

BEFORE THE INDEPENDENT HEARINGS PANEL

IN THE MATTER of the Resource Management Act 1991 ("RMA")

AND

IN THE MATTER Resource consent applications by Te Puna Industrial
Limited in relation to 297 Te Puna Station Road

**STATEMENT OF EVIDENCE OF BRUCE HARRISON ON BEHALF OF
TE PUNA INDUSTRIAL LIMITED**

(TRAFFIC)

25 JUNE 2024

1. EXECUTIVE SUMMARY

- 1.1 My full name is Bruce John Harrison and I am a self-employed Transportation Engineer.
- 1.2 I was engaged by TPIL in May 2021 to assess the potential traffic effects of the Application and provide recommendations as to mitigation. As part of this, I prepared the Transportation Assessment Report.
- 1.3 By way of a brief summary, Council propose to widen Te Puna Station Road and provide a shared pedestrian and cycle path. I consider the proposed width to be appropriate.
- 1.4 TPIL propose to provide a right turn bay at the intersection of Te Puna Station Road and Te Puna Road. With the right turn bay, the intersection is expected to operate efficiently with moderate delays, short queues, and an acceptable level of service. I have assessed that the available sight distances will be sufficient for the safe operation of the intersection.
- 1.5 The Site access to Te Puna Station Road is expected to operate efficiently with minimal delays, a high level of service and negligible queues.
- 1.6 A Construction Traffic Management Plan is proposed to manage the movement of trucks transporting the fill. With the use of this plan, I expect that any adverse safety or congestion effects attributable to earthworks-related movements will be low and acceptable.

2. INTRODUCTION

- 2.1 My full name is Bruce John Harrison. I am a self-employed Transportation Engineer.

Qualifications and experience

- 2.2 I have approximately 40 years' experience in the traffic and transportation engineering field.
- 2.3 I hold a Bachelor of Engineering (Civil) degree from the University of Canterbury, obtained in 1984.
- 2.4 I am a Chartered Member of Engineering New Zealand (CMEngNZ), a member

of the Engineering New Zealand Transportation Group and a member of the Institute of Transportation Engineers.

- 2.5 I have previously worked for a local authority and also several consulting engineering firms. In these roles I have provided technical advice on traffic and transportation matters associated with a wide range of development proposals, including industrial activities, and their potential impact on the surrounding road network.

Code of conduct

- 2.6 I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence before the Hearings Commissioners. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

3. SCOPE OF EVIDENCE

- 3.1 My evidence relates to the resource consent applications by Te Puna Industrial Limited ("**TPIL**") in relation to its site at 297 Te Puna Station Road ("**Site**"). The applications are to authorise the development of the Site for the establishment and operation of industrial activities, with associated earthworks and discharge to water, within the Site. The proposed development will give effect to the Te Puna Business Park Structure Plan ("**Structure Plan**") and industrial zoning provisions that apply to the Site under the Western Bay of Plenty District Plan. ContainerCo will be the anchor tenant of the Site. ContainerCo intends to store, repair, and lease out / sell shipping containers.
- 3.2 Regional resource consents to enable the Project are required from Bay of Plenty Regional Council ("**BOPRC**") and land use consents are required from Western Bay of Plenty District Council ("**WBOPDC**") (Together, the "**Application**"). The specific consent requirements are set out in the planning evidence of Mr Vincent Murphy.

Summary of engagement to date

- 3.3 I was engaged by TPIL in May 2021 to assess the potential traffic effects of

the Application and provide recommendations as to mitigation. As part of this, I prepared the Transportation Assessment Report ("**TAR**") dated September 2023, which was attached at Appendix 6 of the Assessment of Environmental Effects ("**AEE**"). This being a revised TAR responding to requests for further information raised by WBOPDC.

- 3.4 I have also prepared TARs dated July and November 2022, on behalf of Tinex Group Limited ("**Tinex**"), for the proposed use of the adjacent industrial site at 245 Te Puna Station Road. The July report considered the proposed future industrial use of the Site, while the November report considered the continuation of the existing unconsented activities.
- 3.5 I have also been involved in expert conferencing during January-February 2023 involving transportation engineers from the three industrial sites on Te Puna Station Road at 250-264, 245, and at the Site, WBOPDC, and WBOPDC's traffic consultants. The Joint Witness Statement ("**JWS**") was completed in February 2023. A hearing for the unconsented activities in relation to Tinex Group Limited was held in July – August 2023. This hearing was for a lesser level of activity than the current TPIL application and did not include the upgrade of the intersection of Te Puna Road and Te Puna Station Road, nor the provision of a right turn bay at their access to Te Puna Station Road, as proposed by TPIL.
- 3.6 A further review of the intersection of Te Puna Road and Te Puna Station Road ("**TPSR / TPR intersection**") was undertaken by Traffic Planning Consultants, who also prepared a report¹ on the need for a right turn bay at the intersection. The report concluded that the existing turning movements trigger the need for a right turn bay, irrespective of whether Te Puna Station Road remains closed, or is partially re-opened, and irrespective of the level of development that occurs within the Business Park.
- 3.7 In relation to traffic effects at the TPSR / TPR intersection, the Commissioners in the Tinex decision held that:²

In the absence of the provision of a right turn bay at the intersection we are not satisfied that that the adverse effects of the application on traffic safety will be no more than minor. We make that finding in full knowledge of the level of traffic

¹ Traffic Planning Consultants Ltd "Environment Court Mediation, Te Puna Business Park Impact of Te Puna Station Road Slips" (dated 1 June 2023).

² Decision Report, Tinex Group Limited, Application RC13924L to Western Bay of Plenty District Council, at [82].

associated with the TGL application. It would only take one of the 15 daily heavy vehicle movements to cause a crash during the two-year consent duration to potentially result in a significantly more than minor adverse effect.

