Appendix 3: Legal advice on scope from DLA Piper

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Confidential

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Stephen Davis
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Hutt City Council

By email

16 February 2023

Dear Stephen

Scope of submissions on Plan Change 56 - Intensification Planning Instrument

Introduction and overview

1 You have asked for our advice on the scope of submissions on Plan Change 56 (**PC56**). Specifically, to assist with evaluating submissions in the section 42A Report, you have asked the following questions:

1.1 What is the relevant case law on scope that needs to be considered in the context of PC56?

1.2 Please clearly outline the steps and considerations that must be taken by Council in order to assess whether a submission is "on" PC56?

1.3 Do the statutory requirements and limitations associated with Intensification Planning Instruments (**IPIs**) and the Intensification Streamlined Planning Process (**ISPP**) have any bearing on this assessment?

1.4 Is a submission on a provision (objective, policy, rule or definition) that was not notified as part of PC56 a submission on PC56? To determine this answer, is a similar assessment to that outlined in your response to questions 2 and 3 above necessary?

2 In summary, in response to these questions we consider that:

2.1 The same requirements that apply to the consideration of scope of submissions on a standard Schedule 1 plan change process should apply to submissions on PC56. Submissions are required to be 'on' PC56, as clause 6 of the First Schedule applies. This requires submissions to be 'on' the change. In order to be 'on' PC56, a submission must fall within the ambit of PC56. It must not raise issues that result in a real risk to persons directly affected by the relief sought being denied an opportunity to respond to those matters.

2.2 We have set out in **Appendix 1** the steps that we consider the Council should take in order to assess whether a submission is on PC56.

2.3 There are additional limitations placed on what can be included in an IPI, and therefore what can be granted through relief. As a first step, the Council should consider whether the relief sought in a submission is valid. If the relief sought is invalid (ie, it seeks the withdrawal of PC56, or the deletion of the mandatory objectives or policies), scope does not need to be considered further. The submission can simply be discounted on that basis.

2.4 As with a standard plan change process, submissions may seek inclusion of new provisions, or amendments to District Plan provisions not already the subject to PC56. Whether or not relief of that nature is within scope of PC56 will depend on the link between that relief and what the Council has chosen to include in PC56. Consequential amendments arising from changes made through the notified version of PC56 will likely be within scope.

2.5 Just because a provision has been amended through PC56, that does not mean that any and all further amendments sought to that provision will be within scope of PC56. Whether or not relief is within scope of PC56 will depend on the link between that relief and what the Council has chosen to include in PC56.

3 We provide our reasons for these conclusions below.

Summary of legislative requirements

4 PC56 is Hutt City Council's IPI. It is not a standard plan change to the District Plan. While some of the standard schedule 1 process will apply to PC56, there are significant differences between an IPI and a standard plan change.[1]

5 Based on the relevant legislative provisions, there are limitations placed on what can be included in an IPI and when the ISPP can be used. The IPI and ISPP cannot be used to make changes to a district plan beyond those specified in the relevant provisions of the RMA.[2] As set out below, this becomes an important part of assessing the scope of submissions.

2 In summary, PC56 as an IPI:

5.1 must incorporate the MDRS (including activity status and the density standards) and the objectives and policies set out in clause 6 of Schedule 3A of the RMA;[3]

5.2 must give effect to Policies 3 and 4 of the NPS-UD;[4]

5.3 in respect of residential zones:

(a) may enable more permissive development than the MDRS, but cannot be less enabling of development than required by the MDRS or Policy 3 of the NPS-UD, unless there is an identified qualifying matter.[5]

(b) where there is a valid qualifying matter, PC56 can make the MDRS and the related building height or density standards less enabling of development only

[1] Schedule 1, clause 95(2) sets out which parts of the standard schedule 1 process apply.

[2] Section 77G(5) and 80E, RMA.

[3] Section 77G(2) and 80E(1), RMA.

[4] Sections 77G, 77N, 80E(1), RMA.

