structure Plan and Plan Change Request Karaka Road, prepared by Styles Group, 5 June 2024, Section 5.2.

| | | | |
|--|--|--|--|
| | | <p>The purpose of the Alert Overlay is to ensure landowners and occupiers are aware that rail noise and vibration effects may be present. This approach is consistent with the Applicants¹⁰ approach to vibration management which recommends an 'advisory' approach rather than specific rules in relation to vibration. There are no rules or other provisions associated with the Alert Overlay.</p> | |
|--|--|--|--|

¹⁰ PPC121 Appendix 14, Assessment of Noise and Vibration Effects Structure Plan and Plan Change Request Karaka Road, prepared by Styles Group, 5 June 2024, Section 5.2.

Attachment A: *Standard Railway Noise and Vibration Reverse Sensitivity Provisions and Section 32 Report dated 16 August 2023 prepared by Louise Taylor and Lisa Thorne*

KiwiRail Holdings Limited

Standard Railway Noise and Vibration
Reverse Sensitivity Provisions and
Section 32 Report

16 August 2023

Report Authors: Louise Taylor and Lisa Thorne



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KiwiRail Holdings Limited Section 32 Analysis of Rail Noise and Vibration Provisions

1. Introduction

KiwiRail Holdings Limited (**KiwiRail**) is the State-Owned Enterprise responsible for the construction, maintenance and operation of New Zealand's rail network. The rail network is critical to the safe and efficient movement of freight and passengers throughout New Zealand, and forms an essential part of the national transportation network and the wider supply chain.

KiwiRail is a network utility operator, and the Requiring Authority for railways throughout New Zealand. KiwiRail's rail network operates over 3500km of rail network and infrastructure, used by more than 900 freight trains every week, operating between Whangarei and Bluff. The rail network is utilised to carry imported and exported goods from New Zealand ports, timber and forestry products, bulk good such as dairy products and steel, domestic goods between cities, and domestic passengers, and demand for this service is expected to continue to grow. Passenger rail is also a growing source of traffic for the rail network. While passenger rail volumes are currently only located in New Zealand's main cities, expansion of passenger rail inter-regionally is a growing focus of national transport strategy.

This mix of freight and passenger rail traffic is critical to New Zealand's decarbonisation and public transport goals currently and into the future. For this reason, the rail network is recognised as nationally significant, and is often classified as regionally and/or nationally significant infrastructure in District Plans.

This report has been prepared in accordance with the requirements of s32 and Schedule 1 of the Resource Management Act 1991 (**Act**). It assesses and supports the inclusion of District Plan land use provisions to appropriately manage noise and vibration effects on sensitive activities in the vicinity of the rail network. In some cases, the provisions may require amendment to reflect the structure and style of the District Plan drafting (for example, utilising existing definitions, objectives or policies relating to the transport network or Activities Sensitive to Noise).

1.1 Value of Rail

The rail network is a significant contributor to the movement of freight within New Zealand, carrying 16% of total national freight, 25% of exports, and 18 million tonnes of freight every year. The 2021 Value of Rail in New Zealand report¹ found that the total value of rail in New Zealand was estimated to be between \$1.70 billion – \$2.14 billion each year, from:

- reduced greenhouse gas emissions and air pollution, by reducing 2.5 million tonnes of CO₂ emissions each year;
- time savings and reduced congestion; reducing cars and trucks on road, avoiding 26 million car trips a year in Auckland and Wellington alone, and removing 24,000 trucks from the road;
- improved road safety, including fewer injuries and fatalities, with 288 fewer injuries and fatalities each year; and
- lower road maintenance costs for taxpayers and greater fuel savings, saving between \$310–\$329 million each year.

Rail is an energy efficient mode of transport, and generates 70% fewer emissions than heavy road freight transport. KiwiRail is a leader in low emissions freight transport, supporting the national transition to net zero carbon by 2050. To achieve this, KiwiRail's Sustainability Strategy 2022–2025 contains specific carbon emission reduction objectives. With New Zealand's freight market projected to grow by 30% by 2030, rail will play an increasing part in handling the increase, providing greater resilience to the transport network, and reducing carbon emissions.

Acknowledging the benefits of rail (as outlined briefly above) and the role rail will play in decarbonising the freight network, the New Zealand Government has, to an extent not seen in a generation, chosen to fund, via the National Land Transport Fund, rail infrastructure, to ensure rail can scale effectively and efficiently to the needs of passengers and freight. Investment in rail (including new and improved infrastructure and rolling stock – locomotives, wagons and carriages) since 2019 now exceeds \$8b.

Given the nationally significant benefits and savings to the New Zealand economy, the greenhouse gas emission reductions, and air pollution reductions associated with rail freight, the adverse effects of failing to protect the rail network from reverse sensitivity are significant. At a national

¹ Ernst and Young, The Value of Rail in New Zealand, Report for the Ministry of Transport, February 2021

scale, for illustrative purposes, every 1% reduction in rail traffic caused by reverse sensitivity may equate to costs in the range of approximately \$17 to \$21 million per annum.

1.2 Proposed Provisions

KiwiRail proposes to introduce a suite of provisions to the District Plan to appropriately protect the railway network from reverse sensitivity by avoiding and mitigating adverse health and amenity effects associated with railway noise and vibration where sensitive uses locate in proximity to the railway corridor². As outlined in further detail below, similar provisions are already included in numerous operative plans throughout New Zealand.

These proposed provisions are provided in full in **Appendix I** and are summarised below:

- Insert a new objective and two policies providing for the importance of the rail network and the potential for reverse sensitivity effects when activities sensitive to noise are in close proximity; [if needed, depending on nature of plan change or proposed district plan, including any existing policies which are in place regarding management of reverse sensitivity or activities sensitive to noise near infrastructure / industry]
- Insert a new definition for 'Activity Sensitive to Noise' In the Definitions Section (if required);
- Insert new vibration alert layer to District Plan maps;
- Insert new 100m rail corridor buffer to District Plan maps (called "Rail Noise Control and Vibration Alert Area") to which the rules below will apply:
- Insert new rules and standards for noise and vibration in the vicinity of the railway corridor:
 - Railway noise standards for Activities Sensitive to Noise within 100m of a rail network boundary (i.e. within the Rail Noise Control and Vibration Alert Area); and
 - Construction design standards for indoor noise control for Activities Sensitive to Noise within 100m of a rail network boundary (i.e. within the Rail Noise Control and Vibration Alert Area).
- Require resource consent for a Restricted Discretionary Activity where these standards are not met. Provide matters of discretion by which resource consent applications will be assessed against.

² "Railway Corridor" means the area captured within the KiwiRail designation.

- Include an advice note that applies within the Rail Noise Control and Vibration Alert Area, and which alerts the plan user that activities within this Area may be subject to vibration effects from rail activities. No standards or other rules apply in relation to vibration.

1.2 Supporting Information and Assessment

The development of these provisions and the assessment in this Section 32 Report is informed by:

- an expert Noise and Vibration Memorandum by Stephen Chiles, dated July 2023, and attached as **Appendix 2**; and
- an expert Economic Assessment of Options to Manage Rail Noise and Vibration Effects (Economic Assessment) by Insight Economics, dated July 2023, and attached as **Appendix 3**.

The Noise and Vibration Memorandum characterises the noise and vibration associated with the operation of the rail network, and analyses the adverse health effects associated with rail noise and vibration both internationally and in New Zealand. It includes an assessment of appropriate levels for exposure to railway sound and vibration in the New Zealand context to avoid or mitigate sensitivity to rail noise and vibration in proximity to the KiwiRail network. This has informed the preparation and analysis of the proposed provisions, and particularly the appropriateness of the proposed Rail Noise Control and Vibration Alert Area and associated setbacks, acoustic standards, and the consideration of vibration standards.

The Economic Assessment analyses the economic costs and benefits associated with the proposed provisions against a 'do nothing approach', and KiwiRail proposed provisions approach (being option G in this report), and a 100m setback approach (being Option E in this report). This includes the economic costs and benefits of health and amenity effects, building design/location, policy implementation, administration and compliance, opportunity costs of potentially forgoing noise sensitive development, and compromised rail operation and efficiency as a result of reverse sensitivity. The Economic Assessment quantifies an estimate of the net costs and benefits per kilometre of track, which confirms that the preferred option has the highest net economic benefit of the three options assessed.

1.3 Requirements of Section 32 of the Act

This report provides an evaluation of the proposed objective and options to achieve the objectives in accordance with section 32 of the Act. Under the Act, a section 32 evaluation must:

- Examine whether the proposed objectives of the proposal are the most appropriate way to achieve the purpose of the Act (s32(1)(a));

- Examine whether the proposed provisions are the most appropriate way to achieve the objectives by identifying other reasonably practicable options, assessing the efficiency and effectiveness of options and summarising the reasons for deciding on provisions (s32(1)(b));
- Relative to considering the efficiency and effectiveness of the provisions in achieving the objective, include an assessment of the benefits and costs of the effects anticipated from implementing the provisions (s32(2));
- Contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from implementing the proposal (s32(1)(c)); and
- Where amendments are sought to a plan change that is already proposed or a plan which already exists, evaluate the proposal against both the objectives of the proposal and the objectives of the existing plan or plan change (s32(3)). As this assessment applies to District Plans generally, additional evidence is likely to be required in terms of s32(3) for specific plans or plan changes.

Each of these matters is assessed in this report (other than s32(3)), and on that basis the proposed provisions are considered the most appropriate way to achieve the sustainable management purpose of the Act.

2. Resource Management Issue

2.1 Operational Rail Noise

Railway noise levels are dependent on the type and condition of train and traffic volumes, speeds, track geometry and condition, and terrain and other factors. When considering railway noise levels the assumed railway traffic volumes are also important. With full geospatial details and information on railway activity, various standard acoustics computer modelling packages can be used to predict railway noise levels, depending on the situation. However, there is currently no standardised approach to this modelling for railway sound in New Zealand, nor consistent use of a particular method.

In 2009 KiwiRail commissioned Marshall Day Acoustics to provide a recommended method for the prediction and control of rail noise. The recommendations of Marshall Day Acoustics have provided the basis for the methods developed and considered in this report. This is assessed and explained in greater detail in the Noise and Vibration Memorandum provided at Appendix 2 to this report.

The method proposed by Marshall Day Acoustics, and outlined in detail in the Noise and Vibration Memorandum uses a 1 hour averaging method, to appropriately capture the noise maximums likely from the rail network. Specifically, it utilises the following assumed noise levels from rail activities at certain distances:

The following provides an illustration of typical railway sound levels based on an assumption of approximately two freight train movements in a one-hour period, in a flat area without screening. This is based on data summarised by Marshall Day Acoustics. More recent (unpublished) measurements for various New Zealand train types confirm these sound levels are in a realistic range.

| Distance from track | Sound level |
|---------------------|-----------------------------|
| 10 metres | 71 dB L _{Aeq} (1h) |
| 20 metres | 68 dB L _{Aeq} (1h) |
| 30 metres | 66 dB L _{Aeq} (1h) |
| 40 metres | 64 dB L _{Aeq} (1h) |
| 50 metres | 62 dB L _{Aeq} (1h) |
| 60 metres | 60 dB L _{Aeq} (1h) |
| 70 metres | 59 dB L _{Aeq} (1h) |
| 80 metres | 58 dB L _{Aeq} (1h) |
| 90 metres | 56 dB L _{Aeq} (1h) |
| 100 metres | 56 dB L _{Aeq} (1h) |

Table 1: Typical rail sound levels (Noise and Vibration Memorandum)

The Noise and Vibration Memorandum sets out that internal sound levels with windows ajar for ventilation will typically be around 15 dB less than the above external levels.

2.2 Reverse Sensitivity

Reverse sensitivity is the susceptibility of lawfully established effects-generating activities (which cannot internalise all of their effects) to complaints or objections arising from the location of new sensitive activities nearby those lawfully established activities.

In the context of the railway corridor, this can adversely affect the 3500km of rail network throughout New Zealand, where activities that are sensitive to noise and vibration establish in close proximity to the rail corridor without suitable mitigation. The rail corridor is existing, fixed in place, and actively used for rail services (freight and/or passenger).

Without appropriate land use controls in place to manage health and amenity effects and the resulting reverse sensitivity effects associated with new or altered land uses in the vicinity of the railway corridor, sensitive activities can be adversely affected by rail noise and vibration, and this has adverse reverse sensitivity effects on the efficient operation of the rail network.

The rail network is usually identified as “regionally significant infrastructure” or similar definition in District Plans, which makes clear its importance to the District, Region and in some cases Country in terms of transportation of freight, passengers and associated resilience.

The Economic Assessment quantifies the net benefits and costs on rail operations under a ‘do nothing’ scenario (being Option A in this report). The net costs related to impacts on rail operation are estimated as \$97,000 per kilometre of track. Conversely, the Economic Assessment confirms

there will be 0\$ net costs to rail operation resulting from the proposed provisions.

2.3 Health Effects of Rail Noise

Where noise effects from the railway corridor are not appropriately managed by land use controls, health and amenity effects can arise for Activities Sensitive to Noise located on land near the railway network throughout New Zealand.

It is widely accepted nationally and internationally that sound and vibration from rail networks have the potential to cause adverse health effects on people living nearby. This has been documented by authoritative bodies such as the World Health Organisation³ (**WHO**), including a publication by WHO Europe in October 2018 (**2018 WHO Guidelines**), which set out guidelines for managing environmental noise⁴. These WHO publications are underpinned by robust scientific research.

The 2018 WHO Guidelines are based on a critical review of academic literature and followed a rigorous protocol to determine the quality of evidence of adverse effects. With respect to noise from rail networks, the 2018 WHO Guidelines note the following adverse effects: ischaemic heart disease, hypertension, high annoyance and sleep disturbance. Based on the evidence of adverse effects, WHO makes recommendations to policymakers to reduce rail noise exposure to below a range of guideline values.

The Noise and Vibration Memorandum provides an analysis of the WHO Guidelines and applicability of those guidelines to New Zealand. Research published in 2019⁵ specifically addresses the applicability of international data on noise annoyance to New Zealand. For rail noise, this research was based on a survey of 244 people living in the vicinity of the North Island Main Trunk in South Auckland, including the section through Drury. The survey was based on the questions and methods set out in the international technical specification ISO/TS 15666⁶, which is the same approach used in most international studies. The research found that international noise response curves are generally applicable to the New Zealand context, although potentially New Zealanders may be slightly more noise sensitive.

³ World Health Organisation, Guidelines for community noise, 1999; World Health Organisation, Burden of disease from environmental noise, 2011.

⁴ World Health Organisation, Environmental noise guidelines for the European region, 2018.

⁵ Humpheson D. and Wareing R., 2019. Evidential basis for community response to land transport noise, Waka Kotahi Research Report 656. <https://nzta.govt.nz/resources/research/reports/656/>

⁶ International Standards Organisation ISO/TS 15666:2003 Acoustics – assessment of noise annoyance by means of social and socio-acoustic surveys.

Although there is current New Zealand and international research that may further refine the understanding of health effects associated with exposure to railway noise, the memorandum sets out that the existing 2018 WHO Guidelines already establishes there are adverse health effects that warrant intervention.

KiwiRail employs various other mechanisms to reduce rail noise and vibration from the railway corridor. These include the installation of ballast mat, rail grinding and tamping, ballast cleaning and replacement, and automated monitoring of rolling stock wheel condition. In terms of track condition, KiwiRail has comprehensive procedures including measurement of track condition/ geometry with a specialist survey vehicle several times a year, and maintenance systems acting on that data.

As explained by Dr Chiles in the Noise and Vibration Memorandum, noise attenuation walls are rarely available for mitigation purposes as typically the rail corridor is elevated and therefore such a wall would need to be unreasonably high to provide benefit. Therefore, not all noise and vibration effects can be completely internalised within the KiwiRail designation boundaries. These effects are the result of normal rail operation and maintenance and cannot be solely attributed to defects in track or rolling stock, and form part of the existing environment.

For new buildings and alterations or additions to existing buildings near to the railway network, it is relatively straight-forward to control internal noise through building location, design and systems (such as using acoustic insulation and mechanical ventilation). In most cases, it is practical to achieve acceptable internal noise levels using such measures. Therefore, with careful design of building location, orientation and materials, and/or the use of new or existing barriers such as acoustic walls and/or bunds, or locating new dwellings behind existing dwellings or landforms on a site, the adverse effects of noise can be appropriately avoided and/or mitigated.

The Noise and Vibration Memorandum sets out that in the New Zealand context:

...railway sound level criteria of 35 dB LAeq(1h) inside bedrooms and 40 dB LAeq(1h) inside other habitable spaces have previously been applied for protection from health effects. These values are slightly higher (more lenient) than the 2018 WHO Guidelines for regular sound events but would be more stringent for infrequent events. This comparison relates only to average sound levels, but corresponding relationships with health effects for different frequencies of railway events are uncertain/unknown. Therefore, currently there is not an evidence base available that would support significantly more or less stringent railway sound criteria than 35 dB LAeq(1h) inside bedrooms and 40 dB LAeq(1h) inside other habitable spaces for

protection of health.

The provisions proposed by KiwiRail is consistent with this approach, and adapted for the New Zealand context as an integral part of KiwiRail's broader noise management activities. The internal noise levels are therefore adopted in the proposed provisions, which provide a suite of options for compliance including building location, orientation and materials, and/or the use of barriers such as acoustic walls and/or bunds.

2.4 Effects of Rail Vibration

Norwegian Standard NS 8176⁷ provides a summary of annoyance and disturbance relationships associated with vibration from land-based transport. These relationships demonstrate that adverse effects occur at vibration exposures typically found around existing rail networks. The primary issue relates to people in buildings being disturbed due to feeling vibration. Furthermore, the same vibration can cause buildings to radiate noise inside. As for managing sound, routine track and rolling stock (wheel) maintenance can contribute to reducing vibration at source.

Vibration can vary significantly depending on ground conditions and localised features such as buried services and structures. Even with 'good' ground, track and rolling stock conditions there is still inherent vibration from railways that can cause disturbance.

The Noise and Vibration Memorandum sets out that:

Adverse effects of railway vibration can include annoyance and sleep disturbance for building occupants and damage to buildings. Damage to buildings (even cosmetic damage) occurs at greater vibration magnitudes than those which can cause annoyance.

Internationally, there has been less research into transportation vibration effects on people compared to research on transportation sound effects. However, the evidence that does exist on adverse health effects caused by railway vibration indicates they are material, and as such the relative paucity of research is not an indicator of the degree of effects. There is international research ongoing in this area. Research is also investigating health effects arising from the combination of railway sound and vibration.

⁷ Norwegian Standard NS 8176:2017 Vibration and shock – Measurement of vibration in buildings from land based transport and guidance to evaluation of its effects on human beings.

In analysing the standards currently adopted nationally and internationally for assessing vibration effects, the Noise and Vibration Memorandum assesses vibration levels measured from different sources in New Zealand, and concludes that,

There is a knowledge gap as to the actual likelihood of cosmetic damage from railway vibration in New Zealand. However, all potential criteria for vibration effects on people are substantially more stringent, such that for buildings containing sensitive activities, cosmetic building damage might not require separate consideration.

For new buildings and alterations or additions to existing buildings near to the railway network, as with railway noise, vibration can be controlled through building location, and design. Therefore, with careful design of building location, orientation and materials, the adverse effects of vibration can be appropriately avoided and/or mitigated.

However, the exact design requirements to ensure compliance with appropriate vibration levels depend significantly on site-specific factors, including ground condition / soil type, topography or other environmental features. The level of controls required and the associated cost of implementing such controls can therefore differ significantly on a site-to-site basis.

Without further research into the requirements and cost of implementing such controls on a district-wide basis, there is insufficient existing data to confirm appropriate district-wide provisions which require physical controls for vibration.

For this reason, KiwiRail has instead pursued a “Rail Vibration Alert Layer” be added to the District Plan maps. Such alert layers ensure landowners and occupiers are aware that vibration effects may be present in this location (100m from the rail corridor). They can then make their own design and location decisions should they wish to mitigate such effects. This enables behaviour change and appropriate notice to landowners, while avoiding uncertain costs of controls at this time.

2.4 Economic Effects

The Economic Assessment estimates the likely costs and benefits of 3 options: Option 1 to ‘do nothing’ (Option A in the s32 assessment below), Option 2 being the proposed provisions (Option G in the s32 assessment below), and Option 3 being a 100m setback option (per kilometre of rail track) (Option E in the s32 assessment below). The net costs and benefits of each option based on the assumptions set out in the Economic Assessment are summarised below.

| Costs/Benefits per km of Track | Option 1 | Option 2 | Option 3 |
|---------------------------------------|---------------------|---------------------|----------------------|
| Amenity & health benefits | -\$4,665,600 | \$0 | \$0 |
| Impacts on rail operation | -\$97,000 | \$0 | \$0 |
| Policy compliance costs | \$0 | -\$1,728,000 | \$0 |
| Housing market impacts | \$0 | \$0 | -\$28,800,000 |
| Option Net Benefits/Costs | -\$4,762,600 | -\$1,728,000 | -\$28,800,000 |

Table 2: Estimated net benefits and costs per kilometre of track (Economic Assessment)

The Economic Assessment notes there are different economic costs associated with the assessed options, and that when compared to a 'do nothing' or set back approach, the proposed approach has the lowest economic cost.

"Doing nothing" (Option 1/Option A) has a higher economic cost, primarily related to impacts on amenity and health, with some costs to rail operations. The Economic Assessment sets out that it is impossible to accurately assess the extent to which reverse sensitivity would disrupt the rail network and the consequential impacts on the economy. However the Economic Assessment sets out for illustrative purposes, at a national scale, "every 1% reduction in rail traffic caused by reverse sensitivity from new Activities Sensitive to Noise establishing nearby would cost approximately \$17 to \$21 million per annum".

A 100m setback (Option 3/Option E) while avoiding any economic impacts on rail and human health, "will have the greatest impacts on housing supply because it sterilises the use of land for Activities Sensitive to Noise within 100 metres of the rail network". The housing market costs associated with the loss of developable land are analysed in the Economic Assessment, and estimated net costs for a conservative typical mixed residential and non-noise sensitive activity scenario are approximately \$28,800,000 per kilometre of track.

The proposed approach (Option 2/Option G) is assessed in the Economic Assessment as having no economic impacts associated with human health and rail operation effects. However there will be policy, administrative, and compliance costs estimated at approximately \$1,728,000 per kilometre of track for a conservative typical mixed residential and non-noise sensitive activity scenario. These costs include the upfront costs to comply with the noise standards (acoustic assessment and the mitigation measures themselves), conservatively estimated as being \$3000 (for an acoustic assessment), plus 3% of the building value for the associated mitigation to achieve compliance.

Although this places some cost burden on those establishing activities sensitive to noise in the vicinity of the rail network, these are largely one-off upfront costs which are a small proportion of

the total build cost. Additionally, these costs are significantly lower than the costs to health associated with no mitigation, and significantly lower still than the opportunity costs to the housing market of prohibiting the activity in the vicinity of the rail network.

2.5 Duty to Avoid Unreasonable Noise

Section 16 of the Act requires that:

"Every occupier of land... shall adopt the best practicable option to ensure that the emission of noise from that land or water does not exceed a reasonable level", and

"A national environmental standard, plan, or resource consent made or granted for the purposes of any of sections 9, 12, 13, 14, 15, 15A, and 15B may prescribe noise emission standards, and is not limited in its ability to do so by subsection".

KiwiRail is a responsible infrastructure operator that endeavours to avoid, remedy or mitigate the adverse rail noise and vibration it produces, through its ongoing programme of upgrade, repairs and maintenance work to improve track conditions.

As discussed above, KiwiRail employs various mechanisms to reduce rail noise and vibration from the railway corridor. These include the installation of ballast mat, rail grinding and tamping, ballast cleaning and replacement, and automated monitoring of rolling stock wheel condition. KiwiRail has comprehensive procedures including measurement of track condition/geometry with a specialist survey vehicle several times a year, and maintenance systems acting on that data.

Not only is this important to KiwiRail as part of being a good neighbour, but it is also under a statutory obligation to use the best practicable option to avoid unreasonable noise (s16) and to avoid, remedy or mitigate adverse effects on the environment (s17).

The proposed provisions complement the above measures undertaken by KiwiRail in respect of its responsibilities under s 16 of the Act – to mitigate the remaining adverse effects that remain following the responsible management of noise and vibration by KiwiRail. They apply only to those developments which are bringing new or expanded sensitive activities to the existing activity operated by the KiwiRail – they do not impose new obligations on already established activities. As set out in the Economics Report, the provisions are also likely to result in a range of ancillary benefits to those dwellings where they are incorporated, including warmer, drier, and quieter homes that are also worth more.

Given the responsibility for the new activity lies with the neighbouring landowners, and the benefits

which come from the controls accrue to the new landowners, including in respect of overall property value, it is considered appropriate that the costs are assumed by those landowners. This is discussed further below in respect of Option H.

3. Approach to Issue

Mapping, land use rules and standards to avoid or mitigate adverse noise and vibration effects on sensitive activities are critical to protect sensitive activities from these effects. These standards are also fundamental to managing the potential for reverse sensitivity effects on the railway network as a result of this sensitivity. The location of incompatible sensitive activities in proximity to rail infrastructure can lead to noise and vibration effects on and complaints from sensitive users, affecting both the occupants in these areas, and affecting KiwiRail.

There are many examples in NZ district plans which seek to control the location and design of sensitive activities such as housing, healthcare and education facilities where such activities seek to locate near existing sources of noise and/or vibration. These include roads, railways, airports, ports, quarries, industrial sites, industrial and business zones, gun clubs and motorsport facilities. For sensitive activities near existing railways, examples of second-generation operative district plans containing controls include: Christchurch, Dunedin, Tauranga, Hamilton, Palmerston North and Hutt City. All these existing plans control land use standards to manage the adverse effects of noise and/or vibration.

The proposed provisions require that noise and vibration sensitive activities that may establish in proximity to the rail network are appropriately designed and sited to reduce the noise effect to an acceptable level. This will ensure that adverse effects on human health and amenity are appropriately managed, protects public health, provides certainty to those developing land adjacent to the rail corridor of the permitted standards, and protects nationally and regionally significant rail infrastructure from reverse sensitivity.

The proposed provisions are set out in full in **Appendix 1** and are summarised briefly below.

3.1 New Definitions

KiwiRail seeks the following definitions be added to the Definitions Section (if a suitably similar definition is not already in place in the District Plan):

Activity Sensitive to Noise: means any residential activity (including student or retirement accommodation), visitor accommodation, educational facility, child care facility, healthcare activity, and places of worship/marae.

3.2 New Objective and Policies

Insert a new objective and two policies providing for the importance of the rail network and the potential for reverse sensitivity effects when activities sensitive to noise are in close proximity:

- The Objective is to *'Ensure adverse reverse sensitivity, health and wellbeing effects arising from the development of Activities Sensitive to Noise adjacent to the railway network are appropriately avoided or mitigated'*.
- The policies are to:
 - *'Avoid reverse sensitivity effects on the ongoing and future operation and development of the railway network by ensuring new Activities Sensitive to Noise are designed or located to meet appropriate acoustic design standards'*; and
 - *'Manage effects on the health and wellbeing of communities through the design and location of Activities Sensitive to Noise adjacent to the railway network to meet appropriate acoustic design standards'*.

Where plans include existing objectives and/or policies which appropriately capture the matters above, or which could be amended or added to in order to integrate the objectives above, then this may be appropriate to ensure greater integration of the provisions into the particular plan.

3.3 New Rules and Standards

KiwiRail seeks the following rules and standards be added to the District Plan:

- For all zones at any point within 100 meters from the legal boundary of the KiwiRail Rail Corridor Designation (**Rail Noise Control and Vibration Alert Area**), all new buildings or alterations to existing buildings containing an Activity Sensitive to Noise, must meet:
 - Specified Internal noise standards ranging from:
 - 35 dB LAeq(1h) for sleeping spaces, lecture rooms/theatres, music studios, assembly halls, and places of worship and marae,
 - 40 dB LAeq(1h) for all other habitable rooms, and education teaching areas, conference rooms, drama studios and sleeping areas, and overnight medical care and wards, and

- 45 dB LAeq(1h) for libraries, and health clinics, consulting rooms, theatres and nurses' stations; or
 - The nearest exterior façade of the building accommodating the activity is at least 50m from the railway network and is protected by a specified noise barrier, or
 - It can be demonstrated by way of prediction or measurement that the noise at all exterior façades of the listed activity is no more than 15 dB above the relevant noise levels; and
 - For buildings which require windows to be closed to achieve the noise standards, mechanical ventilation standards must be met; and
 - A report is submitted to the council demonstrating compliance with the above rules prior to the construction or alteration of any building containing an activity sensitive to noise using specified assumptions.
- Require resource consent for a Restricted Discretionary Activity where these standards are not met. Provide matters of discretion by which resource consent applications will be assessed against which limit the assessment of effects to the extent of non-compliance, effects on health and wellbeing, reverse sensitivity effects, and the outcome of any consultation with KiwiRail.
 - Include an advice note that applies within the Rail Noise Control and Vibration Alert Area, and which alerts the plan user that activities within this Area may be subject to vibration effects from rail activities. No standards or other rules apply in relation to vibration.

4. Assessment of Objective

Section 32(1)(a) requires an assessment of whether the proposed objective is the most appropriate way to achieve the purpose of the Act. The purpose of the Act is set out in Section 5 as:

- (1) *The purpose of this Act is to promote the sustainable management of natural and physical resources.*
- (2) *In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—*
 - (a) *sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
 - (b) *safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
 - (c) *avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

An assessment of the provisions against the proposed Objective against section 5 is set out in the table, below.

Table 3: Assessment of Objective under Section 5 of the Act

| Proposed KiwiRail Provisions | Reason for Objective |
|---|--|
| <p>Objective</p> <p>Ensure adverse reverse sensitivity, health and wellbeing effects arising from the development of Activities Sensitive to Noise adjacent to the railway network are appropriately avoided or mitigated.</p> <p>Policy</p> <p>Avoid reverse sensitivity effects on the ongoing and future operation and</p> | <p>The objective and supporting policies enable communities to provide for their health and wellbeing, and protects the railway network from reverse sensitivity.</p> <p>Where located in close proximity to the railway corridor, activities sensitive to noise are appropriately designed and sited so that adverse effects on health and wellbeing are appropriately managed, and railway infrastructure is appropriately protected from reverse sensitivity.</p> |

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| <p>development of the railway network by ensuring new Activities Sensitive to Noise are designed or located to meet appropriate acoustic design standards.</p> <p>Policy</p> <p>Manage effects on the health and wellbeing of communities through the design and location of Activities Sensitive to Noise adjacent to the railway network to meet appropriate acoustic design standards.</p> | <p>This enables people to provide for the economic and social use of sites adjacent to the railway corridor, and to meet the reasonably foreseeable needs of the activity, while ensuring that adverse noise and vibration effects are avoided and mitigated.</p> <p>It is therefore considered that the proposed objective is the most appropriate way to achieve the purpose of the Act.</p> |
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5. Assessment of Proposed Noise and Vibration Provisions

Sections 32(1)(b) and 32(2) require an assessment of the proposed provisions to be undertaken to test their appropriateness and efficiency and effectiveness. This must include:

- whether the proposed provisions are the most appropriate way to achieve the objectives by identifying other reasonably practicable options, assessing their efficiency and effectiveness and summarising the reasons for deciding on provisions; and
- relative to considering the efficiency and effectiveness of the provisions in achieving the objective, include an assessment of the benefits and costs of the effects anticipated from implementing the provisions.

The cost and benefit assessment must identify and assess the costs and benefits associated with environmental, economic, social, and cultural effects including economic growth and employment that are anticipated to be provided or reduced. If practicable, the Act requires that these be quantified.

Section 32(2)(b) also requires an assessment of the risk of acting or not acting if there is uncertain or insufficient information. In this case, it is acknowledged that the costs of implementing the insulation measures will vary on a site by site basis, and the scale will depend on factors such as extent of area affected and density of housing. However, there is considered to be sufficient information about the effects of noise and vibration on health and amenity and reverse sensitivity to the rail corridor, to determine the range and nature of effects of the options. No assessment of the risk of acting or not acting is necessary.

5.1 Identification of Reasonably Practicable Options

KiwiRail have considered a range of potential options. This includes 'doing nothing', a number of existing approaches, the proposed provisions, and other regulatory methods and mechanisms available. These are summarised below:

Option A – Do nothing:

No or limited railway noise and vibration provisions in the District Plan. This may include no specific noise and vibration rules, standards or mapping overlays, but may include consideration of reverse sensitivity effects when assessing the adverse effects of any resource consent application, depending on the existing objectives, policies and rules in the District Plan.

This includes subdivision, use or development within the vicinity of the railway corridor if the District Plan provides sufficient direction to do so.

Option B – Rail operator reduces noise and vibration emissions:

The rail operator ensure that noise and vibration emissions are reduced to the extent that Activities Sensitive to Noise within 100m of the rail corridor achieve the recommended noise and vibration levels without needing to undertake any specific insulation, ventilation or construction design standards.

Option C – Noise barriers:

Acoustic walls or bunds installed by the applicant or the rail operator with no other noise or vibration management methods.

Option D – Construction design standards:

A table which specifies minimum construction materials and standards necessary to achieve internal acoustic levels within buildings, with no other noise or vibration management methods.

Option E – Setbacks:

Requiring Activities Sensitive to Noise to be set back 100m from the railway corridor with no other noise or vibration management methods.

Option F – Internal acoustic standards:

Require internal acoustic and ventilation rules and standards for noise-sensitive activities, but provide no other options to achieve compliance.

Option G – Combination of rules and standards (Proposed provisions):

Within 100m of the railway corridor, provide several options to achieve compliance with internal acoustic levels – within 50m of the rail corridor buildings are designed to meet specified Internal noise levels, or must meet a 50m setback, or where the noise at exterior façades is measured or predicted to be no more than 15 dB above the relevant noise level. Buildings must also meet mechanical ventilation standards and reporting standards. Includes an advice note to alert plan users that Activities Sensitive to Noise within the Rail Noise Control and Vibration Alert Area may be subject to vibration effects.

Option H – Proposed provisions funded by rail operator:

Within 100m of the railway corridor, via a mapped Rail Noise Control and Vibration Alert Area, the same options to achieve compliance would be available – buildings are designed to meet

specified Internal noise levels, or must meet a 50m setback, or noise at exterior façades is no more than 15 dB higher. Buildings must also meet mechanical ventilation standards and reporting standards, and there is an advice note regarding vibration effects. However, the difference is that KiwiRail would fund the achievement of these standards.

Option I – Landscaping:

Landscape planting to provide acoustic mitigation, with no other noise or vibration management methods.

Option J – National regulation:

This may include changes to the Building Act or Building Code or introduction of a National Planning Standard or National Environmental Standard. The Building Act and Code currently provides specifications to manage inter-tenancy noise (eg noise between residential apartments within the same building with shared tenancy walls). However, it does not require the management of internal noise where noise is generated from outside a building (e.g. rail noise from an adjacent rail corridor).

Option K Reverse sensitivity covenant:

A plan provision which requires a covenant whereby property owners agree not to complain about noise and vibration effects on sensitive land uses. This is often referred to as a ‘no complaints’ covenant.

An assessment of these options in accordance with Sections 32(1)(b) and 32(2) of the Act is provided below.