- 3.8 Following this, I have prepared concept designs for the proposed provision of a right turn bay on Te Puna Station Road at the access to the Site, and also a right turn bay at the TPSR / TPR intersection. Mr Brett Harries of Harries Transportation Engineers has been engaged by the Applicant to (among other matters) peer review the concept design of the TPSR / TPR intersection.

My evidence

- 3.9 The purpose of my evidence is to address the potential traffic effects associated with the Application.

- 3.10 In this statement of evidence I will:

- (a) describe the existing traffic environment in the surrounding area;
- (b) set out the requirements under the Structure Plan;
- (c) summarise my assessment of potential effects on traffic in the Te Puna area as a result of the Application and my recommendations to address those effects. I will focus particularly on the TPSR / TPR intersection and its proposed upgrade as part of this Application, being the most significant traffic issue arising.
- (d) respond to matters raised in submissions and in the Council Officer's Section 42A Report ("**s42A Report**"); and
- (e) comment on the proposed conditions of consent.

4. EXISTING ENVIRONMENT

- 4.1 The Site is located on the southern side of Te Puna Station Road, approximately 500m east of Te Puna Road and 1.0km west of Clarke Road.

- 4.2 The Site is zoned Industrial under the Western Bay of Plenty District Plan. The Site is presently used for rural activities. Activities adjacent to the Site are also predominantly rural.

- 4.3 Te Puna Station Road is a Local Road under the Western Bay of Plenty District

Plan. It provides access to the local rural area as well as historically providing an alternative route between Te Puna Road and State Highway 2. Adjacent to the Site it has a 7.1m wide carriageway marked with a centreline and edge lines to provide a 3.1m wide traffic lane in each direction with a 0.3m wide eastbound and 0.6m wide westbound shoulder.

- 4.4 WBOPDC has previously proposed to widen the Te Puna Station Road carriageway to 8.5m and to construct a 3.0m wide cycle path along the southern side of the road.

Roading

- 4.5 The intersection of Te Puna Station Road with State Highway 2 is a Tee-intersection with Give Way control on the Te Puna Station Road approach. Both a right-turn bay and a left-turn slip lane are provided on State Highway 2.
- 4.6 Te Puna Station Road, between Clarke Road and State Highway 2, is presently closed to through traffic (save for the ability to access the underpass of the Wairoa River bridge). Passage is not available from State Highway 2 to Clarke Road or Te Puna Road. This is due to slips that occurred in tandem with intense rainfall in February 2023. A decision on re-opening the road, and to what degree (fully as per pre-February 2023, or one-way (eastbound towards Tauranga City) is expected by WBOPDC in September 2024.
- 4.7 In this regard, the WBOPDC has recently notified its Long-Term Plan with a key issue in this being whether Te Puna Station Road (between Clarke Road and State Highway 2) should be permanently closed, with the WBOPDC's preferred option being to permanently close the road alongside the river to vehicle traffic.³
- 4.8 The TPSR / TPR intersection is a Tee-intersection with stop control on the Te Puna Station Road approach.
- 4.9 Separate left and right turn lanes are provided on the Te Puna Station Road approach, together with a left turn slip lane on the Te Puna Road northern approach.
- 4.10 Te Puna Station Road between Te Puna Road and Clarke Road has an

³ "As part of our long term plan 2024-2034, we want to consider permanently closing Te Puna Station Road – what do you think?" Western Bay of Plenty District Council <<https://haveyoursay.westernbay.govt.nz/close-te-puna-station-road>>.

80km/h speed limit. East of Clarke Rd, Te Puna Station Road has a 60km/h speed limit.

- 4.11 Waka Kotahi NZTA are presently constructing Stage 1 of the Takitimu North Link. The road is expected to open in 2027. The new highway is expected to reduce traffic volumes, and the existing congestion, on the existing SH2 route through Bethlehem and Te Puna.

Traffic Count Data

- 4.12 The latest traffic count data for Te Puna Station Road was recorded in June-July 2022, prior to the closure of the road. This is provided in Section 5.1 of the TAR. This count recorded a 7-day average daily traffic ("**ADT**") volume of 2,865veh/day, with a morning peak of 460veh/h and an evening peak of 255veh/h.⁴
- 4.13 I am not aware of any traffic count data for Te Puna Station Road since the partial closure of the road (ie the closure of the road between Clarke Road and SH2). The available data for Te Puna Road and Clarke Road however indicates that the ADT has reduced to approximately 1,484veh/day, with a morning peak of 292veh/h and an evening peak of 189veh/h.
- 4.14 When assessing the required carriageway widths of roads, the District Plan requires the use of passenger car equivalent ("**PCE**") daily traffic volumes. The PCE ADT on Te Puna Station Road prior to the closure was assessed at 4,154veh/day.⁵ With the closure, I have assessed that this has reduced to approximately 2,152veh/day.
- 4.15 The latest available traffic count data for Te Puna Road was recorded in May 2023, after the partial closure of Te Puna Station Road. This is given in Section 5.2 of the TAR. This count recorded a 7-day ADT of 3,892 veh/day, with a morning peak of 411veh/h and an evening peak of 466veh/h.

Existing Traffic generation

- 4.16 Surveys of traffic generation of the existing activities within the Te Puna Business Park were carried out in May 2022. These surveys recorded the total number of vehicles entering and exiting each individual site within the Te Puna

⁴ Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [5.1], Table 3.

⁵ Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [5.1], Table 4.

Business Park during both the morning and evening peak periods. Details are provided in the TAR.⁶ From this data I have estimated the existing daily traffic generation of the three sites within the Te Puna Business Park as 155veh/day. I note that this survey included traffic movements associated with the existing unconsented activities on the Tinex site at 245 Te Puna Station Road. The traffic movements associated with the Tinex site accounted for a relatively small proportion (18%) of the total recorded traffic movements of the business park. The surveys identified a directional distribution of 75% to and from the east with 25% to and from the west. With the current partial closure of Te Puna Station Road east of the Site, I expect that most vehicles will now travel to and from the west.