[5] Section 77G(6), 77H, RMA.

to the extent necessary to accommodate 1 or more of the specified qualifying matters.[6]

5.4 in respect of non-residential zones:

(a) may modify the requirements of Policy 3 of the NPS-UD to be less enabling of development, if authorised to do so in respect of a qualifying matter.[7]

(b) where there is a valid qualifying matter, PC56 can modify the requirements of Policy 3 to be less enabling of development only to the extent necessary to accommodate 1 or more of the specified qualifying matters;[8]

5.5 may include additional objectives and policies to provide for matters of discretion to support the MDRS and/or link to the incorporated density standards to reflect how the territorial authority has chosen to modify the MDRS;[9] and

5.6 may include provisions relating to financial contributions, provisions enabling papakāinga housing and related provisions that support or are consequential on the MDRS or Policies 3 and 4 of the NPS-UD. 'Related provisions' include (without limitation) provisions that relate to district-wide matters, earthworks, fencing, infrastructure, qualifying matters, stormwater management (including permeability and hydraulic neutrality) and subdivision of land.[10]

Scope of what can be addressed in a submission

6 As clause 6 of Schedule 1 applies to an IPI process, submitters are limited to submitting on PC56, in the same way they are limited to submitting on a standard district plan change.[11] The established caselaw therefore needs to be considered when determining the available scope for submissions on an IPI.

7 The legal principles relevant to determining whether a submission is 'on' a plan change, in accordance with Schedule 1, clause 6 are well-settled.[12] We consider that the caselaw that applies to that clause, when applied to a normal First Schedule process, equally applies when that clause applies to an IPI process.

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6 Section 77I, RMA.

7 Section 77N(3), RMA.

8 Section 77N(3), 77O, RMA.

9 Section 77G(5)(b), RMA.

10 Section 80E(2), RMA. Related provisions, include objectives, policies, rules, standards, and zones.

11 Schedule 1, clause 95(2), RMA.

12 These were most recently considered by the Environment Court in *Te Tumi Kaituna 14 Trust v Tauranga City Council* [2018] NZEnvC 21.

8 In respect of clause 6, the High Court confirmed in *Palmerston North City Council v Motor Machinists Limited* that a two-limbed test must be satisfied:[13]

8.1 the submission must address the proposed plan change itself. That is, it must address the extent of the alteration to the status quo which the change entails; and

8.2 the Council must consider whether there is a real risk that any person who may be directly affected by the decision sought in the submission has been denied an effective opportunity to respond to what the submission seeks.

9 In considering the first limb, the High Court held in *Motor Machinists* that whether the submission falls within the ambit of the plan change may be analysed by asking whether it raises matters that should be addressed in the section 32 report, or whether the management regime in the plan for a particular resource is altered by the plan change. Submissions seeking relief beyond that ambit are unlikely to be 'on' the plan change. However, some extensions to a plan change are not excluded. In particular, incidental or consequential extensions are permissible if they require no substantial section 32 analysis.

10 In considering the second limb, the High Court identified the risk that the Council must guard against is that the reasonable interests of others might be overridden by a 'submissional side-wind.' The concern identified was that a plan change could be so morphed by additional requests in submissions that people who were not affected by the plan change as notified become affected through a submission which had not been directly notified to them.

11 Subsequent to this case, the Environment Court found in *Bluehaven Management Limited v Western Bay of Plenty District Council* that a submission which went beyond an alteration to the status quo as entailed in a plan change might still be in scope provided that:[14]

11.1 the plan change proposed some change to the management regime for the relevant activity; and

11.2 the evaluation report prepared for the plan change addresses, or should have addressed, the matter raised in the submission.

12 *Motor Machinists* is still good law and was more recently applied by the Environment Court in *Meridian Energy Ltd v Mackenzie District Council*, which concerned the district council's scope to make a number of amendments to the decisions version provisions of Plan Change 18 to the proposed Mackenzie District Plan.[15]

13 In that case, the Environment Court noted the general principle that, once a territorial authority notifies a proposed plan change, it must notify a variation if it seeks to substantially change its ambit. Otherwise, any changes cannot substantially extend beyond submissions in terms of their scope.[16]

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13 *Palmerston North City Council v Motor Machinists Limited* [2013] NZHC1290 at [80]-[82].

14 *Bluehaven Management Limited v Western Bay of Plenty District Council* [2016] NZEnvC 191 at [58]-[60].

15 *Meridian Energy Ltd v Mackenzie District Council* [2022] NZEnvC 105.

16 Ibid at [25].

Validity of relief sought – scope of an IPI

14 As a preliminary step, before considering the *Motor Machinists* two-limbed test we consider it important to address the validity of relief sought through the IPI process. That is, it is necessary to consider whether the outcome sought through the submission can actually be implemented through an IPI. As set out above, the RMA is directive in what must be included in an IPI, what may be included, and what cannot. Once validity is established, the standard scope considerations can be applied.

15 The legislation is directive that the objectives and policies set out in clause 6 of Schedule 3A of the RMA must be included in its district plan. There is no scope to amend those objectives and policies by the Council when notifying PC56 or making its decision on PC56. Submissions seeking that relief are therefore invalid, and can be disregarded on that basis.

