

BEFORE THE HUTT CITY COUNCIL

Proposed District Plan Hearings Panel

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the Proposed Lower Hutt District Plan

STATEMENT OF REBUTTAL EVIDENCE OF

PATHMANATHAN BRABHAHARAN

ON BEHALF OF HUTT CITY COUNCIL

Slope Assessment Overlay

13 August 2026

1.0 Introduction

- 1.1 My name is Pathmanathan Brabhaharan, and I am a Technical Director and National Technical Leader, Geotechnical and Earthquake Engineering and Resilience at WSP.
- 1.2 I have prepared this statement of evidence on behalf of the Hutt City Council in respect of technical matters around the identification of the Slope Assessment Overlay arising from the evidence lodged for Hearing Stream 5 – Natural Hazards for the Proposed Lower Hutt District Plan.
- 1.3 I have led the assessments by WSP to develop the landslide susceptibility and runout maps leading to the development of the Slope Assessment Overlay. I have also reviewed the submissions made relating to the Slope Assessment Overlay and preparation of our report of 21 July 2026.
- 1.4 In addition to my statement of evidence of 21 July, this statement covers the evidence of:
- 1.4.1 John F Wadham (122) – submitter statement, 21 July 2026.
- 1.4.2 Cameron Peter de Leijer – expert evidence on behalf of Kelson Heights Limited, 3 August 2026.

Except as expressly identified in this statement, all findings and recommendations contained in my report *Slope Assessment Overlay – Proposed District Plan Support* dated 21 July 2026 (WSP, 2026) – Appendix B5 to the s42A report, remain unchanged.

2.0 Qualifications, experience, and Code of Conduct

- 2.1 My qualifications and experience are set out in Section 1.1.1 of my report *Slope Assessment Overlay – Proposed District Plan Support* (WSP, 2026) – Appendix B5 to the s42A report.
- 2.2 I repeat the confirmation given in that report that I have read and agree to comply with the Code of Conduct for Expert Witnesses.

3.0 Responses to submitter evidence and statements

- 3.1 The sections below respond to submitter evidence in relation to the statement from **John F Wadham** dated 21 July 2026 and relates to a property at 23 Pomare Road, Tirohanga.
- 3.2 The submitter notes that the desktop-based slope assessment methodology does not take into consideration the site-specific features such as existing gullies, natural and man-made drainage features at the property and therefore did not accurately reflect the actual conditions present on the property. He contends that this does not represent a reliable basis for designation to an individual property.
- 3.3 I acknowledge that the assessment does not consider detailed features at individual property level, and the Slope Assessment Overlay has been developed at a district wide scale. However, the Slope Assessment Overlay does serve its intended purpose to inform the presence of potential slope hazards and require site specific consideration in any future development. This is consistent with the current district plan provisions for the hillside suburbs and similar applications in New Zealand.
- 3.4 I have considered the area in which the 23 Pomare Road property is located, and I am satisfied that the overlay correctly includes the area within the overlay, and the features mentioned by the submitter would not result in the area being excluded from the overlay.
- 3.5 The submitter also presents the following “new evidence” that may exclude the area from the overlay:
- a) Wellington Water Limited expert hydraulic modelling review, its endorsement by HCC and GWRC confirmation of previous incorrect flooding modelling.
 - b) Natural Hazards Commission (NHC) confirmation of incorrect inclusion of the property in its confirmed land claims portal.
 - c) WSP not being supplied with the Wellington Water Limited assessment.