5. TRAFFIC INFRASTRUCTURE REQUIREMENTS UNDER THE STRUCTURE PLAN

5.1 The Site is located within the Structure Plan ("**Structure Plan**") area under the District Plan. The Structure Plan specifies the following upgrading works to be carried out:

- (a) **Te Puna Road / SH2 Intersection** – upgrade to roundabout. This has been completed.
- (b) **Te Puna Station Road / SH2 Intersection** – widening for left turn movements into SH2 (or similar traffic management alternatives). This has not been carried out. My understanding is that, as few vehicles turn right out of Te Puna Station Road, there is little benefit in providing a separate left turn lane on the Te Puna Station Road approach.
- (c) **Te Puna Station Road / Te Puna Station Road Intersection** – provision for left and right turn movements or similar traffic management alternatives. Separate left and right turn lanes have been provided on the Te Puna Station Road approach to this intersection. A left turn lane has also been provided on the Te Puna Road northern approach. There is however no right turn lane on the Te Puna Road southern approach.

⁶ Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [8.1].

- (d) **Clarke Road** – minimum of two traffic calming thresholds installed at the northern end. These have been completed.
- (e) **Access onto Te Puna Station Road** – in accordance with NZTA Planning Policy Manual Diagram D. This is proposed as part of the Application. I understand that, since the Structure Plan was prepared, the naming of the NZTA Planning Policy Manual (PPM) diagrams has changed and that the relevant diagram is now Diagram E.

5.2 The Structure Plan specifies a maximum traffic generation of 2,600veh/day prior to the completion of the Takitimu North Link, which is presently under construction.

6. ASSESSMENT OF POTENTIAL EFFECTS

6.1 The key transportation issues associated with the Application are:

- (a) the level of traffic expected to be generated by the industrial activities and the effect that this will have on the operation and safety of the adjacent road network and, in particular, at the Te Puna Road / Te Puna Station Road intersection;
- (b) the provision of suitable access to, and manoeuvring within, the Site; and
- (c) the effects of earthworks related vehicle movements.

Traffic generation and safety – adjacent transport network

6.2 An assessment of the expected traffic generation is provided in Section 8.2 of the TAR. This identified, with the full development of the Site, an expected daily traffic generation of 77veh/day, with a peak hour traffic generation of 12veh/h.

6.3 Section 8.3 of the TAR identifies an expected PCE daily traffic generation of 1,609veh/day.

6.4 The Applicant proposes that all heavy vehicles will be required to enter and exit the Site to and from the west, using Te Puna Road. In the TAR I have recommended that, if Te Puna Station Road is re-opened, then all staff

travelling to the Site also be required to use the Te Puna Road route rather than Te Puna Station Road. This can be managed with the use of a Site Travel Management Plan ("**STMP**"). As Te Puna Station Road is presently closed at the slips, for my assessment, I have adopted a distribution of all vehicles travelling to and from the west.

- 6.5 The expected turning movements at the Site access are shown at Figure 8 of the TAR. This shows 101veh/h turning right into the Site during the morning peak, with 99veh/h turning left out of the Site in the evening peak.
- 6.6 A traffic effects assessment is provided at Section 9 of the TAR. This assessment uses the expected daily traffic generation of all three sites within the business park, with all access to and from the west. This assessment gives an expected ADT volume on Te Puna Station Road of between 4,083veh/day and 5,464veh/day, depending on whether Te Puna Station Road remains closed, or is re-opened.
- 6.7 The PCE ADT volumes on Te Puna Station Road are expected to be between 7,553veh/day and 9,555veh/day, depending on whether Te Puna Station Road remains closed, or is re-opened.
- 6.8 The District Plan requires rural roads with a PCE ADT greater than 2,500veh/day to be subject to specific design. As the expected PCE ADT volumes are over 2,500 veh/day, specific design is required.
- 6.9 The relevant Austroads guide uses ADT volumes rather than PCE ADT volumes. For an ADT of over 3,000veh/day the guide recommends a sealed carriageway width of 10.0m, consisting of 3.5m wide traffic lanes with 1.5m wide sealed shoulders.
- 6.10 In July 2022, Council advised that they propose to widen Te Puna Station Road from 7.1m to 8.5m, in conjunction with the construction of a 3.0m wide shared pedestrian and cycle path. While the proposed seal width of 8.5 m is less than the Austroads standard of 10.0m, given that the Council also proposes a separate 3.0m wide cycle path, I consider the width proposed by the Council to be appropriate.
- 6.11 The timing of the work to widen Te Puna Station Road is not yet known. I note that, with the existing traffic volumes, the existing width of 7.1m is less than the minimum specified in both the Development Code and the Austroads guide.

With the proposed additional traffic, the road will continue to be under-width until such time as the WBOPDC widen the road.

- 6.12 The future traffic volumes on Te Puna Station Road, as given in paragraphs 6.6 and 6.7 of my evidence, are for the full development of all three sites within the Business Park (ie to provide a conservative assessment). Paragraphs 6.2 and 6.3 of my evidence have identified the daily traffic generation of the Project on its own, without the other two sites. The Project, on its own, is expected to increase the ADT on Te Puna Station Road to 2,258veh/day and the PCE ADT to 3,760veh/day.
- 6.13 I note that the proposed construction of the right turn bay at the Site access will involve the widening of the road, in accordance with the required standards, for a distance of 150m west of the Site access. This will leave only an approximate distance of 380m of road between the right turn bay and the Te Puna Road intersection that is under-width.
- 6.14 For completeness, I do not consider the width of Te Puna Road to the east of the Site access is relevant, given TPIL traffic will not be using that length of the road.
- 6.15 Given the lesser traffic volumes associated with the Project on its own, the short distance of road between the TPR / TPSR intersection and the Site, and that the additional generated traffic will be required to reduce speed to negotiate the access and TPR / TPSR intersection, I consider that the additional traffic can be safely accommodated until such time as Te Puna Station Road is upgraded.