5.2 Assessment of Reasonably Practicable Options

Table 4: Assessment of Reasonably Practicable Options

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| <p>Option A - Do nothing</p> <p>No or limited railway noise and vibration provisions, but this option may include consideration of reverse sensitivity effects when assessing a resource consent application for subdivision, use or development within the vicinity of the railway corridor.</p> |
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| Effectiveness and Efficiency | Costs | Benefits |
|---|--|--|
| <p>Doing nothing requires no action from the territorial authority or applicant so could be considered efficient.</p> <p>It is considered to be the least effective option as it will place no limit on the establishment of Activities Sensitive to Noise in the vicinity of the railway corridor. This will result in an increase in exposure of sensitive activities to the adverse effects of rail noise and vibration.</p> | <p>Doing nothing will result in the establishment of Activities Sensitive to Noise in the vicinity of the railway corridor without being appropriately designed and sited.</p> <p>This will result in an increase in exposure of sensitive activities to the adverse effects of rail noise and vibration, resulting in adverse health and amenity effects for people, and adverse reverse sensitivity effects on rail activity.</p> <p>These costs are analysed in the Economic Assessment, and estimated net costs to health and amenity are approximately \$4,665,600, estimated net costs to rail operation is approximately \$97,000, with these costs totalling approximately \$4,762,600 per kilometre of track.</p> | <p>There will be no additional regulatory cost or costs to landowners and occupiers in terms of compliance or building cost increases.</p> <p>There will be no administration and regulatory costs to the territorial authority as there will be no associated resource consenting or monitoring and compliance.</p> |
| <p><i>Is doing nothing reasonably practicable?</i> No - it will not achieve the objective and will result in adverse health and wellbeing effects, and adverse reverse sensitivity effects.</p> | | |

| <p>Option B - Rail operator reduces noise and vibration emissions</p> | | |
|---|--|--|
| <p>The rail operator ensure that noise and vibration emissions are reduced to the extent that Activities Sensitive to Noise within 100m of the rail corridor achieve the recommended noise and vibration levels without needing to undertake any specific insulation, ventilation or construction design standards.</p> | | |
| <p>Effectiveness and Efficiency</p> | <p>Costs</p> | <p>Benefits</p> |
| <p>This option would not be efficient or effective as, given mitigation measures to minimise rail noise and vibration are unable to comprehensively control these effects, this would significantly curtail the reasonable operation of the existing rail network, and would eliminate the opportunity for any growth in rail traffic over time, resulting in an inefficient use of infrastructure.</p> <p>This would then have consequences for the delivery of freight and passenger transport, and may compromise the achievement of emissions reduction targets by increasing the reliance on road freight.</p> | <p>This option would likely be cost prohibitive to KiwiRail given the impacts on its operations.</p> <p>There may be an environmental cost associated with an increase in emissions associated with having to rely on alternative transport methods.</p> | <p>There are no potential benefits to KiwiRail associated with this option.</p> <p>There would be health and amenity benefits associated with the reduction of rail noise and vibration for Activities Sensitive to Noise within the vicinity of the rail corridor.</p> <p>There may be benefits to landowners to maximise development potential for Activities Sensitive to Noise within the vicinity of the rail corridor.</p> |
| <p><i>Is doing noting reasonably practicable?</i> No – this option would places significantly curtail rail the efficient use and development of rail infrastructure.</p> | | |

| Option C - Noise barriers | | |
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| Acoustic walls or bunds installed by the property owner or by the rail operator. | | |
| Effectiveness and Efficiency | Costs | Benefits |
| <p>This option is effective and efficient when it integrated into the design of a new development in some instances.</p> <p>Acoustic walls may be able to be retrofitted in some instances.</p> <p>However it is not always practical because the height of the barrier required to achieve compliance would be very high (often in excess of 3.8m) and is therefore either impracticable or not consentable/difficult to consent. Most locations have practical limitations to install noise barriers. Limitations include the typical raised nature of rail lines (and train engines above these) above surrounding land, or from undesirable ground conditions and a lack of physical corridor which may necessitate property purchase due to the wider</p> | <p>There is a monetary cost of the installation of acoustic walls by KiwiRail. However this is not typically done by KiwiRail given the practical limitations set out in the efficiency and effectiveness review.</p> <p>Acoustic walls can be visually dominant and result in significant shading and shadowing, and can block view and outlook, given the heights required to achieve acoustic compliance. For these reasons the amenity and construction costs may in some circumstances be greater than the health and amenity effects they seek to mitigate.</p> <p>Walls and bunds also may reduce passive surveillance of surrounds and do not reduce vibration effects which would still need to be managed in a different way.</p> <p>If the permitted standards</p> | <p>Acoustic walls and bunds can provide noise reduction for single storied buildings.</p> <p>They also assist in visually screening development from the rail corridor, reducing the perception of noise, however they are often not practical or consentable, and can result in other health and amenity effects.</p> |

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| <p>area of land required for the foundations of the noise barriers which require a wide base (which may result in the removal of adjacent activities) or for the physical space required for any bund.</p> <p>Whether bunds or acoustic walls are used, these may not often be effective for buildings of more than one storey.</p> | <p>are not met, then there will be costs borne by the applicant to prepare a resource consent application, costs to the territorial authority to assess the application, and costs to KiwiRail as a submitter to the application.</p> | |
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Is the proposed approach reasonably practicable? In some circumstances acoustic walls and bunds can manage the adverse effects of noise on Activities Sensitive to Noise, and will protect KiwiRail railway infrastructure from reverse sensitivity. However, they are difficult to retrofit to existing situations, are often impractical for new situations, and can result on other adverse health and amenity effects.

| <h3>Option D - Construction design standards</h3> <p>A table which specifies minimum construction materials and standards necessary to achieve internal acoustic levels.</p> | | |
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| Effectiveness and Efficiency | Costs | Benefits |
| <p>This option is somewhat effective and efficient. It is a relatively common approach</p> | <p>There will be additional compliance costs during building consent and building</p> | <p>Construction standards provide certainty as to outcome and design</p> |

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| <p>to managing the adverse effects of noise in District Plan.</p> <p>However, it can have some limitations in terms of effectiveness as it essentially 'locks in' the standards to those at the time of writing the provisions. This means as construction standards improve and change over time, the standards in the plan remain static. This can result in future activities needing to obtain a resource consent where the standards are not met – even where the noise and vibration effects are appropriately managed.</p> <p>The Noise and Vibration Memorandum also sets out that in the Christchurch District Plan, although multiple compliance options were included for mitigating road and rail noise in buildings, including design standards, that on review of the controls the Council found that in most cases site-specific assessment associated with meeting internal acoustic standards was selected. This was presumably as despite any</p> | <p>construction when compared with Option A.</p> <p>Building and compliance design costs will be borne by the applicant and compliance confirmation costs will be borne by the territorial authority and/or the applicant.</p> <p>If the permitted standards are not met, then there will be costs borne by the applicant to prepare a resource consent application, costs to the territorial authority to assess the application, and costs to KiwiRail as a submitter to the application.</p> <p>Construction standards can often be complex, and typically require technical expertise on behalf of applicant and regulatory authority if there is any deviation from the standards in the schedule. This can impose additional monetary and time costs.</p> <p>Construction standards often lack the flexibility to accommodate individual site circumstances. This may occur if the topography of the site removes or reduces the</p> | <p>specifications, and the associated costs can be estimated.</p> <p>Where compliance with the standards is demonstrated, an acoustics specialist does not need to be engaged by any party. Compliance can simply be demonstrated on building plans at the time a building consent is lodged.</p> |
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| <p>specialist assessment costs the site-specific assessment provided a more efficient solution. This option is therefore considered to be less efficient than the preferred options.</p> | <p>need for all construction design standards to be met. As the standards are essentially 'locked in' to the plan, it requires a plan change to update them.</p> <p>The same requirements apply regardless of the level of external noise exposure. This means that some buildings will have more treatment and associated costs than is necessarily needed to achieve adequate indoor noise levels. Conversely, some buildings with the higher external noise exposure might not have adequate treatment.</p> | |
| <p><i>Is the proposed approach reasonably practicable?</i> Somewhat – construction standards are a common regulatory approach to manage the adverse effects of noise and vibration for Activities Sensitive to Noise, and will protect KiwiRail railway infrastructure from reverse sensitivity. However, achieving compliance can be complex, and it is less preferred in practice than the acoustic standards in Option F, and there are limitations to this approach.</p> | | |

| Option E - Setbacks | | |
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| Building or activity setback for Activities Sensitive to Noise of 100m from the railway corridor with no other noise or vibration management methods. | | |
| Effectiveness and Efficiency | Costs | Benefits |
| <p>This option is effective as it is a simple method to minimise noise and vibration. However, it is not an efficient use of land.</p> <p>This approach is efficient for large rural sites where there is flexibility to locate Activities Sensitive to Noise away from the railway corridor.</p> | <p>The costs of requiring effective setbacks is the loss of developable land for Activities Sensitive to Noise within the vicinity of the railway corridor.</p> <p>The housing market costs associated with the loss of developable land are analysed in the Economic Assessment, and estimated net costs for a conservative typical mixed residential and non noise sensitive activity scenario are approximately \$28,800,000 per kilometre of track.</p> <p>This also imposes a maintenance burden on the landowner as the person responsible for maintaining the large setback areas.</p> <p>If the permitted standards are not met, then there will be costs borne by the applicant to prepare a resource consent application, costs to</p> | <p>This is a simple approach that can work well for large rural sites where setback areas can continue to be used for agricultural purposes. However this approach remains open to rural sites as a method of management under other controls (including noise provisions).</p> <p>Setbacks effectively minimise noise, vibration and amenity effects.</p> |

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| | <p>the territorial authority to assess the application, and costs to KiwiRail as a submitter to the application.</p> | |
| <p><i>Is the proposed approach reasonably practicable?</i> Yes - it provides a tried and tested regulatory approach to effectively manage the adverse effects of noise and vibration on Activities Sensitive to Noise, and will protect KiwiRail railway infrastructure from reverse sensitivity. However, it is only efficient and effective for large rural sites, and there are high opportunity costs to the housing market.</p> | | |

| <p>Option F – Acoustic Standards</p> <p>Require internal acoustic rules and standards for noise-sensitive activities, but provide no other options to achieve compliance.</p> | | |
|---|---|--|
| <p>Effectiveness and Efficiency</p> | <p>Costs</p> | <p>Benefits</p> |
| <p>Acoustic standards are reasonably efficient and are common in a number of District Plans to manage noise effects of different activities including road, rail and aircraft noise.</p> <p>Territorial authorities typically require certification that the standard is met as part of the building consent application processing. Compliant buildings would not require a resource</p> | <p>There will be additional compliance costs during building consent and building construction when compared with Option A.</p> <p>Building and compliance design costs will be borne by the applicant and compliance confirmation costs will be borne by the territorial authority and/or the applicant.</p> <p>If the permitted standards are not met, then there will be</p> | <p>Acoustic standards which require Activities Sensitive to Noise to meet internal noise standards provide flexibility to the applicant to determine how they wish to meet the standards. This can be achieved using different options.</p> <p>Provides health and amenity benefits for new and expanded sensitive activities locating adjacent to the rail corridor, without unduly constraining development of</p> |

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| <p>consent.</p> <p>Internal acoustic standards are not effective if there are opening windows. Any standards therefore require internal ventilation standards to be included alongside insulation controls.</p> | <p>costs borne by the applicant to prepare a resource consent application, costs to the territorial authority to assess the application, and potentially costs to KiwiRail as a submitter to the application depending on the potential level of reverse sensitivity effect.</p> <p>These policy, administrative and compliance costs for a conservative typical mixed residential and non noise sensitive activity scenario are analysed in the Economic Assessment, and estimated net costs are approximately \$1,728,000 per kilometre of track.</p> | <p>Activities Sensitive to Noise near the rail corridor.</p> <p>Acoustic insulation also provides energy savings to occupiers and is likely to be capitalised in the value of the property.</p> <p>Avoids reverse sensitivity impacts on KiwiRail from increased numbers of sensitive activities locating adjacent to the rail corridor.</p> |
| <p><i>Is the proposed approach reasonably practicable? Yes – as addressed in full above it provides for a tried and tested regulatory approach to effectively manage the adverse effects of noise and vibration on Activities Sensitive to Noise, and will protect KiwiRail railway infrastructure from reverse sensitivity.</i></p> | | |

Option G – Proposed Approach: Combination of new rules and standards for Activities Sensitive to Noise

Within 100m of the railway corridor, provide several options to achieve compliance with internal acoustic levels – within 50m of the rail corridor buildings are designed to meet specified Internal noise levels, or must meet a 50m setback, or where the noise at exterior façades is measured or predicted to be no more than 15 dB above the relevant noise level.

| Buildings must also meet mechanical ventilation standards and reporting standards. Includes an advice note to alert plan users that Activities Sensitive to Noise within the Rail Noise Control and Vibration Alert Area may be subject to vibration effects. | | |
|--|---|--|
| Effectiveness and Efficiency | Costs | Benefits |
| <p>The provisions are effective as, depending on the activity and site circumstances, they provide several options for compliance.</p> <p>This option is efficient as it provides a range of options to achieve compliance.</p> <p>The standards are efficient as development meeting these standards will not require a consent and can be advanced as a permitted activity, which strikes an appropriate balance between enabling development and managing adverse effects.</p> <p>The standards are also efficient as they align with the rules in other District Plans – providing a nationally consistent approach and improving administration for KiwiRail and organisations operating nationally such as housing, healthcare and</p> | <p>There will be additional compliance costs during building consent and building construction when compared with Option A.</p> <p>Building and compliance design costs will be borne by the applicant and compliance confirmation costs will be borne by the territorial authority and/or the applicant.</p> <p>If the permitted standards are not met, then there will be costs borne by the applicant to prepare a resource consent application, costs to the territorial authority to assess the application, and costs to KiwiRail as a submitter to the application depending on the potential level of reverse sensitivity effect.</p> <p>These policy, administrative and compliance costs are analysed in the Economic Assessment, and for a</p> | <p>There will be an improvement in human health and amenity outcomes compared to Option A as there will be a reduction in the number of sensitive activities exposed to unacceptable levels of noise and vibration. It therefore enables Activities Sensitive to Noise to establish in the vicinity of the railway corridor where adverse effects can be effectively managed. This provides for the efficient use and development of land in accordance with section 7(b) of the Act.</p> <p>The range of permitted standards provides a flexible compliance pathway for applicants. It provides a range of potential responses to achieve compliance.</p> <p>This option also provides a comprehensive regulatory approach which recognises the actual spatial extent of railway corridor noise and vibration – and only limits</p> |

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| <p>education providers.</p> <p>The noise and vibration provisions do not apply to existing activities so there are no additional constraints on developed sites where redevelopment is not anticipated.</p> <p>The provisions provide clear and specific matters of discretion which gives greater certainty to developers (and the Council) over the matters that will be assessed if resource consent is required.</p> | <p>conservative typical mixed residential and non noise sensitive activity scenario, the estimated net costs are approximately \$1,728,000 per kilometre of track.</p> | <p>activities which are adversely affected by operating outside these parameters.</p> |
| <p><i>Is the proposed approach reasonably practicable?</i> Yes - it provides for a range of tried and tested regulatory approaches to effectively manage the adverse effects of noise and vibration on Activities Sensitive to Noise, and will protect KiwiRail railway infrastructure from reverse sensitivity.</p> | | |

Option H - Proposed provisions funded by rail operator

Within 100m of the railway corridor, via a mapped Rail Noise Control and Vibration Alert Area, the same options to achieve compliance would be available - buildings are designed to meet specified Internal noise levels, or must meet a 50m setback, or noise at exterior façades is no more than 15 dB higher. Buildings must also meet mechanical ventilation standards and

| <p>reporting standards, and other than an advice note, there are no vibration standards. However, the difference is that KiwiRail would fund compliance with these standards.</p> | | |
|--|--|---|
| <p>Effectiveness and Efficiency</p> | <p>Costs</p> | <p>Benefits</p> |
| <p>This option is efficient as it provides a range of options to KiwiRail to achieve compliance.</p> <p>This option is not effective as putting the onus on KiwiRail to fund any compliance costs could perversely incentivise landowners to develop closer to the rail corridor than they would if the measures were self-funded. This could increase the costs of compliance as higher standards of insulation could be required, and it would result in more Activities Sensitive to Noise establishing in closer proximity to the rail corridor.</p> | <p>The policy, administrative and compliance costs are analysed in the Economic Assessment, and for a conservative typical mixed residential and non noise sensitive activity scenario, the estimated net costs are approximately \$1,728,000 per kilometre of track. A large portion of these costs would be borne by KiwiRail.</p> | <p>The same benefit outlined in Option G apply, noting that benefits accrue to the landowner and occupier without any cost to them, despite their choice being to locate near a railway corridor.</p> |
| <p><i>Is the proposed approach reasonably practicable?</i> No – this option could result in considerable cost to KiwiRail, of a level that would mean the implementation of the provisions is not feasible, and could perversely incentivise Activities Sensitive to Noise to establish in closer proximity to the rail corridor than they would otherwise.</p> | | |

| Option I - Landscaping Planted buffers to provide acoustic mitigation. | | |
|---|--|--|
| Effectiveness and Efficiency | Costs | Benefits |
| <p>This option is not effective or efficient, as dense landscaping in excess of tens of metres in width would be needed to provide noise reduction.</p> <p>Seasonal variations in terms of leaf density and weather induced variations may impact vegetation quality.</p> | <p>The costs of requiring effective landscape mitigation setbacks is the loss of developable land within the vicinity of the railway corridor. This also imposes a maintenance burden on the landowner as the person responsible for maintaining the large planted areas.</p> <p>If the permitted standards are not met, then there will be costs borne by the applicant to prepare a resource consent application, costs to the territorial authority to assess the application, and costs to KiwiRail as a submitter to the application.</p> | <p>Provides the benefit of added visual screening.</p> |
| <p><i>Is the proposed approach reasonably practicable?</i> No – landscape planting is not an efficient or effective option.</p> | | |

| Option J – National Regulation | | |
|--|-----------------|-----------------|
| This may include changes to the Building Act or Building Code or the introduction of a National Planning Standard or National Environmental Standard. | | |
| Effectiveness and Efficiency | Costs | Benefits |
| This option is likely to be the most efficient and effective compared to all other options. Unfortunately, although a nationally consistent approach would have a number of benefits, it is outside the Schedule 1 process of the Act and ultimately relies on political will. | Not applicable. | Not applicable. |
| <i>Is the proposed approach reasonably practicable?</i> No – not within scope. | | |

| Option K – Reverse Sensitivity Covenant | | |
|--|--|---|
| A plan provision which requires a covenant requiring the property owners agree not to complain about noise and vibration effects on sensitive land uses. | | |
| Effectiveness and Efficiency | Costs | Benefits |
| This option is not effective and efficient, because it addresses the ability to complain about noise and vibration, rather than deal with those effects directly. Although this may avoid complaint regarding noise and vibration, Activities | There are legal costs associated with the covenant preparation and registration process. These costs will be borne by both the landowner and the territorial authority. This option provides for poor health and amenity outcomes as the actual | A covenant is a legally binding agreement between the property owner and the territorial authority, and is generally simple to understand. A covenant is likely to be a more cost effective approach compared to the other |

| | | |
|---|--|--|
| <p>Sensitive to Noise will still be affected by noise and vibration, resulting in adverse health and amenity effects for the occupants of these buildings and areas.</p> <p>A provision which requires a covenant is not efficient as it requires every individual site seeking to establish or add to a building to go through a covenant registration process against that individual parcel of land. In time, this can become difficult for a territorial authority to administer as it is not obvious whether or not a covenant applies to a record of title without searching that record of title individually.</p> | <p>effects of railway noise are not appropriately avoided or mitigated.</p> <p>If the permitted standards are not met, then there will be costs borne by the applicant to prepare a resource consent application, costs to the territorial authority to assess the application, and costs to KiwiRail as a submitter to the application.</p> | <p>options (excluding 'do nothing'), as It requires no additional building or design controls, or landscaping or noise barriers.</p> |
| <p><i>Is the proposed approach reasonably practicable?</i> No – a reverse sensitivity covenant standard is not an efficient or effective option.</p> | | |

6. Assessment Summary

Table 5: Assessment Summary

| Reasonably Practicable Option | Assessment Summary |
|--|---|
| Option A – Do nothing: No or limited provisions. | Not reasonably practicable. |
| Option B – Rail operator reduces noise and vibration emissions: To the extent that no noise or vibration effect is generated on nearby Activities Sensitive to Noise. | Not reasonably practicable. |
| Option C – Noise barriers: Acoustic walls or bunds. | Not reasonably practicable. |
| Option D – Construction design standards: A table of minimum design requirements and construction materials to meet noise levels. | Somewhat reasonably practicable, but no favoured by plan users. |
| Option E – Setbacks: Building or activity setback of 100m with no other noise or vibration management methods. | Preferred methods – these methods can effectively manage the adverse effects of noise and vibration on Activities Sensitive to Noise and will protect KiwiRail railway infrastructure from reverse sensitivity. The most appropriate method to use is dependant on the site context. |
| Option F – Internal acoustic standards: Require internal acoustic rules and standards for noise-sensitive activities, but provide no other options to achieve compliance. | |
| Option G – Combination of rules and standards (Proposed provisions): New rules and standards for Activities Sensitive to Noise Within 100m of the railway corridor, provide several options to achieve compliance with internal acoustic levels – within 50m of the rail corridor buildings are designed to meet specified Internal noise levels, or must meet a 50m setback, or where | Most preferred method – Combines several of the methods above to provide options to effectively manage adverse noise effects and vibration and protect KiwiRail railway infrastructure from reverse sensitivity. |

| | |
|---|---|
| <p>the noise at exterior façades is measured or predicted to be no more than 15 dB above the relevant noise level.</p> <p>Buildings must also meet mechanical ventilation standards and reporting standards. Includes an advice note to alert plan users that Activities Sensitive to Noise within the Rail Noise Control and Vibration Alert Area may be subject to vibration effects.</p> | |
| <p>Option H – Proposed provisions funded by rail operator: As above but funded by KiwiRail.</p> | Not reasonably practicable. |
| <p>Option I – Landscaping: Landscaping to provide acoustic mitigation.</p> | Not reasonably practicable. |
| <p>Option J – National Regulation: Changes to the Building Act or Code or new National Planning or Environmental Standards.</p> | An out-of-scope potential long term solution. |
| <p>Option K – Covenant: A 'no complaints' covenant provision.</p> | Not reasonably practicable. |

7. Conclusion

The operation, maintenance and development of the rail network is critical to the safe and efficient movement of freight and passengers throughout New Zealand, and forms an essential part of the national transportation network and the wider supply chain. KiwiRail's proposed provisions to the District Plan enable Activities Sensitive to Noise to be developed in the vicinity of the railway corridor where adverse noise and vibration effects can be effectively managed through a range of standards. The proposed provisions will mitigate health and amenity effects on new and altered Activities Sensitive to Noise that seek to establish within 100 metres of the railway corridor. This will ensure that the continued operation of nationally and regionally significant infrastructure of the rail corridor will be appropriately protected from reverse sensitivity, and neighbouring communities will experience positive health and amenity outcomes.

Consistent with section 32 of the Act, the proposed objective and policies have been developed and analysed against Part 2 and it is considered that the proposed objective is the most appropriate way to achieve the purpose of the Act.

The proposed provisions have been assessed against a number of alternative options in terms of their costs, benefits, and efficiency and effectiveness in accordance with the relevant clauses of section 32 of the Act.

The proposed provisions are considered to represent the most appropriate means of achieving the proposed objective. The provisions are also the most appropriate way of addressing the underlying resource management issues relating to managing the adverse effects of noise and vibration of surrounding land uses, and minimising reverse sensitivity effects to protect the railway network. Adopting the proposed provisions will maintain and enhance the continued use of Railway infrastructure while enabling the efficient subdivision, use and development of land in its vicinity, and providing for health and amenity outcomes.

Appendix 1: Proposed Provisions



Model District Plan Provisions

1. Definitions

Noise sensitive activity [if required]

Means any residential activity (including student or retirement accommodation), visitor accommodation, educational facility, child care facility, healthcare activity, and places of worship/marae.

The following provisions should be co-located together in a district -wide chapter (preferable noise and infrastructure) rather than applied on a zone by zone basis.

2. Objective

Ensure adverse reverse sensitivity, health and wellbeing effects arising from the development of noise sensitive activities adjacent to the railway network are appropriately avoided or mitigated.

3. Policies

Avoid reverse sensitivity effects on the ongoing and future operation and development of the railway network by ensuring new noise sensitive activities are designed or located to meet appropriate acoustic design standards.

Manage effects on the health and wellbeing of communities through the design and location of noise sensitive activities adjacent to the railway network to meet appropriate acoustic design standards.

4. Rules/Standards

4.1 Noise and vibration

E. Activities sensitive to noise within 100m of [KiwiRail Rail Corridor Designation]:

| Activity sensitive to noise near a railway network | | | | |
|--|---|--------------------|--------------------------------------|---|
| All zones – at any point within 100 metres from the legal boundary of [KiwiRail Rail Corridor Designation] (Rail Noise Control and Vibration Alert Area) | Activity status: Permitted | | | Activity status when compliance with standards 1, 2 or 3 not achieved: Restricted discretionary Matters of discretion are restricted to: 1. The extent of non-compliance with the noise and vibration standards. 2. Effects on the health and wellbeing of people. 3. The reverse sensitivity effects on the rail network, including the extent to which the activity will unduly constrain the-ongoing operation, maintenance and upgrade of the rail network. 4. The outcome of any consultation with KiwiRail. |
| | Indoor railway noise 1. Where any activity listed in Table 1 is located within the Rail Noise Control and Vibration Alert Area: (a) the entire room or space shall be designed, constructed and maintained (including in any alterations) to achieve indoor design noise levels in Table 1; or | | | |
| | [RULEXX] Table 1 | | | |
| | Building type | Occupancy/activity | Maximum railway noise level LAeq(1h) | |
| Residential <i>[note definition in the plan must be broad enough to cover all types of residential activities – or other types of</i> | Sleeping spaces | 35 dB | | |
| | All other habitable rooms <i>[note this may require the definition from the National</i> | 40 dB | | |

| | | | |
|---|---|--------------|--|
| <p><i>residential activities not addressed within it will need to be added to this table]</i></p> | <p><i>Planning Standards to be added if this is not already defined in the District Plan]</i></p> | | <p>Notification: Application for resource consent under this rule shall not be notified or limited notified unless KiwiRail is determined to be an affected person determined in accordance with section 95B of the Resource Management Act 1991 or the Council decides that special circumstances exist under s 94A(4) of the Resource Management Act 1991.</p> |
| <p>Visitor Accommodation</p> | <p>Sleeping spaces</p> | <p>35 dB</p> | |
| | <p>All other habitable rooms</p> | <p>40 dB</p> | |
| <p>Education Facility</p> | <p>Lecture rooms/theatres, music studios, assembly halls</p> | <p>35 dB</p> | |
| | <p>Teaching areas, conference rooms, drama studios, sleeping areas</p> | <p>40 dB</p> | |
| | <p>Libraries</p> | <p>45 dB</p> | |
| <p>Health</p> | <p>Overnight medical care, wards</p> | <p>40 dB</p> | |
| | <p>Clinics, consulting rooms, theatres, nurses' stations</p> | <p>45 dB</p> | |
| <p>Cultural</p> | <p>Places of worship, marae</p> | <p>35 dB</p> | |
| <p>(b) the nearest exterior façade of the building accommodating the activity listed in Table 1 is at least 50 metres from the legal boundary of the [KiwiRail Rail Corridor Designation], and there is a solid building, fence, wall or landform that completely blocks line-of-sight from all parts of doors and windows, to all points 3.8 metres above railway tracks; or</p> <p>(c) it can be demonstrated by way of prediction or measurement that the noise at all exterior façades of the listed activity is no more than 15 dB above the relevant noise levels in Table 1.</p> | | | |
| <p>Mechanical ventilation</p> | | | |
| <p>2. If windows must be closed to achieve the design noise levels in clause 1(a), the building is designed, constructed and maintained with a mechanical ventilation system that:</p> | | | |
| <p>(a) For habitable rooms for a residential activity or visitor accommodation activity, achieves the following requirements:</p> | | | |
| <p>i. provides mechanical ventilation to satisfy clause G4 of the New Zealand Building Code; and</p> | | | |
| <p>ii. is adjustable by the occupant to control the ventilation rate in increments up to a high air flow setting that provides at least 1 air change per hour; and</p> | | | |
| <p>iii. provides relief for equivalent volumes of spill air;</p> | | | |
| <p>iv. provides cooling and heating that is controllable by the occupant and can maintain the inside temperature between 18°C and 25°C; and</p> | | | |

| | | |
|--|--|--|
| | <p>v. does not generate more than 35 dB $L_{Aeq(30s)}$ when measured 1 metre away from any grille or diffuser.</p> <p>(b) For other spaces, is as determined by a suitably qualified and experienced person.</p> <p>Report required</p> <p>3. A report is submitted to the council demonstrating compliance with clauses (1) to (2) above (as relevant) prior to the construction or alteration of any building containing an activity sensitive to noise. Compliance with 1(a) and (c) must be confirmed by a Registered Acoustician and when doing so railway noise must be assumed to be 70 $L_{Aeq(1h)}$ at a distance of 12 metres from the track, and must be deemed to reduce at a rate of 3 dB per doubling of distance up to 40 metres and 6 dB per doubling of distance beyond 40 metres.</p> <p>Note: The Rail Noise Control and Vibration Alert Area identifies the vibration-sensitive area within 100metres each side of the [KiwiRail Rail Corridor Designation]. Properties within this area may experience rail vibration effects. No specific district plan rules or notification requirements apply in relation to vibration controls as a result of this Rail Noise Control and Vibration Alert Area.</p> | |
|--|--|--|

Insert mapping overlay which identifies a 100m buffer on each side of the [KiwiRail Rail Corridor Designation] called "Rail Noise Control and Vibration Alert Area" to which the above rules will apply.

Appendix 2: Acoustics Advice



Chiles Ltd

Project: **Land use controls for railway sound and vibration**

Report: **Acoustics advice**

Client: KiwiRail

Reference: 130418h

Date: 19 July 2023

Author: Stephen Chiles

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1. Introduction

- 1.1. KiwiRail is undertaking an analysis of potential controls for existing/permitted railway sound and vibration from its national network, affecting new and altered sensitive land uses nearby. Chiles Ltd has been engaged by KiwiRail to provide advice on associated acoustics details to inform that analysis. This report sets out: effects of sound and vibration on people and buildings, indicative sound and vibration levels at different distances from railway tracks, methods to reduce sound and vibration, and recommendations for land use controls.
- 1.2. In normal acoustics usage the term "noise" describes unwanted airborne "sound", although some people use the words interchangeably. However, under the Resource Management Act (RMA) "noise" is defined as including vibration; presumably ground-borne. Notwithstanding that in practice "noise limits" in rules and conditions under the RMA refer exclusively to airborne sound. The term sound has been used in this report to distinguish airborne sound from ground-borne vibration in an RMA context where both are defined as noise.
- 1.3. A fundamental input when assessing railway sound and vibration is the type, volume and timing of railway traffic to be assumed on a particular section of the network. For comparison, when considering roads in New Zealand, road traffic volumes often gradually increase or remain steady, such that acousticians can sometimes use existing measured road traffic volumes as a reasonable baseline for future design. However, for railways in New Zealand, railway traffic volumes and times can change significantly, such that existing railway traffic may not be a reliable baseline when considering effects associated with new neighbouring houses that will exist for many decades. Therefore, appropriate assumptions for railway traffic types, volumes and times are an essential input that should be considered alongside the following acoustics information in this report.
- 1.4. Both sound and vibration have complex varying characteristics which are only approximated by metrics representing levels as a single number. There are compromises with whichever metrics are used. In the case of railway sound and vibration in New Zealand the choice of metrics is particularly challenging because often there are a relatively small number of intense events. In this situation, use of average values might under-represent adverse effects and use of maximum values might over-represent effects. The extent of under or over representation varies depending on the rail traffic in any location, which in turn relates to the comment above on railway traffic volumes. Metrics and objective analysis can still be valuable to focus interventions in the most effective places, but the limitations of the metrics require consideration when evaluating potential land use controls. This issue is discussed further in section 4.

2. Effects of sound

- 2.1. The World Health Organisation ("WHO") has periodically reviewed and collated evidence of health effects caused by environmental sound including from railways.¹ The most recent publication was by WHO Europe ("2018 WHO Guidelines"),² which was based on systematic

¹ World Health Organisation, Guidelines for community noise, 1999; World Health Organisation, Burden of disease from environmental noise, 2011.

² World Health Organisation, Environmental noise guidelines for the European region, 2018.

reviews of a large number of published studies. There have been numerous other discrete studies of these issues, but the 2018 WHO Guidelines provides a robust synthesis of available information and its findings with respect to railway sound appear to be widely accepted.

- 2.2. From preceding studies, the 2018 WHO Guidelines found moderate quality evidence that railway sound causes adverse health effects in that it increases the risk of annoyance and sleep disturbance in the population. Various other potential health effects were examined but evidence was not available to determine a relationship for them with railway sound. Based on the information available the 2018 WHO Guidelines made "strong" recommendations that external railway sound levels should be reduced below 54 dB L_{den} and 44 dB L_{night} . The 2018 WHO Guidelines found there was insufficient evidence to recommend one type of intervention over another to reduce levels.
- 2.3. The above 2018 WHO Guidelines recommendations are in terms of long-term (annual) average sound levels. One of the metrics relates just to the night period (L_{night}) and the other (L_{den}) is for a 24-hour average including penalties for sound occurring in the evening (+5dB) and at night (+10dB). By necessity, this use of long-term averages is a pragmatic approach given that potential health effects generally relate to exposure over extended periods and are determined from consideration of the community/population rather than specific individuals. Other research into health effects, such as relating to awakenings from sleep, has previously referenced maximum sound levels, but sleep disturbance as a health effect is only assessed in terms of average levels in the 2018 WHO Guidelines.
- 2.4. The 2018 WHO Guidelines were based on international research from a wide range of countries. There was no available data from New Zealand at that time. Subsequent research published in 2019 specifically addressed the applicability of international data on railway sound annoyance of the New Zealand population.³ This included a survey of people living in the vicinity of the North Island Main Trunk line in South Auckland, using the same general methodology as most international studies. The research found that international noise annoyance response curves are generally applicable for the New Zealand population.
- 2.5. There is current New Zealand and international research that may further refine the understanding of health effects caused by railway sound. However, the existing 2018 WHO Guidelines already establishes there are adverse health effects that warrant intervention.
- 2.6. In New Zealand, railway sound criteria have commonly been defined in terms of one-hour average levels (see section 4). Values of 35 dB $L_{Aeq(1h)}$ inside bedrooms and 40 dB $L_{Aeq(1h)}$ inside other habitable spaces have previously been applied for protection from health effects. Accounting for the different metrics, these values are slightly higher (more lenient) than the 2018 WHO Guidelines for regular sound events but would be more stringent for infrequent events. This comparison relates only to average sound levels, but corresponding relationships with health effects for different frequencies of railway events are uncertain/unknown. Therefore, currently there is no evidence base available that would support significantly more or less

³ Humpheson D. and Wareing R., 2019. Evidential basis for community response to land transport noise, Waka Kotahi Research Report 656. <https://nzta.govt.nz/resources/research/reports/656/>

stringent railway sound criteria than 35 dB $L_{Aeq(1h)}$ inside bedrooms and 40 dB $L_{Aeq(1h)}$ inside other habitable spaces for protection of health.

- 2.7. There is a lack of information on the combination of indoor and outdoor living conditions in relation to health effects. Even if indoor conditions are controlled, there may still be residual health effects arising from outdoor conditions. In a New Zealand context, based on criteria applied for other sources, reasonable conditions in outdoor living spaces might be achieved with railway sound levels of 55 dB $L_{Aeq(1h)}$.

3. Effects of vibration

- 3.1. Adverse effects of railway vibration can include annoyance and sleep disturbance for building occupants and damage to buildings. Damage to buildings (even cosmetic damage) occurs at greater vibration magnitudes than those which can cause annoyance.
- 3.2. Internationally, there has been less research into transportation vibration effects on people compared to research on transportation sound effects. However, the evidence that does exist on adverse health effects caused by railway vibration indicates they are material, and as such the relative paucity of research is not an indicator of the degree of effects. There is international research ongoing in this area. Research is also investigating health effects arising from the combination of railway sound and vibration.
- 3.3. Norwegian Standard NS 8176⁴ summarises research of human response to transportation vibration and provides exposure response curves in terms of the percentage of people who would perceive or experience degrees of annoyance from vibration. The current version of the standard (2017) discusses the inherent uncertainty in the data, including that it does not account for varying traffic volumes, although notes no other studies addressing that factor were found.
- 3.4. NS 8176 defines four categories of vibration exposure in residential buildings, with Class A representing the best vibration conditions and Class D (or below) representing the worst. The Class C criterion has previously been applied in New Zealand for habitable spaces in new buildings. This corresponds to a vibration level at which about 20% of people would be expected to be highly or moderately annoyed by vibration. The Class C criterion is defined as a $v_{w,95}$ of 0.3 mm/s (vibration metrics are explained in section 4).
- 3.5. For vibration effects on buildings, a ppv criterion of 5 mm/s is often used in New Zealand as a threshold at which there is potential for cosmetic damage to new buildings. While the 5 mm/s ppv criterion has been taken from guidance in an overseas standard, it does not relate specifically to railway vibration and is generally regarded as a cautious value. There is a knowledge gap as to the actual likelihood of cosmetic damage from railway vibration in New Zealand. However, all potential criteria for vibration effects on people are substantially more stringent, such that for buildings containing sensitive activities, cosmetic building damage might not require separate consideration.

⁴ Norwegian Standard NS 8176:2017 Vibration and shock - Measurement of vibration in buildings from land-based transport, vibration classification and guidance to evaluation of effects on human beings

4. Methods

Sound level metrics

- 4.1. As discussed in section 1, for railway lines with intermittent traffic in New Zealand, use of an average sound level over any time period can cause inconsistencies between the level and the corresponding human response or health effect.
- 4.2. The noise provisions which have been sought by KiwiRail in plan changes around New Zealand to date have adopted a one-hour average ($L_{Aeq(1h)}$) for railway sound in their standards. This approach was initially proposed by Marshall Day Acoustics in a review undertaken in 2009 of appropriate noise criteria for district planning rules.⁵ This report considered the utilisation of one-hour averaging as against broadscale setbacks and average / maximum or day / night averages. The one-hour average allows for a degree of averaging compared to single events, but still represents periods of activity when disturbance from railway sound is occurring. In the New Zealand context an alternative metric with longer averaging times (e.g. L_{den}/L_{night}) would be likely to significantly under-represent adverse effects from maximum/event sound levels over much of the network.
- 4.3. Neither one-hour averages or maximum levels however have an established, researched relationship with the health effects correlated to the external long term average sound level criteria recommended by the 2018 WHO Guidelines. This represents a knowledge gap and currently necessitates a broad judgement to determine criteria using the one-hour average (or another metric like maximum levels).
- 4.4. As set out in section 2, the 2018 WHO Guidelines recommend annual average criteria of 54 dB L_{dn} and 44 dB L_{night} applying outside buildings. These values assume windows may be open, resulting in internal sound levels around 15 dB lower than the criteria (with windows ajar for ventilation): 39 dB L_{den} and 29 dB L_{night} . In a situation where there are regular railway sound events, it could be appropriate to directly take the long-term average L_{den} and L_{night} criteria to apply as one-hour criteria (the L_{den} would also need a -10dB adjustment if applying at night). However, for irregular or infrequent events a higher one-hour criterion could be appropriate. It might also be appropriate to adjust criteria if there are no events at night.

Vibration level metrics

- 4.5. Internationally there are a range of different metrics used to quantify vibration affecting humans, with no accepted standardisation for this application. The "statistical maximum value of weighted velocity" ($v_{w,95}$) metric has been used previously in New Zealand for both road and railway vibration affecting people, and has the advantage that it corresponds to the exposure response curves in Norwegian Standard NS 8176.
- 4.6. For vibration effects on buildings and structures, the "peak particle velocity" (ppv) metric is in widespread use in New Zealand. This metric is mandated by the Noise and Vibration Metrics National Planning Standard for construction vibration affecting structures.

⁵ Marshall Day Acoustics, *Ontrack rail noise criteria reverse sensitivity guidelines*, 22/10/09

- 4.7. In this report, vibration is presented in terms of the $v_{w,95}$ with respect to effects on people, and in terms of the ppv with respect to effects on buildings/structures.

Railway traffic characteristics

- 4.8. The above railway sound levels and effects depend on the timing, type and frequency of train movements at a particular location. As discussed in section 2, the proposed one-hour average sound criteria are generally less stringent than international daily average values for lines with more frequent movements. This was acknowledged by the original Marshall Day Acoustics report, which noted the application of one-hour averages are likely insufficient for lines with greater than 20 train movements a day, and the use of day / night averages or maximum levels would be more protective.
- 4.9. At the other end of the spectrum, for lines with very infrequent movements the proposed one-hour average criteria might be considered too stringent. With the numerous factors involved and the underlying knowledge gaps relating to sound effects, it is not possible to precisely define a lower railway traffic volume at which one-hour average sound criteria might become unwarranted. Any such consideration should not just include current rail volumes, but potential future rail volumes to which newly established activities may be subject to in the future.
- 4.10. Railway vibration levels and effects also depend on the traffic characteristics. However, the vibration criteria discussed in section 3 relate to levels from individual events rather than average levels. As such, the criteria are independent of the number of movements. Under the specified standard (NS 8176) the vibration criteria relate to the type of train at a particular location that generates the highest vibration levels, which will generally be freight trains. Therefore, the proposed criteria could be applied to all lines regardless of traffic characteristics.

