Before the Expert Consenting Panel

under: the Fast-track Approvals Act 2024

in the matter of: applications for resource consents and archaeological authorities and notices of requirement by the New Zealand Transport Agency Waka Kotahi to develop a rapid transit link and associated infrastructure and connections between Brigham Creek and Auckland City centre, alongside State Highway 16, known as 'North West Rapid Transit'

applicant: **New Zealand Transport Agency**
Requiring Authority and Applicant

Statement of Evidence of Gregory Maitland Sheppard for New Zealand Transport Agency Waka Kotahi

Dated: 3 June 2026

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STATEMENT OF EVIDENCE OF GREGORY MAITLAND SHEPPARD FOR NEW ZEALAND TRANSPORT AGENCY WAKA KOTAHI

1 My full name is Gregory Maitland Sheppard. I am the author of the Assessment of Groundwater and Settlement Effects part of the Application (*Groundwater Assessment*).[1]

2 My qualifications and experience are set out in the Groundwater Assessment. I reaffirm the Code of Conduct statement set out in the Groundwater Assessment.

3 My evidence has been prepared to support the New Zealand Transport Agency Waka Kotahi's (*NZTA*) response to comments on its notices of requirement (*NORs*) and application for resource consents and archaeological authorities (*Application*) for the North West Rapid Transit Project (*Project or NWRT*).

SCOPE OF EVIDENCE

4 My evidence responds to groundwater-related aspects of the comments from:

4.1 National Trading Company of New Zealand Limited (*NTC*); and

4.2 Restaurant Brands Limited.

NATIONAL TRADING COMPANY OF NZ LIMITED

5 My colleague (Costante Conte) and I prepared a technical memorandum addressing potential groundwater effects at 1136 Great North Road, Point Chevalier *(New World Site)* that was provided to NTC in advance of comments being lodged.[2] Our memorandum has been attached to NTC's comment (Appendix A), and I confirm I hold the opinions set out in that memorandum and I adopt its contents as evidence for these proceedings.

6 In commenting on our memorandum, Mr Mark Arbuthnot, NTC's consultant planner, says:[3]

> The Jacobs memorandum therefore confirms that, from a technical perspective, groundwater drawdown and settlement effects can be appropriately managed through the use of suitable construction methodology. However, those conclusions are dependent on either the final design remaining above the groundwater table, or the use of specific ground support measures where deeper excavation is required.

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1 Part 6 – Attachment 6.16 – Assessment of Groundwater and Settlement Effects (*Groundwater Assessment*).

2 Comment 39 – NTC Legal Submissions dated 26 May 2026, paragraph 5.1.

3 Comment 39b – NTC Planning Statement dated 26 May 2026, paragraph 8.6.

7 Mr Arbuthnot's summary is reasonable.

8 Ground support would be used for deeper excavations as a matter of standard engineering practice, and the Indicative Design includes retaining walls between the NWRT busway and the New World Site.

9 I note that Mr Arbuthnot does not raise any issue with the conclusions in our memorandum, and that NTC has not included any expert discussion of them.

10 Nevertheless, I understand NZTA intends to propose a resource consent condition in response to the NTC comment that requires the Consent Holder to install groundwater cut-off or containment measures prior to excavations below seasonal low groundwater level.

11 I consider that condition reflects my position and confirms the Project will limit groundwater drawdown or consolidation settlement such that there would be no meaningful risk to the New World Site.

RESTAURANT BRANDS LIMITED

12 The Restaurant Brands Limited comment says the Application does not assess potential groundwater drawdown or settlement effects on 1170-1172 Great North Road, Point Chevalier (*KFC Site*). It requests a site-specific assessment of those potential effects.[4]

13 I have reviewed Project geotechnical and groundwater data including the groundwater model developed for Point Chevalier station and considered the groundwater conditions along the Proposed Designation at and adjacent to the KFC Site.

14 As shown in Figure 1 below, the KFC Site boundary is located approximately 23 m from the retaining wall for the Point Chevalier station based on the Indicative Design. The main building on the KFC Site is located approximately 50 m from that retaining wall.

[4] Restaurant Brands comment, paragraphs 7.3 and 7.6-7.7.

Figure 1 – The KFC Site (blue polygon) in relation to the Proposed Designation (red line) and Indicative Design retaining wall (brown line) indicated by the arrow

15 The Groundwater Assessment assessed groundwater drawdown and consolidation settlement for Point Chevalier station. I consider the ground conditions and modelled groundwater levels at the Point Chevalier station location are also representative for the KFC Site.

16 I have undertaken an assessment of groundwater drawdown and consolidation settlement for the Point Chevalier station, which I also consider to be representative of the KFC Site, for two scenarios:

16.1 *Scenario 1:* Excavations with unrestricted groundwater seepage; and

16.2 *Scenario 2:* Excavations retained by 'leaky' secant piling or similar ground support.