Intersection of Te Puna Station Road and SH2

- 6.16 An assessment of the effects at the TPSR / SH2 intersection is provided at Section 9.2 of the TAR.
- 6.17 If Te Puna Station Road remains closed at the slips, then any effects at the intersection with SH2 will be minimal.
- 6.18 However, if Te Puna Station Road is re-opened to north-west bound vehicles, this will result in additional vehicles undertaking the right turn movement from SH2 onto Te Puna Station Road. Under this scenario, to minimise any additional vehicles using the SH2 right turn bay, I have recommended that all

heavy vehicles be required to use the alternative SH2 – Te Puna Road – Te Puna Station Road route, and that all staff travelling to the site from Tauranga also be required to use this alternative route.

Operational Performance of the Intersection

- 6.19 An assessment of the effects at the TPSR / TPR intersection is provided at Section 9.3 of the TAR. This assessment uses the expected traffic generation of all three sites within the Business Park and shows that the provision of a right turn bay on Te Puna Road is warranted during the morning peak.
- 6.20 As noted earlier in my evidence, the current Application differs from the previous Tinex application in that TPIL propose a higher level of traffic generation than the Tinex application.⁷ To accommodate the additional traffic generation, the provision of a right turn bay is now proposed.
- 6.21 I have prepared a concept design for the proposed right turn bay on Te Puna Road, which is shown on the attached drawings 01 to 04. This involves the provision of a right turn lane centrally within the existing carriageway, with widening on both sides to accommodate the right turn bay. The Te Puna Station Road approach to the TPSR / TPR intersection will also require alterations to accommodate the tracking of heavy vehicles.
- 6.22 An assessment of the expected operational performance of the TPSR / TPR intersection is included in the TAR.⁸ This included the traffic associated with all three sites, but did not include the right turn bay that is now proposed. For the reasons explained above, I have updated this assessment with the inclusion of the right turn bay in the table below.
- 6.23 The table shows that, with the inclusion of the right turn bay, the intersection is expected to operate efficiently with moderate delays, short queues, and an acceptable level of service.

⁷ Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [3.5]

⁸ Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [9.3].

Peak Period	Approach	Movement	Degree of Saturation	Average Delay (s)	Level of Service	Queue (veh)
AM Peak Scenario 1 Partial Closure of Te Puna Station Road	Te Puna Road South	Through	0.133	0.8	A	0.7
		Right	0.564	10.0	B	4.6
	Te Puna Station Road East	Left	0.076	8.5	A	0.3
		Right	0.236	32.0	D	0.7
	Te Puna Road North	Left	0.177	4.8	A	0.0
		Through	0.040	0.0	A	0.0
AM Peak Scenario 2 Full Closure of Te Puna Station Road	Te Puna Road South	Through	0.092	0.0	A	0.0
		Right	0.372	8.3	A	2.0
	Te Puna Station Road East	Left	0.122	10.9	B	0.4
		Right	0.204	27.8	D	0.6
	Te Puna Road North	Left	0.018	4.7	A	0.0
		Through	0.191	0.1	A	0.0

Sight Distances

- 6.24 I have reviewed the available sight distances for the concept design of the TPSR / TPR intersection with the construction of a right turn bay. The required sight distances are given in the Austroads *"Guide to Road Design Part 4A: Unsignalised and Signalised Intersections"*. This guide specifies a number of sight distance criteria, of which the Safe Intersection Sight Distance ("**SISD**") is typically the most critical.
- 6.25 The required sight lines are required to be measured at a point 7m (5m minimum) back along the side road from the conflict point. The relevant conflict point for northbound vehicles is measured from the northbound traffic lane while the conflict point for southbound vehicles is measured from the southbound lane.
- 6.26 The required SISD is based on the operating speed of vehicles on the through Road. A traffic count on Te Puna Road 110m south of Te Puna Station Road, carried out on behalf of Council during May 2023, identified 85th percentile speeds of 69km/h northbound and 68km/h southbound. These speeds have been adopted for my assessment.
- 6.27 The Austroads Guide specifies requirements for both the Normal Design Domain ("**NDD**") and Extended Design Domain ("**EDD**"). The Guide

recommends that the NDD be used wherever practical, but allows the use of the EDD when improving the standard of existing intersections in constrained locations. For completeness, I have carried out my assessment using both the NDD and EDD.

6.28 The required NDD and EDD SISD, calculated using the formula given in the Austroads Guide, are given in the following table.

Direction	Observation Point	Sight Distance (m)		
		NDD	EDD	Available
To the North	Traffic Lane	145	115	>200
	Side Road	145	115	171
To the South	Traffic Lane	148	117	159
	Side Road	148	117	146

6.29 The table shows that the available SISD to the north (southbound vehicles) complies with both NDD and EDD requirements. The available SISD to the south (northbound vehicles), measured from the traffic lane, also complies with both NDD and EDD. The SISD measured from the side road however only complies with the EDD requirement. Given that Austroads permit the use of the EDD when improving the standard of existing intersections in constrained locations, I consider the available sight distances to be sufficient for the safe operation of the intersection.

Peer review by Brett Harries

6.30 Mr Brett Harries has undertaken a peer review of the TAR, and in particular in relation to the operation and safety of the TPSR / TPR intersection.

6.31 I have reviewed the evidence of Mr Harries, which sets out that:⁹

- (a) The analyses of trip generation and the resultant Site access design for accommodating the generated traffic movements into and from the Site are both appropriate and acceptable.
- (b) The Site access design as proposed is unlikely to compromise the safe or efficient movement of vehicles to or from the properties on the opposite (northern) side of Te Puna Station Road.

⁹ Statement of Evidence of Brett Harries (dated 25 June 2024) at [3.9] – [3.10], [3.16] – [3.20] and [4.1] – [4.5].