16 The legislation is also directive as to what the MDRS are, what the applicable activity statuses are, and the limited circumstances where the Council may incorporate less enabling density standards. Submissions seeking more enabling provisions as relief will likely be valid, provided they are within scope of PC56. However, submissions seeking less enabling provisions (including activity status) will be invalid unless they fall within the legislative requirements (ie that less enabling provisions relate to a qualifying matter).

17 Where the Council has determined to include in PC56 additional objectives and policies to provide for matters of discretion to support the MDRS and/or link to the incorporated density standards to reflect how the territorial authority has chosen to modify the MDRS, relief seeking amendments may be valid. However, that relief must be limited to amendments to those objectives or policies (including their deletion) or the incorporation of new objectives and policies for the same reasons.

18 In addition, PC56 make amendments to the District Plan to give effect to Policies 3 and 4 of the NPS-UD. Amendments to the PC56 provisions to give effect to Policies 3 and 4 of the NPS-UD can be validly raised through submissions on PC56 (ie submissions seeking amendments to give better effect to the NPS policies, or amendments to tighten PC56 so it does not go beyond giving effect to those provisions), or to modify the requirements of Policy 3 where there is a valid qualifying matter.

19 PC56 could also have been used to amend or include provisions relating to financial contributions, papakāinga housing in the district and related provisions that support or are consequential on the MDRS or Policies 3 and 4 of the NPS-UD. PC56 does include provisions relating to financial contributions but does not include provisions relating to papakāinga housing which is a deliberate choice by the Council. We note that any submissions seeking relief in respect of 'related provisions' will only be valid to the extent that those provisions are being amended to support or that are consequential on the MDRS or policies 3 and 4 of the NPS-UD. This is clear from the scope of section 80E(1)(b)(iii) of the RMA.

20 Once validity of relief in terms of scope of an IPI is confirmed, scope for that relief to be granted through PC56 can then be assessed.

Assessing specific submissions

21 In assessing scope, the subject matter of PC56 will need to be carefully considered. As a starting point, the summary table of PC56 at 2.2 of the section 32 report could be used. While some submissions may require a more detailed analysis, on the face of many submissions it

should be clear whether the relief relates to those matters or not. Where the relief falls outside those matters, we consider that scope is unlikely to exist for that relief.

22 In assessing scope, we consider the Council should ask the following questions when determining whether or not there is scope for relief sought in a submission:

22.1 Preliminary question - is the submission invalid – for example, it is seeking something the RMA prevents, such as requesting that PC56 is withdrawn or requests amendments of the MDRS in Schedule 3A to be less enabling of development (without identifying a qualifying matter).

22.2 Step 1 - does the submission point seek amendment to a provision amended (or included or deleted) by PC56? If so, it may be within scope of PC56 - go to step 2. If not, go to step 4.

22.3 Step 2 - does the submission point seek amendment to that amended provision for the purpose of incorporating the MDRS or giving effect to policies 3 and 4 of the NPS-UD?

(a) If no, go to step 3.

(b) If yes, it will likely be within scope of PC56.

22.4 Step 3 - does the submission point seek amendment to that amended provision that supports or is consequential on the MDRS or policies 3 and 4 of the NPS-UD, or does it relate to financial contributions or papakāinga housing?

(a) If no, the submission is unlikely to be within scope of PC56.

(b) If yes, the submission may be within scope of PC56, provided the subject matter was addressed in PC56 (and subject to the qualification set out below).

22.5 Step 4 - does the submission point seek the inclusion of a new provision, or deletion or amendment of a provision not already amended by PC56 which is a consequence of a provision amended (or included or deleted) by PC56?

(a) If no, unlikely to be scope.

(b) If yes, go to step 5.

22.6 Step 5 - does the submission point relate to the incorporation of the MDRS or giving effect to policy 3 or policy 4 of the NPS-UD?

(a) If no, go to step 6.

(b) If yes, the submission will likely be within scope of PC56.

22.7 Step 6 - does the submission point relate to amendments to support or that are consequential on the incorporation of the MDRS or the giving effect to policy 3 or policy 4 of the NPS-UD, or relate to financial contributions?

(a) If no, the submission is unlikely to be within scope of PC56.

(b) If yes, the submission may be within scope of PC56, provided the subject matter was addressed in PC56.