5. Sound levels

- 5.1. Different options for sound level metrics are discussed in section 4 with respect to effects and criteria. In this section, example railway sound levels are presented in terms of average values over one hour ($L_{Aeq(1h)}$).
- 5.2. Railway sound levels are dependent on train types/condition, traffic volumes, speeds, track geometry/condition, terrain and various other factors. As discussed above, when considering average levels the assumed railway traffic volumes are a critical input.
- 5.3. With full geospatial details and information on railway activity, various standard acoustics computer modelling packages are available to predict railway sound levels for a specific situation. There is currently no standardised approach to this modelling for railway sound in New Zealand or consistent use of a particular calculation algorithm. Consequently, even with the same input data, predictions are likely to vary when made by different practitioners.
- 5.4. The following provides an illustration of typical railway sound levels based on an assumption of approximately two freight train movements in a one-hour period, in a flat area without screening. This is based on data summarised by Marshall Day Acoustics.⁶ More recent

⁶ Marshall Day Acoustics, *Ontrack rail noise criteria reverse sensitivity guidelines*, 22/10/09

(unpublished) measurements for various New Zealand train types confirm these sound levels are in a realistic range.

| Distance from track | Sound level |
|---------------------|---------------------|
| 10 metres | 71 dB $L_{Aeq(1h)}$ |
| 20 metres | 68 dB $L_{Aeq(1h)}$ |
| 30 metres | 66 dB $L_{Aeq(1h)}$ |
| 40 metres | 64 dB $L_{Aeq(1h)}$ |
| 50 metres | 62 dB $L_{Aeq(1h)}$ |
| 60 metres | 60 dB $L_{Aeq(1h)}$ |
| 70 metres | 59 dB $L_{Aeq(1h)}$ |
| 80 metres | 58 dB $L_{Aeq(1h)}$ |
| 90 metres | 56 dB $L_{Aeq(1h)}$ |
| 100 metres | 56 dB $L_{Aeq(1h)}$ |

- 5.5. In the Marshall Day Acoustics report which generated the above levels, this sound level assumption of 2 freight train movements in a one-hour period was originally proposed as being approximately equivalent to the sound level from lines with regular passenger trains. It was not intended to apply in settings which actually experienced two freight train movements per hour across a day (as noted in section 4 above, where there were more than 20 movements a day, a one-hour average was considered inadequate to address the likely effects). Instead the intention of the average is to provide an approximation of both the effects of a single event, and a generalised average of noise from the corridor. The report considered a single measurement would enable simpler application of the rule framework by landowners (compared to an average/maximum approach which was considered to add extra complication without significant benefits in effects management given the variability of single train pass-bys).
- 5.6. Based on this assumption the proposed sound criteria are likely to be appropriate for all urban lines with passenger trains and any lines with at least say six daily freight movements and/or freight movements at night (including where this level of activity may be required in future). This threshold of six freight movements is tentatively suggested based on a hypothesis that the one-hour average criteria would not be unduly stringent at this frequency of effect.
- 5.7. Internal sound levels with windows ajar for ventilation will typically be around 15 dB less than the external levels set out above. As such, at 100 metres from a track with 56 dB $L_{Aeq(1h)}$ outside, there is still potential to exceed internal criteria of 35 and 40 dB $L_{Aeq(1h)}$ (section 2). A 35 dB internal criterion in particular could be exceeded significantly beyond 100 metres from the track, potentially to around 200 metres. However, at progressively further distances from the track the actual sound level is more likely to be affected by topography and localised screening such that there will be greater variability in sound levels.
- 5.8. For land use controls, the appropriate method to determine railway sound levels for a particular site (specified values, modelled, measured) depends significantly on the approach to information on train types, volumes and times. This is discussed further in section 9 with respect to recommended controls.

6. Vibration levels (ground-borne)

- 6.1. The following table summarises various railway vibration measurements (and associated predictions) in New Zealand from a range of sources, generally ordered from lowest to greatest magnitude (other than the first row which uses the ppv metric rather than $v_{w,95}$). Where the data relates to a private development or complaint, a generic source reference is given. Not all measured values are directly comparable due to issues such as differences in measurement positions (ground/building) that would require adjustments.

| Data source | Vibration levels |
|---|---|
| Marshall Day Acoustics, <i>Ontrack rail noise criteria reverse sensitivity guidelines, 22/10/09 (secondary reporting of Marshall Day Acoustics 2006 assessment for Marsden Point)</i> | Based on measurements: 2 to 3 mm/s ppv at 30m 0.5 to 1 mm/s ppv at 60m |
| AECOM, <i>Bayfair to Bayview – Rail Relocation Post Construction Noise and Vibration Monitoring, 6/3/17</i> | Measured: 0.56 mm/s $v_{w,95}$ at 7m From measurement and distance correction: 0.19 mm/s $v_{w,95}$ at 100m 0.26 mm/s $v_{w,95}$ at 50m 0.37 mm/s $v_{w,95}$ at 25m |
| Marshall Day Acoustics, <i>Wiri to Quay Park third main rail line noise and vibration assessment, 10/7/20</i> | Measured: 0.6 mm/s $v_{w,95}$ at 9.5m |
| URS, <i>Maunganui-Girven Road Intersection -Rail Vibration Assessment, 14/4/14</i> | Measured: 26.5 mm/s ² $a_{w,95}$ at 17m <i>(this $a_{w,95}$ value has different units and is not directly comparable to a $v_{w,95}$ value)</i> From measurement and distance correction: 0.34 mm/s $v_{w,95}$ at 100m 0.47 mm/s $v_{w,95}$ at 50m 0.67 mm/s $v_{w,95}$ at 25m |
| URS, <i>Operational noise and vibration assessment Peka Peka to North Ōtaki Expressway Project, 12/2/13</i> | Measured: 0.58 mm/s $v_{w,95}$ at 60m |
| Marshall Day Acoustics, <i>assessment in relation to a complaint near Hamilton, 28/11/12</i> | Measured (on a deck structure): 0.42 mm/s $v_{w,95}$ at 140m |
| Marshall Day Acoustics, <i>assessment for development in Napier, 6/2/20</i> | Measured: 1.2 mm/s $v_{w,95}$ at 10m |
| URS, <i>Ground-borne vibration measurements at Hornby, Christchurch, 12/9/14</i> | Measured before renewal: 2.2/2.9 mm/s $v_{w,95}$ at 8.4m Measured after renewal: 0.5/0.4 mm/s $v_{w,95}$ at 8.4m |

- 6.2. The data in the above table illustrates the significant variation that is inherent in railway vibration. Vibration levels often vary even within a localised area and cannot be reliably predicted, such as in the same manner as airborne sound. Hence, measurements are generally required to assess ground-borne vibration.
- 6.3. With respect to effects on people, a vibration criterion of 0.3 mm/s $v_{w,95}$ is discussed in section 3. The measurement data shows that this criterion can routinely be exceeded at over

100 metres from railway tracks in New Zealand, but there is significant variation. Vibration levels exceeding this criterion occur beyond at least 50 metres from the track in most cases.

- 6.4. With respect to effects on buildings, a vibration criterion of 5 mm/s ppv is discussed in section 3. The vibration measurement data indicates that vibration levels might exceed this criterion within approximately 20 metres of the track. The implications of this are discussed further with respect to recommended controls in section 9.

7. Approaches to manage effects of railway sound

Source

- 7.1. Routine rolling stock and track maintenance undertaken by KiwiRail contributes to reducing sound at source. There might be incremental improvements if more stringent maintenance service standards were adopted.
- 7.2. Locomotives can be designed with sound reducing features, such as attenuators and silencers. Generally, these need to be integrated at the time of initial design/manufacture. Retrofitting measures to existing locomotives may be constrained and would be likely to constitute a major rebuilding. Locomotives with alternative power systems such as battery power can have reduced sound, although significant sound still arises from the track/wheel interface. Unpublished research⁷ included measurements that show the sound levels set out in section 5 remain representative for the current locomotive fleet, including the newer DL class locomotives. It is understood that KiwiRail has existing workstreams to renew its rolling stock (including the locomotives) overtime. This workstream is focused on alternative power systems, and as a multi-year project to explore (and where supported) upgrades/renewals of its stock, as opposed to retrofitting of existing or old stock.
- 7.3. Specific sound sources such as wheel squeal, can sometimes be reduced through treatment of rolling stock.
- 7.4. If older track is not continuously welded, implementing this measure can reduce sound.

Pathway

- 7.5. Barriers such as formed by earth bunds or walls can reduce railway sound. A barrier providing effective screening could typically reduce railway sound levels by around 5 dB. However, this is often impracticable because any noise barrier would typically need to be in the order of 5 metres high to achieve effective screening of locomotive sound sources that are several metres above the tracks, which in turn are often raised above local ground level. Sound screening might also be provided by intervening buildings or the terrain. As barrier performance is limited by sound passing over the top, typical barriers generally do not provide sufficient sound reduction for receivers close to the railway (within around 50 metres).

⁷ Waka Kotahi research programme. Social cost (health) of land transport noise exposure, <https://www.nzta.govt.nz/planning-and-investment/research-programme/current-research-activity/active-research-projects/>

- 7.6. Increasing the distance of the pathway reduces sound levels: i.e. separating the receiver from the source by a greater distance. As discussed previously, this measure in isolation may require separation of 100 to 200 metres.

Receiver

- 7.7. If habitable/sensitive spaces are orientated with no opening windows with exposure to railway sound then internal levels will be reduced. Hence the layout of a building can be used to manage railway sound. A practical approach can be to locate only ancillary, non-sensitive spaces such as garages and bathrooms on the side of the building facing the railway.
- 7.8. Where windows do have exposure to railway sound, closing those windows reduces internal sound levels. This typically provides a reduction in the order of 10 dB compared to when windows are open ajar for ventilation. However, if windows are required to be closed to reduce sound then an alternative (i.e. mechanical) ventilation and temperature control method is needed for occupants to maintain thermal comfort such that they have a genuine choice to leave the windows closed. For two older roading projects (SH20 Mt Roskill and SH1 Plimmerton) Waka Kotahi installed ventilation systems in 35 and 57 houses respectively with the intention that it would allow windows to be kept closed to reduce road-traffic noise.⁸ However, those systems only provided ventilation and not temperature control (e.g. cooling) and for both projects residents reported the temperature being uncomfortable with windows closed. Therefore, if closed windows are to be considered as a noise reduction measure, temperature control should be included in any alternative ventilation system.
- 7.9. If greater reductions are required than can be achieved just by building layout or closing windows, then the building fabric can be upgraded. This typically requires thicker and/or laminated glazing of windows and in some cases additional/thicker layers of plasterboard wall/ceiling linings.

8. Approaches to manage effects of railway vibration

Source

- 8.1. As for managing sound, routine track and rolling stock (wheel) maintenance contributes to reducing vibration at source. Again, there might be incremental improvements if more stringent maintenance service standards were adopted. It is understood based on evidence previously provided by KiwiRail that it endeavours to undertake current maintenance best practice where practicable, and continues to invest in ongoing upgrades of its maintenance abilities. This includes the recent commissioning of a new wheel maintenance facility at its Hutt Workshops, which should contribute to improved wheel servicing and repair. In terms of track condition, KiwiRail has comprehensive procedures including measurement of track condition/geometry with a specialist survey vehicle several times a year, and maintenance systems acting on that data.
- 8.2. There are several different methods to treat railway track to reduce vibration. These include resilient clips fastening the rails to sleepers, resilient material under the sleepers or ballast, and

⁸ Waka Kotahi, State highway guide to acoustic treatment of buildings, 2015

tracks directly or on ballast on concrete slabs, "floating" on resilient or spring vibration bearings. These vibration treatments are generally "built into" the overall track formation, particularly for the better performing options. Some treatments can increase the height of the track, having implications on clearances from bridges and overhead structures. As such, these measures are most commonly used for new tracks when the treatments can be integrated into and constructed as part of the overall design (e.g. on the Auckland City Rail Link). Retrofitting treatments over a wide area would require a major rebuilding of the tracks, beyond standard upgrading or maintenance.

Pathway

- 8.3. There are no standard pathway controls to reduce vibration. In some instances, depending on the dominant propagation route in the specific location, in-ground barriers can reduce vibration propagation. In addition to practical/space constraints (where the corridor is too narrow to construct an in-ground barrier), this is generally not something that could be applied broadly along a rail corridor as it would require analysis and design for specific locations.
- 8.4. Again, increasing the distance of the pathway reduces vibration levels: i.e. separating the receiver from the source by a greater distance.

Receiver

- 8.5. Depending on the specific propagation paths, use of different building foundation types (e.g. pile/pad) can result in reduced vibration entering a structure. Likewise, propagation through a structure will alter depending on its design (e.g. concrete/steel).
- 8.6. Buildings can be built on vibration bearings to reduce vibration from the foundations entering the building. (Some types of vibration bearing are similar to earthquake bearings.) Individual spaces within a building could be constructed as separate structures mounted on vibration isolators, but this is unlikely to be a practical solution in most cases compared to isolating the entire building.

9. Recommended land use controls

Form of controls

- 9.1. Extensive and widespread mitigation at source would generally only give relatively small incremental improvements and/or would require renewal/replacement of a substantial proportion of track and rolling stock. While (as set out at 7.2 above) there are programmes being undertaken by KiwiRail to renew its existing rolling stock, this confirms any improvements are likely to be incremental as fleets are gradually renewed. There are therefore unlikely to be practicable options for extensive mitigation at source to address sound and vibration effects on new and altered sensitive land uses seeking to establish near existing railways.
- 9.2. In terms of sound and vibration affecting people, the most robust control would be avoidance of effects by separating sensitive activities from railways. This could be achieved by defining an area around railways where new noise sensitive activities are not allowed. However, in addition to any non-acoustic impacts of such a control, if it contributed to larger and/or more dispersed urban areas then it might in itself cause increased transportation sound and vibration as the

overall population travels greater distances. The following recommendations are therefore made on the assumption that avoidance of effects by separation alone is not a practicable option.

- 9.3. If new and altered sensitive activities are allowed near railways, then to manage potential health effects, controls are needed to result in appropriate design of buildings or effective screening and separation of those buildings from the railway.
- 9.4. Several different methods have previously been used in RMA plans. Two common approaches are:
 - a) setting internal sound and vibration limits; or
 - b) specifying building constructions directly or in terms of sound reduction performance.
- 9.5. The first approach requires a site-by-site assessment and tailored mitigation for each development, whereas the second approach requires the same mitigation for all developments. The first requires specialist acoustics expertise whereas the second does not if specifying building constructions directly.
- 9.6. The potential health effects discussed above have been shown to occur (or be more likely) above certain sound and vibration threshold levels inside buildings. As discussed previously, there are a large number of variables that determine external railway sound and vibration exposure and there are nuances with building siting/layout and design that affect the internal levels. Controls that require the same mitigation for all developments result in excess treatment in many cases and inadequate treatment for those developments most exposed (nearest to the railway). Technically, setting internal sound and vibration criteria and requiring a site-by-site assessment should be the most efficient and effective approach.
- 9.7. In the Christchurch District Plan, multiple compliance options were included for mitigating road and rail noise in buildings for new sensitive activities. On review of the controls the Council found that in most cases site-specific assessment was selected by developers rather than fixed mitigation (i.e. following a standard building design schedule or fixed sound reduction performance).⁹ This was presumably as despite any specialist assessment costs the site-specific assessment provided a more efficient solution.
- 9.8. It is recommended that any land use controls should be based on achieving internal sound and vibration criteria and allowing for requirements for each site to be determined through individual assessment.

Sound and vibration criteria

- 9.9. For the reasons discussed previously, the following criteria are recommended to manage potential health effects. A range of sensitive activities have been included in this table, extending from the primary issue of residential units.
- 9.10. For all these building types the vibration criterion relating to health effects is more stringent than any separate control that might relate to building damage. For other building types a

⁹ Christchurch District Plan, Plan Change 5E

separate vibration criterion is included in the table, which could be used to avoid potential building damage.

| Building type | Occupancy/activity | Sound criterion | Vibration criterion |
|-----------------------|---|-----------------|---------------------|
| | | $L_{Aeq(1h)}$ | |
| Residential | sleeping spaces | 35 dB | 0.3 mm/s $v_{w,95}$ |
| | all other habitable rooms | 40 dB | |
| Visitor accommodation | sleeping spaces | 35 dB | |
| | all other habitable rooms | 40 dB | |
| Education | lecture rooms/theatres, music studios, assembly halls | 35 dB | |
| | teaching areas, conference rooms, drama studios, sleeping areas | 40 dB | |
| | libraries | 45 dB | |
| | | | |
| Health | overnight medical care, wards | 40 dB | |
| | clinics, consulting rooms, theatres, nurses' stations | 45 dB | |
| | | | |
| Cultural | places of worship, marae | 35 dB | |
| All | All occupancies/activities not specified above | - | 5 mm/s ppv |

- 9.11. As discussed in section 2, reasonable conditions should be achieved in outdoor living spaces if they are subject to a sound criterion of 55 dB $L_{Aeq(1h)}$.
- 9.12. The sound level criteria are based on intermittent rail activity. For the assumed rail activity discussed in sections 4 and 5, controls should specify that criteria are to be achieved for external railway sound of 70 $L_{Aeq(1h)}$ at a distance of 12 metres from the track, reducing at a rate of 3 dB per doubling of distance up to 40 metres and 6 dB per doubling of distance beyond 40 metres.

Extent of controls

- 9.13. Setting a distance for application of controls that includes most land affected by railway sound and vibration would extend for say 200 metres from railways, and would include a substantial area towards the periphery where on closer examination of specific developments no building treatments would be required. Previously, a distance of 100 metres has been used for the application of controls for railway sound. Technically this represents a reasonable compromise if the aim is to capture the most affected sites without requiring assessment where building treatment is less likely to be required. This aligns with the assumed sound levels applied for the rail volumes and one-hour average discussed at section 5 above.
- 9.14. For vibration, a distance of 60 metres has been used for controls previously. On the basis of the measurement data presented above, I have recommended this be increased to 100 metres consistent with the distance used for sound.

Ventilation

- 9.15. Where windows are required to be closed it is recommended that a mechanical system be required to provide thermal comfort so there is a genuine choice to leave windows closed. Ventilation is outside the expertise of Chiles Ltd, but on the basis of work published by Waka Kotahi^{10,11} the following system specification for residential and visitor accommodation habitable rooms may be appropriate:
- i. provides mechanical ventilation to satisfy clause G4 of the New Zealand Building Code; and
 - ii. is adjustable by the occupant to control the ventilation rate in increments up to a high air flow setting that provides at least 6 air changes per hour; and
 - iii. provides relief for equivalent volumes of spill air;
 - iv. provides cooling and heating that is controllable by the occupant and can maintain the inside temperature between 18°C and 25°C; and
 - v. does not generate more than 35 dB $L_{Aeq(30s)}$ when measured 1 metre away from any grille or diffuser.

Alternative compliance pathways

- 9.16. Existing controls in district plans based on internal sound and vibration criteria, often include alternative compliance pathways that can be used in some cases to demonstrate that appropriate sound and vibration conditions will be achieved, without requiring specialist assessment or only requiring a reduced assessment. Essentially, these pathways allow for sites and buildings that are likely to have lower sound exposure, or that adopt conservative building designs, to face reduced assessment requirements. Alternative pathways have included:
- a) Compliance with internal sound criteria demonstrated by external levels not exceeding the internal criteria by more than 15 dB (reduced assessment needed for external levels).
 - b) Compliance with internal sound criteria demonstrated by the building being at least 50 m from the railway and screened by a solid barrier, from all points up to 3.8 m above the tracks.
 - c) Compliance with internal sound criteria demonstrated by using prescribed building constructions.
 - d) Compliance with internal vibration criterion demonstrated by use of prescribed building base isolation system.
- 9.17. Technically, the alternative pathways are valid as they result in compliance with the sound and vibration criteria, albeit generally not in the most efficient manner. As discussed above, in the case of the Christchurch District Plan alternative pathways provided were generally not used and were found to make the plan more confusing for users and harder to administer for the Council.

¹⁰ Acoustic Engineering Services, NZTA Ventilation specification review, 30 June 2020

¹¹ Beca, Ventilation systems installed for road-traffic noise mitigation, 26 June 2014

Appendix 3: Economic Assessment





Final Report: 16 August 2023

Economic Assessment of Options to Manage Adverse Rail Noise Effects

Prepared for: **KiwiRail Holdings Limited**

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1. Executive Summary

Introduction

The rail network is an integral part of New Zealand's transport infrastructure and is estimated to generate nearly \$2 billion of value annually (via reduced traffic). To ensure that it is free to grow and operate as needed, and to protect the health and amenity of people, KiwiRail promotes the inclusion of District Plan provisions that require new buildings and/or alterations to existing ones, for noise sensitive activities to mitigate the effects of rail noise. To assist decision-makers, this report assesses the likely high level economic costs and benefits of three options for managing such effects.

Options Analysed

The three options analysed are:

1. Do nothing – where the adverse effects of rail noise are not managed (Option A in the s32 report);
2. KiwiRail's proposed provisions – which apply within 100 metres of the rail network (Option G in the s32 report); and
3. No noise sensitive development within 100 metres of the rail network (Option E in the s32 report).

Option Costs and Benefits

The main costs and benefits of the options relate to:

1. Adverse health and amenity effects from prolonged exposure to rail noise.
2. Costs of changing building designs and/or locations to mitigate effects.
3. Policy implementation, administration, and compliance costs.
4. The opportunity cost of potentially foregoing noise sensitive development near the network.
5. Compromised rail operation and efficiency due to potential reverse sensitivity issues (complaints, changes in operating regime).

Worked Example

The likely costs and benefits of each option are area- and context-specific because they depend on a range of factors that are fluid through both time and space. To demonstrate how the approach can be applied in each territorial authority where KiwiRail's preferred provisions are sought, we derived a model that can be applied on a case-by-case-basis. It contains nearly 20 inputs and assumptions that can be populated with figures that match the circumstances of each district at that time to provide timely and reliable insights to the likely costs and benefits of the three options evaluated herein.

Table 1 below shows the various inputs and parameters in the model, which are populated here with a set of hypothetical values purely for illustration.

Table 1: Model Parameters for Assessing Option Costs and Benefits (Hypothetical Example)

| Area of Land Affected & Likely Dwelling Yield | Values |
|---|-----------------|
| Control Area (Buffer) start distance in metres from edge of rail network | 10 |
| Control Area (Buffer) end distance in metres from edge of rail network | 100 |
| Share of land within proposed buffer otherwise available for development | 80% |
| Residential development density - dwellings/ha (gross) | 10 |
| Metres per kilometre | 1,000 |
| Square metres per hectare | 10,000 |
| | |
| Land Values for Noise Sensitive and Non-Sensitive Activities | Values |
| Value of land zoned for residential & other noise sensitive activities (\$/m ²) | \$400 |
| Value of land zoned for non-noise sensitive activities (\$/m ²) | \$200 |
| | |
| Health & Amenity Benefits | Values |
| Average dwelling price | \$540,000 |
| Mitigation Impact (dB of noise reduction) | 5 |
| Mitigation benefits (as a % of property value) per 1 dB improvement | 1.20% |
| | |
| Policy Compliance Cost Parameters | Values |
| Average dwelling build cost | \$300,000 |
| Mitigation fixed costs per dwelling | \$3,000 |
| Mitigation variable cost (as a % of construction cost) | 3% |
| | |
| Impacts on Rail Operation | Values |
| Annual value of rail to New Zealand (from Deloitte Study) | \$1,900,000,000 |
| Impact of new noise sensitive activities on value of rail (as a %) | 2% |
| Total length of NZ railway track (km) | 3,700 |
| | |
| Financial Parameters | Values |
| Time Period of Analysis (years) | 30 |
| Discount Rate | 10% |

Finally, Table 2 shows the corresponding option costs and benefits for this specific example, where KiwiRail's proposed provisions generate the lowest net cost and hence are the preferred option.

Table 2: Estimated Net Costs/Benefits per Kilometre of Track (Hypothetical Example)

| Costs/Benefits per km of Track | Option 1 | Option 2 | Option 3 |
|---------------------------------------|---------------------|---------------------|----------------------|
| Amenity & health benefits | -\$4,665,600 | \$0 | \$0 |
| Impacts on rail operation | -\$97,000 | \$0 | \$0 |
| Policy compliance costs | \$0 | -\$1,728,000 | \$0 |
| Housing market impacts | \$0 | \$0 | -\$28,800,000 |
| Option Net Benefits/Costs | -\$4,762,600 | -\$1,728,000 | -\$28,800,000 |

2. Introduction

2.1 Context & Purpose of Report

KiwiRail is responsible for the development and operation of New Zealand's rail network. To ensure that the rail network is free to grow and operate as needed to meet ever-evolving needs, KiwiRail promotes the inclusion of District Plan provisions that require new buildings, and/or alterations to existing ones, for noise sensitive activities to mitigate the effects of rail noise. To assist, this high-level report assesses the likely key economic costs and benefits of three options for managing such effects, including KiwiRail's proposed provisions.

2.2 Steps in Assessment & Report Structure

Below are the key steps in our assessment and the sections of this report where each is addressed.

1. Understand the strategic context (section **3**)
2. Identify options to manage rail noise effects (section **4**)
3. Identify option effects and key stakeholders (section **5**)
4. Assess the impacts of each option on stakeholders (sections **6 to 9**)
5. Identify the best/preferred option (section **10**)

The rest of this report works through each step.

3. Strategic Context

3.1 About the New Zealand Freight Task

New Zealand, like all developed nations, is highly dependent on domestic and international trade. This trade creates a massive freight task, with approximately 280 million tonnes moved around NZ annually.¹ While rail plays a key role in the freight sector, particularly for certain goods like timber, dairy, and meat², most of the national freight task is performed by diesel trucks. These generate harmful emissions, including CO₂, and are therefore the target of a concerted effort to decarbonise the transport fleet. For example, the New Zealand freight and supply chain strategy seeks to move 20% more freight by 2035 while generating 25% lower emissions, including via modal shifts to rail.

3.2 Rail for Passengers

Rail is not just a freight mode, either, and also plays an increasingly important role in keeping people moving in and around our largest metropolitan areas, particularly Auckland and Wellington. As those cities continue to intensify with more people living in and around centres serviced by the rail network, the share of passenger journeys taken by rail will also naturally increase too. The potential for to reconnect large metropolitan centres through inter-regional passenger rail is also an increasing focus, building on pilot programmes like the Te Huia connection between Auckland and Hamilton.

3.3 The Future Role of Rail

In parallel, the New Zealand Government has recognised the need to maximise the value of its existing investments in the rail network, including making rail a more attractive mode for freight and expanding the passenger rail network. Previously, investment in the rail network lacked a long-term view about its role in the transport system. This caused short-term thinking and investment decision-making, so a new approach was needed.³

The New Zealand Rail Plan⁴ was developed in 2021 to articulate the Government's vision and priorities for rail to 2030, and to identify the investment needed to achieve it. In June 2021, the Rail Network Investment Programme (RNIP) was created to fund various planks of the Rail Plan that will help renew the network, restore it to a resilient and reliable state, and support freight and passenger rail growth and productivity.⁵

3.4 The Value of Rail to New Zealand

The New Zealand rail network delivers significant value to its freight and passenger customers, and also generates significant benefits for all New Zealanders. These wider benefits are far-reaching, but the most significant are lower road congestion, fewer road accidents, and lower carbon emissions that result from less road traffic.

¹ <https://www.transport.govt.nz/assets/Uploads/Freight-and-supply-chain-issues-paper-full-version.pdf>

² <https://www.kiwirail.co.nz/our-business/freight/>

³ <https://www.transport.govt.nz/area-of-interest/infrastructure-and-investment/the-new-zealand-rail-plan/>

⁴ *ibid*

⁵ *ibid*

In 2021, Ernst & Young were commissioned by the Ministry of Transport to evaluate the value of rail to New Zealand.⁶ Their study built on an earlier analysis from 2016 and considered the benefits of (i) national freight rail, and (ii) passenger rail in Auckland and Wellington.⁷ Two scenarios were modelled. The first assumed that all rail services were cancelled, with all rail freight and passengers shifted to the road network. The second scenario also assumed that all rail services were cancelled and shifted to the road network, but with 20% higher rail traffic to capture the impacts of projected future growth. For both scenarios, the value of rail equals the costs of road traffic avoided.

The table below summarises the study's estimates of rail's benefits for the first scenario, where rail volumes match today. In short, the value of rail is estimated to be \$1.7 to \$2.1 billion per annum.

Table 3: Estimated Annual Value of Rail to New Zealand

| Benefit | Low Estimate | High Estimate |
|---------------------------|---------------------|----------------------|
| Time (congestion) savings | \$939 | \$1,054 |
| Reduced air pollution | \$170 | \$474 |
| - NOx emissions | \$92 | \$394 |
| - SOx emissions | <\$1 | <1 |
| - Brake & tire (PM10) | \$21 | \$22 |
| - Exhaust (PM2.5) | \$57 | \$58 |
| Reduced fuel use | \$211 | \$222 |
| Reduced GHG emissions | \$178 | \$182 |
| Maintenance benefits | \$104 | \$107 |
| Safety | \$94 | \$98 |
| - Death | \$63 | \$65 |
| - Serious injuries | \$25 | \$27 |
| - Minor injuries | \$5 | \$6 |
| Totals | \$1,695 | \$2,137 |

In the words of the Ernst & Young study, as demonstrated above, rail transportation provides the largest benefits to the road sector and society through:

- Time and congestion savings (49% - 55% of benefits)
- Reduced air pollution (10% - 22% of benefits)
- Reduced fuel use and maintenance costs (14% of benefits)
- Reduced greenhouse gas (GHG) emissions (9% to 10% of benefits).

The report also notes that the second scenario, where rail volumes are 20% higher, generates higher benefits than the scenario summarise above, but the difference is not linear with rail volumes. Specifically, the second scenario generates benefits that are about 10% higher than scenario one.

⁶ Ernst & Young, the Value of Rail in New Zealand, 2021.

⁷ i.e. it excluded inter-island ferries and long-distance passenger rail services, which are also operated by KiwiRail.

3.5 Need for Operational Freedom & Flexibility

To continue realising rail's substantial value to New Zealand, as per above, and to maximise its potential to limit growth in road traffic over time, the rail network must be available for operations 24/7 just like the road network. Reverse sensitivity from nearby sensitive receivers risks undermining that flexibility.

3.6 Summary and Conclusion

Rail is an important part of New Zealand's current transport mix. It provides significant value to New Zealand. It is necessary to protect that critical role to enable rail traffic to grow over time alongside population and economic growth. It is on this basis that KiwiRail seeks the inclusion of District Plan provisions which manage the risk to its operations and future growth that reverse sensitivity poses.

4. Policy Options

This section identifies three policy options to manage the adverse effects of rail noise. These were considered the most plausible/workable options from the long list shown in the appendix.

4.1 Option 1: Do Nothing (option A in the s32 report)

The first option is to “do nothing” with the adverse effects of rail noise not managed, either in the District Plan, or via other means. This forms the baseline (or counterfactual) against which the impacts of the other options are assessed.

4.2 Option 2: KiwiRail Proposed Provisions (option G in the s32 report)

The next option is KiwiRail’s proposed provisions. These require new buildings for noise sensitive activities, or alterations to existing ones, within 100 metres of the railway network boundary to mitigate the effects of noise. Specifically, affected buildings must either:

- (a) be designed, constructed and maintained to achieve indoor design noise levels resulting from the railway not exceeding the maximum values in the following table; or

| Building Type | Occupancy or Activity | Max Railway Noise LAeq(1h) |
|-----------------------|--|----------------------------|
| Residential | Sleeping spaces | 35 dB |
| | All other habitable rooms | 40 dB |
| Visitor Accommodation | Sleeping spaces | 35 dB |
| | All other habitable rooms | 40 dB |
| Education Facility | Lecture rooms/theatres, music studios, assembly halls | 35 dB |
| | Teaching & sleeping areas, conference rooms, drama studios | 40 dB |
| | Libraries | 45 dB |
| Health | Overnight medical care, wards | 40 dB |
| | Clinics, consulting rooms, theatres, nurses’ stations | 45 dB |
| Cultural | Places of worship, marae | 35 dB |

- (b) be located at least 50 metres from any railway network, and is designed so that a noise barrier completely blocks line-of-sight from all parts of doors and windows, to all points 3.8 metres above railway tracks, or
- (c) it can be demonstrated by way of prediction or measurement that the noise at all exterior façades of the listed activity is no more than 15 dB above the relevant noise levels in Table 1 (above).

If windows must be closed to achieve the design noise levels in (a), mechanical ventilation must be designed, constructed, and maintained. Finally, a report must be submitted to the Council demonstrating compliance with the proposed provisions prior to the construction or alteration of any building containing a noise sensitive activity.

We note the assessment of the costs of Option 2 may also be helpful in assessing a scenario where KiwiRail adopts the funding of the various mitigation measures. This scenario is not assessed

separately below, but we note from an economics assessment, the feasibility of implementing these provisions drops rapidly should KiwiRail adopt both its internal (eg track maintenance and noise reduction costs) and the cost of implementing the provisions. Given the benefits of the provisions also attribute the benefits of the costs of implementation (via warmer, drier, and quieter homes that are also worth more) solely to the landowner, this further reduces the burden of the costs of those provisions sitting with the landowner, rather than KiwiRail.

4.3 Option 3: No Noise Sensitive Development within 100 Metres (option E in the s32 report)

The final option is to prevent new buildings for noise sensitive activities, or alterations to existing ones, occurring within 100 metres of the railway network to avoid adverse noise effects. For clarity, this option does not preclude activities that are not noise-sensitive (eg commercial, industrial or rural activities) from establishing there.

5. Option Impacts & Key Stakeholders

This section identifies likely option impacts and key stakeholders affected.

5.1 Option Costs

The main costs of the options are likely to be:

1. Adverse **health and amenity effects** from prolonged exposure to rail noise. These impacts will vary with several factors, including distance from the network, the design and orientation of buildings, the extent of outdoor activity, plus the health and resilience of affected people.
2. Costs of **changing building designs and/or locations** to mitigate effects. These costs result directly from the need to mitigate effects within the 100-metre buffer area (where deemed necessary by a suitably-qualified noise/acoustic expert).
3. Policy **implementation (ie construction), administration, and compliance** costs. While KiwiRail is seeking the inclusion of provisions only during District Plan review processes, rather than via its own plan change processes (which helps minimise implementation costs), the proposal will still have ongoing administration and compliance costs. These include costs borne by Councils as the administrators of District Plans, plus costs incurred by affected landowners, such as the engaging a noise/acoustic expert to assess the extent of mitigation required, if any.
4. Potential **impacts on housing supply**. If affected properties cannot mitigate the adverse effects of rail noise in a financially feasible manner, there may be a reduction in the quantity of new housing built. This, in turn, could affect the wider housing market and may affect the ability of some Councils to meet their obligations under the National Policy Statement on Urban Development 2020 (NPSUD).
5. **Compromised rail operation and efficiency** due to potential reverse sensitivity. Finally, for options that do not properly manage the adverse effects of rail noise on nearby noise sensitive activities, there may be potential risks to the ongoing operation and efficiency of the rail network.

5.2 Option Benefits

The main benefits of the options are likely to be:

- Improved **health and amenity effects** from properly managing exposure to rail noise. In many cases, these measures will also result in **warmer, drier, healthier homes** that are cheaper to run.
- For options that properly manage the adverse effects of noise, there will be **benefits from the ongoing, unconstrained operation of the rail network**. To the extent that rail can attract a larger share of the national freight task, as sought by several policy initiatives, all new Zealanders will benefit from **lower congestion, accidents, and harmful emissions**.

- Compared to options that effectively sterilise development (for noise sensitive activities) near the rail network, those that enable it will **allow affected land to be put to higher and better uses** than they likely would to otherwise.
- Finally, to the extent that options avoid investments that would otherwise be needed, there will be benefits in the form of **avoided costs saved**.

5.3 Key Stakeholder Groups

Our analysis considers the extent to which option costs and benefits affect the following key stakeholder groups:

- **Affected property owners** – this group will be directly affected in several ways. First, if they develop their land to accommodate noise sensitive activities near the railway line and no mitigation measures are adopted, future occupants may experience adverse effects from prolonged exposure to rail noise. Conversely, affected property owners may face provisions that either (i) limit their ability to develop their land for certain activities, and/or (ii) which impose additional costs to enable noise sensitive activities to establish there.
- **Rail network customers** – this group could be adversely affected if growth in noise sensitive activities near the rail network causes reverse sensitivity, which in turn reduces the frequency, reach, and/or availability of the rail services upon which they rely.
- **KiwiRail and the NZ Government** – As the rail network operator and funder, respectively, KiwiRail and the New Zealand Government will also be affected by the presence or absence of provisions to manage the adverse effects of rail noise. For example, if such effects are left unmanaged, these groups may be negatively impacted by potential constraints arising from reverse sensitivity, which would undermine the operation of – and investment in – the rail network.
- **Territorial authorities** – to the extent that provisions are included in District Plans, territorial authorities will bear the costs and responsibility of incorporating and administering them. While these costs are unlikely to be significant over and above those already associated with their day-to-day functions, they are still an important consideration.
- **NZ's people and its economy** – finally, we note that provisions to manage adverse rail noise, or the absence thereof, may have far reaching effects. For example, if such effects are not properly managed leading to reverse sensitivity that curtail rail operation or availability, any consequent increases in road freight traffic will have negative effects on all of New Zealand. In addition, New Zealanders will bear some of the costs of treating adverse health effects via the tax-funded public health system.

6. Health and Amenity Impacts

This section considers the health and amenity impacts of each option.

6.1 Option 1: Do Nothing⁸

Under this option, the District Plan does not contain provisions that manage the adverse health and amenity impacts of rail noise. Accordingly, it exposes proximate noise sensitive activities to potential adverse health and amenity effects from the rail network.