6.32 The design proposed to enhance the TPSR / TPR intersection is an appropriate and acceptable one that is consistent with the relevant design standards as prescribed by the Austroads guides and will not only fully provide for the additional traffic demands (particularly truck traffic demands) that are likely to be generated by the Application, but will also provide significant overall improvements to the operation and safety of the TPSR / TPR intersection that will benefit all its users. Mr Harries considers this is a significant positive effect of the Application.¹⁰ I agree with Mr Harries' evidence in relation to the TPSR / TPR intersection and consider that this provides appropriate additional assurance that the traffic demands of the Application can be safely provided for.¹¹

Site access

6.33 An assessment of the proposed Site access to Te Puna Station Road is given in Section 10 of the TAR. This identifies that, while the access will be located approximately 77m to the east of the location specified in the Structure Plan, the proposed location will provide greater sight distance to the west than the location specified in the Structure Plan. I have assessed that the proposed location is appropriate.

6.34 In the TAR, an assessment of the expected peak hour turning movements at the access intersection with Te Puna Station Road was carried out in two different scenarios. The first scenario is where Te Puna Station Road east of the Site is partially re-opened to vehicles travelling in the south-east bound direction. The second scenario is where Te Puna Station Road east of the Site is permanently fully closed to traffic in both directions (as it is currently), which is expected to lead to vehicles continuing to use Clarke Road in both directions.¹²

6.35 The assessment indicates that the warrant criteria for the provision of a right turn bay is met with the partial re-opening of Te Puna Station Road east of the Site, but is not met with the continued full closure of Te Puna Station Road to traffic in both direction east of the Site.

6.36 Despite not being warranted where Te Puna Station Road is fully closed east

¹⁰ Statement of Evidence of Brett Harries (dated 25 June 2024) at [4.5].

¹¹ Statement of Evidence of Brett Harries (dated 25 June 2024) at section 4.

¹² Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [10.2].

of the Site, the Applicant proposes to provide a right turn bay into the Site from Te Puna Station Road. In this way, any uncertainty regarding the future operation of Te Puna Station Road is resolved.

- 6.37 The TAR includes an assessment of the expected operational performance of the access to the Site which shows that the proposed access is expected to operate efficiently with minimal delays, a high level of service and negligible queues.¹³
- 6.38 I have prepared a concept design for the access, with the provision of a right turn bay. This is shown on my Drawings 01 to 03. The proposed provision of the right turn bay exceeds the right turn requirements of NZTA Diagram E, as specified in the Structure Plan.¹⁴ Diagram E includes a requirement for additional widening for the left turn movement into the Site. As I have recommended that all heavy vehicles, and all staff travelling to the Site from Tauranga, be required to use the SH2 – Te Puna Road – Te Puna Station Road route, I consider that this widening is not required (ie because there will be no left turn movements of trucks into the Site).
- 6.39 The JMC Ltd ("**JMC**") and Overton Sites at 288A and 288B Te Puna Station Road have raised concerns about the Site entrance being too close to their site entrances.¹⁵ The separation distance between the vehicle entrances was addressed in Section 10.1 of the TAR.
- 6.40 The proposed design of the access to the Site, as shown on my Drawings 11 to 13, shows that the hatched marking for the right turn bay will commence to the west of the JMC access. The standard design for a right turn bay includes the marking of yellow no overtaking lines for vehicles travelling in the westbound direction. These lines are shown on the drawing. This will prevent vehicles turning right into the JMC site from moving over onto the hatched markings. This is consistent with the existing situation where a right turning vehicle must stay in the westbound traffic lane. The width of the hatched markings adjacent to the JMC access will be approximately 1.0m. I consider that this will have no material effect on the operation and safety of the JMC

¹³ Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [10.2].

¹⁴ Western Bay of Plenty Operative District Plan at [12.4.16.2(d)(ii)]. This is referred to as Diagram D, however it is understood that, since the Structure Plan was prepared, the naming of the NZTA diagrams has changed and that the relevant requirement is now Diagram E.

¹⁵ Submitter #68.

access.

- 6.41 Section 10.4 of the TAR included an assessment of the available sight distances at the Site access. The assessment identifies that, using an operating speed of 95km/h, the available sight distances to the east comply with Austroads requirements. The sight distances to the west do not comply, however, the available sight distance to the west is suitable for an operating speed of 92km/h, which I consider to be sufficient for the safe use of the access given that Te Puna Station Road has an 80km/h speed limit.

Internal roading

- 6.42 An assessment of the design of the internal roads is given in Section 11 of the TAR.
- 6.43 The District Plan requires industrial roads with a PCE ADT of over 1,000 veh/day to have a 13.0m wide carriageway. This allows for an urban design with a 3.5m wide traffic lane in each direction, and 3.0m wide parking on each side of the road.¹⁶ The proposed width of 8.0m will provide the required 3.5m wide traffic lanes, but with 0.5m wide shoulders and no on-road parking. This will require all car parking to be provided within the individual sites. Given that the proposed feather edges will allow the road to be widened in future, I consider this to be an appropriate design.

Earthworks

- 6.44 In response to the s42A Report, potential fill transport movements have been further investigated. I understand that the development of the Site may, assuming that no fill is available from the borrow site, require approximately 86,000m³ solid measure of fill to be imported, which is 155,000m³ loose measure. I understand that at this stage it is not known whether the fill will be transported using single unit trucks or truck and trailer units. To provide a conservative assessment I have adopted the use of single unit trucks with a payload of 10m³. The transport of the fill will therefore require approximately 15,500 truckloads. Given each load requires an inbound and an outbound vehicle movement, this is a total of 31,000 truck movements.
- 6.45 I also understand that the fill will be transported over a two-year period, with a seven-month earthworks season. Allowing for approximately 150 work days

¹⁶ WBOPDC Section 42A Report at [228] and [64].

during the seven-month period, this is an average of 103 truck movements per day. Based on an eight-hour day, this is an average of 13 truck movements per hour.