- 3.6 I acknowledge that increased water infiltration, increased porewater pressures and saturated ground conditions can contribute to slope failure in areas susceptible to slope instability. Such increased water effects can arise from rainfall events and stormwater runoff. I acknowledge that changes to WWL's flood hazards were not known during the assessment carried out by WSP. However, the changes do not affect our assessment of slope failure susceptibility. I acknowledge that the flood hazard generally affects the lower flood plain associated with the Hutt River and streams and this does not affect slope stability in the hill areas.
- 3.7 I acknowledge that NHC has confirmed that it had incorrectly included the property in its portal listing properties where land stability claims had been accepted. I can confirm that the NHC claims did not form or contribute to the WSP assessment of slope failure susceptibility in the area and the development of the overlay in this instance.
- 3.8 I acknowledge that WSP was not previously supplied with the WWL's review of the flood hazards, but I have reviewed the updated flooding area. I can confirm that the flood hazard affects the lower lying flood plain and the flood hazard did not contribute to the slope susceptibility and the slope assessment overlay.
- 3.9 I acknowledge the important issues raised by the submitter and appreciate these issues being raised in his submission. I have given due consideration to the issues raised and confirm that these do not affect the inclusion of the area (where the property is located) in the Slope Assessment Overlay.
- 3.10 In summary, I confirm that the area where the 23 Pomare Road property is located has been correctly included in the Slope Assessment Overlay and should be considered in the context of the purpose and use of the overlay.
- 3.11 The sections below respond to expert evidence dated 3 August 2026 submitted by **Cameron Peter de Leijer** on behalf of Kelson Heights Limited and relates to the Kelson Heights subdivision.

- 3.12 I acknowledge that the ongoing development at this subdivision over the past several years and which is set to continue over the future years, has led to a change in the landform, and will continue to do so in the coming years.
- 3.13 The submitter has presented a snapshot of the landform in the form of contours based on a Digital Elevation Model (DEM) from Land Information New Zealand (LINZ) dated 3 February 2025. This is more than 18 months old, but newer than the LiDAR based data used in the development of the Slope Assessment Overlay.
- 3.14 I note that the Slope Assessment Overlay has been developed on a district-wide level, and its purpose has not been to assess slope susceptibility at individual property level. The overlay has therefore been developed using district-wide data and did not consider property-specific information.
- 3.15 While acknowledging that the landform has continued to evolve, I also note that the knowledge of trigger events such as earthquakes, and storm events have also continued to evolve over time. For example, the increased knowledge of earthquake hazards has meant that the severity of earthquake hazards is now understood to be very much higher in the Wellington Region compared to several years ago. Similarly, recent experience demonstrates that the frequency and severity of storm events and associated rainfall is increasing, likely due to climate change.
- 3.16 Given the district-wide scope of the assessment, we have not reviewed the geotechnical information gathered or the design of the subdivision, and how these trigger-events might affect the performance of the subdivision.
- 3.17 The submitter proposes exclusion of the entire subdivision lots from the overlay. I note that slopes adjacent to the lots could represent a slope failure or runoff hazard to the subdivision lots, and I have not considered this in further detail as in any case the purpose of the overlay is not to assess slope hazards at individual property level.

- 3.18 I note that another submitter (#387) has noted that the Kelson Heights subdivision has caused increased slope failure hazard to their property (18 Otira Grove) that lies downslope of the subdivision. It has not been our role to consider slope hazards at individual property level and have therefore not considered this further or commented on this.
- 3.19 I therefore consider that the current Slope Assessment Overlay for the area in which the continually evolving subdivision is located, is appropriate for the context and purpose of the overlay. Any site-specific considerations resulting from the overlay should then consider the subdivision investigation and design data in the event of any future development being proposed in the area.

4.0 Summary

- 4.1 I appreciate the effort made by the submitters **John F Wadham** (122) in relation to the property at 23 Pomare Road, and **Cameron Peter de Leijer** (373) on behalf of Kelson Heights Limited in relation to the Kelson Heights subdivision, and the important issues that they have raised.
- 4.2 I confirm that the Slope Assessment Overlay is appropriate given the context and purpose of the overlay to provide information to owners that there is the potential for slope hazards, and to require site specific consideration of the potential slope hazard when considering development in the areas covered. I would emphasise that the assessment informing the overlay has not been based on property specific data and its purpose is not to replace any site-specific assessments that may be required.
- 4.3 I have led or reviewed the development of slope susceptibility assessments at district and regional levels and provided advice on hazard risk management through land use and district plans for other districts of New Zealand. The development and use of district-wide landslide susceptibility assessments and their use is generally consistent with what is proposed through the overlay in the proposed district plan.

Pathmanathan Brabhaharan

Slope Assessment Overlay

13 August 2026