6.2 Option 2: KiwiRail Proposed Provisions⁹

By design, KiwiRail's proposed provisions directly manage the adverse effects of proximity to the rail network and therefore create ongoing benefits for affected landowners and their tenants (if any). In addition, this option will have wider benefits on the increased warmth, energy efficiency and dryness of homes due to the kinds of mitigation measures imposed (see further discussion re these benefits in the report of Dr Chiles).

However, the true impacts of this option on health and amenity depend fundamentally on the extent to which any proposed mitigation measures would be required anyway, for example to meet the New Zealand Building Code. As the code (likely) continues to strengthen over time, or as developers voluntarily include such measures anyway to keep pace with consumer preferences, the marginal benefits of complying with these provisions will decline. So too, however will the costs, which we return in section 8 below.

To the extent that KiwiRail's proposal does cause some buildings to install design features or elements that they would not have otherwise, there will be health and amenity benefits. First, and most foremost, the adverse effects of rail noise will be properly managed. While it is difficult to accurately quantify such benefits, a recent report for Christchurch City Council (CCC) estimated the health and amenity benefits of noise attenuation to be approximately 1.2% of property value per decibel of road noise reduction.¹⁰

We consider it unlikely that health and amenity effects accrue linearly with property value, as suggested by the CCC estimate. This would imply, for example, that a \$1 million house receives double the benefits of a \$500,000 one. Instead, there are likely to also be lump-sum (per-property) elements. That said, these estimates are the best currently available, so below we use them to show the potential benefits for different combinations of property values and noise level reductions.

Table 4: Health & Amenity Benefits by Property Value and Size of Noise Reduction in dB (\$000s)

| Property Value (000s) | Noise Reduction dB | | | | | | | | | |
|-----------------------|--------------------|------|------|------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| \$250 | \$3 | \$6 | \$9 | \$12 | \$15 | \$18 | \$21 | \$24 | \$27 | \$30 |
| \$500 | \$6 | \$12 | \$18 | \$24 | \$30 | \$36 | \$42 | \$48 | \$54 | \$60 |
| \$750 | \$9 | \$18 | \$27 | \$36 | \$45 | \$54 | \$63 | \$72 | \$81 | \$90 |

⁸ Option A in the s32 report

⁹ Option G in the s32 report

¹⁰ Formative, Christchurch Plan Change 5E Noise Sensitive Activities Near Road and Rail Corridors, 30 September 2022.

| | | | | | | | | | | |
|---------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| \$1,000 | \$12 | \$24 | \$36 | \$48 | \$60 | \$72 | \$84 | \$96 | \$108 | \$120 |
| \$1,250 | \$15 | \$30 | \$45 | \$60 | \$75 | \$90 | \$105 | \$120 | \$135 | \$150 |
| \$1,500 | \$18 | \$36 | \$54 | \$72 | \$90 | \$108 | \$126 | \$144 | \$162 | \$180 |
| \$1,750 | \$21 | \$42 | \$63 | \$84 | \$105 | \$126 | \$147 | \$168 | \$189 | \$210 |
| \$2,000 | \$24 | \$48 | \$72 | \$96 | \$120 | \$144 | \$168 | \$192 | \$216 | \$240 |

Table 4 shows that health and amenity benefits could be substantial, especially if they accrue linearly with property value as assumed/modelled. For example, a 5dB reduction could translate to a \$30,000 benefit for a \$500,000 home, or \$60,000 for a \$1 million home.

In addition, measures adopted to comply with KiwiRail's proposed provisions, such as double glazing and/or mechanical ventilation, are likely to make homes warmer, healthier, and drier. For example, a 2022 interim report by EECA¹¹ found that 62% of families who were provided heat pumps reported being in very good or excellent health, compared to only 46% before installation. Further, EECA's final report from December 2022¹² noted that electricity use (through winter) falls in a house fitted with a heat pump by an estimated 16% relative to a house without a heat pump installed.

Thus, not only do heat pumps make homes warmer, drier, and healthier, but they also save on energy costs. Over time, these savings will add up and help offset the initial costs of purchase and installation.

6.3 Option 3: No Noise Sensitive Development within 100 Metres¹³

This option also (largely) avoids the adverse effects of rail noise but does not deliver the additional benefits resulting from building improvements associated with the KiwiRail proposal.

¹¹ Motu report for EECA, Warmer Kiwis Study: Interim Report: An impact evaluation of the Warmer Kiwi Homes programme

¹² Motu report for EECA, Warmer Kiwis Study: Final Report: An impact evaluation of the Warmer Kiwi Homes programme

¹³ Option E in the s32 report

7. Impacts on Rail Uptake & Operation

This section considers impacts of each option on rail network uptake and operation.

7.1 Option 1: Do Nothing¹⁴

Because this option does not manage adverse rail noise effects, it can cause reverse sensitivity that gradually undermines the future uptake and operation of the rail network. This, in turn, would erode the value created by rail (as summarised above) and limit rail's ability to attract market share from the road freight sector. In addition, it can affect the ability of passenger rail services to shift people out of single occupancy vehicles during rush hour, which are a major contributor to congestion and delay on the road network as well as emissions.

Unfortunately, it is impossible to accurately assess the extent to which reverse sensitivity resulting from this option would disrupt the rail network and the consequential impacts on the economy. However, for the sake of illustration, we note that every 1% reduction in rail traffic caused by reverse sensitivity from new noise sensitive activities establishing nearby would cost the broader economy approximately \$17 to \$21 million per annum (based on the annual values shown in section 3.3 above).

7.2 Option 2: KiwiRail Proposed Provisions¹⁵

By design, KiwiRail's proposed provisions would directly manage the adverse effects of new noise sensitive activities establishing in proximity to the rail network which would help it become an increasingly credible alternative to road transport for freight and passenger movements. However, that said, we acknowledge that reverse sensitivity may still arise from existing proximate activities.

7.3 Option 3: No Noise Sensitive Development within 100 Metres¹⁶

This option also (largely) avoids the adverse effects of rail noise and therefore should result in the same outcomes for the rail network as KiwiRail's proposed provisions.

¹⁴ Option A in the s32 report

¹⁵ Option G in the s32 report

¹⁶ Option E in the s32 report

8. Policy Administration/Compliance Costs

8.1 Option 1: Status Quo¹⁷

The status quo does not incur any administrative or compliance costs because it is (assumed to be) devoid of such provisions.

8.2 Option 2: KiwiRail Proposed Provisions¹⁸

KiwiRail's proposed provisions will have one-off costs to the Council of including them in the District Plan. However, because KiwiRail is proposing their introduction only during District Plan review or Plan Change processes, where changes to plans are occurring anyway, the marginal costs to Councils of including the proposed provisions is likely to be negligible. Further, while there will be ongoing costs from administering the provisions once operative, these are not expected to be material in the context of functions ordinarily carried out by Councils.

The greatest administrative and compliance costs associated with this option are those that fall on affected landowners. First, affected properties must commission a noise/acoustic expert to identify the need for, and optimal types of, mitigation to manage rail noise. We understand that these are likely to cost about a few thousand dollars.

Where buildings cannot be situated on a site or designed to locate sensitive activities away from the rail corridor, installing insulation, double glazing, mechanical ventilation, and other mitigation features will be the major cost felt by affected landowners. Again, unfortunately, it is difficult to provide reliable generalised estimates of these features because they are context-specific, and depend on the particular design choices of each landowner and their preferred use of their site. In addition, as noted earlier, the true cost of complying with these provisions will depend on the extent to which such measures would have been included in the building design anyway (either due to Building Code requirements and/or because the developer chose to adopt them).

Another complication is that the nature and cost of mitigation works will differ with several variables, including building height and distance from the rail network. For example, the following table from a recent report by Chiles Limited indicates the general relationship between distance from the rail network and the level of noise experienced.¹⁹

¹⁷ Option A in the s32 report

¹⁸ Option G in the s32 report

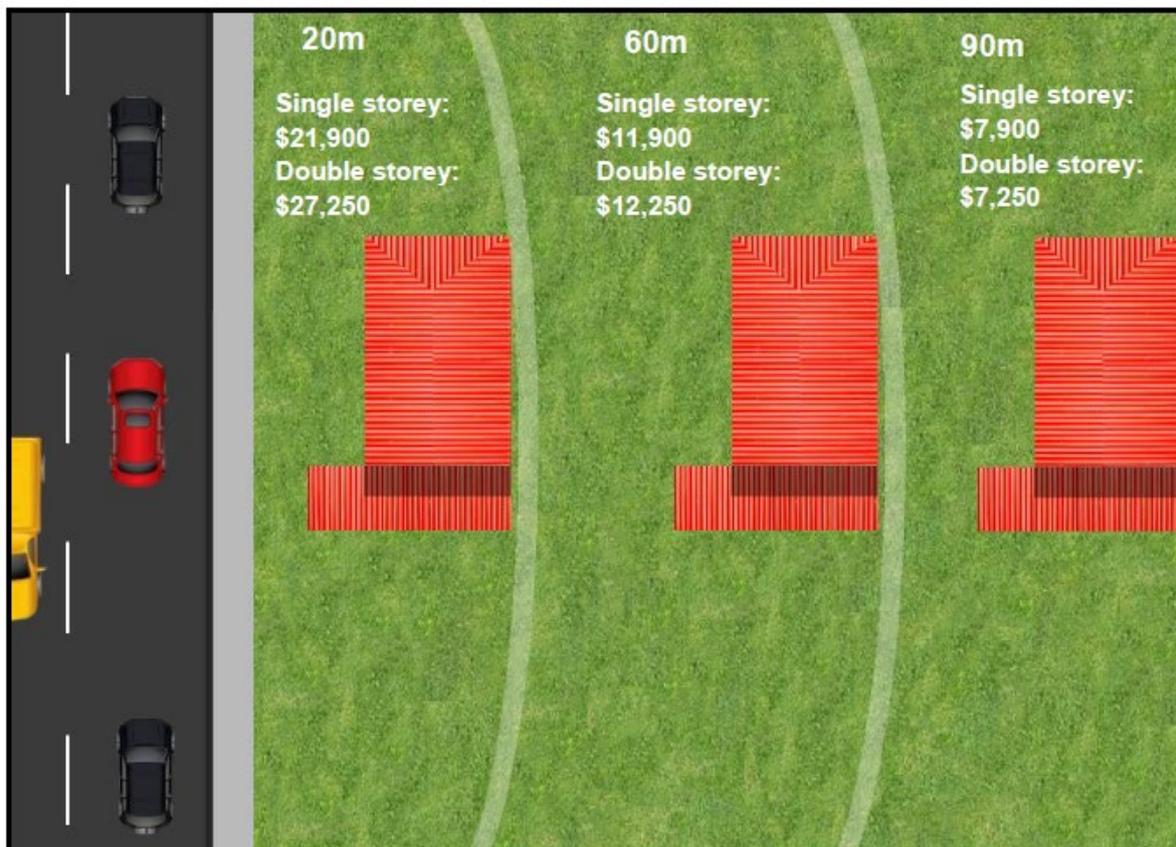
¹⁹ Chiles Limited, Land use controls for railway sound and vibration, March 2023.

Table 5: Relationship Between Distance and Sound Levels

| Distance from Track | Sound Level $L_{Aeq(1h)}$ |
|---------------------|---------------------------|
| 10 metres | 71 dB |
| 20 metres | 68 dB |
| 30 metres | 66 dB |
| 40 metres | 64 dB |
| 50 metres | 62 dB |
| 60 metres | 60 dB |
| 70 metres | 59 dB |
| 80 metres | 58 dB |
| 90 metres | 56 dB |
| 100 metres | 56 dB |

To advance the analysis, and for the sake of illustration, we draw on work completed by Beca for Waka Kotahi in 2013²⁰, which estimated the cost of mitigating road noise for dwellings located at different distances from the state highway network. The excerpt below summarises their key findings.

Figure 1: Beca Estimate of Mitigation Costs by Distance from Road Network (2013 \$)



A more recent estimate of likely costs was provided by AES for Christchurch City Council, which suggested that they may be about 1 to 2% of construction costs. Thus, the expense for a dwelling that costs \$300,000 to build may be \$3,000 to \$4,000, while the cost for a \$500,000 dwelling would be around \$5,000 to \$10,000. Again, however, we emphasise that the true cost of complying with the

²⁰ New Zealand Transport Agency Building Acoustic Mitigation Case Study, prepared for NZTA, 2013

provisions depends fundamentally on the extent to which any of the design features or building elements required would have been provided anyway.

It is also important to acknowledge that these costs will be offset by potential energy savings over time, as noted in the previous section. Plus, as set out in the table at 6.2 above, more importantly, they will likely be capitalised in the value of the property. Even setting aside that direct research, houses with double glazing and/or heat pumps are generally worth more than those without. Thus, while this option imposes upfront costs on homeowners, these will not be lost and instead could be better described as investments in the quality and future marketability of properties.

8.3 Option 3: No Noise Sensitive Development within 100 Metres²¹

This option is unlikely to impose any notable administrative or compliance costs.

²¹ Option E in the s32 report

9. Housing Market Impacts

9.1 Option 1: Status Quo²²

The status quo will not affect the quantity of housing supplied in each district.

9.2 Option 2: KiwiRail Proposed Provisions²³

KiwiRail's proposed provisions may have small impacts on housing supply at the margin if the costs of mitigation are considered prohibitively expensive. However, this seems unlikely given the quantum of costs estimated by AES for Christchurch City Council, as per the previous section.

9.3 Option 3: No Noise Sensitive Development within 100 Metres²⁴

This option will have the greatest impacts on housing supply because it sterilises the use of land for noise sensitive activities within 100 metres of the rail network. To broadly quantify this impact, we used GIS to inspect the proximity of existing noise sensitive activities to the rail network in built-up areas, particularly Auckland. To that end, the figure below draws 10 and 100 metre buffers around the rail network in pink, and blue, respectively, to investigate how close existing homes are to the tracks.

Figure 2: Proximity of Noise Sensitive Activities to the Rail Network in Mt Albert, Auckland



This map shows there is very little development within 10 metres of the network, although the edges of some buildings are close. Conversely, there are large swathes of development within the 100-metre

²² Option A in the s32 report

²³ Option G in the s32 report

²⁴ Option E in the s32 report

buffer. Accordingly, per kilometre of track, this option may prohibit noise sensitive development that would have otherwise likely occurred on approximately 180,000m² (or 18 hectares) of land.²⁵

The cost of this prohibition will depend on several factors, including the zoning of affected land, the extent to which it is already developed or not, the presence or absence of other binding constraints on development, the underlying value of land, and the scope for accommodating non-noise sensitive activities instead.

Below, we estimate the value of land foregone for noise sensitive development per kilometre of track based on (i) the proportion of land that is developable for any purpose, and (ii) the incremental value of developing land for noise sensitive activities vs other activities. Table 5 presents the results.

Table 6: Value of Land Foregone for Noise Sensitive Activities by 100-Metre Setback per Kilometre of Track (\$ millions)

| Developable Land % | Incremental Value of Using Land for Noise Sensitive Activities per m ² | | | | | | | |
|--------------------|---|-------|-------|-------|-------|-------|-------|-------|
| | \$50 | \$100 | \$150 | \$200 | \$250 | \$300 | \$350 | \$400 |
| 0% | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| 10% | \$1 | \$2 | \$3 | \$4 | \$5 | \$5 | \$6 | \$7 |
| 20% | \$2 | \$4 | \$5 | \$7 | \$9 | \$11 | \$13 | \$14 |
| 30% | \$3 | \$5 | \$8 | \$11 | \$14 | \$16 | \$19 | \$22 |
| 40% | \$4 | \$7 | \$11 | \$14 | \$18 | \$22 | \$25 | \$29 |
| 50% | \$5 | \$9 | \$14 | \$18 | \$23 | \$27 | \$32 | \$36 |
| 60% | \$5 | \$11 | \$16 | \$22 | \$27 | \$32 | \$38 | \$43 |
| 70% | \$6 | \$13 | \$19 | \$25 | \$32 | \$38 | \$44 | \$50 |
| 80% | \$7 | \$14 | \$22 | \$29 | \$36 | \$43 | \$50 | \$58 |
| 90% | \$8 | \$16 | \$24 | \$32 | \$41 | \$49 | \$57 | \$65 |
| 100% | \$9 | \$18 | \$27 | \$36 | \$45 | \$54 | \$63 | \$72 |

To summarise: the opportunity cost of precluding noise sensitive development within the 100-metre buffer depends critically on the proportion of such land that is developable in the first place, and the difference in land value between noise sensitive activities and all others.

For example, suppose that the current value of residential land is \$200 per square metre but (say) \$100 for industrial, and that 50% of land within the buffer is available for some form of development. According to the table above, the cost per kilometre of track is \$9 million.²⁶

In more extreme cases, say where residential land values are \$300 higher than industrial and the full buffer area is available for development, the opportunity cost per kilometre is \$54 million.

²⁵ This equals one kilometre of track (1,000 metres) multiplied by 90 metres of developable land between the 10- and 100-meter buffers, which is then multiplied by two because the buffer extends in both directions on both sides of the tracks.

²⁶ This can be found by subtracting the value of land for industrial from the value for residential (which is \$100 per m²) and scanning down that column to the row labelled as 50% developable.

10. Calculating Option Net Benefits

10.1 Introduction

The likely costs and benefits of each option are area- and context-specific because they depend on a range of factors that are fluid through both time and space. To demonstrate how the approach can be applied in each territorial authority where Kiwirail's preferred provisions are sought, we derived a model that can be applied on a case-by-case-basis. It contains nearly 20 inputs and assumptions that can be populated with figures that match the circumstances of each district at that time to provide timely and reliable insights to the likely costs and benefits of the three options evaluated herein.

10.2 Worked (Hypothetical) Example

Table 7 below shows the various inputs and parameters in the model, which are populated here with a set of hypothetical values purely for illustration.

Table 7: Model Parameters for Assessing Option Costs and Benefits (Hypothetical Example)

| Area of Land Affected & Likely Dwelling Yield | Values |
|---|-----------------|
| Control Area (Buffer) start distance in metres from edge of rail network | 10 |
| Control Area (Buffer) end distance in metres from edge of rail network | 100 |
| Share of land within proposed buffer otherwise available for development | 80% |
| Residential development density - dwellings/ha (gross) | 10 |
| Metres per kilometre | 1,000 |
| Square metres per hectare | 10,000 |
| | |
| Land Values for Noise Sensitive and Non-Sensitive Activities | Values |
| Value of land zoned for residential & other noise sensitive activities (\$/m ²) | \$400 |
| Value of land zoned for non-noise sensitive activities (\$/m ²) | \$200 |
| | |
| Health & Amenity Benefits | Values |
| Average dwelling price | \$540,000 |
| Mitigation Impact (dB of noise reduction) | 5 |
| Mitigation benefits (as a % of property value) per 1 dB improvement | 1.20% |
| | |
| Policy Compliance Cost Parameters | Values |
| Average dwelling build cost | \$300,000 |
| Mitigation fixed costs per dwelling | \$3,000 |
| Mitigation variable cost (as a % of construction cost) | 3% |
| | |
| Impacts on Rail Operation | Values |
| Annual value of rail to New Zealand (from Deloitte Study) | \$1,900,000,000 |
| Impact of new noise sensitive activities on value of rail (as a %) | 2% |
| Total length of NZ railway track (km) | 3,700 |
| | |
| Financial Parameters | Values |
| Time Period of Analysis (years) | 30 |
| Discount Rate | 10% |

Finally, Table 2 Table 8 shows the corresponding option costs and benefits for this specific example, where KiwiRail's proposed provisions generate the lowest net cost and hence are the preferred option.

Table 8: Estimated Net Costs/Benefits per Kilometre of Track (Hypothetical Example)

| Costs/Benefits per km of Track | Option 1 | Option 2 | Option 3 |
|---------------------------------------|---------------------|---------------------|----------------------|
| Amenity & health benefits | -\$4,665,600 | \$0 | \$0 |
| Impacts on rail operation | -\$97,000 | \$0 | \$0 |
| Policy compliance costs | \$0 | -\$1,728,000 | \$0 |
| Housing market impacts | \$0 | \$0 | -\$28,800,000 |
| Option Net Benefits/Costs | -\$4,762,600 | -\$1,728,000 | -\$28,800,000 |

11. Appendix: Long List of Options

Below is the long list of options from which the three analysed in this report were drawn.

Option A - Do nothing:

No or limited railway noise and vibration provisions in the District Plan. This may include no specific noise and vibration rules, standards or mapping overlays, but may include consideration of reverse sensitivity effects when assessing the adverse effects of any resource consent application, depending on the existing objectives, policies and rules in the District Plan. This includes subdivision, use or development within the vicinity of the railway corridor if the District Plan provides sufficient direction to do so.

Option B – Rail operator reduces noise and vibration emissions:

The rail operator ensure that noise and vibration emissions are reduced to the extent that Activities Sensitive to Noise within 100m of the rail corridor achieve the recommended noise and vibration levels without needing to undertake any specific insulation, ventilation or construction design standards.

Option C - Noise barriers:

Acoustic walls or bunds installed by the applicant or the rail operator with no other noise or vibration management methods.

Option D - Construction design standards:

A table which specifies minimum construction materials and standards necessary to achieve internal acoustic levels within buildings, with no other noise or vibration management methods.

Option E - Setbacks:

Requiring Activities Sensitive to Noise to be set back 100m from the railway corridor with no other noise or vibration management methods.

Option F - Internal acoustic standards:

Require internal acoustic and ventilation rules and standards for noise-sensitive activities, but provide no other options to achieve compliance.

Option G – Combination of rules and standards (Proposed provisions):

Within 100m of the railway corridor, provide several options to achieve compliance with internal acoustic levels – within 50m of the rail corridor buildings are designed to meet specified Internal noise levels, or must meet a 50m setback, or where the noise at exterior façades is measured or predicted to be no more than 15 dB above the relevant noise level. Buildings must also meet mechanical ventilation standards and reporting standards. Includes an advice note to alert plan users that Activities Sensitive to Noise within the Rail Noise Control and Vibration Alert Area may be subject to vibration effects.

Option H – Proposed provisions funded by rail operator:

Within 100m of the railway corridor, via a mapped Rail Noise Control and Vibration Alert Area,

the same options to achieve compliance would be available - buildings are designed to meet specified Internal noise levels, or must meet a 50m setback, or noise at exterior façades is no more than 15 dB higher. Buildings must also meet mechanical ventilation standards and reporting standards, and there is an advice note regarding vibration effects. However, the difference is that KiwiRail would fund the achievement of these standards.

Option I - Landscaping:

Landscape planting to provide acoustic mitigation, with no other noise or vibration management methods.

Option J - National regulation:

This may include changes to the Building Act or Building Code or introduction of a National Planning Standard or National Environmental Standard. The Building Act and Code currently provides specifications to manage inter-tenancy noise (eg noise between residential apartments within the same building with shared tenancy walls). However, it does not require the management of internal noise where noise is generated from outside a building (e.g. rail noise from an adjacent rail corridor).

Option K Reverse sensitivity covenant:

A plan provision which requires a covenant whereby property owners agree not to complain about noise and vibration effects on sensitive land uses. This is often referred to as a 'no complaints' covenant.



Assessment under Section 32 of the Resource Management Act 1991

Rail Safety Setback

July 2024

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1. Summary

KiwiRail Holdings Limited (KiwiRail) is a network utility operator and the Requiring Authority¹ for the railway network throughout New Zealand. The rail network is an asset of regional and national importance and is fundamental to the safe and efficient movement of people and goods throughout New Zealand. KiwiRail operates over 3500km of rail network and infrastructure within the rail corridor.

In recent years, there has been an increased focus on enabling housing and intensification in urban areas, particularly in and around transport nodes. From a planning perspective, higher density development has been enabled through the National Policy Statement for Urban Development and the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021. As a result, we can expect to see increased intensification occurring adjacent to the rail corridor. The interface between the rail network and adjoining land uses needs to be carefully managed. In addition to noise and vibration effects (which are outlined in the *Standard Railway Noise and Vibration Reverse Sensitivity Provisions and Section 32 Report* (dated 16 August 2023)), there are critical health and safety issues for both communities and users of the rail network which can arise as a result of this interface without good management.

In addition to the more commonly understood risk of people entering the rail corridor, there are also risks for people undertaking activities on properties adjoining the rail network (e.g. building construction or maintenance, objects falling onto tracks). Interference with the rail corridor can have significant consequences and compromise the levels of service on the rail network. An integrated planning approach is critical to ensure that our urban environments are developed in a way that both provides for the ongoing operation and future development of our transport network while also ensuring that our communities are protected from health and safety effects.

KiwiRail proposes to introduce District Plan setback provisions for buildings and structures on sites adjoining the rail corridor to:

- a. manage health and safety effects on communities from the potential conflict between the rail corridor and people; and
- b. minimise rail operation and efficiency being compromised due to disruption resulting from unplanned incursions into rail corridor.

The provisions apply only where a new building is proposed or existing building extended on a site adjoining a rail designation boundary.

This assessment has been prepared in accordance with Section 32 and Schedule 1 of the Resource Management Act 1991 (RMA) to assess the inclusion of building setback provisions within District Plans. This report is informed by:

- the Galvin Consulting Ltd report *Advice for KiwiRail on the safety implications of*

¹ New Zealand Gazette, No. 31, 14 March 2013, page 943.

construction and maintenance-related activities adjacent to rail (Galvin Consulting Report) (Attachment 2); and

- the Insight Economics *High Level Assessment of Proposed Building Setbacks Adjacent to the Rail Network* (Insight Report) (Attachment 3).

As part of the section 32 analysis, this report identifies the issues to be addressed, being:

- community health and safety; and
- protection of the rail corridor as a physical resource / significant infrastructure.

This report also considers options beyond district plan provisions².

² Section 2 and Attachment 4.

2. Issue identification

2.1 Context

As set out in the Galvin Consultancy Report, buildings and structures involve construction activities and, once construction is complete, maintenance, repair and replacement activities throughout a building's life (50+ years).

During construction and ongoing maintenance/repair, people interacting with (including simply walking around) construction equipment and temporary structures require space to undertake these activities safely. These activities are undertaken on sites adjoining the rail corridor.

KiwiRail manages its infrastructure generally within a designated rail corridor. Infrastructure contained within the corridor includes tracks, bridges, tunnels, overhead gantries and signalling systems designed to facilitate the efficient movement of freight and passengers. While KiwiRail primarily focuses on freight transportation and scenic journeys, it also provides infrastructure for urban commuter services in certain regions (eg Auckland and Wellington) and parts of its network are electrified.

The rail corridor has a very different risk profile compared to other sites or land uses. The rail corridor is a hazardous environment. Entry into the rail corridor poses a high consequence risk and significant safety issue to both the person accessing the corridor, and to the rail operations being undertaken. Inappropriate land use and development can adversely impact the safe and efficient operation of the rail corridor.

In addition, it is a common public perception that the rail corridor is 'public' land (without access limitation), particularly where there is no physical barrier to entry and/or trains volumes are lower.

Land adjacent to the rail corridor is increasingly being developed for higher density uses in our urban environments. Among other things, this is a result of the introduction of the National Policy Statement on Urban Development 2020 which directs certain local authorities to enable multi-storey developments in and around transport nodes.³

2.2 Risk

Risk arises in a range of circumstances where activities are located in close proximity to the rail corridor boundary. They include:

- building construction;
- building maintenance (including where there is insufficient space between the building and rail corridor to complete maintenance without entering the rail corridor, people installing, moving around and using mobile plant or temporary access structures); and
- falling objects from construction, maintenance and daily use of buildings and spaces.

³ National Policy Statement on Urban Development 2020, Policy 3.

Sections 4 to 8 of the Galvin Consulting Report describe in detail the types of activities undertaken within⁴ and adjacent⁵ to the rail corridor along with the types of risk which arise⁶. All of these risks occur where buildings are too close to the corridor, resulting in landowners being unable to safely build, maintain or manage their structures without encroaching into the corridor.

Hazards with the potential to cause significant harm or fatalities include working at height, dropped objects, electricity, unstable ground, and mobile plant including rail vehicles. Events which can harm construction and maintenance workers can also damage the rail network and impact the safety of those working on or using rail. As set out in the Galvin Consulting Report, in New Zealand, there is a lack of situational awareness with respect to rail i.e. people are not aware of the safety hazards presented by rail operations and how their work may affect rail operations and the network. Compounding this limited awareness are particular characteristics of small businesses and DIYers who carry out construction and maintenance work.

Examples of resulting risks include:

- a. if a person or object encroaches onto the rail corridor there is a risk of electrocution where there are electrified lines and / or risk of injury or worse from rail activities (this includes spray drift from water blasting which can be a risk to electrified lines);
- b. the risk of injury (or death) to people from rail activities is also present where there are not electrified lines. Trains are large, travel at speed, and cannot quickly stop;
- c. the potential for physical encroachment by ladders / scaffolding etc into the rail corridor;
- d. items from adjoining land inadvertently falling into the rail corridor, such as items dropped from scaffolding, ladders or windows; and
- e. safety issues for rail employees who need to remove obstructions, as well as train drivers and other people on trains if the obstruction is not removed in time

This assessment focuses on maintenance activities and falling objects as a result of building proximity.

2.3 Existing approaches to issue

It is common for District Plans to include provisions which limit uses of land to protect the operation of infrastructure beyond the designation boundary and also to provide safe and healthy environments for people. For example, a national grid corridor overlay is included in a range district plans⁷ which restricts activities within a specified spatial extent of Transpower's network (around both pylons and lines). Airports and ports are another common infrastructure type which have restrictions on activities and/or required mitigation for certain activities included in District Plans for surrounding private land⁸.

⁴ Section 4.

⁵ Section 5.

⁶ Sections 6, 7 and 8.

⁷ For example, Chapter D26 of the Auckland Unitary Plan.

⁸ For example, Chapters D24 Aircraft Noise Overlay and D25 City Centre Port Noise Overlay of the Auckland Unitary Plan.

In addition to setbacks for infrastructure, setbacks for managing other environmental effects are also common. Examples include building setbacks (by yard and height in relation to boundary controls) between business (particularly industrial) zones and residential or open space zones.

KiwiRail commonly seeks a 5 metre setback for buildings and structures from the rail corridor boundary during plan change and review processes. A number of District Plans⁹ include setback controls. The plan provisions are a permitted activity standard (meeting a setback). Where the permitted activity standard is not met a restricted discretionary activity status is triggered with matters of discretion, requiring engagement with KiwiRail to consider whether the encroachment can be safely accommodated and consideration of the safety of the rail network.

The proposed provisions are set out in full In **Attachment 1**.

2.4 Other Options

Where building owners are unable to complete maintenance within their site boundaries, as a land owner and requiring authority, other potential methods available to KiwiRail to manage effects (not including district plan provisions) include:

- a. increasing the width of the KiwiRail designation;
- b. rail corridor fencing; and
- c. managing access to the rail corridor via corridor access request processes.

For the reasons detailed in **Attachment 4**, these options are considered less effective than the district plan provisions proposed.

3. Section 32 Requirements

Under the RMA, a section 32 evaluation must:

- a. examine whether the proposed objectives are the most appropriate way to achieve the purpose of the RMA (s32(1)(a));
- b. examine whether the proposed provisions are the most appropriate way to achieve the objectives by identifying other reasonably practicable options, assessing their efficiency and effectiveness and summarising the reasons for deciding on provisions (s32(1)(b));
- c. relative to considering the efficiency and effectiveness of the provisions in achieving the objective, include an assessment of the benefits and costs of the effects anticipated from implementing the provisions (s32(2)); and
- d. contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from implementing the proposal (s32(1)(c)).

⁹ For example, Christchurch City District Plan Rule 14.4.2.7 *Minimum building setbacks from internal boundaries and railway lines* requires 4m setback

For plan changes, the proposal is to be evaluated against both the objectives of the proposed plan change and the objectives of the existing plan (s32(3)). Each of these matters is assessed in this report (other than s32(3)).

4. Objectives Assessment

Section 32(1)(a) of the RMA requires an examination of whether a proposed objective is the most appropriate way to achieve the purpose of the RMA. The purpose of the RMA is set out in Part 2, Section 5 of the Act.

5 Purpose

(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

Section 5 of the Act specifically enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety. The rail network is a significant physical resource which makes an essential contribution to the social and economic wellbeing of communities through the movement of people and goods across the country. The sustainable management purpose of the RMA also requires adverse effects to be avoided, remedied or mitigated. These can include potential adverse effects on peoples' health and safety.

The proposed objective will assist with achieving the sustainable management purpose of the RMA.

KiwiRail has prepared an objective and policy for inclusion in district plans (included in Attachment 1) to address the interface between the rail corridor and adjoining sites. It is anticipated the proposed objective and policy would be included within the District Wide Matters - Urban Form Chapter of the plan.

An assessment of the proposed objective against RMA section 5 is set out in Table 1, below.

| Table 1: Assessment of Objective under Section 5 | |
|--|--|
| Proposed Provision | Reason |
| <p>Objective 1: Protect communities and infrastructure by mitigating:</p> <ul style="list-style-type: none"> a. the adverse health and safety impacts associated with accessing the rail corridor; and b. risk of disruptions to the safe and efficient operation of regionally significant rail infrastructure. <p>Policy 1 Require buildings and structures adjoining the rail corridor designation boundary to be setback to provide for the health and safety of people and communities and the safe and efficient operation of rail infrastructure.</p> | <p>Section 2.2 of this report describes health and safety effects where buildings are located on/in close proximity to the rail designation boundary.</p> <p>The objective (and supporting policy) is the most appropriate way to achieve the purpose of the RMA as it will enable buildings and structures to be maintained from within their own sites and therefore minimise health and safety effects associated with entering the rail corridor and provide for the safe and efficient operation of rail as a physical resource. Not having such an objective would not ensure sufficient consideration is given to these important matters. No other objective obviously appears to be a more appropriate way of achieving these outcomes.</p> |

The balance of Part 2 of the RMA provides the framework for the sustainable management of natural and physical resources. Section 6 lists matters of national importance that shall be recognised and provided for, section 7 lists other matters that all persons exercising functions and powers under the RMA shall have particular regard to and section 8 addresses matters relating to the principles of the Treaty of Waitangi. No relevant matters in sections 6 or 8 have been identified. The proposed objective has been assessed against the following provisions of section 7 in Table 2.

| Table 2: Assessment of Objective under Part 2 Section 7 | |
|---|---|
| RMA Provision | Objective 1 |
| s7(b) (the efficient use and development of natural and physical resources) | Objective 1 will provide for the efficient use and development of physical resources (land and the rail network) by enabling the proximity effects of buildings and transport infrastructure to be managed appropriately. Management of this interface will protect the |

| | |
|--|---|
| | rail network and the safe and efficient movement of people, goods and services by rail. |
|--|---|

The proposed objective addresses the identified resource management issues, is consistent with Part 2 of the Act and will result in the sustainable management of physical resources. It also appropriately reflects Council's obligations under s31 of the RMA, in particular its obligation to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district.

The National Policy Statement – Urban Development is also a relevant consideration, given that the purpose of national policy statements under Section 45(1) of the RMA is to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the Act. In this respect, national policy statements can be considered to give greater meaning to the purpose of the RMA on particular resource management issues.

Objective 1 of the NPS-UD promotes well-functioning urban environments. Policy 1 of the NPS sets out what, as a minimum, well-functioning urban environments constitute. In addition to these mandatory aspects, the safe, secure and efficient operation of rail infrastructure is considered to be an element of a well-functioning urban environment.

5. Provisions Assessment

Sections 32(1)(b) and 32(2) require assessment of the proposed plan provisions to be undertaken, specifically:

- a. whether the proposed provisions are the most appropriate way to achieve the objectives by identifying other reasonably practicable options, assessing their **efficiency and effectiveness** and summarising the reasons for deciding on provisions; and
- b. relative to considering the efficiency and effectiveness of the provisions in achieving the objective, include **an assessment of the benefits and costs of the effects** anticipated from implementing the provisions.

The cost and benefit assessment must identify and assess the costs and benefits associated with environmental, economic, social, and cultural effects including economic growth and employment that are anticipated to be provided or reduced. If practicable, these are to be quantified.

Section 32(2)(b) also requires an assessment of the risk of acting or not acting if there is uncertain or insufficient information. In this case, there is sufficient information about the subject to determine the range and nature of effects of the options set out and which confirms the need to act. The risk of acting or not acting does not need to be evaluated as the location of and safety requirements for the rail corridor are well understood. Not acting will increase risks to public safety as well as increasing the risk to the efficient operation of New Zealand's rail network, , due to unexpected shutdowns as a result of interference with the rail corridor.

5.1 Setback

5.1.1 Identifying reasonably practicable options

The reasonably practicable alternative options are identified as:

- a. **Do nothing:** Rely on (any) yard setbacks and/or height in relation to boundary controls existing in district plans where adjoining rail designation boundary.
- b. **Setback of 2.5m:** Require buildings and structures to be setback by 2.5m where adjoining rail designation boundary.
- c. **Setback of 5m:** Require buildings and structures to be setback by 5m where adjoining rail designation boundary.

A. Do Nothing

A 'do nothing' option is essentially maintaining the status quo or choosing not to take any action in a given situation.

B. Setback of 2.5m

District Plans (notified and operative) include a variety of setbacks ranging from the 1m (MDRS minimum) to, for example, 4m¹⁰. A 2.5m setback has been selected as an indicative option to represent an option greater than MDRS but less than Option C (5m setback).

C. Setback of 5m

The Galvin Consulting Report assesses variable building heights, separation from boundaries and a common access method (scaffolding). As illustrated in Figure 1, for maintenance to be undertaken (particularly at height), there needs to be sufficient space available for access within the site boundaries. It concludes the distance from the face of the cladding is:

- 3.7 – 4.6 metres for two, three, and four-storey buildings; and
- 6.5 metres when including a zone for (some) dropped objects.

Figure 1 also shows the potential trajectory for dropped objects.