- 6.46 It is proposed that a Construction Traffic Management Plan ("**CTMP**") be used to manage the movement of trucks transporting the fill. The CTMP is expected to include physical traffic management at the TPR / TPSR intersection and at the site access during the earthworks periods.¹⁷ The CTMP will ensure that vehicle movements in and out of the Site are managed to reduce the occurrence of safety or congestion risks to regular traffic on Te Puna Station Road. Adherence to a CTMP can be required as a condition of consent.
- 6.47 Subject to this, I expect that any adverse safety or congestion effects attributable to earthworks-related movements will be low and acceptable.

7. RESPONSE TO ISSUES RAISED IN SUBMISSIONS

- 7.1 I have reviewed relevant submissions on the Application that raise matters relating to traffic.
- 7.2 I note that the submissions filed by 50 of the submitters on this Application are identical in form and substance.¹⁸ I acknowledge that these submissions were made by individual submitters, however for ease of reference and given the likeness of these submissions, I will refer to these submitters as "Submitter Group 1", rather than by referring to their individual submitter number.
- 7.3 I address the following concerns from submitters below.

Increase in traffic and congestion compromising access to Te Puna Station Road

- 7.4 There are general concerns in the submissions with increases in traffic and traffic congestion, compromising access to and from Te Puna Station Road,

¹⁷ Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [14].

¹⁸ Submitters #3, #4, #6, #8, #9, #10, #11, #12, #14, #15, #16, #17, #19, #20, #21, #22, #23, #24, #27, #28, #29, #31, #32, #33, #37, #40, #41, #42, #45, #47, #48, #51, #52, #57, #58, #61, #62, #63, #64, #66, #71, #72, #100, #105, #111, #112, #127, #187, #194 and #195.

including the concern that Te Puna Station Road is used for emergency vehicle access.¹⁹

- 7.5 There has historically been congestion at the intersection of Te Puna Station Road and SH2. While this appears to have reduced with recent partial closure of Te Puna Station Road, any future re-opening of Te Puna Station Road may result in a return of the congestion at the intersection.
- 7.6 To address this, the Applicant proposes that all heavy vehicles be required to use the alternative route via Te Puna Road. I have recommended that, in addition, all staff travelling to the Site from Tauranga also be required to use the Te Puna Road route. This will minimise any potential safety effects of vehicles turning right from SH2 onto Te Puna Station Road. While this will not reduce any potential increase in congestion for vehicles turning left or right out of Te Puna Station Road, I note that this is a wider issue that will be addressed with the opening of the Takitimu North Link in 2027.

Te Puna Station Road and Te Puna Road Intersection

- 7.7 There has been concern from submitters regarding the inadequacies of the current intersection of Te Puna Station Road and Te Puna Road for use by heavy vehicles due to poor sight lines, the steep grade to the stop lines and a tight left-hand bend.²⁰
- 7.8 I have addressed in detail above the proposal to provide a right turn bay on Te Puna Road at the intersection. This will minimise the risk of a northbound vehicle on Te Puna Road hitting the rear of a vehicle turning right onto Te Puna Station Road for all users of the intersection.
- 7.9 While I acknowledge that the left turn out of Te Puna Station Road is tight and on a grade, as ample sight distance is available along Te Puna Road to the north, I consider any effects of the additional vehicles to be acceptable.

¹⁹ Submitters #30, #43, #44, #55, #59, #65, #69, #70, #73, #94, #95, #103, #106, #107, #108, #109, #113, #116, #118, #119, #131, #138, #140, #143, #152, #155, #159, #170, #173, #177, #188, #201, #214, #244, #254, #263 and Submitter Group 1.

²⁰ Submitters #13, #18, #49, #53, #73, #78, #93, #116, #120, #131, #133, #166, #173, #192, Submitter Group 1.

Inadequate roads to cope with heavy vehicles

- 7.10 Submitters are concerned about the inadequacies of Te Puna Station Road and other roading in the area for use by heavy vehicles, due to the width of Te Puna Station Road and insufficient verge on either side of the road.²¹
- 7.11 While Te Puna Station Road presently has a 7.1m wide carriageway, as noted in paragraph 6.8-6.9 of my evidence, the Council propose to widen the carriageway to 8.5m. I consider this to be sufficient to accommodate the expected increase in traffic, including heavy vehicles.

Safety effects of increased traffic

- 7.12 There has been concern about the safety effects of increased traffic on the roads, in particular heavy vehicles, on cyclists and pedestrians (including the location of the Te Puna School in the vicinity).²²
- 7.13 While the Application will result in an increase in traffic on both Te Puna Station Road and Te Puna Road, the increase on Te Puna Road is expected to be predominantly on the section of road south of Te Puna Station Road. I expect any increase in traffic on Te Puna Road near the school to be low, and any adverse safety effects minimal.

Fill truck movements

- 7.14 There is concern about the large amount of fill being brought to the site during enabling works and concerns with number of trucks carrying fill being used, in particular a large number of submitters have referred to 80,000m³ of fill and to 8,000-10,000 truck movements being required to deliver this fill to the Site.²³
- 7.15 Revised calculations indicate approximately 86,000m³ solid measure of fill potentially to be imported, which assumes that no fill will be available from the borrow site. This is 155,000m³ loose measure. The fill is expected to be transported across two earthworks seasons.

²¹ Submitters #7, #18, #46, #73, #92, #93, #104, #110, #114, #115, #117, #124, #126, #122, #130, #132, #264 and Submitter Group 1.

²² Submitters #2, #5, #13, #25, #75, #78, #81, #83, #88, #89, #90, #91, #96, #104, #117, #128, #134, #143, #146, #151, #153, #160, #162, #172, #174, #175, #180, #181, #183, #192, #200, #202, #206, #211, #249, #255, #259, #264, #267, and #268.

²³ Submitters #34, #35, #36, #38, #75, #79, #81, #85, #88, #90, #110, #122, #133, #136, #261, #262, #267 and Submitter Group 1.