23 We have included as Appendix 1, a flowchart that sets out the above.

24 In respect of your specific question as to the scope to amend provisions in the operative District Plan that are not already amended by PC56, just because a provision has been amended by PC56 does not mean any submission in respect of that provision is within scope. Equally, just because a provision has not been amended by PC56, does not mean that submission is necessarily outside scope. We have tried to capture the issue in the questions, but addressing not only whether the provision itself has been amended through PC56 but whether the amendment sought by submissions relates to the matters being addressed through PC56.

25 For example, many amendments in PC56 are consequential or terminology changes. An example of this is amendment 83, Chapter 14D Hazardous Facilities (Issue, Objective and Policies), where policy 14D 1.1.1(g) is amended. The amendment is simply to the way the Wellington Fault area is described – a change from 'Wellington Fault Special Study Area' to 'Wellington Fault Overlay'. Submissions seeking amendment to that policy are unlikely to be within scope even though the provision is included within PC56.

26 Happy to discuss any of these matters further.

Yours sincerely

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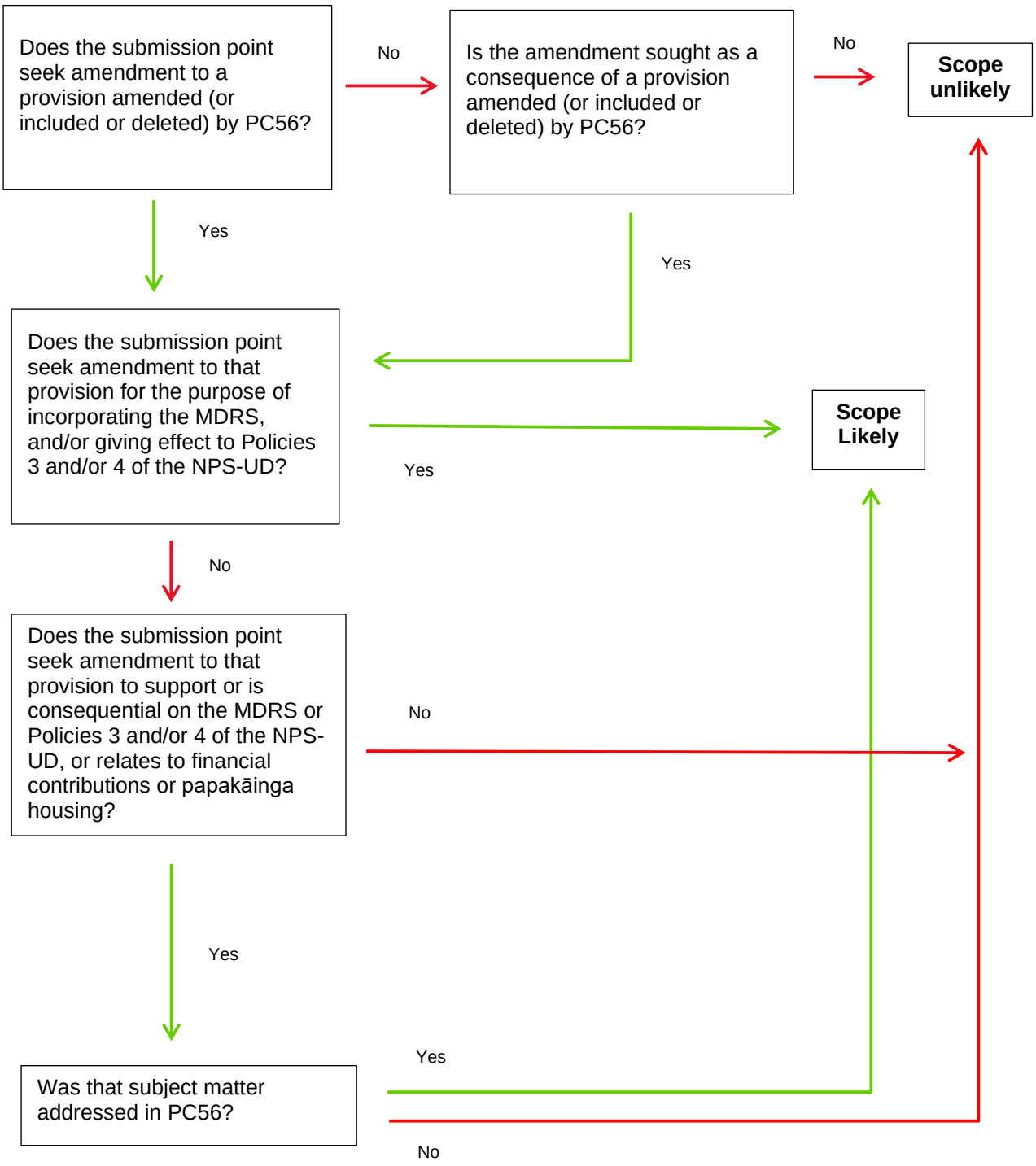
Encl