17 The results are illustrated in Figure 2 below, which shows the location of the KFC Site and building in relation to the Proposed Designation.

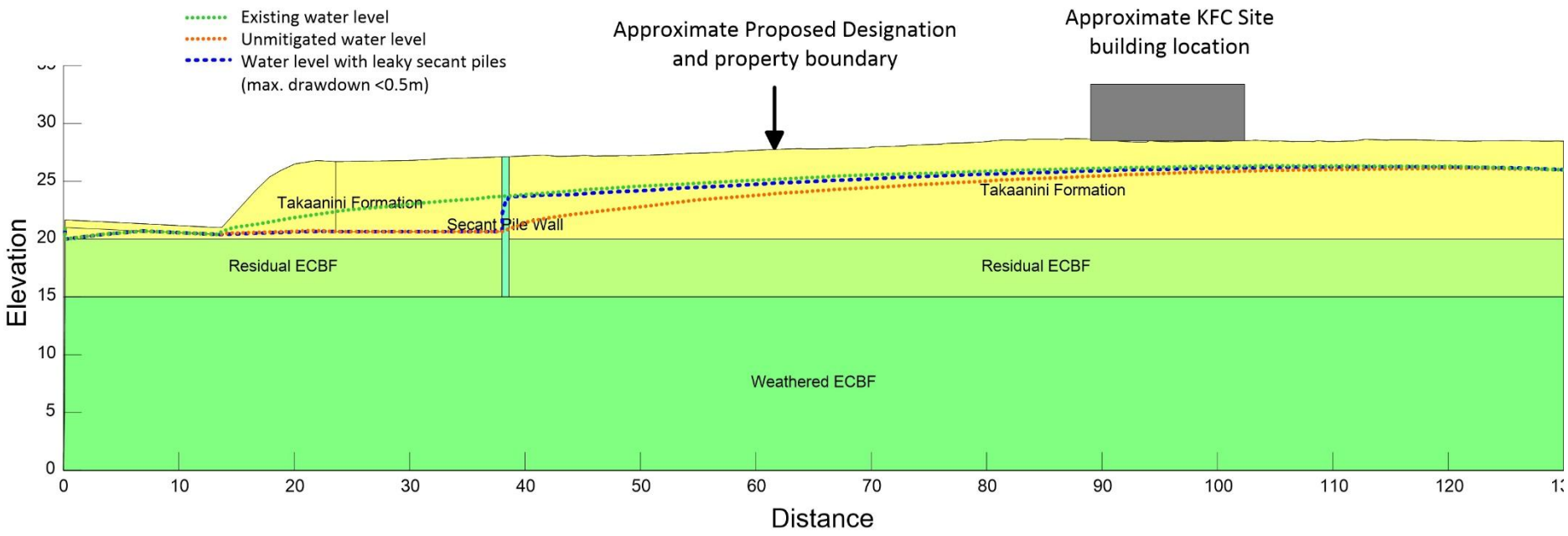

Figure 2 – Modelled groundwater levels at Point Chevalier station for Scenario 1 and 2

18 The assessment predicts:

18.1 *Scenario 1:* Approximately 1.2 m and 0.6 m groundwater drawdown at the KFC Site boundary and building respectively. When considering an allowance of 0.5 m for historical seasonal low groundwater level, as was adopted in the Groundwater Assessment, the resulting drawdown below the seasonal groundwater low is approximately 0.7 m and 0.1 m respectively. I consider this groundwater drawdown would equate to approximately 4 mm of settlement at the KFC Site boundary, reducing to less than 1 mm at the KFC building; and

18.2 *Scenario 2:* Approximately 0.3 m and 0.2 m groundwater drawdown at the KFC Site boundary and building respectively, which is less than the allowance of 0.5 m for historical seasonal low groundwater levels, as such, I consider no material settlement would be expected at the KFC Site boundary or building.

19 Even in Scenario 1, I consider the predicted groundwater drawdown and resulting settlement is within the range that might be expected to occur naturally in reactive soils and therefore I consider it poses negligible risk when compared to standard building damage criteria.[5]

20 In Scenario 2, the predicted groundwater drawdown is well within expected seasonal low groundwater levels. As a result, I consider settlement and potential risk of building damage would be negligible.

21 If the final Project design includes excavation that is deeper or closer to the KFC Site compared to the Indicative Design, I consider the use of appropriate secant piling or similar ground support would effectively mitigate against groundwater drawdown and settlement. Accordingly, the condition to be proposed by NZTA confirms that the Project will limit potential groundwater drawdown and consolidation settlement such that there would be no meaningful risk to the KFC Site.

Gregory Maitland Sheppard
3 June 2026

[5] E.g. Burland (1997), Maire et al (1996), and Rankin (1988). Full references are provided in the Assessment of Groundwater and Settlement Effects.