- 7.16 Given engineered fill material would need to be imported to the Site by truck, the TAR recommends that a CTMP is adhered to manage the intersection construction and manoeuvring in and out of the Site during earthworks.²⁴ A tailored outline CTMP, prepared by Fulton Hogan, has also been prepared in respect of the TPR / TPSR intersection. The CTMP will ensure that vehicle movements in and out of the Site are managed to reduce the occurrence of safety or congestion risks to regular traffic on Te Puna Station Road. Adherence to a CTMP can be required as a condition of consent.
- 7.17 Subject to this, I expect that any adverse safety or congestion effects attributable to earthworks-related movements will be low and acceptable.

Opposition to development without appropriate roading infrastructure

- 7.18 There are submitters opposed to development proceeding without appropriate roading infrastructure.²⁵
- 7.19 I have addressed this in my evidence above. The roading infrastructure is appropriate for the development proposed, including because the TPSR / TPR intersection is proposed to be upgraded with the provision of a right turn bay.

Specific concerns

- 7.20 Some submitters had specific concerns with the potential traffic effects of the Application, these are addressed below.
- 7.21 Submitter #68 sought that the roading be redesigned to allow for a safe and independent access to the JMC site located near to the Site.²⁶ This is addressed above at [6.40] of my evidence.
- 7.22 Submitter #65 had concerns regarding the effects of heavy traffic on the ability to conduct outdoor assessments.²⁷
- 7.23 I understand that this relates to an increase in the number of heavy vehicles using Te Puna Road adjacent to the Te Puna Village commercial centre, located immediately north of SH2. The Mobile Road website gives an existing ADT on Te Puna Road, immediately north of SH2, of 3,000 veh/day with 5.2%

²⁴ Harrison Transportation "Transportation Assessment Report" (dated September 2023) at [14].

²⁵ Submitters #2, #25, #76, #69, #77, #79, #86, #128, and #175.

²⁶ Submitter #68.

²⁷ Submitter #65.

heavy vehicles. This gives around 156 truck movements per day. The expected daily traffic generation of the Site is 288 veh/day, with an expected 17% heavy vehicles, which gives approximately 49 heavy vehicles per day. In my view, this will not significantly affect the ability of patients, walking to and from the physiotherapy, to cross Te Puna Road.

8. RESPONSE TO MATTERS RAISED IN THE SECTION 42A REPORT

8.1 I have reviewed the WBOPDC planner's s42A Report and recommendations dated 17 June 2024. I have also read the associated Western Bay of Plenty District Council Transportation Assessment ("**Transportation Assessment**") undertaken by Mr Callum McClean and the Expert Transportation Review by Mr Craig Richards of Beca ("**Beca Review**"). Matters relating to traffic effects are addressed primarily at paragraphs [133] – [165] of the s42A Report. The primary issues that were addressed were:

- (a) the design of the TPSR / TPR intersection;
- (b) the effects of the industrial traffic under the Temporary Traffic Management Plan ("**TTMP**") prior to the proposed TPSR / TPR intersection upgrade ("**Intersection Upgrade**");
- (c) the length of time which the temporary traffic management is proposed for prior to the Intersection Upgrade being completed;
- (d) the proximity of vehicle tracking under the TTMP to an existing power pole and associated safety risks;
- (e) the limited width of Te Puna Road compared with the predicted traffic volumes; and
- (f) lack of information about potential construction traffic and its effects.

8.2 I respond to these issues that have been raised below.

Evaluation of the TPSR / TPR Intersection design proposal

8.3 The Beca review considers that the proposed left turn lane into Te Puna Station Road from Te Puna Road could be difficult to achieve (with respect to the proposed pave widening) and that it is not needed, particularly if Te Puna

Station Road is permanently closed at the southern end.²⁸ The Beca Review also states that removing it would help simplify the design plans. However, generally the long-term design plans have been met with approval.²⁹

- 8.4 The retention of the left turn lane will depend upon whether Council decide to re-open Te Puna Station Road at the slips, or to close the road. If the road is re-opened, then I consider that the retention of the left turn lane is likely to be required. If the road is closed, then I expect that the left turn lane could be removed. As the decision to re-open the road is not yet known, the proposed design shows the retention of the lane. I agree that, if the lane is no longer required, then this will simplify the design.

TTMP and industrial traffic effects

- 8.5 As set out above, TPIL intends to upgrade the TPSR / TPR Intersection to provide a right-turn bay from the southern approach, to increase safety for vehicles using the intersection.
- 8.6 Before this upgrade takes place, TPIL propose to implement a TTMP to be in place for up to two years.
- 8.7 Both the Beca review and the Council's Transportation Assessment consider the TTMP is not appropriate to deal with industrial traffic post-development of the Site.³⁰ However, both reports consider the TTMP is sufficient to cater for construction.³¹ I agree with these assessments.
- 8.8 Beca considered that the vehicle tracking indicated vehicles will track too close to an existing power pole which may cause a collision risk.³² This is considered a moderate or minor risk under the NZTA Safe System Audit Risk Rating Matrix. While on the aerial photograph the power pole appears to be close to the edge of seal, I note that the aerial image shows the power pole on an angle. The top of the power pole appears to be close to the road, while the base of the pole is further away. I consider that sufficient clearance is available for the safe tracking of heavy vehicles.

²⁸ Beca, Expert Transportation Review (dated 13 June 2024) at p 2.

²⁹ Waikato Bay of Plenty District Council Planning Office s42A Report at [144].

³⁰ Beca, Expert Transportation Review (dated 13 June 2024) at p 3;. Calum McLean, Transportation Assessment (dated 21 May 2024) at (i); Western Bay of Plenty District Council Planning Office s42A Report at [145].

³¹ Beca, Expert Transportation Review (dated 13 June 2024) at p 4; Beca, Expert Transportation Review (dated 13 June 2024) at p 3.