¹⁰ For example, Operative Christchurch City District Plan Rule 14.4.2.7 *Minimum building setbacks from internal boundaries and railway lines* requires 4m setback

Figure 1: Separation and Trajectory

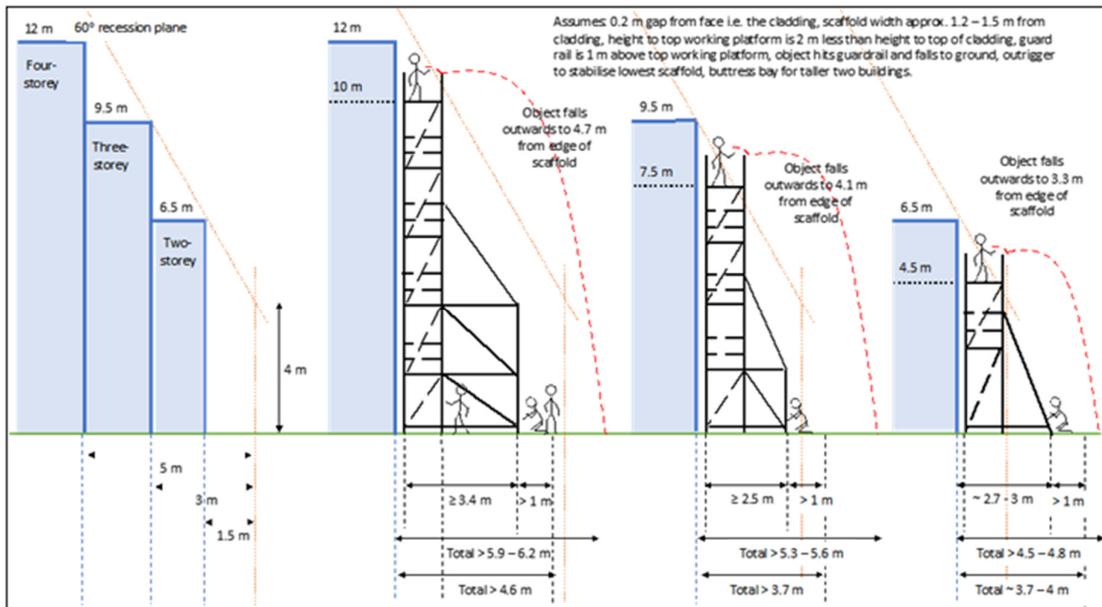


Figure 1 assumes a level site, good ground conditions and no other structures disrupting access. While the Galvin Consulting Report acknowledges other access methods are available, scaffolding has been selected as an access methodology as it is widely available (easily hired or purchased).

Figure 1 also demonstrates the variability in space required for scaffolding/drop zones for a variety of building forms. There is no 'one-distance' which reflects all circumstances. Given the range of setbacks and building form, 5m is considered to be a pragmatic approach to balance risk and impacts on land.

An assessment of the *efficiency and effectiveness* of the options assessed in terms of Sections 32(1)(b) and 32(2) is included in Table 3.

| Table 3: Alternative Option Assessment | | | |
|--|--|---|---|
| Option | Effectiveness and Efficiency | Costs | Benefits |
| Option A: Do Nothing | Not effective in addressing issue as buildings could be located in positions which require access to the adjoining rail corridor to undertake maintenance. Does not address risk of dropped objects entering the rail corridor or inadvertent interference as a result of | Health and safety effects on communities as a result of conflict between transport infrastructure and people (with resultant costs). Decisions made during the design of a | No change in development yield. No costs resulting from change in building design to accommodate setback. No regulatory costs to implement. |

| Table 3: Alternative Option Assessment | | | |
|---|---|--|--|
| Option | Effectiveness and Efficiency | Costs | Benefits |
| | <p>buildings/structures being located close to the rail corridor.</p> <p>Providing no (or insufficient) setback will not support an efficient outcome as incursions can lead to disruption / inefficient operation of the rail network and reduced health and safety of communities.</p> <p>Doing nothing requires no action from the territorial authority or applicant so could be efficient for authorities.</p> | <p>building can transfer risk (including cost) to those constructing, using and maintaining property adjacent to rail, and to those using or working on rail infrastructure and premises.</p> <p>Compromised rail operation and efficiency due to disruption resulting from unplanned incursions into rail corridor.</p> | |
| Option B: Setback of 2.5m | <p>More effective than Option A, however some buildings could be located in a position which requires access to the adjoining rail corridor to undertake maintenance in addition to an increased risk of dropped objects entering the rail corridor.</p> <p>Providing an insufficient setback will not support an efficient outcome as incursions can lead to disruption / inefficient operation of the rail network and reduced health and safety of communities.</p> <p>Reasonably efficient for territorial authorities, as some changes to setback provisions are required.</p> <p>Rules are effective in that they provide a high level of</p> | <p>Lower risk than option A but still risk of health and safety effects on communities as a result of conflict between transport infrastructure and people (with resultant costs).</p> <p>Some extra regulatory costs to implement 2.5m setback in district plans.</p> <p>Rules may potentially limit some activities and development. However, the Insight Economics assessment indicates a very limited range of sites will be impacted by the setback (less</p> | <p>No material change in development yield.</p> <p>Likely less costs relating from change in design to accommodate setback than Option C.</p> <p>Reduces health and safety effects on communities from conflict between transport infrastructure and people when compared with Option A.</p> <p>Reduces risk of rail operations and efficiency being compromised due to disruption resulting from unplanned incursions into rail corridor when</p> |

| Table 3: Alternative Option Assessment | | | |
|---|--|--|--|
| Option | Effectiveness and Efficiency | Costs | Benefits |
| | certainty regarding the nature and scale of work and activities that can be undertaken with / without resource consent. They are also efficient as they enable a case by case assessment of the appropriateness of each proposal to be undertaken. | <p>than 0.9%¹¹) and of those 0.9% of sites, around 70% are already developed¹². Actual cost will be low in terms of reduction of development capacity. As the provisions apply where a new building is proposed or existing building extended (on a site adjoining a rail designation boundary), costs will be low.</p> <p>Still risk of compromised rail operation and efficiency due to disruption resulting from unplanned incursions into rail corridor.</p> <p>Potential costs of applying for resource consent when setback standard is breached.</p> <p>Potentially some costs resulting from change in building design to accommodate setback.</p> | <p>compared with Option A.</p> <p>Provides some maintenance area available for building owners to safely undertake maintenance within site boundaries.</p> <p>Tailored rules, standards and assessment matters provide a clear framework to manage activities adjacent to the rail corridor and seek to strike a balance between efficient use and development and avoiding or minimising adverse effects on neighbouring areas.</p> |
| Option C: Setback of 5m | <p>Option C is effective as it:</p> <ul style="list-style-type: none"> provides a safer and more efficient rail network with reduction of the potential cost to railway operations | Some extra regulatory costs to implement 5m setback in district plans. | <p>No material change in development yield.</p> <p>Minimises health and safety effects on</p> |

¹¹ Insight Report, Table 1: Number of Properties Adjacent to Rail Network by Territorial Authority (May 2024)

¹² Insight Report, Section 3.3

| Table 3: Alternative Option Assessment | | | |
|--|--|--|--|
| Option | Effectiveness and Efficiency | Costs | Benefits |
| | <p>that otherwise might be affected via obstructions within the railway corridor.</p> <ul style="list-style-type: none"> ensures there is sufficient space for people to safely and efficiently conduct their activities within their own land, whilst minimising the potential interference with the railway corridor. <p>As set out in the Galvin Consulting Report, the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 (New Zealand Government, 2016) providing for separation of activities and engineering controls is more effective than administrative controls in managing risk.</p> <p>Reasonably efficient for territorial authorities, as some changes to setback provisions are required.</p> <p>Rules are effective in that they provide a high level of certainty regarding the nature and scale of work and activities that can be undertaken with / without resource consent. They are also efficient as they enable a case by case assessment of the appropriateness of each proposal to be undertaken.</p> | <p>Rules may potentially limit some activities and development. However, the Insight Economics assessment indicates a very limited range of sites will be impacted by the setback (less than 0.9%¹³) and of those 0.9% of sites, around 70% are already developed¹⁴. Actual cost will be low in terms of reduction of development capacity. As the provisions apply where a new building is proposed or existing building extended (on a site adjoining a rail designation boundary), costs will be low.</p> <p>Potential costs of applying for resource consent when setback standard is breached.</p> <p>Potentially some costs resulting from change in building design to accommodate setback.</p> | <p>communities from conflict between transport infrastructure and people when compared with Options A and B.</p> <p>Minimises risks to rail operations and efficiency being compromised due to disruption resulting from unplanned incursions into rail corridor when compared with Options A and B.</p> <p>Provides reasonably sufficient maintenance area available for building owners to undertake maintenance within site boundaries.</p> <p>Tailored rules, standards and assessment matters provide a clear framework to manage activities adjacent to the rail corridor and seek to strike a balance between efficient use and development and avoiding or minimising adverse effects on neighbouring areas.</p> <p>The matters of discretion for an infringement of the</p> |

¹³ Insight Report, Table 1: Number of Properties Adjacent to Rail Network by Territorial Authority (May 2024)

¹⁴ Insight Report, Section 3.3

| Table 3: Alternative Option Assessment | | | |
|--|------------------------------|-------|---|
| Option | Effectiveness and Efficiency | Costs | Benefits |
| | | | setback standards enable a dialogue to occur between landowners and KiwiRail to determine how development within the setback could proceed without compromising the safe and efficient operation of the rail corridor and health and safety of communities. This enables development to proceed on sites adjoining the rail corridor where it can be demonstrated the development can be undertaken safely. |

5.1.2 Assessing reasonably practicable options

Based on the cost benefit analysis presented in Table 3:

- Option A: Will not achieve the objective and will result in adverse effects both on the health and safety of communities and on the safe and efficient operation of regionally and nationally significant infrastructure
- Option B: Would have increased health and safety effects on people and communities and on the safe and efficient operation of regionally significant infrastructure compared to Option C
- Option C: Would best achieve the outcome of the objective, with very limited costs.

6. Conclusion

The operation, maintenance and development of the rail network is critical to the safe and efficient movement of freight and passengers throughout New Zealand, and forms an essential part of the national transportation network.

In the context of work being undertaken adjacent to a railway corridor, separation of activities (designing-in an appropriate space) can be achieved through the use of a setback standard.

The proposed provisions will ensure there is sufficient space for people to safely conduct their activities within their own land, while minimising the potential interference with the railway corridor and risks to health and safety. This planning approach is appropriate to ensure the increasing growth and development around the rail network is managed in an integrated way.

Consistent with section 32 of the Act, the proposed objective and policies have been developed and analysed against Part 2 and it is considered that the proposed objective is the most appropriate way to achieve the purpose of the Act. The objective recognises the need to protect important physical infrastructure from incompatible land use and development to provide for the health and safety, and social and economic wellbeing of communities and to meet the foreseeable needs of future generations in accordance with s5(a) of the Act.

Option C (5m setback) is identified as the preferred approach to manage the potential health and safety effects, and to provide a reasonable and appropriate balance between cost and benefit. The provisions apply only where a new building is proposed or existing building extended on a site adjoining a rail designation boundary.

Option C has been detailed and compared against alternatives in terms of their costs, benefits, and efficiency and effectiveness in accordance with the relevant clauses of section 32 of the RMA.

Option C is considered to represent the most appropriate means of achieving the proposed objective and of addressing the underlying resource management issues relating to the transport environment, human health and amenity.

There is sufficient information about the subject to determine the range and nature of effects of the options set out and which confirms the need to act. For completeness, the risk of not implementing Option C is that resource management issues relating to health and safety and protecting the operation of regionally and nationally significant infrastructure would continue to be inadequately addressed. It would also result in Council failing to comply with the provisions of Part 2 of the RMA (particularly s5(a) and s7(b)).



Cath Heppelthwaite

Attachment 1: Plan Provisions (Option C)

Objective

Protect communities and infrastructure by mitigating:

- a. the adverse health and safety impacts associated with accessing the rail corridor; and
- b. risk of disruptions to the safe and efficient operation of regionally significant rail infrastructure.

Policy

Require buildings and structures adjoining the rail designation to be setback to provide for the health and safety of adjacent communities and efficient infrastructure operation.

Permitted Activity Standard – Building setback from Rail Designation Boundary

Buildings and structures must be set back 5 metres from the rail designation boundary.

Rule – Restricted discretionary activities

Buildings and structures not set back 5 metres from the rail designation boundary.

Matters of Discretion

Discretion is restricted to:

- (a) The location and design of the building or structure as it relates to the ability to safely use, access and maintain buildings without requiring access on, above or over the rail designation boundary.
- (b) The extent to which the reduced setback will compromise the safe and efficient functioning of the rail network, including rail corridor access and maintenance
- (c) The outcome of any consultation with KiwiRail.

Matters of Assessment

- (a) Location of the building or structure.
- (b) Methods of providing for building maintenance within site boundaries on a permanent basis.
- (c) The outcome of any consultation with KiwiRail.

Attachment 2: Galvin Consulting Ltd – Advice for KiwiRail on the safety implications of construction and maintenance-related activities adjacent to rail

Advice for KiwiRail on the safety implications of construction and maintenance-related activities adjacent to rail

24 July 2024

Prepared by Anna Galvin BE(Hons) CPEng IntPE(NZ) CMEngNZ

Galvin Consulting Ltd

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1 Introduction

Design decisions begin early in a construction project, and include the location and layout of a development. Proximity of buildings to boundaries can impede the ability of owners and others to undertake construction and maintenance within the site. Allowances need to be made to provide adequate space for people, plant and equipment, and temporary structures to undertake work. This is particularly the case when adjacent to an operating railway.

This report outlines activities undertaken inside and adjacent to the rail corridor, and significant safety hazards which can arise from the interaction of these activities. The report considers scenarios for maintenance activities undertaken at height. These scenarios provide illustrations of the widths utilised by temporary structures, and space for the movement of workers and others around the structure.

The Health and Safety at Work Act 2015 requires that hazards are identified and that reasonably practicable actions address these hazards, and includes duties of designers with regards to this. The hierarchy (i.e. effectiveness) of controls are included in the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. The definition of a workplace in the Health and Safety at Work Act 2015 includes temporary workplaces such as those found on residential properties.

There are also international legislation and guidelines dealing specifically with development near rail.¹ These support taking account of particular considerations when managing the potential effects of work near rail on the rail operations, on the rail network, and on those living and working next to the railway.

¹ For example, NSW Government (2021) *State Environmental Planning Policy (Transport and Infrastructure) 2021*; Railway Association of Canada and the Federation of Canadian Municipalities (2013) *Guidelines for New Development in Proximity to Railway Operations*; VicTrack Rail Development Interface Guidelines (2019)

2 Executive Summary

Due to changes in national investment in rail and to relevant planning frameworks, the volume of activity both adjacent to and inside the rail corridor is forecast to increase. Adjacent to the corridor this includes multi-storey developments. Inside the rail corridor this includes the development of rail infrastructure as well as increased rail traffic volumes.

Safety hazards may arise from construction and maintenance activities undertaken adjacent to and inside the rail corridor. People (both workers and others) need to be protected from these hazards in accordance with applicable legislation, standards and good practice guidelines. Hazards with the potential to cause significant harm or fatalities include working at height, electricity, unstable ground, and mobile plant including rail vehicles. Events which can harm construction and maintenance workers can also damage the rail network and impact the safety of those working on or using rail.

Government entities in Victoria and New South Wales (Australia) more explicitly address works near rail and regulate certain activities. For example, the Government of New South Wales and the City of Melbourne require notification to the rail operator of certain works adjacent to rail corridors (Government of New South Wales, 2021) (City of Melbourne, 2022). Guidelines in Australia and Canada facilitate healthy and safe developments near rail.

In New Zealand, there is a lack of situational awareness with respect to rail i.e. people are not aware of the safety hazards presented by rail operations and how their work may affect rail operations and the network. This issue is demonstrated by incidents observed by KiwiRail.

Compounding this limited awareness are particular characteristics of small businesses and DIYers who carry out construction and maintenance work.

Firstly, organisations providing construction (including maintenance) services are predominantly small businesses (97.9% in 2020) (Ministry of Business, Innovation & Employment, 2022), and they commonly lack formal governance arrangements, are resource constrained, and have owners who do not seek specialist advice or know where to access it (Small Business Council of New Zealand, 2019). ACC explains that DIYers have a high incidence of injuries, they tend to rush (ACC, n.d.), and WorkSafe does not expect them to have a detailed knowledge of construction risks (WorkSafe New Zealand, 2019).

Secondly, there are limited legislative and regulatory regimes governing these types of activities.

- The Health and Safety at Work Act 2015, section 34 requires Persons Conducting a Business or Undertaking (PCBUs)² (e.g. organisations and in some circumstances homeowners (WorkSafe New Zealand, 2019)) to consult with other PCBUs when their duties overlap (New Zealand Government, n.d.). For example, a building company operating near the railway would be expected under the legislation to consult with KiwiRail as a PCBU also having duties in respect of the railway. This consultation can be used to identify hazards and manage risks in a design or during physical works. However, the Act does not provide any specific actions required to be undertaken to manage risks. There is a reliance on organisations and other PCBUs being aware of their statutory obligations, the risks, and being motivated to make arrangements with the other party/parties.

² Refer section 17 under the Health and Safety at Work Act 2015 for the full definition of PCBU.

- The New Zealand Building Code does not specify physical design features (including location) for buildings to ensure construction and maintenance work can be conducted safely. It also does not prescribe how maintenance is to be carried out (e.g. utilising certain plant and/or equipment) (Ministry of Business, Innovation & Employment, 2020). However, the Building Code does require regular maintenance as an ongoing requirement.
- In addition to the Building Code maintenance requirements, warranties for building elements such as wall cladding, and most house insurance policies require maintenance to be undertaken (Insurance Council of New Zealand, 2019).

Decisions made during the design of a building can transfer risk (including cost) to those constructing, using and maintaining property adjacent to rail, and to those using or working on rail infrastructure and premises. For example, a site configuration that locates a building very close by an operational rail corridor, compared to designing the site with a sufficient setback to allow for safe, efficient movement.

The Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 (New Zealand Government, n.d.) considers that providing for separation of activities and engineering controls are more effective than administrative controls in managing risk. An example of administrative controls is individual awareness and use of spotters to ensure there is no person interacting with a safety hazard and causing an event e.g. a spotter watching for an impact with an electrical line, or arrival of a train on a live track. This is not deemed as effective as carrying out the work safely beyond the movement of people, plant or equipment that could come into conflict with the activity. That is, designing a physical environment for safe work is more effective than relying on controls to manage poor design.

In the context of work being undertaken adjacent to a railway corridor, separation of activities (designing-in appropriate space) can be achieved through a setback.

To establish a reasonable setback (of a building from the rail corridor), a variety of access methods have been considered. Scaffold is a common method (readily available and suitable/flexible) of accessing a building for maintenance. Accordingly, it is reasonable to consider scaffold when assessing access methods for maintenance activities. There are different configurations for accessing buildings using scaffold. The freestanding options for scaffold need to be assessed, not only the most narrow options. This is because a number of factors may limit the ability of a structure to be stabilised using other methods.

Designing for adequate space for work around buildings also needs to include the movement of people and recognise the context; work adjacent to a railway presents particular hazards, risks and working requirements.

The assessment summarised in this report for scaffold, including the motion of people around these structures, concludes the distance used from the face of the cladding is:

- 3.7 – 4.6 metres for two, three, and four-storey buildings; and
- 4.2 – 6.5 metres when including a zone for (some) dropped objects.

Provisions that require engagement with KiwiRail where encroachment of a building setback is proposed ensure that KiwiRail can provide input into whether the encroachment can be safely accommodated. This includes KiwiRail's knowledge of its current and future rail operations and network for a particular location. Engagement enables hazards to be identified, and risks assessed

and managed as part of the development's design in relation to physical works. Maintenance work and the setback are the focus of this report; controls directly associated with construction and demolition are not included in its recommendations.

In conclusion, an adequate building setback provision is a prudent control, particularly for property adjoining a railway corridor, and is consistent with principles in the Health and Safety at Work Act 2015.

3 Scope of report

3.1 Scope

The purpose of this report is to inform KiwiRail's review of appropriate building setbacks adjacent to the rail corridor.³ KiwiRail requested advice on the appropriate setback distance to allow for construction and maintenance activities to be undertaken safely adjacent to the rail corridor, in particular with respect to maintenance activities undertaken at height.

This report outlines the context in which these activities are undertaken, including the physical environment. People's awareness of the risks posed by rail and the risks they present to those within the rail corridor are also relevant.

The report includes an assessment of horizontal space (in metres) used from the cladding of a building to accommodate certain activities undertaken adjacent to the rail corridor. The assessment considers a selection of scenarios, primarily freestanding scaffold for accessing a building (but not its roof).

The advice in this report is for KiwiRail to consider alongside its knowledge of the rail operations and network.

Specific access needs for each project, and therefore the amount of space and protections required, will depend on a range of variables that will need to be considered for any particular situation. These include:

- a) the physical environment, including the nature of the rail premises and infrastructure
- b) the activities being undertaken and their sequencing
- c) the capabilities of those involved in the activities, including homeowners and scaffolders
- d) the forms of access being adopted
- e) footprints (including overhanging/cantilevered components) of temporary structures, plant, and equipment when established
- f) movement of materials, plant, equipment, and people during activities, including: transport/mobilisation, construction, installation, commissioning, operation and use, maintenance, repair, decommissioning, demolition, dismantling
- g) the potential for, and nature of, falling objects (including debris) during (f)
- h) the risk to people and property from falling objects

3.2 Limitations

The report and assessment has been undertaken on a desktop basis, in reliance on relevant literature, and advice from various subject matter experts. A specific set of access scenarios has been assessed for activities expected to occur adjacent to the rail corridor, in order to provide an illustration of widths needed to accommodate these activities safely.

While information from construction sector participants has been sought in addition to referenced material, the results presented in the report are provided on a general basis, for the purposes of

³ References to rail corridor in this report are references to the area within the boundary of designations for railway purposes contained within district plans in New Zealand.

plan provisions being applied at a district level, as opposed to definitive guidance for the specific projects.

This report excludes health hazards due to rail operations including noise, vibration and particulates, and it is not a comprehensive study of safety hazards. Tilt slab construction/modern methods of construction are not included in the analysis below as they are variable and the focus of this report is primarily on maintenance activities.

The author has relied on and referenced a range of documents in the preparation of this report; these are listed in Appendix 1 Bibliography.

The author acknowledges and is grateful to have received advice regarding scaffold, from certified scaffolder Wain Chambers, Senior Industry Co-ordinator, Scaffolding, Access & Rigging NZ Inc (SARNZ).

4 Activities within the rail corridor

New Zealand's rail network is used by trains carrying freight, commuters and tourists. The volume and nature of traffic on the individual railway lines differs, depending on its location. KiwiRail operates trains as required to meet demand, and this can result in changes to the timing, frequency, or length of trains passing along the route. KiwiRail manages a variety of rail infrastructure and premises. Part of the North Island's network is electrified using overhead line equipment (Figure 1). Signalling equipment is critical for KiwiRail's railway operations and the safety of those working on or using the railway lines.

The planning horizon for the *Government Policy Statement on Land Transport* is 10 years (New Zealand Government, 2021). Investment in KiwiRail has been significantly increased over the past several years in order to create a more resilient railway service with greater capacity.



Figure 1 Electrification of rail network as at 11 August 2014 (Unknown, 2014)

KiwiRail manages its network in the context of a range of legislative, regulatory and planning frameworks including those under the Resource Management Act 1991 (RMA). KiwiRail is a requiring authority under the RMA and holds various designations within district plans. A designation is a RMA method which authorises works and activities undertaken by a requiring authority on a particular site(s), without the need for land use consent.

KiwiRail's rail designation boundaries generally encompass rail infrastructure (the railways lines and equipment) and premises as defined by the Railways Act 2005.

The areas within rail designation boundaries vary significantly in width. Sometimes the rail infrastructure, including overhead line equipment, is at the edge of the designation boundary. In other instances, the rail infrastructure is placed broadly within the centre of the designated area and is well-framed on either side by designated land (see Figure 2 and Figure 3).



Figure 2 Enfield Street, Mt Eden, Auckland



Figure 3 West Coast Road, Canterbury

5 Activities adjacent to the rail corridor

Construction and ongoing building maintenance activities undertaken adjacent to the rail corridor can impact both the safety of people and the integrity of the rail network. People carrying out construction or maintenance activities include:

- Constructors (general contractors and specialist trades)
- Engineers and other technical advisors
- Materials suppliers
- Maintenance providers
- Operators of plant
- Property managers
- Landowners, homeowners and tenants, and their friends and families.

District plan changes to enable increased density of buildings are required under the *Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021* and the *National Policy Statement for Urban Development*. As a consequence, it is anticipated there will be more:

- development of multi-storey buildings adjacent to the railway network;
- demand for access services (e.g. scaffold) for these higher residential buildings, both in their construction, and throughout the life of the structure, including maintenance. This means it is likely more work will be carried out at height by workers in the construction sector and homeowners (which includes repairs and maintenance).

People interacting with (including simply walking around) mobile plant, construction equipment and temporary structures require space. Movement of people is incorporated in Regulation 10 Duty in relation to general workplace facilities in the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016:

(1) A PCBU⁴ must ensure, so far as is reasonably practicable, that—

(a) the layout of the workplace allows, and the workplace is maintained to allow, persons to enter and exit the workplace and to move within it without risks to health and safety, both under normal working conditions and in an emergency:

(b) work areas have sufficient space for work to be carried out without risks to health and safety: (New Zealand Government, n.d.)

WorkSafe has published a Policy Clarification for people building a house or working on their own homes. If you are building a house yourself, having a house built, or doing DIY work on a rental property you own, you are a PCBU as defined in Section 20 of the Health and Safety at Work Act 2015 (i.e. you are regulated under the Act). If you are doing DIY work on your own house, you are not a PCBU (i.e. you are not regulated under the Act).

In a report published in 2022 on the New Zealand building and construction sector, MBIE stated that 97.9% businesses employed fewer than 20 people (Ministry of Business, Innovation & Employment, 2022, p. 12). The Small Business Council, in 2019, noted that these businesses commonly are operating without formal governance, they have limited resources, and their owners do not usually seek specialist advice, or know where to find this advice (Small Business Council of New Zealand,

⁴ Person Conducting a Business or Undertaking as defined in HSWA 2015

2019). These characteristics affect their capacity to meet obligations under the Health and Safety at Work Act 2015, and their understanding of specific contexts such as working near railways.

Construction activities typically involve building contractors and multiple specialist trades; these trades are generally subcontracted. The activities to complete the exterior of a building may include: initial siteworks, laying the foundations, completing the framework and external drainage, roof and wall cladding and windows.

After a building is complete, maintenance is an ongoing requirement. Under the Health and Safety at Work Act 2015, section 39 (2), a PCBU that makes design decisions⁵ needs to consider all foreseeable activities associated with a structure “such as inspection, cleaning, maintenance, or repair”, and any building must be designed without risk to those who will interact with it, so far as is reasonably practicable (New Zealand Government, n.d.).

Clause B2 Durability of the Building Code requires a building to be designed for a minimum of 50 years, with some building elements requiring a life of 15 or 5 years. These elements need maintenance, repair, or replacement throughout a building’s life. Clause E2 External Moisture provides the nature of this maintenance in general terms, stating (emphasis in original):

Regular maintenance of a *building* will include:

- a) Washing exterior surfaces,
- b) Inspecting surfaces and junctions, and repairing or replacing items when necessary, in order to preserve the *weathertightness* of the *building*.
- c) Maintaining clearances between *cladding* and external ground or paving...
- e) Maintaining finish coatings especially for *stucco*, *EIFS* and fibre cement *claddings*. (Ministry of Business, Innovation & Employment, 2020)

The Building Research Association of New Zealand (BRANZ) notes that, in addition to the legal requirement in the Building Code for maintenance of properties, many warranties for materials also demand specific maintenance (Building Research Association of New Zealand). Most house insurance policies exclude gradual damage, which can be caused by deferred maintenance (Insurance Council of New Zealand, 2019). A selection of well-known products and the maintenance required for these is provided in Table 6, in Appendix 3.

BRANZ provides a general maintenance schedule for homeowners on their *Maintaining My Home* website and a number of activities that require working at height are scheduled yearly, including inspections and cleaning of the roof, gutters, walls and windows. Wall repainting is scheduled every 8-10 years, roof repainting or recoating every 8-15 years (Building Research Association of New Zealand). Repairs are to be carried out as needed. Specialist services do exist for cleaning guttering, and these can use equipment that remove the need to work from height. Whether homeowners choose to use these services or complete the works themselves is unpredictable.

⁵ WorkSafe’s Guide to Health and Safety by Design “‘designer’ means any person who prepares or modifies a design, or arranges for or instructs a person under their control to do so.” (2018, p 7)

6 Understanding of rail operations and network

In New Zealand, there is a lack of situational awareness with respect to rail i.e. people are not aware of

- a) the safety hazards presented by rail operations – the TrackSAFE Foundation⁶ was established due to this issue, and
- b) how their work and other activities may affect rail operations and the rail network.

The following comments were noted in discussion with the KiwiRail Corridor Team:

“Contractors bid for work without factoring in the rail corridor that restricts the windows that work can be done in. When KiwiRail become aware of the work, the contractors often find it will go well over the project timeline accepted by the client, as they need to work to KiwiRail’s schedule and not theirs.”

“The majority of contractors working adjacent to the electrified areas do not complete any inductions and are not aware of the high voltage system nor the minimum approach distances.”

The photographs (Figure 4, Figure 5) below show a site where the scaffold and scrim (the green netting) obscured the signals at a level crossing – the alarms could not be seen by road traffic approaching the crossing. Despite requests for the scaffold to be removed, it remained in place for over a week, and a Temporary Speed Restriction (TSR) was implemented to reduce the risk of a vehicle collision.

The rail corridor is not fully fenced, and even with fencing, plant and equipment can slew over the property boundary. Without physical segregation, people tend to freely move around when carrying out their work. This is normal behaviour and is often exhibited to improve efficiency; it is described by Hollnagel in *Understanding Accidents - From Root Causes to Performance Variability*: “As far as the level of individual human performance is concerned, the local optimisation – through shortcuts, heuristics, and expectation-driven actions – is the norm rather than the exception” (Hollnagel, 2022, p. 4).

⁶ The TrackSAFE Foundation NZ is a not for profit that conducts research and data analysis; and is involved in publicity, media, and education about safety around tracks and trains. TrackSAFE aims to prevent harm and reduce the number of collisions and near misses between people and vehicles and trains.
<https://www.tracksafe.co.nz/about>



Figure 4 Scaffold obscuring signals for road traffic at a level crossing – view from rail



Figure 5 Scaffold obscuring signals for road traffic at a level crossing – view from the road

7 Working at height

Preferences and availability of plant and equipment will differ, and it is reasonable to consider the options that a scaffolder, another worker, or homeowner, may have for construction and maintenance projects. For example:

- The homeowner or their neighbour may be reluctant to give permission for the scaffolder to breach or abut cladding for the purposes of providing stability due to concerns about weathertightness or other damage. Therefore, the base must be widened to ensure its stability.
- A homeowner may purchase and use ladders and mobile scaffold from a hardware store or hire service.

7.1 Types of access for working at height

Access for working at height includes ladders (equipment), scaffold (temporary structures), elevating work platforms (mobile plant).

Only scaffold and ladders are illustrated in this report as mobile plant tends to be used on paved surfaces, such as roads and driveways.

Photographs of scaffold are supplied in section 7.3. Diagrams of scaffold are provided in Figure 9 and Figure 10, and a ladder is shown in Figure 6. All the scenarios in the diagrams assume flat, stable ground.

Minor and tower scaffold are more likely to be used for smaller, localised, shorter duration work (e.g. installing a light fitting or flashing).

Mobile scaffold has castors which allow it to be moved around the building on a smooth, level surface. Access to two, three or four-storey buildings would require bracing. The diagonal bracing, where necessary, must be re-established at each move (Scaffolding, Access and Rigging New Zealand, 2018).

Proprietary mobile towers are available at hardware stores such as Bunnings and Mitre 10 - the scaffold advisor has concerns about the quality of some of the mobile scaffold products available to the public. WorkSafe guidelines advise that mobile scaffold is prone to tipping during use (WorkSafe New Zealand, 2016). Reasons for this can include sudden stops after movement of the scaffold, the structure being narrow and lightweight, and use on inappropriate (uneven, unstable) ground. The guide for an Equiptec scaffold (a type of mobile scaffold) provides a base: height ratio is 1:3 (Equiptec, n.d.), which is the same as for required for other scaffold by WorkSafe (see section 7.3 on stabilising scaffold, below).

Ladders beyond those used to access two-storey buildings have not been illustrated as they are difficult to handle (and most people would not feel comfortable climbing up a ladder to those heights), also, they have limited application. WorkSafe states that ladders are for light work of short duration and they are to be 1 metre out for every 4 metre of height. If ladders cannot be fixed at the top and bottom, the user needs a second person to hold the ladder (WorkSafe New Zealand, 2022).

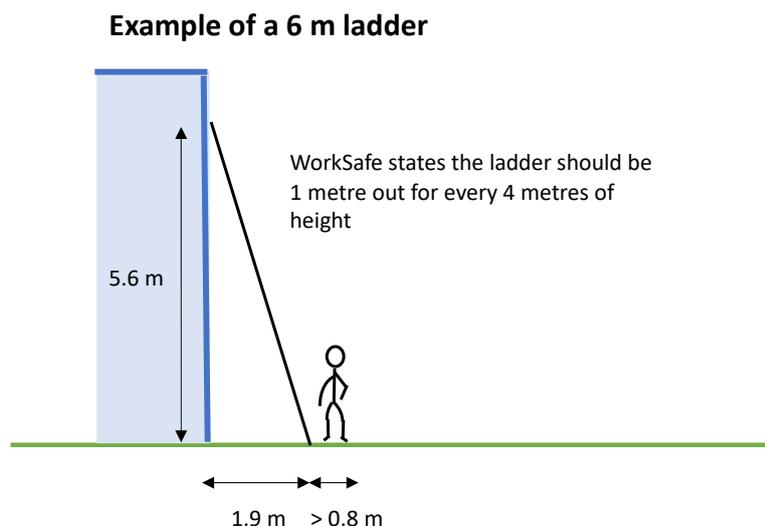


Figure 6 A ladder being used to access a two-storey building includes width of a person, forearm to forearm (Kolose, et al., 2021, p. 175)

7.2 Site-specific factors

Site specific factors may require alternative approaches to (a) the design of the temporary works and (b) the activities - its installation, use, reconfiguring, and dismantling; as well as the design of the permanent building project. The WorkSafe good practice guide for *Scaffolding in New Zealand* (WorkSafe New Zealand, 2016) includes considerations for site assessments and a selection of these are included below:

- Design of the building to be accessed (existing or to be constructed) and adjacent buildings
- Ground conditions: A slope/uneven ground and/or unstable/poor ground conditions
- Environmental loads: e.g. funnelled wind
- Method(s) to be used for stabilising
- Space to erect and store scaffold materials
- Transport of equipment and materials to storage area and final site [impeded access results in additional manual handling, time and cost]
- Pedestrians
- Proximity to electrical conductors or cables; potential for contact with these during any activities

7.3 Stabilising scaffold

Stabilising elements may add width to a scaffold. Stabilising elements are required for scaffold when the height of the highest working platform is more than three times the base width. This is referred to as the “minimum tip factor ratio” by WorkSafe (WorkSafe New Zealand, 2016, p. 51). Stabilising will be necessary for a scaffold to access the full height of a two-storey building. Options for this include:

- tying-in (attaching) the scaffold to the building to be worked on (including ‘reveal ties’);
- outriggers and buttress bays; and
- butting up to adjacent buildings.

The choice of methodology - which stabilising elements to use - depends on site-specific factors including the design of the building and its surrounding buildings, and other matters such as available materials, and the competency of, and decision making by, the scaffolder and/or engineer.

For **tying-in**, although scaffolders can use openings e.g. windows to create 'reveal ties', these are only allowed to make up 50% of the total ties for the scaffold (WorkSafe New Zealand, 2016, p. 70). The preferred method is to bolt into the structure. However, breaching the cladding is not recommended due to the effect it may have on weathertightness; and monolithic cladding is particularly problematic in this regard.

An example of an **outrigger** (the diagonal element) is shown in Figure 7, and it can be seen that bracing and sole plates also protrude beyond the bay width. A **buttress bay** is shown in Figure 8.

Butting up to adjacent buildings is not usual practice and is not recommended by SARNZ, as it uses the neighbouring building and can damage that building. The scaffold relies on the other building(s) for stability and may stress its external cladding or structure. Permission to use this method is required from the owner of the neighbouring building.



Figure 7 Photograph scaffold with outriggers, credit: Wain Chambers



Figure 8 Photograph of a scaffold with buttress bay, credit: Wain Chambers

7.4 Falling or dropped objects

Falling or dropped objects are a significant and ongoing issue for the construction sector. They are explicitly addressed in the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. An exclusion zone is provided for in these regulations (New Zealand Government, n.d.) with different controls that can be adopted e.g. toe boards, catch fans (WorkSafe New Zealand, 2016). These controls are typically prompted by an awareness of pedestrians in the vicinity of the temporary works.

Attempting to retrieve objects from the rail corridor places people at risk of being hit by a train, and KiwiRail has concerns regarding other effects of falling or dropped objects, including the impacts on its levels of service that can be provided when there is an interference with rail operations.

The Dropped Objects Prevention Scheme⁷ has developed the *Dropped Objects Exclusion Zone Tool* to help determine the width of an exclusion zone, and it has been used to determine the trajectory on the dropped item (using the 75th percentile i.e. 75% of steel objects are predicted to land within this distance, see the Appendix for outputs). This tool is a guide only (DROPS Online: Dropped Objects Prevention Scheme Global Resource Centre). Advice from SARNZ is that exclusion zones are typically 3 – 4 metres wide from the base of the scaffold.

Figure 9 shows scaffold providing access to different heights of buildings, and includes an object dropped by a person on the top working platform with the object deflecting off the top rail, which is one metre above the working platform. Distances shown from the building originate from the

⁷ The Dropped Objects Prevention Scheme is a worldwide initiative focused on preventing dropped objects.

cladding, not the framing lines of the building. WorkSafe's *Scaffolding in New Zealand* states the distance from face needs to be as close as practicable, ideally less than 300mm. A gap any wider requires full edge protection (guardrails) (WorkSafe New Zealand, 2016).