- 8.9 In terms of the length of the TTMP, the Beca review also considered that up to two years was too long for the TTMP to be in place, particularly because as time passes the TTMP will become less effective at controlling speeds and driver behaviour (this same concern was shared in the Transportation Assessment).³³ I concur with the view that the TTMP should only be used while the earthworks are in progress. However, I understand that, at this stage, it is not known whether two years will be sufficient to complete the earthworks. Provided that the TTMP is removed outside of each earthworks season, then I consider a longer period of time to be acceptable.

Road width

- 8.10 The Beca Review notes that, for the expected vehicle movements, the shoulders on Te Puna Road are 0.5m narrower than the Austroads recommended width of 1.5m. It is highlighted that the increased risk of collision in relation to this has not been assessed.³⁴ In my view the main effect of this will be the safety of cyclists. While I do not have any data for the number cycle movements, my on-site observations indicate that the number is low. I also note that the Omokoroa to Tauranga cycle trail uses Te Puna Road north of Borell Road, not the section of Te Puna Road between Te Puna Station Road and SH2. Given the low number of cyclists using Te Puna Road between Te Puna Station Road and SH2, I consider any effects on cyclists to be minimal.

Construction traffic

- 8.11 The s42A Report requests information about the volumes and timing of construction traffic and the proposed Construction Traffic Management Plan. This is discussed in paragraphs 6.44 to 6.47 of my evidence.

9. COMMENTS ON PROPOSED CONDITIONS

- 9.1 To mitigate identified potential adverse traffic effects of the Application, and to respond to the submissions discussed above, the following conditions of consent are expressly offered, over and above compliance and delivery of the submitted design for the Site:

³³ Western Bay of Plenty District Council Planning Office s42A Report at [146] – [147]. Beca, Expert Transportation Review (dated 13 June 2024) at p 3; Calum McLean, Transportation Assessment (dated 21 May 2024) at (i).

³⁴ Western Bay of Plenty District Council Planning Office s42A Report at [161].

- (a) Implementation of a Temporary Traffic Management solution at the Te Puna Road / Te Puna Station Road intersection, in a semi-permanent and highly visible manner until such time the permanent solution required to address existing safety issues is delivered, to govern traffic movements prior to commencement of development and operations.
- (b) Implementation of an Earthworks and Construction Traffic Management Plan to apply to earthworks and construction traffic movements. To be certified by WBOPDC.
- (c) Preparation of a Site Travel Management Plan to apply to the site once operational. To demonstrate further the Applicants ability to implement control over its vehicle movements, appropriate routes to minimise effects upon the transport network and public safety, and how this is to be implemented. To be certified by WBOPDC prior to industrial uses commencing.

S42A Report on conditions

- 9.2 The WBOPDC's Reporting Planner in the s42A Report responded to the proposed conditions summarised above with suggested amendments. The proposed conditions relating to traffic are within proposed WBOPDC conditions 11-14. No additional conditions are suggested. I have reviewed these amendments and have no concerns with them. I note that Mr Murphy will address the proposed amendment to condition 14 relating to deemed approval of the STMP, as that is a planning matter.

10. CONCLUSION

- 10.1 TPIL propose to develop the Site for industrial activities, with associated earthworks.
- 10.2 The Site is located within the Te Puna Business Park Structure Plan area, which specifies a number of road upgrading works to be carried out. Of these, the upgrade of the TPR / TPSR intersection to provide a right turn lane on the Te Puna Road southern approach has not yet been carried out.
- 10.3 I have assessed, with the full development of the Site, an expected daily traffic

generation of 774veh/day, with a peak hour traffic generation of 125veh/h.

- 10.4 With the development of all three sites within the business park, the ADT volume on Te Puna Station Road is expected to increase to between 4,083 veh/day and 5,464 veh/day, depending on whether Te Puna Station Road remains closed, or is re-opened.
- 10.5 For an ADT volume of over 3,000veh/day the Austroads guide recommends a sealed carriageway width of 10.0m. Council propose to widen Te Puna Station Road to 8.5m, and provide a 3.0m wide shared pedestrian and cycle path. While the proposed seal width is less than the recommended minimum, given that Council propose a separate cycle path, I consider the proposed width to be appropriate.
- 10.6 To accommodate the additional traffic associated with the proposed development, the provision of a right turn bay is proposed at the TPSR / TPR intersection. With the right turn bay, the intersection is expected to operate efficiently with moderate delays, short queues, and an acceptable level of service.
- 10.7 The available sight distances generally comply with Austroads NDD requirements. The available SISD to the south measured from the side road, however, only complies with the EDD requirement. Given that Austroads permit the use of the EDD when improving the standard of existing intersections in constrained locations, I consider the available sight distances to be sufficient for the safe operation of the intersection.
- 10.8 The provision of a right turn bay is proposed at the Site access to Te Puna Station Road. This is expected to operate efficiently with minimal delays, a high level of service and negligible queues.
- 10.9 The proposed design of the right turn bay exceeds the right turn requirements specified in the Structure Plan. While the Structure Plan also requires widening for the left turn movement into the Site, as all heavy vehicles, and all staff travelling to the Site from Tauranga, be required to use the SH2 – Te Puna Road – Te Puna Station Road route, I consider that this widening is not required.
- 10.10 I consider the available sight distances at the access to be sufficient for the safe use of the access.

- 10.11 Based on fill being transported using single unit trucks, over a two-year period, with a seven-month earthworks season, I have assessed that the earthworks will require up to 103 truck movements per day with an average of 13 truck movements per hour.
- 10.12 A Construction Traffic Management Plan is proposed to manage the movement of trucks transporting the fill. This is expected to include physical traffic management at the TPR / TPSR intersection and at the site access during the earthworks periods. With the use of this plan, I expect that any adverse safety or congestion effects attributable to earthworks-related movements will be low and acceptable.

Bruce Harrison

25 June 2024