7.5 Diagrams of scaffolds and falling object zones

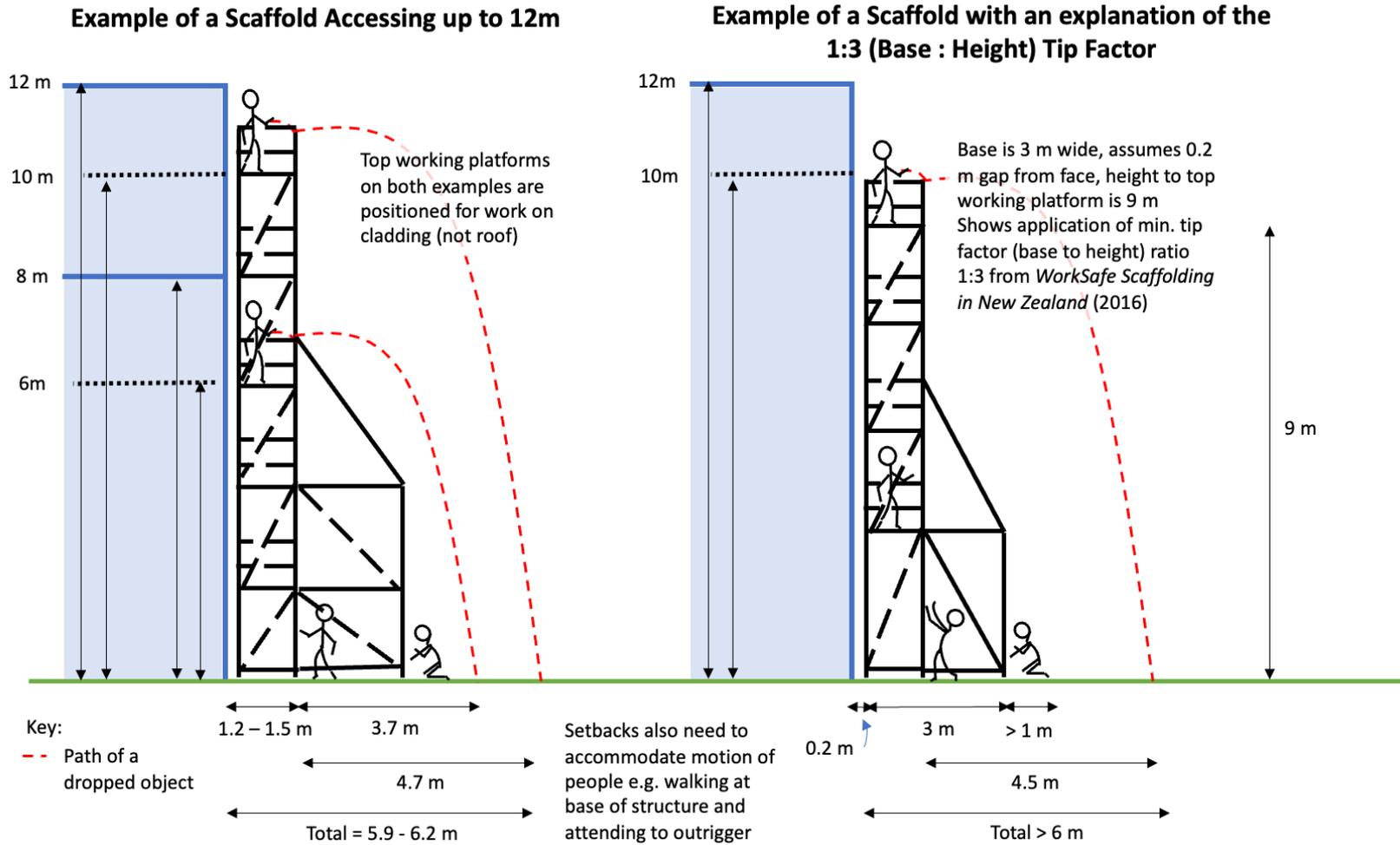


Figure 9 Distances from cladding to periphery of structures, space for people to work/move and predicted zones for dropped objects

8 Additional hazards associated with work adjacent to rail

8.1 Electricity

Figure 1 shows the extent of KiwiRail's electrified rail network. The New Zealand Electrical Code of Practice for Electrical Safe Distances, NZECP 34:2001, sets "safe distance requirements for the construction of buildings and other structures near existing conductors, to prevent inadvertent contact with or close approach to conductors", avoiding electrocution (or damage to equipment) (Ministry of Consumer Affairs, 2001, p. 8).

For 25 kV, which is the voltage of the majority of the electrified rail network, the minimum distance to the side of conductors to a building under normal conditions is 8.5 metres. This safe distance is applied without the need to take engineering advice and obtain approval of the electric line owner (Ministry of Consumer Affairs, 2001).

8.2 Mobile Plant

When loads or components of a machine move above the rail corridor, there is the potential for a collision with rail infrastructure including electrified lines. The risk of a collision with a rail vehicle depends on factors including the volume of rail traffic and the length of time the machine is operating on the site. If the KiwiRail Corridor Team is notified of construction adjacent to rail, their considerations include:

- The construction worker's operation of a crane and its capacity to slew across KiwiRail's rail operational area (this operational area is generally five metres beyond the track, or eight metres from overhead line equipment). KiwiRail asks for slew (horizontal movement) restrictions, requesting operators to lock the machine's ability to slew in certain areas while rail traffic is operating, or to stop works if they cannot lock its motion. KiwiRail verifies these mitigations on site.
- The constructor's use of plant that has the potential to foul the track, for example, if the plant being used can change shape from its work position and foul the track even if there is no intention to do so.
- Construction activities with potential to foul the track, such as erection and propping of concrete panels/lifting structural steel [as these could inadvertently fall on to the track].

Telehandlers and diggers are common plant on smaller building sites. Plant have different ranges of motion (see Table 1 for an example) and their loads add to spatial considerations. Specific project risk assessments and plans would identify the areas of influence of the plant and their loads. Knowledge of managing constrained sites and rail hazards are needed for an appropriate plan. However, whether work proceeds safely often rests on the judgement of the operator of the plant rather than the implementation of a plan with additional/multiple controls e.g. lift advisor.⁸

⁸ Pers. comm. M. Riding, ConstructSafe

Table 1 Example working area of a machine without a load

| Machine | Width beyond front wheels | Height |
|---|---------------------------|--------|
| Telescopic forklift's/telehandler's boom ⁹ | 3 m | 11 m |
| | 7 m | 5 m |

8.3 Excavation and earthworks

Excavation and earthworks include any soil or rock removal that creates a void, preparation and filling of foundations, and filling and construction of retaining walls. Poorly designed and executed excavation and earthworks may cause subsidence, deterioration of existing structures, and stress changes in soil and rock. These issues can negatively impact the rail network and increase safety risks (VicTrack, 2019). A small distortion (misalignment) of the track may result in a derailment. The National Corridor Manager states that:

“Monitoring rail track formation is crucial when undertaking works for settlement issues that may result in geometry exceedance. Here are a few reasons why it is important:

- 1. Safety: Monitoring the rail track formation helps ensure the safety of train operations. Settlement issues can lead to track misalignment, which can increase the risk of derailments or accidents. By monitoring the track formation, any potential geometry exceedance can be identified and addressed promptly, reducing the risk of safety incidents.*
- 2. Infrastructure integrity: Settlement issues can affect the integrity of the rail infrastructure. Excessive settlement can cause track misalignment, uneven surfaces, or uneven load distribution, leading to accelerated wear and tear on the track components. By monitoring the track formation, any settlement-related issues can be detected early, allowing for timely repairs or adjustments to maintain the integrity of the rail infrastructure.*

In summary, monitoring rail track formation during works for settlement issues is essential for ensuring safety, maintaining infrastructure integrity, enhancing passenger comfort, optimizing operational efficiency, and achieving cost-effectiveness in rail operations.”

KiwiRail regularly monitors track and uses parameters such as

- Twist: The variation in cross level over a base length of four metres.
- Top: The longitudinal level of the running surfaces of the rail measured on both rails.
- Cant: The height of one rail above another.

Geometry exceedances are measured from highest to lowest priority in five categories. As shown in Table 2, the track only needs to be a little out of alignment before train speeds may need to be reduced until the track is fixed. (KiwiRail, 2017)

Table 2 KiwiRail's geometric parameters – examples of actions required for twist, top and cant for lines with the highest speed category

| Action required | Maintenance tolerances | | |
|-----------------|------------------------|-----|------|
| | Twist | Top | Cant |
| | | | |

⁹ Lull Model 1044C-54 Series II Operator & Safety Manual (2009, p. 40)

| | | | |
|--|--------------------|--------------------|--------------------|
| P1 - Apply immediate 25 km/h Temporary Speed Restriction (TSR) and repair within 48 hours. | Greater than 24 mm | Greater than 22 mm | Greater than 24 mm |
| P2 - Apply immediate 40 km/h TSR and repair within seven days. | 18 – 23 mm | 19 – 21 mm | 19 – 23 mm |
| P3 - Consider need for TSR and repair within four weeks. | 16 - 17 mm | 16 - 18 mm | 17 - 18 mm |
| P4 - Consider need for TSR and repair within 26 weeks. | 14 - 15 mm | 13 - 15 mm | 15 - 16 mm |
| P5 - Repair within 52 weeks. | 12 - 13 mm | 10 - 12 mm | 13 - 14 mm |

Higher buildings have increased foundation requirements; and ground conditions will vary from project to project, throughout New Zealand. An example of excavation controls (New South Wales and Victoria, Australia) is provided in Table 3, below.

Table 3 Excavation when approval is required by the rail operator, in New South Wales and Victoria

| Document Title | When approval is required by rail operator | |
|---|--|---|
| | Depth of excavation | And distance from rail corridor* |
| <i>State Environmental Planning Policy (Transport and Infrastructure) 2021, NSW (Government of New South Wales, 2021)</i> | > 2 m | ≤ 25 m |
| <i>VicTrack Rail Development Interface Guidelines, Victoria (VicTrack, 2019)</i> | Any excavation | Any development adjacent to rail corridor |

*The rail corridor comprises land and infrastructure, including maintenance access tracks either side of any supports for signalling or electricity, formation under the railways tracks and the railway tracks themselves, or land approved for development by Government.

The *New Zealand Electrical Code of Practice for Electrical Safe Distances*, NZECP 34:2001, sets minimum safe distances for excavation near overhead electric line supports, and content from this standard is included in Table 4 below. Prior written consent of the pole or tower owner is required for certain excavations. Architects and others can lack of awareness of the requirements in this document; compliance to all the design regulations and guidance that applies is not a given (Hackitt, 2018).

Table 4 Excavation when approval is required by electrical line support (pole or tower) owner (Ministry of Consumer Affairs, 2001)

| Depth of hole | Distance to pole or stay wire | Distance to visible foundation of tower |
|---|-------------------------------|---|
| > 300 mm | Within 2.2 m | Within 6 m |
| > 750 mm | 2.2 – 5 m | - |
| > 3 m | - | 6 – 12 m |
| Or any excavation that creates an unstable batter | Within 8 m | - |

8.4 Demolition

During demolition, plant or materials may strike electrified line or foul the railway track, and demolition also may affect ground stability. The *VicTrack Rail Development Interface Guidelines* state that any demolition on land adjacent to the rail corridor requires approval from VicTrack and the Accredited Rail Operator, and the application is to include a demolition management plan (VicTrack, 2019).

9 Controls (hazard mitigation), including setbacks

Physically separating workers and others from hazards, and adopting design features/engineering controls are both considered more effective than administrative controls. That is, it is preferable to manage risk in design. This is explained as the “Hierarchy of control measures” in regulation 6 of the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 (emphasis in bold added):

(3) The PCBU must minimise [if they cannot eliminate] risks to health and safety, so far as is reasonably practicable, **by first taking 1 or more of the following actions** that are the most appropriate and effective taking into account the nature of the risk:

- (a) substituting with a lower risk activity or substance:
- (b) isolating people from the hazard/preventing people being exposed to the risk:**
- (c) applying engineering control measures.**

(4) If a risk then remains, the PCBU must minimise the remaining risk, so far as is reasonably practicable, by implementing administrative controls.

(5) if a risk then remains, the PCBU must minimise the remaining risk by ensuring the provision and use of suitable personal protective equipment (PPE). (New Zealand Government, n.d.)

Section 34 of the Health and Safety at Work Act 2015 states that a PCBU (an organisation) must consult other PCBUs with same duty e.g. when they have a shared or adjacent work area, or during design (Galvin & Donnelly, 2022). *Work health and safety consultation, cooperation and coordination: Code of Practice* by Safe Work Australia (WorkSafe New Zealand’s Australian equivalent, the Health and Safety at Work Act 2015 was heavily based on Australian legislation) comments on the usefulness of written arrangement to clarify parties’ roles and responsibilities (Safe Work Australia, 2023). Formal mechanisms/triggers are important when people or organisations have a lack of awareness of how their work could present risks to other organisations and there are other barriers that discourage engagement.

The New Zealand Building Code, the Health and Safety at Work Act 2015 and the Health and Safety at Work Act Regulations do not specify engineering controls for access to ensure a building is able to be maintained in a safe manner. If hazards associated with maintenance are not identified and managed appropriately in design, including the location of the building on the property, the risk is transferred to those downstream, with potential cost and safety implications for KiwiRail, its workers and their customers, property owners, constructors, occupants, maintenance workers and others.

Managing risk that has been designed into a system

When there is inadequate width for the activities adjacent to rail infrastructure, or activities could impact rail operations, KiwiRail, as an Access Provider, relies on notifications that trigger their processes including: Permit to Enter, Electrical Access Permit and/or Track Access Request. Reliance on the homeowner or contractor to come forward or KiwiRail workers to observe potentially risky work contributes to this being a weak control.

Designing-in safety i.e. mitigating hazards in design

KiwiRail’s knowledge of current and future operations and the network is an important input for the design process where planned/future work adjacent to rail may have effects beyond the shared

property boundary. A review of a development's design may result in KiwiRail accepting the design, or it may request conditions.

When considering building maintenance, any setback distance between the building and the boundary with the railway needs to be adequate to keep its effects within the adjacent site to avoid impacting the safety of people and the operating railway. Figure 10 has been prepared considering the following factors:

- a. ongoing maintenance requirements under the Building Code and BRANZ recommendations;
- b. human behaviour;
- c. common types of access methods (scaffold and ladders) to buildings of the specified size/location and scaffold stability requirements;
- d. falling/dropped objects;
- e. size and location of buildings adjacent to the rail designation boundary (including as provided for by the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021);

The diagrams illustrate a range of 3.7 to 4.6 metres for a person to construct scaffold, enabling access for maintenance of wall cladding (not roof cladding) and 4.5 to 6.2 metres allow for (some) falling objects (see 7.4 Falling or dropped objects). This assumes level, stable ground conditions.

A building setback provision does not directly address other risks identified in section 8; however, it can be helpful in mitigating some risk. Where a proposed building obtains consent to encroach into a setback, it will provide KiwiRail with visibility of construction work and hazards that could impact the rail operations and network.

Table 5 Summary of widths needed for standalone scaffold from Figure 10

| Scenario | Two-storey | Three-storey | Four-storey |
|--|-------------------|---------------------|--------------------|
| Person installing scaffold with outrigger (two-storey) or buttress bay | ~ 3.7 – 4 m* | > 3.7 m | > 4.6 m |
| Person dropping an object from scaffold | > 4.5 – 4.8 m | > 5.3 – 5.6 m | > 5.9 – 6.2 m |
| Person using a ladder for access | > 2.7 m | - | - |

* For accessing the full height of a two-storey building, the outrigger protrudes more than the buttress bay illustrated for accessing the full height of a three-storey building. See also note with figure.

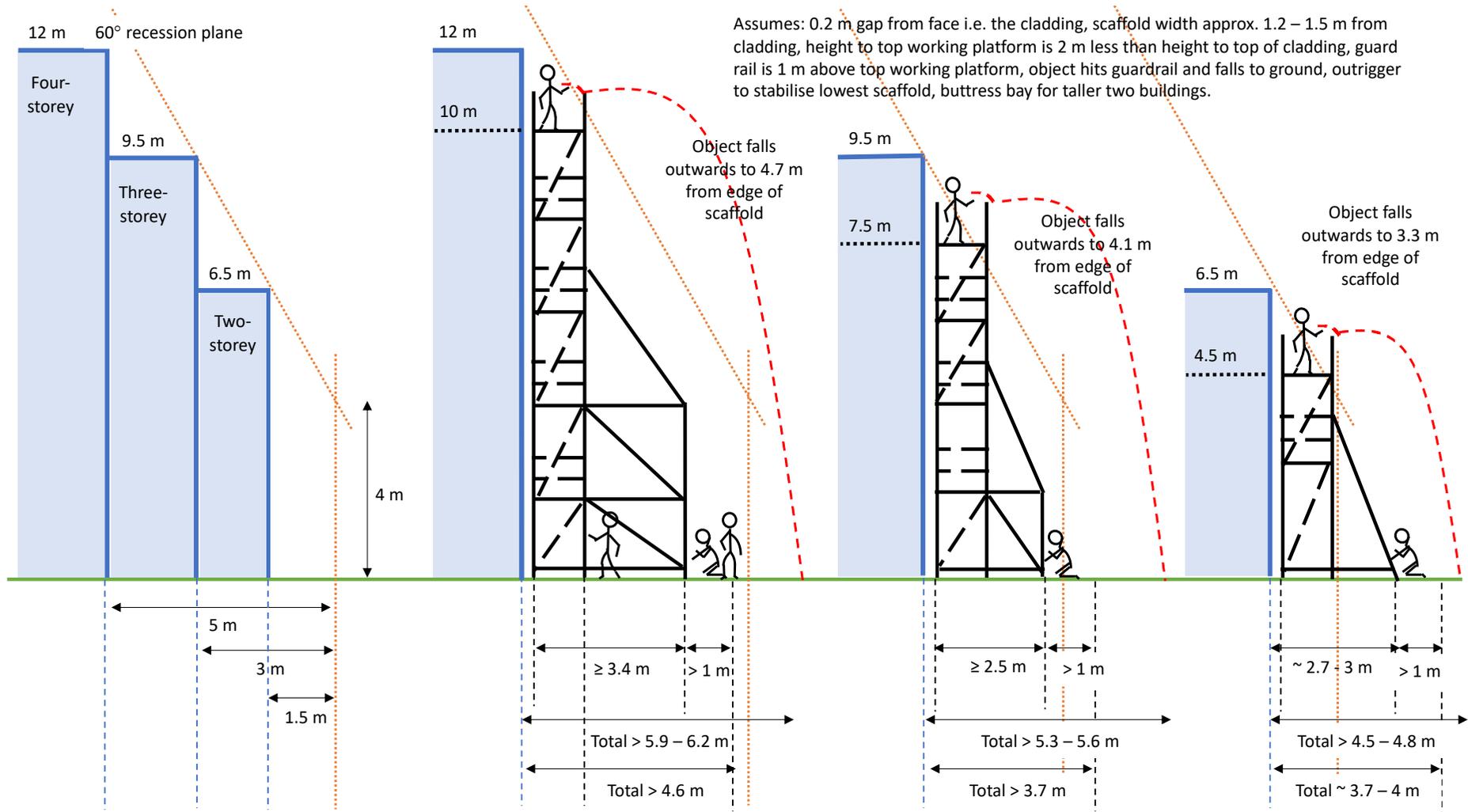


Figure 10 Diagram showing building meeting the 4m + 60° recession plane and setbacks for four, three and two-storey buildings, the two-storey structure has a 4m raker because this is a common component utilised by scaffolders

International Examples

Countries including Australia and Canada consider development adjacent to rail premises and infrastructure by factoring in distances from assets, and prompt engineering assessments that may result in the introduction of particular design features (such as setbacks).

The City of Melbourne in Victoria, Australia, requires the rail operator's approval for any excavations and earthworks, and demolition, where these are undertaken adjacent to their railway corridors (defined as land and infrastructure including a maintenance access track). This requirement is contained in the *Code of Practice for Building, Construction and Works*, a document which "regulates the conduct of all works that affect public space, ensuring the safety and amenity of our community and the protection of municipal assets". It states:

You must have a permit to undertake works that could impact land and assets managed by VicTrack, generally any works activities occurring within 5 m of a rail or tram corridor. (City of Melbourne, 2022, p. 40)

The Government of New South Wales requires, in planning legislation, that any excavation greater than two metres deep within 25 metres horizontal distance of a corridor is to be approved by the rail operator (Government of New South Wales, 2021).

Construction and demolition activities adjacent to rail merit further consideration in New Zealand, given the increased potential for multi-storey development and the consequences of poorly managed works.

10 Conclusion

This report has outlined activities within and adjacent to the rail corridor including the increasing volumes of both. It is noted there is limited awareness of the rail operations and network.

Building maintenance is an ongoing requirement: it is legislated under the Building Code, necessary for warranties of building elements, and to avoid gradual decline generally excluded in insurance.

Working at height is necessary to conduct maintenance. Scaffold is commonly used for accessing cladding and other elements of a building, and there are various ways to stabilise the structure, with multiple factors influencing its installation. Diagrams of freestanding scaffold against buildings are provided, with zones for dropped objects. These illustrate the widths utilised for work.

Construction works near rail introduce further hazards, including electricity, mobile plant, excavation and earthworks, and demolition. A building setback does not directly address construction or demolition effects.

Construction and maintenance next to a rail corridor require particular consideration. Both Australia and Canada have guidelines for these works in this environment, and Australia regulates some activities.

The Health and Safety at Work Act 2015 states that certain controls are more effective than others - it is better to manage risk during design, and consider the location of a building and engineering controls rather than relying on permits and legal deterrents.

In designing activities adjacent to the rail corridor, a setback is an appropriate tool to separate activities and manage risks of interference with the rail corridor. This report has considered a

variety of access methods to determine an appropriate setback distance for inclusion in district plans around New Zealand.

Appendix 1 Bibliography

WorkSafe, the regulator for the Health and Safety at Work Act 2015, describes the first step in the design process as “Identify solutions from regulations, good practice guidance and recognised standards”. Drawing on these documents is considered necessary to determine appropriate and suitable design solutions. WorkSafe has various resources to assist people to comply with the Act: Good practice guidelines (GPGs) “Provide clear good practice guidance for certain work activities”¹⁰.

Industry standards: The development and publication of standards is carried out by Standards New Zealand, a business unit within the Ministry of Business, Innovation and Employment (MBIE).

Standards can be:

incorporated into non-regulatory material as examples of leading practice or guidance for industry... promoted as a means of dealing with legal liability issues, for example, compliance with... standards may be cited in court as proof that all reasonable steps were taken¹¹.

Other references that contain good practice include industry guidance e.g. guidance produced by industry bodies, such as Scaffolding, Access and Rigging New Zealand (SARNZ) or Engineering New Zealand (ENZ). International guidelines can also be useful references as New Zealand does not always have applicable, specific guidance.

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¹⁰ Description of resources from WorkSafe’s fact sheet *What resources are available to help?* (2013)

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Appendix 2 Outputs from *Dropped Objects Exclusion Zone Tool*

Outputs from *Dropped Objects Exclusion Zone Tool* for the paths on the diagrams of scaffold.

| Inputs | | |
|---|--------------------|--------|
| STEP 1: Select Metric or Imperial | | Metric |
| STEP 2: Input Height of Object | (meters) | 11.5 |
| STEP 3: Input Height of Deflection | (meters) | 11.0 |
| Approximate Outputs (Distance to strike the ground) | | |
| 100 th Percentile Distance | (radius in meters) | 5.0 |
| 75 th Percentile Distance | (radius in meters) | 4.7 |
| 50 th Percentile Distance | (radius in meters) | 3.7 |
| 25 th Percentile Distance | (radius in meters) | 2.1 |

| Inputs | | |
|---|--------------------|--------|
| STEP 1: Select Metric or Imperial | | Metric |
| STEP 2: Input Height of Object | (meters) | 7.5 |
| STEP 3: Input Height of Deflection | (meters) | 7.0 |
| Approximate Outputs (Distance to strike the ground) | | |
| 100 th Percentile Distance | (radius in meters) | 4.0 |
| 75 th Percentile Distance | (radius in meters) | 3.7 |
| 50 th Percentile Distance | (radius in meters) | 2.9 |
| 25 th Percentile Distance | (radius in meters) | 1.7 |

| Inputs | | |
|---|--------------------|--------|
| STEP 1: Select Metric or Imperial | | Metric |
| STEP 2: Input Height of Object | (meters) | 10.5 |
| STEP 3: Input Height of Deflection | (meters) | 10.0 |
| Approximate Outputs (Distance to strike the ground) | | |
| 100 th Percentile Distance | (radius in meters) | 4.8 |
| 75 th Percentile Distance | (radius in meters) | 4.5 |
| 50 th Percentile Distance | (radius in meters) | 3.5 |
| 25 th Percentile Distance | (radius in meters) | 2.0 |

| Inputs | | |
|---|--------------------|--------|
| STEP 1: Select Metric or Imperial | | Metric |
| STEP 2: Input Height of Object | (meters) | 9.0 |
| STEP 3: Input Height of Deflection | (meters) | 8.5 |
| Approximate Outputs (Distance to strike the ground) | | |
| 100 th Percentile Distance | (radius in meters) | 4.4 |
| 75 th Percentile Distance | (radius in meters) | 4.1 |
| 50 th Percentile Distance | (radius in meters) | 3.2 |
| 25 th Percentile Distance | (radius in meters) | 1.8 |

| Inputs | | |
|---|--------------------|--------|
| STEP 1: Select Metric or Imperial | | Metric |
| STEP 2: Input Height of Object | (meters) | 6.0 |
| STEP 3: Input Height of Deflection | (meters) | 5.5 |
| Approximate Outputs (Distance to strike the ground) | | |
| 100 th Percentile Distance | (radius in meters) | 3.6 |
| 75 th Percentile Distance | (radius in meters) | 3.3 |
| 50 th Percentile Distance | (radius in meters) | 2.6 |
| 25 th Percentile Distance | (radius in meters) | 1.5 |

Appendix 3 Building Elements and their maintenance requirements

Table 6 Building elements and their maintenance requirements

| Building element | Most common product types and examples of these | Maintenance requirements (where available in product/company documentation) | | |
|-----------------------------|---|--|--|--|
| | | Clean | Re-coat | Inspections |
| Roof cladding ¹² | Metal sheet e.g. Colorsteel Endura ¹³ | Rainwashing & every three months clear garden detritus off the roof and clear gutters | Every 15 years, or as required | At least twice a year |
| Wall cladding ¹² | Timber weatherboard e.g. Southern Pine Products ¹⁴ | Every 12 months | Every 10 years, or as required | Inspect after cleaning (every 12 months) |
| | Fibre-cement weatherboard and Non-weatherboard fibre-cement e.g. Hardie TM Plank Weatherboard ¹⁵ and Axon TM Panel | Every 6 - 12 months Use low pressure water and a brush. Refer to your paint manufacturer for washing down requirements. | Refer to paint manufacturer for re-coating requirements. | <i>Regular inspection... of the cladding joints, sealants, nail head fillers</i> |
| | Metal e.g. Colorsteel Endura ¹³ | Every 12 months | Assume as above | Assume as above |
| | Exterior insulation and finish systems (EIFS) e.g. Caviteclad ¹⁶ | At least annually Mould and algae must be removed. This can be done by scrubbing with detergent or spraying with a proprietary cleaner. | <i>5 to 8 yearly intervals or sooner if required to maintain weathertightness.</i> | <i>Regular checks, at least annually, must be made of the system to ensure that the weather resistant coating is maintained watertight, and that the sealant, flashings, and other joints continue to perform their function and are watertight.</i> |

¹² <https://www.branz.co.nz/pubs/research-reports/sr465/>

¹³ <https://www.colorsteel.co.nz/assets/Brochures/Environmental-Categories-Brochure-Mar2022-WEB.pdf> and <https://www.colorsteel.co.nz/resources/colorsteel-care/>

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¹⁶ <https://www.specialized.co.nz/file/caviteclad-installation-manual/open> <https://www.specialized.co.nz/file/file56df3a0d7f518/open>

| Building element | Most common product types and examples of these | Maintenance requirements (where available in product/company documentation) | | |
|-------------------------------------|---|--|---|-------------|
| | | Clean | Re-coat | Inspections |
| Gutters, down pipes, overflow pipes | PVC (Vinyl) ¹⁷ | <i>Regularly clear the inside of the spouting of leaves, silt, or other debris to reduce the risk of blockage and overflow. (Not in warranty.)</i> | | |
| Windows ¹⁸ | Aluminium ¹⁹ | Every three months <i>A soft brush with warm water and a mild household detergent are recommended.</i> | Powder coated and anodised joinery have warranties of 10-20 years. Joinery can be re-coated. | |
| | uPVC ²⁰ | At least once every two months | | |
| Paint | Resene ²¹ | Every 12 months | Acrylic system on weatherboards lasts for 7–10 years. An oil-based or alkyd system may only last 4–6 years. <i>5–7 years and 1–5 years respectively on window sills and other slanted surfaces with greater exposure to... sun.</i> | |
| | Dulux ²² | Every two years <i>Apply [prepared house wash] to the entire painted area with a soft bristle brush, broom or soft cloth, you will need ladders, scaffolding and a long-handled applicator to reach some of the higher parts of your home's</i> | ~ 8 years (UK), NZ sites do not specify re-painting requirements. | |

¹⁷ From *Marley Rainwater Systems Maintenance Schedule* at <https://www.marley.co.nz/products/rainwater/spouting/stormcloud/>

¹⁸ <https://www.wgan.org.nz/guides/joinery-materials/#:~:text=New%20Zealand%20window%20and%20door,is%20also%20reusable%20and%20recyclable.>

¹⁹ <https://nzwindows.co.nz/wp-content/uploads/2022/07/Vantage-Care-Maintenance-and-Warranty.pdf>

²⁰ <https://www.ameribuild.co.nz/documents/Maintenance%20and%20Care%20Guide.pdf>

²¹ https://www.resene.co.nz/homeown/problem-solver/maintaining_exterior_painted_surfaces.htm

²² <https://www.dulux.co.nz/how-to/general/how-to-care-for-dulux-paint/>

<https://www.duluxdecoratorcentre.co.uk/product/paint/exterior-paints/exterior-trim/dulux-trade-weathershield-exterior-high-gloss>

| Building element | Most common product types and examples of these | Maintenance requirements (where available in product/company documentation) | | |
|------------------|---|---|---------|-------------|
| | | Clean | Re-coat | Inspections |
| | | <i>exterior, under eaves, along fascias, etc.</i> | | |

Attachment 3: Insight Economics - High Level Assessment of Proposed Building Setbacks Adjacent to the Rail Network



Draft Report: 24 July 2024

High-Level Assessment of Proposed Building Setbacks Adjacent to the Rail Network

Prepared for:
KiwiRail Holdings Limited

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KiwiRail Holdings Limited

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About the Author

This report was written by Fraser Colegrave, who founded Insight Economics in 2013.

He has 27 years commercial experience, the last 24 of which he has worked as an economics consultant. During that time, he has successfully led more than 600 consulting projects.

Fraser holds a first-class honours degree in economics from the University of Auckland (1996).

His main fields of expertise are land-use and property development. He has worked extensively in these areas for many of the largest companies in New Zealand. In addition, he regularly advises local and central Government on a range of associated policy matters, and therefore understand the issues from multiple perspectives.

Current and recent clients include: Auckland Airport, Argosy Property, Christchurch City Council, Crown Infrastructure Partners, Foodstuffs, Fulton Hogan, Infinity Group, Kiwi Property, Kmart, the Ministry of Transport, Neil Group, New Zealand Productivity Commission, Ngai Tahu, Queenstown Airport, Tauranga City Council, and Woolworths.

Over the last 15 years, Fraser has helped secure plan changes and/or resource consents for dozens of major projects providing more than 40,000 dwellings in both brownfield and greenfield areas.

Since 2014, he has performed numerous forensic examinations of the housing and business capacity assessments completed for or by Councils under the National Policy Statement on Urban Development 2020 (NPS-UD), and accordingly has a high level of expertise with the concepts and policy framework of the NPS UD.

Recently, Fraser has been closely involved with the intensification planning processes for various Tier 1 areas, including Tauranga City, Western Bay of Plenty District, Christchurch City, Selwyn District, Waimakariri District, and Queenstown-Lakes District.

In his previous role at Covec Limited, Fraser completed a wide range of transport-related assessments for various central Government agencies and therefore has a sound understanding of the sector and its vital contribution to economic prosperity. His work included the development of detailed fleet models to test different policy options, and initiatives to encourage more environmentally friendly mode choices.

More generally, Fraser has provided expert evidence on various economic matters at more than 120 hearings before Councils, Independent Hearing Panels, the Land Valuation Tribunal, the Environment Court, Boards of Inquiry, the Family Court, and the High Court of New Zealand.

1. Introduction

1.1 Background

KiwiRail is responsible for the development and operation of New Zealand's rail network. To ensure that the rail network remains free to grow and operate without undue disruption, and to ensure the safety of those who work within the rail corridor and neighbouring occupants, KiwiRail seeks a five-metre setback for new buildings and structures, or alterations to existing ones, adjacent to the rail corridor. This high-level report briefly considers the likely economic effects of the proposal.

1.2 Strategic Context

New Zealand, like all developed nations, is highly dependent on trade. This trade creates a massive freight task, with approximately 280 million tonnes moved around NZ annually.¹ While rail plays a key role in the freight sector, particularly for certain goods like timber, dairy, and meat², most of the national freight task is performed by diesel trucks. These generate harmful emissions, including CO₂, and are therefore the target of a concerted effort to decarbonise the transport fleet. For example, the New Zealand freight and supply chain strategy seeks to move 20% more freight by 2035 while generating 25% lower emissions, including via modal shifts to rail.

In parallel, the New Zealand Government has recognised the need to maximise the value of its existing investments in the rail network, including making rail a more attractive mode for freight. Previously, investment in the rail network lacked a long-term view about its role in the transport system. This caused short-term thinking and investment decision-making, so a new approach was needed.³

The New Zealand Rail Plan⁴ was developed in 2021 to articulate the investment needed to achieve identified priorities for rail. In June 2021, the Rail Network Investment Programme (RNIP) was created to fund various planks of the Rail Plan that will help renew the network, restore it to a resilient and reliable state, and support freight and passenger rail growth and productivity.⁵

1.3 Structure of Report

The remainder of this report is structured as follows.

- Section 2 describes the problem at hand plus KiwiRail's proposed solution.
- Section 3 considers the likely effects on development capacity under the NPS UD.
- Section 4 describes the economic value of protecting rail's growth and operation.
- Section 5 summarises and concludes.

¹ <https://www.transport.govt.nz/assets/Uploads/Freight-and-supply-chain-issues-paper-full-version.pdf>

² <https://www.kiwirail.co.nz/our-business/freight/>

³ <https://www.transport.govt.nz/area-of-interest/infrastructure-and-investment/the-new-zealand-rail-plan/>

⁴ *ibid*

⁵ *ibid*

2. About the Proposed Setbacks

2.1 Problem Statement

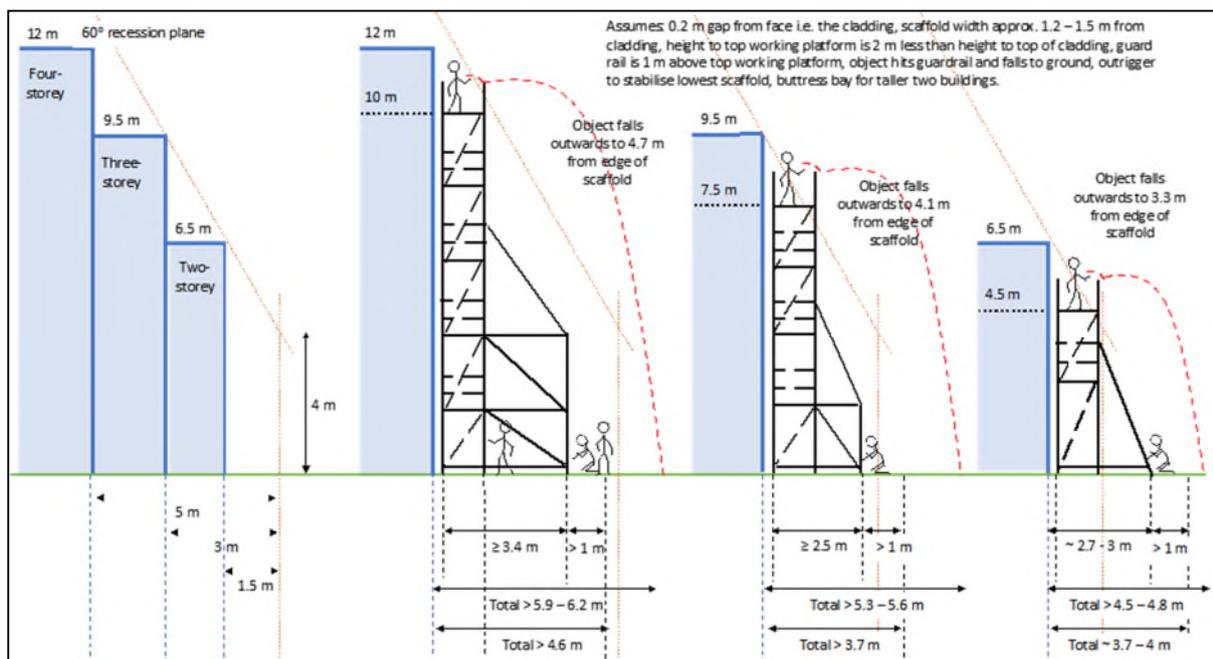
New Zealand's rail network spans nearly 4,000 kilometres of track, which runs through various rural and urban communities. If sufficient space is not provided on adjoining land for certain activities (particularly property repairs and maintenance), they cannot be completed without encroaching onto the rail corridor, including the risk of dropped objects falling onto the track and disrupting operations.

2.2 KiwiRail's Proposal

To ensure a safe distance for repairs and other maintenance activities on properties adjacent to the railway corridor, and to protect it from unforeseen hazards, KiwiRail seeks a five-metre setback for new buildings and structures, or alterations to existing ones, adjacent to the rail corridor. The rationale for this is illustrated in the diagram below, which demonstrates the space required to:

1. Install and move a basic/common scaffold structure for maintenance purposes and
2. Avoid dropped objects falling on the track from different building heights and varying scaffolding configurations.

Figure 1: Illustration of Dropped Object Paths from Different Height Buildings/Scaffolding



The diagrams above show that 3.7 to 4.6 metres is required to construct scaffolding of different sizes, with 4.5 to 6.2 metres required to enable access for maintenance of wall cladding (not roof cladding) and to allow for (some) falling objects. These diagrams assume level, stable ground conditions.

While the proposed five-metre setback may not fully protect the network from dropped object risks (with some potentially falling further), KiwiRail consider it to strike a good balance between protecting the rail network and preserving the property rights of landowners. Accordingly, five metre setbacks are preferred by KiwiRail.

2.3 Likely Situation Otherwise (aka the Counterfactual)

It is important to note that, absent the five-metre setback proposed, most sections would be required to set new buildings back from the rail network to some degree anyway under district planning rules. For example, I understand that the Medium Density Residential Standards (MDRS) impose a one-metre default setback. In lower density residential zones, though, larger setbacks are common, while some zones – like centres – may have no setback requirements at all.

Accordingly, the practical impact of KiwiRail's proposed relief is the difference between the proposed five-metre setback and the one that would apply otherwise, which is known as the counterfactual.

In this report, we assume that a one-metre setback would apply by default, so the impact of KiwiRail's relief is the difference between that and the larger five-metre setback proposed.

3. Impacts on Development Capacity

3.1 Introduction

Having set the scene, we now consider potential impacts on development capacity. This is a key consideration given the strongly enabling ethos of the NPS-UD and the need to ensure ‘at least’ sufficient capacity ‘at all times.’

3.2 Number of Properties Affected

To put the issue in context, we used GIS to identify properties adjacent to the rail corridor in each territorial authority, which we then expressed as a percentage of all land parcels in each area. While the results vary, overall, only 0.9% of New Zealand properties are adjacent to the rail network. Accordingly, **99.1% of properties are unaffected**. Table 1 presents the details by territorial authority.

Table 1: Number of Properties Adjacent to Rail Network by Territorial Authority (May 2024)

| TA Name | Total Land Parcels | Adjacent Properties | Adjacent Share of Total |
|------------------------------|--------------------|---------------------|-------------------------|
| Ashburton District | 27,400 | 84 | 0.3% |
| Auckland | 579,800 | 3,409 | 0.6% |
| Buller District | 18,100 | 326 | 1.8% |
| Carterton District | 8,300 | 166 | 2.0% |
| Central Hawke's Bay District | 14,900 | 239 | 1.6% |
| Christchurch City | 183,200 | 1,353 | 0.7% |
| Clutha District | 41,900 | 593 | 1.4% |
| Dunedin City | 85,800 | 1,028 | 1.2% |
| Far North District | 61,400 | 129 | 0.2% |
| Gisborne District | 37,300 | 350 | 0.9% |
| Gore District | 12,700 | 126 | 1.0% |
| Grey District | 17,700 | 621 | 3.5% |
| Hamilton City | 64,500 | 276 | 0.4% |
| Hastings District | 43,500 | 383 | 0.9% |
| Horowhenua District | 24,900 | 349 | 1.4% |
| Hurunui District | 18,400 | 290 | 1.6% |
| Invercargill City | 33,300 | 518 | 1.6% |
| Kaikoura District | 5,300 | 367 | 6.9% |
| Kaipara District | 28,500 | 258 | 0.9% |
| Kapiti Coast District | 29,500 | 408 | 1.4% |
| Kawerau District | 3,400 | 2 | 0.1% |
| Lower Hutt City | 46,700 | 625 | 1.3% |
| Manawatu District | 26,800 | 53 | 0.2% |
| Marlborough District | 42,200 | 473 | 1.1% |
| Masterton District | 20,100 | 251 | 1.2% |
| Matamata-Piako District | 23,100 | 332 | 1.4% |
| Napier City | 29,400 | 920 | 3.1% |
| New Plymouth District | 49,500 | 402 | 0.8% |
| Otorohanga District | 11,300 | 145 | 1.3% |
| Palmerston North City | 41,300 | 464 | 1.1% |
| Porirua City | 23,500 | 271 | 1.2% |
| Rangitikei District | 18,600 | 509 | 2.7% |
| Rotorua District | 35,800 | 105 | 0.3% |

| TA Name | Total Land Parcels | Adjacent Properties | Adjacent Share of Total |
|--------------------------------|--------------------|---------------------|-------------------------|
| Ruapehu District | 19,800 | 622 | 3.1% |
| Selwyn District | 47,400 | 241 | 0.5% |
| South Taranaki District | 27,700 | 361 | 1.3% |
| South Waikato District | 15,400 | 382 | 2.5% |
| South Wairarapa District | 12,300 | 124 | 1.0% |
| Southland District | 57,400 | 463 | 0.8% |
| Stratford District | 10,800 | 462 | 4.3% |
| Tararua District | 26,300 | 268 | 1.0% |
| Taupo District | 29,100 | 1 | 0.0% |
| Tauranga City | 62,000 | 522 | 0.8% |
| Timaru District | 35,300 | 340 | 1.0% |
| Upper Hutt City | 19,800 | 384 | 1.9% |
| Waikato District | 54,500 | 807 | 1.5% |
| Waimakariri District | 38,500 | 377 | 1.0% |
| Waimate District | 10,900 | 95 | 0.9% |
| Waipa District | 32,400 | 156 | 0.5% |
| Wairoa District | 11,700 | 299 | 2.6% |
| Waitaki District | 32,500 | 653 | 2.0% |
| Waitomo District | 12,500 | 170 | 1.4% |
| Wellington City | 74,800 | 924 | 1.2% |
| Western Bay of Plenty District | 34,300 | 340 | 1.0% |
| Westland District | 16,800 | 295 | 1.8% |
| Whakatane District | 22,600 | 215 | 1.0% |
| Whanganui District | 29,700 | 522 | 1.8% |
| Whangarei District | 60,100 | 840 | 1.4% |
| New Zealand Total | 2,718,800 | 25,688 | 0.9% |

3.3 Impacts on Adjacent Properties

We now consider potential impacts on the 0.9% of New Zealand properties that are adjacent to the rail network. According to our GIS analysis, 70% of these properties are already developed, with only 30% being vacant. Given that some vacant properties represent public open spaces and other non-developable land types, not all will be developed over time. As a result, the number of developable sites affected by the proposed setback will be only a small fraction of the 0.9% flanking the rail network in the first place. For example, assuming – just for arguments sake – that *all* vacant land along the rail network is developable, it represents less than 0.3% of total NZ properties.

However, even for that 0.3%, the proposed setback may not materially affect yields. In practice, it depends on how easily the proposed building's bulk and location (B&L) could be reconfigured to account for the larger setbacks proposed by KiwiRail. If B&L can be readily changed to comply while still achieving the same overall site yields, the proposal will again have no effect.

To test this working assumption, I considered a handful of “representative development examples” with KiwiRail and its advisors to examine the potential impacts of larger setbacks on likely site yields. In virtually all cases, we found workable B&L tweaks that would preserve yields while maintaining the proposed five metre setback. In one case, for example, it simply meant reorienting the dwelling away from the track and swapping front yard space for backyard space. However, there was no impact on overall yields.

3.4 Summary and Conclusion

The discussion above has shown that:

1. 99.1% of properties will not be affected by the proposed setback because they are not adjacent to the rail network.
2. Of the 0.9% that are adjacent, only 30% are vacant (but not all of those are developable).
3. The true number of affected properties is therefore only a fraction of the 0.9%.
4. Finally, many prospective developments along the rail corridor can likely be reconfigured to comply with the proposed five-metre setback without foregoing yields.

Accordingly, overall, the proposal will have immaterial impacts on development capacity.

4. The Value of Network Protection

4.1 Introduction

Development yields aside, the primary economic effect of the proposal will be to preserve the safe and ongoing operation of the rail network. This section briefly discusses that.

4.2 The Value of Rail to New Zealand

The New Zealand rail network delivers significant value to its freight and passenger customers, and also generates significant benefits for all New Zealanders. These wider benefits are far-reaching, but the most significant are lower road congestion, fewer road accidents, and lower carbon emissions that result from less road traffic.

In 2021, Ernst & Young were commissioned by the Ministry of Transport to evaluate the value of rail to New Zealand.⁶ Their study built on an earlier analysis from 2016 and considered the benefits of (i) national freight rail, and (ii) passenger rail in Auckland and Wellington.⁷ Two scenarios were modelled. The first assumed that all rail services were cancelled, with all rail freight and passengers shifted to the road network. The second scenario also assumed that all rail services were cancelled and shifted to the road network, but with 20% higher rail traffic to capture the impacts of projected future growth. For both scenarios, the value of rail equals the costs of road traffic avoided.

The table below summarises the study's estimates of rail's benefits for the first scenario, where rail volumes match today. In short, the value of rail is estimated to be \$1.7 to \$2.1 billion per annum.

Table 2: Estimated Annual Value of Rail to New Zealand

| Benefit | Low Estimate | High Estimate |
|---------------------------|----------------|----------------|
| Time (congestion) savings | \$939 | \$1,054 |
| Reduced air pollution | \$170 | \$474 |
| - NOx emissions | \$92 | \$394 |
| - SOx emissions | <\$1 | <1 |
| - Brake & tire (PM10) | \$21 | \$22 |
| - Exhaust (PM2.5) | \$57 | \$58 |
| Reduced fuel use | \$211 | \$222 |
| Reduced GHG emissions | \$178 | \$182 |
| Maintenance benefits | \$104 | \$107 |
| Safety | \$94 | \$98 |
| - Death | \$63 | \$65 |
| - Serious injuries | \$25 | \$27 |
| - Minor injuries | \$5 | \$6 |
| Totals | \$1,695 | \$2,137 |

In the words of the Ernst & Young study, as demonstrated above, rail transportation provides the largest benefits to the road sector and society through:

⁶ Ernst & Young, the Value of Rail in New Zealand, 2021.

⁷ i.e. it excluded inter-island ferries and long-distance passenger rail services, which are also operated by KiwiRail.

- Time and congestion savings (49% - 55% of benefits)
- Reduced air pollution (10% - 22% of benefits)
- Reduced fuel use and maintenance costs (14% of benefits)
- Reduced greenhouse gas (GHG) emissions (9% to 10% of benefits).

To continue realising rail's substantial value to New Zealand, as per above, and to maximise its potential to limit growth in road traffic over time, the network must be available for operations 24/7 just like the road network.

5. Summary and Conclusion

Rail is an important part of New Zealand's current transport mix. It provides significant value to New Zealand. However, encroachment – including dropped objects – from neighbouring properties could affect the efficient operation of rail and limit its contribution to long-term economic prosperity. KiwiRail's proposal recognises this and seeks appropriate precautions that also recognise the property rights of adjacent landowners.

Overall, I consider KiwiRail's proposal to strike an appropriate balance between those competing interests. It is unlikely to have any material impacts on development capacity, while helping to protect the value of rail to New Zealand. Accordingly, I support it on economic grounds.

Attachment 4: Other Options Considered

For completeness, other methods (outside of District Plan controls) have also been considered. These include:

- a. increase in designation width;
- b. fencing of the urban rail network; and
- c. providing for building maintenance via access from the rail corridor.

Increase Designation Width

KiwiRail could increase the width of its designation to manage health and safety effects. This would require a range of applications for new or altered notices of requirement and KiwiRail to demonstrate (among other things):

- a. the designation was required for a 'project or work' (Section 168(2)(a));
- b. adequate consideration has been given to alternative sites, routes, or methods where the requiring authority does not have an interest in the land sufficient for undertaking the work (Section 171(1)(b)(i)); and
- c. that the work / designation are reasonably necessary for achieving the objectives of the requiring authority (Section 171(1)(c)).

Should a designation be confirmed it imposes limitations on what works a person may undertake on the designated land without written approval of the requiring authority (Section 176(1)(b)). This adds a layer of control over land which would not exist under the preferred option of district plan standards.

Further, the requiring authority may be required (by the Environment Court) to acquire land subject to a designation (Section 185) where certain 'tests' are met. This creates a significant and ongoing financial obligation on the requiring authority as it is unpredictable when / if land owners would seek acquisition.

Discussions with KiwiRail indicate that it does not consider an increase in designation width would be "reasonably necessary" (per s171(1)(c) of the RMA) to justify designating all land within 5 metres of the rail corridor nor would it meet the sustainable management purpose of the RMA.

Overall, applying a designation is considered to be a disproportionately restrictive approach to managing this issue. Alternative methods are considered available (ie. plan provisions) with a lower impact on enjoyment of land than a designation. The proposed provisions will be more efficient and effective than designating a wider corridor to provide a setback as it provides flexibility of use by resource consent in situations where building within the setback is acceptable. Applying a wider designation means land will not be available for use (without approval of the requiring authority) for purposes other than for rail.

Fence/Physical Barrier

Fencing the rail corridor boundary throughout urban areas of the district to prevent access potentially reduces 'casual' encroachment but does not solve the issue of insufficient space for

building owners to undertake maintenance within their own site boundaries. It is likely that it will not manage the effects of falling objects entering the rail corridor.

Fencing also has a range of significant costs which (as well as the establishment costs for building the fences) include ongoing maintenance (damage/graffiti) and visual amenity impacts.

Access Requests for Adjoining Building Maintenance

KiwiRail manages requests for access to its rail corridor via a formal permit and Track Access Request process (TAR)¹⁵. A permit provides a permission to enter whereas a TAR sets the specific parameters of entry.

KiwiRail has advised that the majority of these requests come from utility operators who wish to access the utilities located within the rail corridor, for example, telecommunications, electricity, water / wastewater etc. It is uncommon for private landowners to request a permit/TAR to access to the corridor.

In KiwiRail's experience, adjacent landowners do not contact KiwiRail for permission before undertaking building maintenance activities, primarily because:

- a. landowners do not perceive their encroachment into the rail corridor to be a concern;
- b. KiwiRail land is perceived to be public property;
- c. landowners are unaware that they should be seeking permission; or
- d. there are concerns or uncertainty about process and costs of seeking permission (or that it may be declined).

Regardless of whether land owners seek approval, if buildings are built too close to the rail corridor, then landowners will not be able to maintain them without entering the rail corridor.

In the event there is a request to access the rail corridor, and this required KiwiRail to alter or suspend its services, this would be a cost for the landowner and also for KiwiRail in terms of the impacts on its services.

Setting plan provisions which effectively require permission to access the rail corridor to undertake maintenance and other activities is also poor and uncertain planning. Plan provisions should provide for landowners to be able to use and maintain their properties within their own property, rather than having to encroach onto the rail corridor.

Allowing for building setbacks which ensure encroachment onto adjoining sites to undertake maintenance not required are more appropriate, and safer, method of addressing this issue.

¹⁵ <https://www.kiwirail.co.nz/our-network/access-our-network/permit-to-enter/permits-and-tars-portal/>

12 December 2025

Plans and Places
Auckland Council
Private Bag 92300
Auckland 1142

Attn: Planning Technician

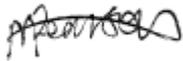
Email: unitaryplan@aucklandcouncil.govt.nz

Proposed Private Plan Change 121 – Karaka Road (Fisher & Paykel)

Please find attached Auckland Transport's submission on Proposed Private Plan Change 121 on Karaka Road (300, 328, 350, 370 and part of 458 Karaka Road), Drury West. The applicant is Fisher & Paykel Healthcare Properties Ltd.

If you have any queries in relation to this submission, please contact me at spatialplanning@at.govt.nz.

Yours sincerely



Marguerite Pearson
Principal Planner, Spatial Planning and Policy Advice

cc: Fisher & Paykel, via Rebecca Sanders at rebeccas@barker.co.nz

Submission by Auckland Transport on Private Plan Change 121: Karaka Road

To: Auckland Council
Private Bag 92300
Auckland 1142

Submission on: Proposed Private Plan Change 121 from Fisher & Paykel Healthcare Properties Ltd to rezone 86.5ha of land from Future Urban Zone to Business – Light Industry Zone on Karaka Road (300, 328, 350, 370 and part of 458 Karaka Road), Drury West

From: Auckland Transport
Private Bag 92250
Auckland 1142

1. Introduction

- 1.1 Fisher & Paykel Healthcare Properties Ltd (**the applicant**) is seeking a private plan change (**PC 121** or **the plan change**) to create a new precinct in the Auckland Unitary Plan - Operative in Part (**AUP**). The proposed Precinct (**the site**) is 300, 328, 350, 370 and part of 458 Karaka Road, Drury West. The plan change seeks to rezone 86.5ha of land from Future Urban Zone to Business – Light Industry Zone, as well as update the existing Karaka Road Structure Plan. The applicant proposes to create a 'campus' style development for their healthcare manufacturing and export business.
- 1.2 Auckland Transport (**AT**) is a Council-Controlled Organisation of Auckland Council (**the Council**) and the Road Controlling Authority for the Auckland region. AT has the legislated purpose to contribute to an 'effective, efficient and safe Auckland land transport system in the public interest'.¹ In fulfilling this role, AT is responsible for the following:
- a. The planning, delivery and operation of public transport, including bus, train and ferry services,
 - b. Operating and optimising the roading network to support the movement of people and goods,
 - c. Engaging Aucklanders and providing customer information, service and support, including promoting travel behaviour change,
 - d. Delivering and maintaining the local road, public transport, walking and cycling and parking assets for the region.
- 1.3 Urban development on greenfield land not previously developed for urban purposes generates transport effects, and the need for robust implementation and investment plans for transport infrastructure and services to support construction, land use activities and the communities that will live and work in these areas. AT's submission seeks to ensure that the transport related matters raised by PC121 are appropriately considered and addressed.

¹ Local Government (Auckland Council) Act 2009, section 39.

- 1.4 AT is part of the Te Tupu Ngātahi Supporting Growth Alliance (Te Tupu Ngātahi) which is a collaboration between AT and New Zealand Transport Agency Waka Kotahi (**NZTA**) to plan and route protect where appropriate the preferred transport network in future growth areas, such as Drury.
- 1.5 AT and NZTA have lodged notices of requirement (**NOR**) to protect the strategic transport network identified by Te Tupu Ngātahi to support growth in Pukekohe and Drury. Some of these NORs are now operative designations in the AUP. Those of direct relevance to this site are:
- Designation 1846 (Pukekohe North East Arterial): Designation for a new transport corridor including Pukekohe East Road.
 - Designation 6780 (Drury to Pukekohe Link): Designation for the construction, operation and maintenance and improvement of a state highway, cycleway and / or shared path, and associated infrastructure.
 - Designation 1840 (Jesmond Road): Designation for construction, maintenance and operation of an arterial transport corridor.
- 1.6 Also of relevance to this plan change is the future upgrade of SH22 (Karaka Road) by NZTA. AT understands there is funding for consenting and property purchase for initial works only at the SH22 and Jesmond Road intersection to provide for the new Ngākōroa train station, however the funding for any further upgrade work to SH22 is currently uncertain.
- 1.7 AT is not a trade competitor for the purposes of section 308B of the Resource Management Act 1991.

2. Strategic context

- 2.1 AT's key overarching considerations and concerns are described below.

Auckland Plan 2050

- 2.2 The Auckland Plan 2050 (**Auckland Plan**) is a 30-year plan outlining the long-term strategy for Auckland's growth and development, including social, economic, environmental and cultural goals². The transport outcomes identified in the Auckland Plan include providing better connections, increasing travel choices and maximising safety. To achieve these outcomes, focus areas outlined in the Auckland Plan include targeting new transport investment to the most significant challenges; making walking, cycling and public transport preferred choices for many more Aucklanders; and better integrating land use and transport. The high-level direction contained in the Auckland Plan informs the strategic transport priorities to support growth and manage the effects associated with this plan change.

² The Auckland Plan is a statutory spatial plan required under section 79 of the Local Government (Auckland Council) Act 2009.

Sequencing growth and aligning with the provision of transport infrastructure and services

- 2.3 The Auckland Plan and the Future Development Strategy 2023 (**FDS**) work together to set the high-level direction for Auckland's growth over the long-term. The FDS identifies the timing for development in Drury West as being 2035+. The proposed timeframe indicates when the infrastructure required to service the full build-out of the area is likely to be delivered.
- 2.4 Appendix 6 of the FDS includes infrastructure prerequisites, linked to the development readiness of areas. The transport prerequisites identified for Drury West Stage 2, those being: The Drury Arterials, SH22 upgrade and Ngākōroa train station.
- 2.5 The growth in transport demands across Auckland comes from development in greenfield areas as well as from the smaller scale incremental intensification enabled through the AUP. There is a need to support the movement of the additional people, goods and services resulting from the widespread growth. This increases pressure on the available and limited transport resources. A high level of certainty is needed about the funding, financing and delivery of transport infrastructure and services if the growth enabled by the AUP and plan changes is to be aligned with the required transport infrastructure and services. Otherwise, there will continue to be a significant deficiency in the ability of the transport network to provide and co-ordinate transport responses to dispersed growth across the region. This results in poor transport outcomes including lack of travel choice and car dependency.
- 2.6 Plan changes which propose to allow future urban land to be urbanised need to be carefully considered in the context of the wider staging and delivery of planned transport infrastructure and services. Any misalignment between the timing for providing infrastructure and services and the urbanisation of greenfield areas brings into question whether the proposed development area is 'development ready'. The matters that need to be carefully considered include:
- Whether the plan change provides mechanisms requiring applicants to mitigate the transport effects associated with their development and to provide the transport infrastructure needed to service or meet the demands from their development.
 - Whether the development means that the strategic transport infrastructure being planned to service the wider growth area identified in the FDS needs to be provided earlier.
 - Whether the development impacts the ability to provide the strategic transport infrastructure identified to service the wider growth area e.g. will it foreclose route options or hinder future upgrades of existing strategic network infrastructure.

- 2.7 The need to coordinate urban development with infrastructure planning and funding decisions is highlighted in the objectives of the National Policy Statement on Urban Development 2020 (**NPS-UD**). Those objectives are quoted below (with emphasis added in bold):

'Objective 3: Regional policy statements and district plans enable more people to live in, and more businesses and community services to be located in, areas of an urban environment in which one or more of the following apply:

- (a) the area is in or near a centre zone or other area with many employment opportunities,
- (b) **the area is well-serviced by existing or planned public transport,**
- (c) there is high demand for housing or for business land in the area, relative to other areas within the urban environment.'

'Objective 6: Local authority decisions on urban development that affect urban environments are:

- (a) **integrated with infrastructure planning and funding decisions;** and
- (b) strategic over the medium term and long term; and
- (c) responsive, particularly in relation to proposals that would supply significant development capacity.'

- 2.8 The Regional Policy Statement (**RPS**) objectives and policies in the AUP place similar clear emphasis on the efficient provision of infrastructure and on the integration of land use and development with infrastructure, including transport infrastructure. Such as Objectives B2.2.1(1)(c) and (5) and B3.3.1(1)(b), and Policies B2.2.2(7)(c), and B3.3.2(5)(a). For example, Policy B3.3.2(5)(a) is to: *"improve the integration of land use and transport by... ensuring transport infrastructure is planned, funded and staged to integrate with urban growth"*. A high level of certainty is needed regarding the funding, financing and delivery of transport infrastructure and services if plan changes are to be aligned with the required transport infrastructure and services. The alignment of infrastructure to support growth is essential to achieving a well-functioning urban environment.
- 2.9 Plan changes must also include mechanisms requiring applicants to mitigate the transport effects associated with their development and to provide the transport infrastructure needed to service or meet the demands from their development. As set out in Objective B3.3.1(1)(e) and Policy B3.3.2(5)(b), which states: *"improve the integration of land use and transport by: ... encouraging land use development and patterns that reduce the rate of growth in demand for private vehicle trips, especially during peak periods"*. Otherwise developments will have poor transport outcomes, including lack of travel choice and car dependency.
- 2.10 Additionally, the Regional Land Transport Plan (**RLTP**) sets out the 10-year programme of transport infrastructure investment required to support the transport network, including planned and enabled growth in the Auckland region. The RLTP is aligned with the Council's priority areas and the spend proposed within the Council's 10 Year Budget 2021-2031.

3. Specific parts of the plan change that this submission relates to

3.1 The specific parts of the plan change that this submission relates to are set out in **Attachment 1**. In keeping with AT's purpose, the matters raised relate to transport systems and transport assets, including integration between transport and land use.

3.2 While AT supports the intent of the plan change, it has three key concerns in relation to the proposal. These are:

- That the applicant's transport model stops at 2048, does not model full build out of the proposal and does not accurately reflect the potential impact on the adjacent transport network.
- The proposed removal of the future arterial road shown in the Drury-Opāheke Structure Plan 2019 reduces resilience in the transport network.
- There is no provision for an active mode connection from Ngōkaroa train station to the site to be in place from day one.

3.3 Therefore AT's position in relation to this plan change is **support in part** and it seeks to work with the developer to satisfactorily address the matters raised in Attachment 1. Where AT has not commented on a provision, this can be considered to be supported.

3.4 AT is available and willing to work through the matters raised in this submission with the applicant.

4. Decisions sought

4.1 The decisions which AT seeks from the Council are set out in **Attachment 1**.

4.2 In all cases where amendments to the plan change are proposed, AT would consider alternative wording or amendments which address the reason for AT's submission. AT also seeks any consequential amendments required to give effect to the decisions requested.

5. Appearance at the hearing

5.1 AT wishes to be heard in support of this submission.

5.2 If others make a similar submission, AT will consider presenting a joint case with them at the hearing.

Name: Auckland Transport

Signature:



Patrick Buckley
Manager – Spatial Planning Policy Advice

Date: 12 December 2025

Contact person: Marguerite Pearson
Principal Planner - Spatial Planning Policy Advice

Address for service: Auckland Transport
Private Bag 92250
Auckland 1142

Telephone: 021793660

Email: spatialplanning@at.govt.nz

Attachment 1

| Issue / Provision | Support / oppose | Reasons for submission | Decision requested |
|-----------------------------|------------------|---|---|
| Overall | Support in part | AT generally supports the plan change and the intent to provide a campus for manufacturing by Fisher & Paykel. | Approve the plan change with amendments and subject to further assessment in relation to transport modelling, as outlined below. |
| Transport modelling | Oppose | <p>The transport modelling accompanying the plan change only assessed what the level of development anticipated to be in place by 2048. This represents only approximately 40% of the stated full development yield.</p> <p>The Auckland Forecasting Centre (AFC) has recently undertaken transport modelling using the assumptions known regarding road upgrades (timing and funding by AT and NZTA) and the proposed plan change. This modelling shows that:</p> <ul style="list-style-type: none"> • The plan change shifts Drury West from a residential-led to an employment-led growth node, fundamentally altering trip patterns and network stress points. • Employment driven growth increases both inbound and outbound trips. • Network resilience is challenged with a significant increase in vehicles in the morning peak, concentrated at a few access points. <p>The only vehicle access proposed to service the site are three traffic signals directly accessing Karaka Road (SH22). Under the full build scenario, SH22 (and its access points) is unlikely to be able to accommodate all of the traffic (including freight) from the site without major impacts on the nearby roading network and road based public transport network.</p> | AT requests that the applicant update the transport modelling and provide a “full build out” assessment prior to the hearing. This modelling should also include further detail on freight volume and timing to better understand the potential impact of this mode on the transport network. |
| Connector road to Burt Road | Oppose | <p>A new connector road was anticipated in the location of the subject site (from SH22 over the railway line to Burt Road) in the Drury-Opāheke Structure Plan 2019.</p> <p>It has been removed by the applicant (outlined in section 5 of the applicant’s Section 32 Assessment Report) because it crossed</p> | AT seeks that the ability to provide for a future road connection in the vicinity of the site and that it is not precluded by the proposed development. |

19.1

19.2

| Issue / Provision | Support / oppose | Reasons for submission | Decision requested |
|------------------------|------------------|--|---|
| | | <p>through the subject site and a closed 'campus' style development is sought.</p> <p>AT does not support this proposed change to the Structure Plan, due to the issues associated with all of the proposed development's access being from one road (SH22).</p> <p>A future road connection in this location is to:</p> <ul style="list-style-type: none"> • Ensure an alternative transport route is protected for use by the applicant and adjacent developments. • Spread the likely effects on the transport network from the development. • Provide resilience to the transport network and for Fisher & Paykel. <p>AT is prepared to work with the applicant to determine the most optimal alignment for the future road. There would be some advantage of this future road traversing the site and/or being along the western boundary.</p> | <p>AT seeks to:</p> <ol style="list-style-type: none"> 1. Amend the plan change and retain the Structure Plan as approved to preserve the future ability to provide a collector road link from SH22 to Burt Road. 2. Add a new transport trigger into Table IX.6.2 to ensure the need for this future road is assessed at the appropriate time (i.e. before development of the site exceeds the upper levels). |
| Active mode connection | Support in part | <p>AT seeks that an active mode access is provided from Ngākaroa train station to the site from day one of operation. This connection is shown on numerous plans in the application's plan change documents but not shown on the Precinct Plan 1: Indicative Access Network or in the precinct provisions.</p> <p>This access needs to be detailed in the precinct provisions as being required from day one to ensure safe access for staff and visitors to the site. An interim provision could be appropriate prior to the SH22 upgrade being funded and completed, but it is to be completed at the applicant's cost.</p> | <p>AT seeks to:</p> <ol style="list-style-type: none"> 1. Amend Policy IX.3(5) to make it clear that the active mode travel connections need to be in from day one as follows: <p style="margin-left: 20px;"><i>Sustainability</i> (5) Develop the [TBC] Precinct as a sustainable and low-carbon urban environment by: ... (c) Promoting mode shift to public and active modes of transport, including by encouraging safe and efficient access for pedestrians and cyclists within the Precinct to the Ngākōroa train station <u>from day one of operation.</u></p> 2. Add a new transport trigger to Table IX.6.2 which requires an active mode connection to be provided from the site to Ngākaroa train station from day one of operation. It could be specified to be an interim solution. |

19.3

19.4

| Issue / Provision | Support / oppose | Reasons for submission | Decision requested |
|--------------------------------|------------------|--|--|
| Eastern intersection with SH22 | Support in part | <p>The site's eastern intersection with SH22 (proposed to be constructed first) should be located on the eastern boundary of the site.</p> <p>This is to enable this intersection to be used by other users in the future (such as the developer of the site to the east and for transfer buses to be able to circulate easily to/from Ngākaroa Train Station). SH22 could not operate with an additional intersection added in close proximity.</p> | Relocate the site's eastern intersection with SH22 to the eastern site boundary and make consequential amendment to Precinct Plan 1: Indicative Access Network. |
| Activity Table – IX.4.1 (A13) | Support in part | <p>AT supports the inclusion of a rule restricting the opening of a new vehicle access onto SH22. This is in order to understand network capacity and any potential effects on adjacent AT roads.</p> <p>However, AT considers that a Discretionary Activity status would be more appropriate to enable an adequate assessment of the suitability of the proposed new access(es) and the associated effects.</p> | <p>Amend Activity Table IX.4.1 (A13) as follows:</p> <p><i>(A13) Construction of a new vehicle access from that part of a site boundary adjoining an arterial road as identified on the planning maps</i> <i>Activity Status: Controlled <u>Discretionary</u></i></p> |
| Policy IX.3(3)(a) | Support in part | <p>AT supports the inclusion of a policy (IX.3(3)(a)) relating to the consideration of traffic generation and effects on the surrounding network.</p> <p>However, AT seeks the removal of the wording “<i>during interpeak periods</i>” to allow for the assessment of effects of traffic generation at all times on the road network, not just when the network is likely to operate most efficiently.</p> <p>The modelling undertaken by AFC indicates that the development is expected to significantly increase the volume of vehicles during peak periods of traffic, therefore these effects must be appropriately considered.</p> | <p>Amend Policy IX.3(3)(a) as follows:</p> <p><i>Transport, infrastructure and staging</i> <i>(3) Ensure that the adverse effects of traffic generation on the surrounding transport network are mitigated, by ensuring:</i> <i>(a) The surrounding road network can operate with reasonable efficiency during interpeak periods;</i> <i>...</i></p> |
| Third vehicle access | Support in part | AT seeks that an additional transport trigger is provided in the precinct provisions in relation to the proposed third vehicle access to the site. This is to provide clarity on when it could be required. | Add an additional trigger to Table IX.6.2 which relates to the threshold for the third vehicle crossing. |

19.5

19.6

19.7

19.8

Auckland Council
Unitary Plan Private Bag 92300
Auckland 1142

Attn.: Planning Technician

unitaryplan@aucklandcouncil.govt.nz

TO: Auckland Council

SUBMISSION ON: Plan Change 121 (Private): Karaka Road Precinct: 300, 328, 350, 370 and part of 458 Karaka Road

FROM: Watercare Services Limited

ADDRESS FOR SERVICE: planchanges@water.co.nz

DATE: 12th December 2025

Watercare could not gain an advantage in trade competition through this submission.

1. WATERCARE'S PURPOSE AND MISSION

- 1.1. Watercare Services Limited ("**Watercare**") is New Zealand's largest provider of water and wastewater services. Watercare is a council-controlled organisation under the Local Government Act 2002 and is wholly owned by the Auckland Council ("**Council**").
- 1.2. As Auckland's water and wastewater services provider, Watercare has a significant role in helping Auckland Council achieve its vision for the Auckland region.
- 1.3. Watercare's purpose, embodied in the Māori whakatauki (proverb) below, reflects the connection between Watercare's services and the wellbeing of our community and the local environment:

Ki te ora te wai, ka ora te whenua, ka ora te tangata.

When the water is healthy, the land and the people are healthy.

- 1.4. Watercare is required to manage its operations efficiently with a view to keeping overall costs of water supply and wastewater services to its customers collectively, at minimum

levels, consistent with the effective conduct of its undertakings and the maintenance of the long-term integrity of its assets¹.

- 1.5. Watercare is subject to interim economic regulation under the Watercare Charter ("**Charter**"). The Charter imposes minimum service quality standards, financial performance objectives, and an interim price-quality path. The Commerce Commission has been appointed as the Crown monitor and has regulatory oversight of Watercare's compliance with the Watercare Charter.
- 1.6. Subject to the Charter, Watercare must also give effect to relevant aspects of the Council's Long-Term Plan, and act consistently with other plans and strategies of the Council² including the Auckland Plan 2050, the Auckland Unitary Plan (Operative in Part) ("**AUP(OP)**"), the Auckland Future Development Strategy 2023-2053 ("**FDS**"), and the Auckland Council's Growth Scenario ("**AGS2023 v1.1**").
- 1.7. The Local Government (Water Services) Act 2025 ("**LGWSA**") was enacted on 26 August 2025. The LGWSA requires, among other things, that Watercare operate in the most cost-effective manner including that decisions relating to options for providing wastewater infrastructure must be for the option that is considered to be the most cost-effective option for the lifetime of the infrastructure assets.³

2. SUBMISSION

General

- 2.1. This is a submission on a private plan change application by Fisher and Paykel Healthcare Limited ("**Applicant**") to the AUP(OP) that was publicly notified on 14 November 2025 ("**Plan Change 121**").
- 2.2. Plan Change 121 seeks to rezone approximately 86.5 hectares of land from Future Urban Zone ("**FUZ**") to the Business - Light Industrial Zone ("**B-LIZ**"). The land subject to Plan Change 121 comprises 300, 328, 350, 370 and part of 458 Karaka Road ("**Plan Change Area**"). The Applicant is the sole owner of the Plan Change Area.
- 2.3. Plan Change 121 includes a proposed new precinct to apply to the Plan Change Area – the Karaka Road Precinct. The proposed Karaka Road Precinct provisions include provision for indicative vehicle accesses, yard and planting (riparian and special landscape area) requirements, stormwater management, provisions to recognise Mana Whenua values, and provisions to ensure that development progresses with the availability of infrastructure. The purpose of Plan Change 121, as outlined in section 4.2 of the Applicant's Section 32 Assessment Report, is to enable the provision of additional light industrial land in Drury West. This will enable the development of a second Fisher and Paykel Healthcare campus in New Zealand, focusing on research and development, manufacturing and office activities,

¹ Local Government (Auckland Council) Act 2009, s57(1)

² Local Government (Auckland Council) Act 2009, s58.

³ Local Government (Water Services) Act 2025, s254.

and provide significant employment opportunities within a walkable distance to the designated Ngākōroa Railway Station.

- 2.4. The purpose of this submission is to ensure that the technical feasibility of the proposed water and wastewater servicing is addressed and that the potential adverse effects of the future development enabled under Plan Change 121 on Watercare's existing and planned water and wastewater networks are appropriately considered and managed in accordance with the Resource Management Act 1991 ("**RMA**").
- 2.5. In making its submission, Watercare has considered the relevant provisions of the Auckland Plan 2050, the Long-term Plan 2024-2034 (10-year Budget), Watercare's Statement of Intent 2025-2028, the FDS, the Water Supply and Wastewater Network Bylaw 2015, the Water and Wastewater Code of Practice for Land Development and Subdivision, the Watercare Business Plan 2025-2034 (10-Year Business Plan) and the current Watercare Asset Management Plan. Watercare has also considered the relevant RMA documents including the AUP(OP) and the National Policy Statement on Urban Development 2020 (amended May 2022).
- 2.6. Watercare acknowledges the economic benefits that would be enabled via Plan Change 121 and supports such outcomes for the Auckland region. Watercare supports the development subject to the provision of an acceptable interim solution to bridge the gap between time of development and provision of bulk water and wastewater infrastructure.
- 2.7. Based on the above, Watercare **supports Plan Change 121, subject to** confirmation of the Applicant's proposal in relation to private water and wastewater servicing and consequential amendments to the proposed provisions to ensure any effects of this out of sequence development on Watercare's existing and future infrastructure are appropriately managed.
- 2.8. In making this submission, it is noted that any infrastructure delivery dates provided in this submission are forecast dates only and therefore subject to change.

Specific parts of Plan Change 121

- 2.9. Watercare's submission relates to Plan Change 121 in its entirety.
- 2.10. Without limiting the generality of 2.9 above, the specific parts of Plan Change 121 that Watercare has a particular interest in are:
- a) the actual and potential effects of Plan Change 121 on Watercare's existing and planned water and wastewater networks; and
 - b) the proposed Karaka Road Precinct provisions insofar as they relate to water supply and wastewater servicing.

Sequencing of development

- 2.11. Watercare's bulk infrastructure programme is planned, funded and sequenced in line with the Auckland Plan 2050, the Auckland Council Development Strategy (this is currently the

FDS, which replaced the Future Urban Land Supply Strategy 2017 in December 2023), the Auckland Council Growth Scenario ("**AGS**"), and the AUP(OP).

- 2.12. Watercare's investment decisions are guided by its AMP and its 10-Year Business Plan, which together set out how Watercare will maintain, renew, and deliver new infrastructure to meet demand. The Business Plan, approved by Watercare's Board and Auckland Council, outlines priority projects, funding allocations, and regulatory compliance under the Watercare Charter. These documents ensure that infrastructure delivery is sequenced to align with planned growth and available funding. Out-of-sequence development, such as Plan Change 121, has the potential to conflict with this investment framework and can risk diverting funding from critical renewals and planned upgrades, undermining Watercare's ability to maintain service levels for existing customers and live-zoned areas.
- 2.13. Plan Change 121 is located within the Drury West Stage 2 Future Urban Area ("**FUA**") which the FDS identifies as not ready for development before 2035+.⁴
- 2.14. Appendix 6 of the FDS identifies the infrastructure prerequisites that enable the development of the FUAs.⁵ The FDS states:⁶
- "The timing of the live-zoning future urban areas spans over 30 years from 2023 – 2050+ and is necessary in acknowledging the council's limitations in funding infrastructure to support growth. Distributing the live zoning of future urban areas over this timeframe enables proactive planning in an orderly and cost-efficient way, ensuring the areas are supported by the required bulk infrastructure and able to deliver the quality urban outcomes anticipated in this FDS."*
- 2.15. The Hingaia Rising Main and the Southern Auckland Wastewater Servicing Scheme are identified in the FDS as infrastructure prerequisites necessary to support the development of the Drury West (Stage 2) FUA.⁷ These prerequisites need to be in place to enable bulk wastewater servicing of the Plan Change Area. However as noted in the FDS, this is not an exhaustive list and further pre-requisite infrastructure projects may be identified over time.
- 2.16. All the bulk pre-requisites identified need to be in place before the Plan Change Area can be supported by the public wastewater networks unless otherwise advised by Watercare.
- 2.17. A key concern in principle for Watercare is that Plan Change 121 is "out of sequence" with the timing for development set out in the FDS being 2035+, and with the timing of the bulk wastewater infrastructure planned to support development of this FUA. The date for when all the bulk pre-requisites required to support development of the Plan Change Area are anticipated to be delivered by is currently still to be confirmed by Watercare as the pre-requisite projects are not yet fully funded as of the date of this submission.

⁴ FDS, Appendix 6 at p. 40.

⁵ As defined and introduced in the FDS 2023 Appendix 6 at p. 32.

⁶ FDS, Appendix 6 at p. 35.

⁷ FDS, Appendix 6 at p. 40.

Structure Planning

- 2.18. Auckland Council's Drury-Opāheke Structure Plan ("**DOSP**") was developed with public consultation and was adopted by the Council's Planning Committee in August 2019. The DOSP applies to the greater Drury-Opāheke Future Urban Areas covering 1921 hectares. Under the DOSP, the Plan Change Area was identified for residential activity (Mixed Housing Suburban and Mixed Housing Urban). Given Plan Change 121 seeks B-LIZ zoning for the Plan Change Area, the Applicant underwent a structure planning process to replace the part of the DOSP that applied to the Plan Change Area and some adjacent land ("**Karaka Road Structure Plan**"). The Karaka Road Structure Plan (section 7.9) notes the Plan Change Area would connect the public water and wastewater networks, and a permanent wastewater public pump station and rising main (assumed as local network infrastructure) would connect to the future bulk wastewater network.

Water supply servicing

- 2.19. The Plan Change Area is not currently connected to the public water supply network.
- 2.20. The Application for Plan Change 121 contains a water and wastewater capacity review carried out by Crang Civil (Appendix 11) ("**the Engineering Report**") which states that a new water supply main along Karaka Road, extended from the Bulk Supply Point ("**BSP**") on Flanagan Road, is required to service the Plan Change Area. The section 32 report provided with the Plan Change 121 application states (at [7.8.2]) that the Plan Change Area will either be serviced by a new watermain network that will originate from the Flanagan Road BSP or an on-site bore and water treatment plant.
- 2.21. Watercare confirms that, as of the date of this submission, there is sufficient capacity in the existing bulk water supply network to enable development of the Plan Change Area ahead of the 2035+ timing anticipated by the FDS, without compromising the ability of the bulk network to provide service to current Watercare customers and the existing live zoned area.
- 2.22. The Applicant's Funding Plan, submitted in support of Plan Change 121, indicates that a local water connection to the Plan Change Area may be provided after 2050 via the Flanagan Road BSP with an additional connection to the north. The Applicant has provided the below summary of this:
- The expansion of the network from FPH to Flanagan Road BSP with additional connection to the north is required for wider servicing but may not be required for the FPH site for some time (likely not required until closer to 2050, due to onsite servicing being available for the first three buildings).*
- 2.23. Based on the above, and the reference to alternative water servicing in the Application materials, it is assumed that the Applicant intends to use an onsite bore in the interim to supply water to the development and/or as a supplementary source of water once a connection to the bulk network is made. Rainwater harvesting has also been suggested as a possible means water supply at Section 4.1 and Appendix C of the Engineering Report.

- 2.24. Watercare generally supports sustainable and safe reuse of water as natural resource, and the utilisation of groundwater as a water source where the public network is not available, so long as the necessary consents are obtained and water treatment standards are met for drinking supply purposes.
- 2.25. In this instance, Watercare acknowledges the Plan Change Area currently utilises a bore for water supply purposes, associated with the Plan Change Area's existing rural purposes and that a local water network does not currently service this rural area. However, once live zoned for urban development, it is Watercare's strong preference that the Plan Change Area is connected to the bulk water supply network as soon as possible. Watercare has delivered the Waikato 1 Watermain and the BSP at Flanagan Road to service future developments in the Drury area, as anticipated by the FDS and the DOSP. As this infrastructure has been delivered with capacity to service the Plan Change Area, it is Watercare's preference that the Plan Change Area connects to the bulk infrastructure to promote the efficient use of infrastructure and integration with planning, funding, and delivery decisions in accordance with Objective 6 and Policy 10 of the National Policy Statement on Urban Development 2020 (as amended 2022), and Chapter B2 of the Auckland Regional Policy Statement.
- 2.26. While Watercare has confirmed there is currently sufficient capacity in the bulk water supply network to service the Plan Change Area, connections are allocated strictly on a first-come, first-served basis and this capacity cannot be reserved or guaranteed. In the event of a delay in when the Applicant seeks to connect to the public water supply network (i.e. in 2050 rather than imminently), there is the potential that the capacity that exists currently in the network may no longer be available. Under the Water Supply and Wastewater Network Bylaw 2015, Watercare may decline a request for connecting to its public infrastructure for specified reasons including where the transmission network is at capacity. Therefore, the Applicant is recommended to connect to the public water supply network as soon as possible.
- 2.27. While not a process governed by the RMA, if the Applicant intends to use a combination of public network supply and onsite solutions (i.e. bore) as a supplementary water source in the future, they must notify Watercare in accordance with their Customer Contract with Watercare. This notification ensures that water usage within the Plan Change Area, as well as the associated discharges to the public wastewater network, can be appropriately monitored.
- 2.28. The Applicant will be required to deliver the local watermain and connect to the Watercare bulk network. The point of connection to the bulk water supply network will need to be confirmed by Veolia as the local service provider for this area.

Wastewater servicing

Networks

- 2.29. The Plan Change Area is currently not serviced by the public bulk wastewater network.
- 2.30. The bulk wastewater network is expected to have capacity to service the development of the Plan Change Area once all three of the following projects under the pre-requisite 'Southern Auckland Wastewater Servicing Scheme' are completed and commissioned:
- a) Hingaia wastewater pumpstation ("**WWPS**") upgrade and a new rising main (currently anticipated by 2035);
 - b) The Bremner Road WWPS upgrade (currently anticipated by 2035); and
 - c) The Drury West Transmission Sewer (delivery date to be confirmed, not to be commissioned before the Hingaia and Bremner Road WWPS upgrades).
- 2.31. Connection of the Plan Change Area to the bulk wastewater network cannot occur until these prerequisites are completed and commissioned.
- 2.32. Further upgrades or new projects may be identified throughout the development of the Plan Change Area as growth and population increases in the wider catchment. There are a number of proposed developments in the Drury area, and it is acknowledged that the scale, land use and density (and therefore water and wastewater requirements) of a number of these developments is still in planning and has not yet been confirmed.
- 2.33. While currently anticipated timeframes are set out above at para 2.30, there is some uncertainty around the delivery timeframe for the Southern Auckland Wastewater Servicing Scheme due to the upcoming re consenting of the Māngere Wastewater Treatment Plant ("**WWTP**") which needs to be completed by 2032 to align with future growth as projected by the AGS. This process will also confirm the discharge location and effluent quality, which will inform any future upgrades necessary. There is currently uncertainty as to whether the flows from the Drury West FUA, including the Plan Change Area, will be directed to the Mangere WWTP, or another location, hence the uncertainty as to when and how the Southern Auckland Wastewater Servicing Scheme will be delivered.
- 2.34. The Engineering Report suggests that the Plan Change Area would be serviced for wastewater via a permanent public pumpstation to be located on the western portion of the Plan Change Area, which proposes to pump wastewater via a proposed public rising main along SH22 and Jesmond Road where it will connect to the future Drury West Transmission Sewer.⁸ It is presumed that this (the pumpstation and the rising main) is a local network to be delivered by the Applicant in consultation with Veolia. The rising main and pump station referred to in the Engineering Report is not a planned or funded Watercare project.

⁸ Engineering Report at [3.2].

- 2.35. The Engineering Report notes consultation occurred with Watercare over a 12-month period where Watercare confirmed capacity had been allocated in the future bulk network (the transmission network downstream of Manhole 13) for the Plan Change Area.⁹ It should be clarified that Watercare does not allocate or reserve capacity for any party within its current or planned infrastructure, and, as stated above, connections are strictly on a first come first served basis. However, for FUAs, Watercare plans to deliver bulk infrastructure with the anticipated capacity to service those areas in accordance with the timing and sequencing of development anticipated in those documents referenced in section 1.6 of this submission. As such, the Plan Change Area has been included in design calculations for the infrastructure to be delivered for this area.
- 2.36. The Funding Plan in support of Plan Change 121 suggests a local network connection to the public bulk wastewater network (i.e. the Drury West Transmission Sewer) would be made when required, in 2047. In particular, the Funding Plan states that the local network project constructing the rising main from the Plan Change Area to Manhole 13 (of the Drury West Transmission Sewer – along Jesmond Road) will be required when the capacity of the onsite wastewater treatment is exhausted which is anticipated in 2047. The Applicant implies that the Plan Change Area will be serviced onsite for the initial stages of development, but that if demand on site could not be accommodated with on-site resources, then development would be restricted until the pre-requisite infrastructure is constructed and operational.
- 2.37. In relation to the bulk infrastructure upgrades anticipated by Watercare (the Hingaia Wastewater WWPS upgrade, the Bremner Road WWPS Upgrade, and the Drury West Transmission sewer), the Applicant's Funding Plan states that none of these projects are required to service the Plan Change Area until closer to 2050 (which aligns with its proposed timing of the local network upgrades).
- 2.38. At this stage, Watercare does not have sufficient understanding of the wider wastewater catchment to advise exactly when the pre-requisite wastewater infrastructure projects would be completed and commissioned by. However, Watercare is aware of the sequencing of development as set out in the FDS of 2035+ and as per its Statement of Intent 2025-2028, seeks to align its infrastructure delivery with the FDS.
- 2.39. The Applicant has identified that a private onsite wastewater solution could be used in lieu of the public wastewater network as they wish to begin development and occupation before 2035. If buildings are constructed and occupied prior to the completion of the pre-requisite bulk wastewater infrastructure as listed above, Watercare agrees that an interim onsite solution for wastewater management would be required.
- 2.40. However, as reflected throughout the Applicant's Section 32 report, the Karaka Road Structure Plan, the Engineering Report and the wording in the relevant proposed Karaka Road Precinct provisions, it is unclear whether this onsite solution would be an interim or permanent solution. For example, proposed standard IX.6.9(1) (Water supply and

⁹ Engineering Report at [3.2].

wastewater connections) of the Karaka Road Precinct provisions seek to ensure that the Plan Change Area is "connected to a functioning water supply and wastewater network, or serviced by alternative on-site solution".

- 2.41. Watercare's strong preference is where development occurs in advance of the necessary bulk infrastructure to service that area, that any private, onsite wastewater servicing solution is interim, and decommissioned once the bulk network is available with sufficient capacity (following completion of the relevant infrastructure pre-requisite projects).
- 2.42. Watercare's planned investment in bulk wastewater infrastructure to support development of the Plan Change Area and the wider catchment is in the order of \$500M+. If developers choose not to utilise planned and funded infrastructure in an FUA, there is a risk of inefficient integration with infrastructure planning, funding, and delivery decisions, impacting Watercare's planned networks.
- 2.43. If the Applicant agrees to privately service on an interim basis, appropriate amendments to the Karaka Road Precinct provisions can be discussed and agreed further within scope of this submission.
- 2.44. The Applicant will be required to deliver the local pipework and connection to the Watercare bulk network once available. The point of connection to the bulk wastewater network will need to be confirmed by Veolia as the local service provider for this area.

3. DECISION SOUGHT

- 3.1. Watercare seeks that amendments are made to Plan Change 121 to confirm the Applicant's proposals and timeframes in relation to water supply and wastewater servicing of the Plan Change Area, and to ensure there are provisions in place to provide for the efficient integration of development alongside infrastructure planning and delivery in the Plan Change Area.
- 3.2. Watercare notes that the Applicants are required to deliver and fund the local water supply and wastewater network capacity and servicing requirements of the development enabled by Plan Change 121 in accordance with Watercare standards. These requirements will be assessed by Veolia at the time of resource consent and engineering plan approval.

20.1

4. HEARING

- 4.1. Watercare wishes to be heard in support of its submission.

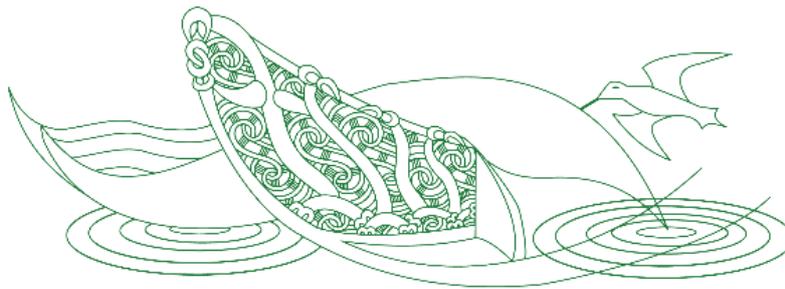
12th December 2025



Helen Shaw
Head of Strategy and Consenting
Watercare Services Limited

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NGĀTI TAMAHOHO SETTLEMENT TRUST

Submission on Private Plan Change 121 – Karaka Road (Fisher & Paykel Healthcare Karaka Campus)

Submitter: Te Taiao Unit on behalf of Ngati Tamaoho Settlement Trust

Contact: Edith@tamaoho.maori.nz

Date: 27/11/2025

1. Introduction

I/we submit on Private Plan Change 121 (PC121) to rezone approximately 86.5 hectares of land at Karaka Road, Drury from Future Urban Zone (FUZ) to Business – Light Industry Zone (B-LIZ), including the proposed Karaka Road Precinct provisions.

This submission is made from a cultural and environmental perspective, recognising the ancestral connections of Ngati Tamaoho to Karaka and its tributaries to Te Manukanuka o Hoturoa, the Oiroa and Ngakaroa awa, and surrounding cultural landscapes and our korero/discussion from our pūkenga/specialists in this space.

2. Position

I/we **do not oppose the plan change** acknowledging the economic and employment benefits for Ngati Tamaoho and the opportunity to create a high-quality campus environment. However, I/we have **concerns regarding cultural values, environmental integrity, and sequencing**, and seek amendments to ensure the development aligns with the Auckland Unitary Plan (AUP) objectives and policies and aligns with Ngati Tamaoho uara/values - our environmental and cultural standards and outcomes we are seeking.

3. Cultural Perspective Assessment

Painga:

- **Recognition of Mana Whenua Values**
Engagement with Ngāti Tamaoho, Ngaati Te Ata Waiohua, and Te Ākitai Waiohua has occurred, and precinct provisions include riparian planting and cultural naming opportunities.
Evidence: Section 32 Report confirms hui with mana whenua and inclusion of cultural provisions (Appendices 19–21).
AUP clauses: B6.2.1(1), B6.3.2(1)(b).
- **Enhancement of Oiroa/Ngakaroa Awa and Riparian Margins**
Proposed 20m riparian planting along Oiroa awa and 10m along other streams will restore ecological and cultural values.
Evidence: Precinct Plan 2 and ecological assessment (Appendix 10) require riparian buffers.
AUP clauses: E3.2.1(1), E15.2.1(1).
- **Opportunities for Cultural Integration**
Trails, walkways, and creative mahi toi are proposed within the Masterplan.
Evidence: Masterplan Report (Section 4.6) outlines cultural identity opportunities including naming and cultural inductions.
AUP clause: B6.3.2(1)(b).

Raruraru/Issues:

- **Risk of Cultural Dilution**
Large-scale industrial development may overshadow cultural identity if Te Aranga principles are not fully embedded. Site lines and view shafts to Maunga will be impeded if the height is not managed properly.
Evidence: Masterplan acknowledges need for partnership but lacks enforceable design standards.
AUP clause: B6.2.1(2).
- **Stormwater Management Concerns**
Ngaati Tamaoho opposes “pass flows forward” strategy; prefers on-site attenuation and natural systems. Avoid passing the problem to owners further downstream of these overland flow paths in known flood prone areas.
Evidence: Cultural Values Assessment recommends hybrid stormwater solutions.
AUP clauses: E1.3.10, E8.6.1.
- **Potential Archaeological Impacts**
High likelihood of encountering sites near Oiroa Creek.
Evidence: Archaeology Assessment (Appendix 15) identifies high-risk zones within 100m

of Oiroa awa.

AUP clauses: D17.2.1(1), D17.3.1(1).

- **No Wastewater Infrastructure**, detail yet to be determined, any proposed methodology may eventually end up discharging to the Oiroa through an environmentally placed proposed treatment which could suggest discharge to Oiroa awa and then out to the Manukanuka o Hoturoa.

AUP clauses: E1, E5, E6: wastewater

- **No Water Infrastructure**, groundwater takes not conducive to the waterways, current water takes will not service proposed development, further requests for water will either be from the Awa Waikato or from over allocated aquifer in Karaka.

AUP clauses: E 26; Infrastructure.

- **Roading Infrastructure on the SH22 not fit for purpose** (combined with the new train station getting on to the main road will be problematic without major works and disruption of what's proposed).

AUP clauses: E 27.

4. Requested Amendments

To address these concerns, I/we request the following amendments to the Karaka Road Precinct provisions:

1. **Cultural Governance and Monitoring**
 - Require Memoranda of Understanding with Ngāti Tamaoho, for cultural monitoring and design input.
Evidence: CVAs recommend formal agreements (Appendices 19–21).
AUP reference: B6.3.2(1)(a).
2. **Site Specific Cultural Design Principles**
 - Embed principles and values in all precinct design standards and assessment criteria.
Evidence: Masterplan guiding principles include "Celebrating Identity" but need enforceable rules.
AUP reference: B6.3.2(1)(b).
3. **Stormwater Management**
 - Amend provisions to allow hybrid solutions incorporating on-site attenuation and naturalised systems, consistent with iwi recommendations.
Evidence: SMP proposes wetlands and rain gardens but iwi seek reduced piping and natural flow paths (Appendix 8).
AUP references: E1.3.10, E8.6.1.
4. **Archaeological Protocols**
 - Strengthen accidental discovery protocols and require pre-earthworks cultural monitoring.
Evidence: Archaeology Assessment recommends alert layers and monitoring

21.1

(Appendix 15).

AUP references: D17.2.1(1), D17.3.1(1).

5. Naming and Interpretation

- Commit to naming precinct features after Oiroa Awa and other culturally significant elements.

Evidence: CVAs recommend naming precinct "Oiroa Precinct" and cultural interpretation (Appendices 19–21).

AUP reference: B6.3.2(1)(b).

5. Alignment with AUP

The requested amendments will ensure PC121 gives effect to the following AUP objectives and policies:

- **Urban Growth and Form:** B2.2.1(1A), B2.3.1(1).
- **Mana Whenua:** B6.2.1(1), B6.3.2(1).
- **Natural Environment:** E3.2.1(1), E15.2.1(1).
- **Infrastructure and Stormwater:** E1.3.10, E8.6.1.
- **Historic Heritage:** D17.2.1(1), D17.3.1(1).

6. Supporting Evidence

- **Section 32 Report (Barker & Associates, May 2025):**
Confirms cultural engagement, ecological enhancements, stormwater strategy, and archaeological risk (Sections 5.2, 7.4, 7.6, 7.12).
- **Masterplan Report (Warren & Mahoney, March 2025):**
Outlines cultural identity opportunities, riparian restoration, and sustainability principles (Sections 1.4, 4.6, 5.0).
- **Technical Assessments:**
 - Ecological Assessment (Appendix 10) – riparian planting and biodiversity restoration.
 - Archaeology Assessment (Appendix 15) – high-risk zones near Oiroa awa.
 - Cultural Values Assessments (Appendices 19–21) – iwi recommendations for governance, naming, and stormwater design, environmental standards.

7. Relief Sought

- Include precinct provisions to include cultural input into, governance, design principles supported by mana whenua, enhanced stormwater design, archaeological protocols, and cultural naming requirements, acknowledgement and provision of the cultural landscape throughout the campus. 21.2
- Ensure ongoing meaningful engagement with Ngati Tamaoho throughout all stages of development. 21.3
- Further engagement through the design of any future infrastructure and changes to concept design. 21.4

Provide for Cultural provisions and conditions within the consent and Precinct Provisions.

Precinct Provisions:

- Incorporating mātauranga Māori and tikanga Māori through the development process;
- incorporation of design elements, art works, naming and historical information to reflect the values and relationships with the Karaka area;
- ecological enhancement including native landscaping, vegetation and design, including retention of mature native trees, and replanting (and consultation on the landscape plans).
- Providing for the acknowledgement of our heritage and cultural landscape our stories in the Karaka Area.

21.5

Consent conditions:

Pre-start meeting

Prior to the commencement of any works, the consent holder must hold a pre-start meeting that:

- a. is located on the subject site;
- b. is scheduled not less than five days before the anticipated commencement of earthworks;
- c. includes representation from the Council; and
- d. includes representation from the contractors who will undertake the works, includes mana whenua representation.
- e. Also entails blessing is undertaken before work starts.
- f. cultural induction is done with the contractors along with archaeological induction,
- g. cultural monitoring is undertaken when implementing sediment and silt controls.
- h. when scraping back the land initially,
- i. through the cut and fill portion of the project nearer the hill areas.

21.6

Representatives of Mana whenua must be given at least five working days' notice of the meeting and reasonable endeavours must be made to accommodate their attendance.

The meeting must discuss the cultural induction and monitoring conditions and the erosion and sediment control measures, cut and fill management plan, scope of works through the

various stages and must ensure all relevant parties are aware of and familiar with the necessary conditions of this consent.

The following information must be made available at the pre-start meeting:

- Timeframes for key stages of the works authorised under this consent;
- Resource consent conditions;
- The Erosion and Sediment Control Plan.
- Any cultural monitoring and induction material supplied to the consent holder by or on behalf of Mana whenua.

Advice note:

To arrange the pre-construction meeting please contact the Council to arrange this meeting on email at monitoring@aucklandcouncil.govt.nz.

Cultural Inductions and Earthworks Monitoring – Mana Whenua

1. Prior to the commencement of earthworks (or at other times to be agreed with representatives of Ngāti Tamaoho cultural inductions must be provided to the workers involved in earthworks/topsoil stripping associated with this application, including those involved in the establishment of silt and sediment controls. A register of the cultural inductions undertaken must be collated and provided to the Council and respective mana whenua representatives upon request.

The consent holder shall provide a minimum of 5 working days' notice to representatives of Mana whenua of the dates for the cultural inductions.

2. Provision shall be made by the consent holder for representatives of Mana whenua to undertake cultural monitoring, karakia and other such cultural ceremonies on the site, associated with the following milestones:
 - Pre-start meeting;
 - Prior to commencement of bulk earthworks;
 - Immediately prior to completion of bulk earthworks across the site

The consent holder shall provide a minimum of 5 working days' notice to representatives of Mana whenua of the anticipated dates for the above milestones.

Advice Note:

"Earthworks" includes both Topsoil Stripping and Bulk Earthworks

Accidental Discovery Protocols

If, at any time during [site](#) works, sensitive materials (koiwi/human remains, an archaeology site, a maori cultural artefact, a protected NZ object, contamination or a lava cave greater than 1m in diameter) are discovered, then the protocol set out in standards E11.6.1 and E12.6.1 of the Auckland Unitary Plan (Operative in Part) must be followed. In summary these are:

- a) All works must cease in the immediate vicinity (at least 20m from the site of the discovery) and the area of the discovery must be secured including a buffer to ensure all sensitive material remains undisturbed.
- b) The consent holder must immediately advise, Council, Heritage New Zealand, Pouhere Taonga, and Police, Mana Whenua Representatives (if human remains are found) and arrange a site inspection with these parties.
- c) If the discovery contains koiwi, archaeology or artefacts of Maori origin, representatives from those Iwi groups with mana whenua interest in the area are to be provided information on the nature and location of the discovery, and a site inspection arranged.

The consent holder must not recommence works until the steps set out in the above-mentioned standards have been followed and commencement of works approved by Council.

Advice note:

If any archaeological features are uncovered on the site, works should cease and mana whenua having an interest in this area, the Team Leader, Compliance Monitoring South, and Heritage New Zealand Pouhere Taonga (09 307 9920) should be notified immediately. The Heritage New Zealand Pouhere Taonga Act 2014 provides for the identification, protection, preservation and conservation of the historic and cultural heritage of New Zealand. It is an offence under this act to destroy, damage or modify an archaeological site without an authority from Heritage New Zealand Pouhere Taonga.

An archaeological site is defined as a place associated with pre-1900 human activity where there may be evidence relating to the history of New Zealand. Archaeological features may include old whaling stations, shipwrecks, shell middens, hangi or ovens, pit depressions, defensive ditches, artefacts, or koiwi tangata (human skeletal remains), etc. For guidance and advice on managing the discovery of archaeological features, including details on how to contact Iwi groups with mana whenua interest in the area, please contact the Team Leader, Cultural Heritage Implementation on 09 301 0101.

8. Conclusion

I/we do not oppose PC121 but that is subject to the above amendments, to ensure cultural values are upheld, environmental integrity is maintained, and development aligns with the Auckland Unitary Plan and the principles of Te Tiriti o Waitangi.

Signature:



Nga Mihi,



NGĀTI TAMAOHO SETTLEMENT TRUST

Edith Tuhimata

Kaitiaki Taiao Matua

Ph: 0220445074

E: edith@tamaoho.iwi.nz

[128 Hingaia Road, Karaka](#)

PO Box 2721652, Papakura

Auckland 2244

Date:12/12/2025



Auckland Council
Level 24, 135 Albert Street
Private Bag 92300
Auckland 1142

Attn.: Planning Technician

unitaryplan@aucklandcouncil.govt.nz

TO: Auckland Council

SUBMISSION ON: Plan Change 121 (Private) - 300, 328, 350, 370 and 458
Karaka Rd, Drury

FROM: Veolia Water Services (ANZ) Pty Ltd

ADDRESS FOR SERVICE: sanjeev.morar@veolia.com

DATE: 12 December 2025

Veolia could not gain an advantage in trade competition through this submission.

1. INTRODUCTION

1.1. Background

On July 1, 1997 a 30-year franchise agreement commenced with the Papakura District Council to outsource operations of the water and wastewater networks in Papakura, Drury and Takanini to a Veolia, wholly owned subsidiary called United Water.

Around the globe, Veolia helps cities and industries to manage, optimize and make the most of their resources. The company provides an array of solutions related to water, energy and materials. Veolia's 174,000 employees are tasked with contributing directly to the sustainability performance of customers in the public and private sectors, allowing them to pursue development while protecting the environment.

- 100 million people supplied with drinking water

- 63 million people connected to wastewater systems
- 4,245 drinking water production plants managed
- 3,303 wastewater treatment plants managed^[s1]

In 2011, United Water was rebranded to Veolia, its parent company's name. This brand change brought the New Zealand operations in line with Veolia's global business.

Under the existing franchise agreement, Veolia is responsible for all aspects of the water and wastewater business including:

- Meter reading, billing and collection of revenue
- Customer services
- Operations and maintenance of the water supply and wastewater collection systems
- Planning, design and construction of new infrastructure

Papakura District Council was disestablished in 2010 with the creation of the Auckland Council as a unitary authority.

Auckland Council owns Watercare - a council organisation. All the water in the Papakura district is supplied by Watercare and all wastewater is treated at Watercare's Mangere Plant.

Watercare Services Ltd owns the water and wastewater infrastructure which is operated by Veolia.

2. SUBMISSION

2.1. General

This is a submission on a change proposed by Fisher and Paykel Healthcare to the Auckland Unitary Plan (Operative in Part) that was publicly notified on 14 November 2025 ("**Proposal**").

The Applicant proposes to rezone 86.5 hectares of Future Urban at 300, 328, 350, 370 and 458 Karaka Rd, Drury, to Business - Light industrial zone ("**Plan Change Area**").

Veolia neither supports nor opposes the Proposal. The purpose of this submission is to address the technical feasibility of the proposed water and wastewater servicing arrangement to ensure that the effects on the existing and planned water and wastewater network are appropriately considered and managed in accordance with Resource Management Act 1991 ("**RMA**").

In making its submission, Veolia has considered the relevant provisions of the Auckland Plan 2050, Te Tahua Taungahuru Te Mahere Taungahuru 2018 – 2028/The 10-year Budget Long-term Plan 2018 – 2028, the Auckland Future Urban Land Supply Strategy 2015 and 2017, the Water Supply and Wastewater Network Bylaw 2015 and the Water and Wastewater Code of Practice for Land Development and Subdivision. It has also considered the relevant RMA documents including the Auckland Unitary Plan (Operative in Part) and the National Policy Statement on Urban Development Capacity 2016 which (among other matters) requires local authorities to ensure that at any one time there is sufficient housing and business development capacity which:

- (a) in the short term, is feasible, zoned and serviced with development infrastructure (including water and wastewater);
- (b) in the medium term, is feasible, zoned and either:
 - (i) serviced with development infrastructure, or
 - (ii) the funding for the development infrastructure required to service that development capacity must be identified in a Long Term Plan required under the Local Government Act 2002; and
- (c) in the long term, is feasible, identified in relevant plans and strategies, and the development infrastructure required to service it is identified in the relevant Infrastructure Strategy required under the Local Government Act 2002.¹

2.2. Specific parts of the Proposal

The specific parts of the Proposal that this submission relates to are: the proposed water and wastewater servicing arrangement and the effects of the Proposal on the existing and planned water and wastewater network.

Veolia has reviewed the Proposal and can advise the following conditions will need to be met. Specifically:

- (a) Water Supply - A looped watermain to be provided by the applicant, extending from the Flanagan Road Bulk Supply Point, along Karaka Road and back upto Bremner Road. Network modelling to be undertaken to determine suitability of existing infrastructure to provide for proposed demand.
- (b) Wastewater Network (gravity) - Availability of capacity to be determined pending discharge location
- (c) Wastewater Pump Station and Rising Main - Design and construction of a Retail wastewater pump station and rising main.

2.2.1. Water supply

2.2.1.1. Water supply infrastructure

The properties, 300, 328, 350, 370 and 458 Karaka Rd, Drury do not have a public water supply at their boundary, at present.

2.2.1.2. Water supply servicing for the Plan Change Area

In order to adequately assess the effects of the Proposal on the existing and planned water infrastructure network, the following further information regarding the proposed water supply servicing is required:

- (a) network modelling of the existing network with the additional demand proposed

¹ National Policy Statement on Urban Development Capacity 2016, policy PA1.

- (b) an assessment of the water infrastructure upgrades that might be required to service the development

The Applicant will be required to construct and fund any local network to service the Plan Change Area

For clarity, all of the water supply network relevant to the plan change is considered local network, and is therefore required to be funded by the developer.

2.2.2. Wastewater

2.2.2.1. Wastewater infrastructure

There is no existing Retail wastewater network available at the site boundary.

2.2.2.2. Wastewater servicing for the Plan Change Area

It is proposed that the Plan Change Area be serviced via a new Retail wastewater pump station and rising main, discharging into the 'T' line catchment, in accordance with Watercare's Future Urban Zone catchment document.

The Applicant will be required to design, construct and fund the local network upgrade to service the Plan Change Area.

This would require, at the cost of the Applicant, the design and construction of:

- (a) suitable gravity network discharge location. Should capacity be insufficient where the Applicant wishes to discharge, upgrades will be required
- (b) design and construction of a public wastewater pump station and rising main

All upgrades are to be reviewed and agreed with Veolia.

3. DECISION SOUGHT

Veolia seeks a decision that ensures that the water and wastewater capacity and servicing requirements of the Proposal will be adequately met, such that the water and wastewater related effects are appropriately managed. | 22.1

To enable that decision to be made, Veolia requests that:

- (a) The applicant will, at its cost, design and construct a looped Retail water network to the subject site, extending from the Flanagan Road Bulk Supply Point (BSP) and connecting back into Bremner Road. All water infrastructure extending from the Flanagan Road BSP is "Retail". | 22.2
- (b) Wastewater disposal from the Plan Change Area is required to be connected to the public wastewater network, discharging to the Bremner Road catchment. | 22.3
- (c) The Applicant will, at its cost, design and construct:
 - i. any wastewater infrastructure required to enable the connection of the Plan Change Area to the public wastewater disposal and collection system | 22.4

- ii. any water infrastructure required to enable the connection of the Plan Change Area to the public retail water network | 22.4
- (d) The Applicant obtains approval from Veolia for the connection points to the Retail network to service the Plan Change Area. | 22.5

4. HEARING

Veolia wishes to be heard in support of its submission.



Sanjeev Morar
Developments Manager

Before you fill out the attached submission form, you should know:

You need to include your full name, an email address, or an alternative postal address for your submission to be valid. Also provide a contact phone number so we can contact you for hearing schedules (where requested).

By taking part in this public submission process your submission will be made public. The information requested on this form is required by the Resource Management Act 1991 as any further submission supporting or opposing this submission is required to be forwarded to you as well as Auckland Council. Your name, address, telephone number, email address, signature (if applicable) and the content of your submission will be made publicly available in Auckland Council documents and on our website.

Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least one of the following applies to the submission (or part of the submission):

- It is frivolous or vexatious.
- It discloses no reasonable or relevant case.
- It would be an abuse of the hearing process to allow the submission (or the part) to be taken further.
- It contains offensive language.
- It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

Submission on a notified proposal for policy statement or plan change or variation

Clause 6 of Schedule 1, Resource Management Act 1991
FORM 5



Send your submission to unitaryplan@aucklandcouncil.govt.nz or post to :

Attn: Planning Technician
Auckland Council
Level 16, 135 Albert Street
Private Bag 92300
Auckland 1142

| |
|---------------------|
| For office use only |
| Submission No: |
| Receipt Date: |

Submitter details

Full Name or Name of Agent (if applicable)

Mr/Mrs/Miss/Ms(Full Name)

Andrew Sinclair

Organisation Name (if submission is made on behalf of Organisation)

Whakaupoko Landcare

Address for service of Submitter

[Redacted address field]

Telephone: 021 268 1904

Email: andrew.kereru@gmail.com

Contact Person: (Name and designation, if applicable)

Scope of submission

This is a submission on the following proposed plan change / variation to an existing plan:

Plan Change/Variation Number PC 121 (Private)

Plan Change/Variation Name Karaka Road Precinct

The specific provisions that my submission relates to are:

(Please identify the specific parts of the proposed plan change / variation)

Plan provision(s) All provisions dealing with Transport Planning to and around the Campus, in particular Integrated Planning Assessment - Appendix 9

Or
Property Address

Or
Map

Or
Other (specify)

[Redacted area for other provisions]

Submission

I seek the following decision by Council:

Accept the proposed plan change / variation

Accept the proposed plan change / variation with amendments as outlined below

Decline the proposed plan change / variation

If the proposed plan change / variation is not declined, then amend it as outlined below.

We believe the FPH Campus is an excellent opportunity for the wider Franklin area and all who live work and play here.

The values expressed in the Campus Masterplan Report from car-dominated Mode shifting to Active & Public transport are great.

Plan Change documentation outside of the campus does not support this aspiration, and as such ammendments are required

No Connectivity Ngākōroa (Drury West) Train Station timelined, designed or committed to. Unfunded, Undesigned Link. Amend

23.1

No Active mode connectivity to wider communities. Zero Active Transport connection to Drury, Paerata or Pukekohe is committed.

TERP Goals of VKT and Carbon reduction are not realistic with no Active mode connections or wider non vehicle network plans

The Transport assessment focus is reduction of congestion, no evidence of high quality alternatives are provided to support.

15000 staff the campus is designed for may be able to use the train station, but most will be locked into private vehicle dependency

PC121 must have walking/cycling (active mode) connections to Ngakaroa station, as a requirement, not just the stated intention

23.2

The Integrated Transport Plan's calculations of reducing active mode transport from 5-6% currently to 3% in 10 years needs challenging, along with the significant increase in carbon and vehicle traffic

Investigate linking the Unformed Legal Road on Woodln road to the North Island Main Trunk Line Active Mode Corridor

23.3

This campus will be a defining hub for the region, defining the transport links at this stage will define our transport future.

Carbon Assessment excludes Active Mode considerations. Potentially most of the 15000 FTE would use AT if available.

Whakaupoko Landcare supports enhancing biodiversity Green Trails and connecting people with the whenua.

I wish to be heard in support of my submission

I do not wish to be heard in support of my submission

If others make a similar submission, I will consider presenting a joint case with them at a hearing

Signature of Submitter

(or person authorised to sign on behalf of submitter)

12 - 12 - 2025

Date

Notes to person making submission:

If you are making a submission to the Environmental Protection Authority, you should use Form 16B.

Please note that your address is required to be made publicly available under the Resource Management Act 1991, as any further submission supporting or opposing this submission is required to be forwarded to you as well as the Council.

If you are a person who could gain an advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991.

I could /could not gain an advantage in trade competition through this submission.

If you could gain an advantage in trade competition through this submission please complete the following:

I am / am not directly affected by an effect of the subject matter of the submission that:

(a) adversely affects the environment; and

(b) does not relate to trade competition or the effects of trade competition.