Appendix 1 – flowchart to determine scope of submissions



Appendix 4: Legal advice on heritage from DLA Piper

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27 January 2023

Emily Campbell
Pou Whakamahere Kaupapa Here
Hutt City Council
By email

Dear Emily

LEGAL REQUIREMENTS FOR LISTING A HERITAGE BUILDING OR STRUCTURE IN THE DISTRICT PLAN

1 You have sought advice on the legal requirements under the Resource Management Act 1991 (**RMA**) to recognise and protect buildings and structures of historic heritage in the Hutt City District Plan (**District Plan**). In particular, you have asked us to address the approach of Council seeking the owner's agreement to any District Plan listing of historic heritage (ie, the validity of listing based on whether the owner 'voluntarily' agrees). The context of this advice is to assist the current District Plan review process, which includes a heritage review being conducted by experts/specialists. This review is likely to result in recommended changes to the listed heritage in the District Plan.

2 The District Plan lists heritage buildings and structures (including areas containing buildings and structures) in the Chapter 14F Appendices. Listed buildings and structures are subject to rules, including a requirement for resource consent for demolition or relocation and some alterations.[1] Minor alterations, repairs, and redecoration, or internal works, are generally permitted.[2] We understand there are currently around 100 buildings/structures listed as historic heritage, as well as three historic heritage areas. Chapter 14E of the District Plan lists significant cultural resources and significant

[1] 14F 2.2 and 2.3 of the District Plan.

[2] 14F 2.1 of the District Plan.

archaeological sites, which are also 'historic heritage' in RMA terms.[3] Resource consent is required where any activity or site development is to occur on listed significant cultural or archaeological resources.[4]

3 We provided previous advice to Council on a similar topic on 3 November 2011. We have drawn on that advice as appropriate.

Summary

4 In summary, our views are:

4.1 In deciding whether to add\remove buildings from the list of historic heritage in the District Plan, Council must consider the statutory requirements for a plan change in the RMA, summarised in Appendix A to this advice. These relevantly include:

4.1.1 the requirement to recognise and provide for the protection of historic heritage from inappropriate subdivision, use, and development as a matter of national importance;[5]

4.1.2 whether the building or structure is listed on the New Zealand Heritage List/Rārangi Kōrero (**NZHL**);[6]

4.1.3 the requirement to give effect to any regional policy statement, in this case the Greater Wellington Regional Policy Statement (**RPS**).[7] Policy 21 sets out the criteria which must be applied to determine whether an item shall be identified in a district plan as a place, site or area with significant historic heritage values that contribute to an understanding and appreciation of history and culture.

4.2 The key consideration for Council should be whether the building or structure meets the threshold for inclusion in the historic heritage list, after applying the relevant criteria set out in Policy 21 of the RPS. That assessment should be based on expert advice.

4.3 We could not locate any case law stating that the listing of any specific heritage building or structure in the District Plan is *mandatory* for Council (ie, listing *must* be undertaken by Council). A common practice of councils is to list in the District Plan those buildings which are already listed on the NZHL given the

[3] Section 2 of the RMA definition of 'historic heritage' includes archaeological sites and sites of significance to Māori.

[4] 14E 2.2 of the District Plan.

[5] Sections 6(f) and 74(1)(b) of the RMA.

[6] Section 74(2)(b)(iia) of the RMA.

[7] Section 75(3)(c) of the RMA.

detailed heritage assessment usually involved in that NZHL listing. This is not a legal requirement, but rather is a matter of practice. However, often District Plan listings do not exactly match the NZHL listings.

4.4 Council adopting an approach of only listing a building or structure as historic heritage in the District Plan where the owner 'voluntarily' agrees to it, despite an assessment that it meets the criteria for inclusion in the list as historic heritage, would not comply with the requirements of the RMA. While many owners may not support or agree to additional heritage controls being placed on their land/buildings, Council is obliged to take into account matters of national importance and give effect to the RPS when undertaking a plan change.

4.5 The interests and preferences of an owner (as well as other considerations such as economic viability, public safety, and alternative uses of a building or structure) can be considered at the resource consent stage, should one be subsequently applied for after a building or structure is listed. An owner can also request the Environment Court to remove a heritage listing by demonstrating that the listing makes the building/structure incapable of reasonable use and places an unfair and unreasonable burden on them.[8]

5 We set out our detailed analysis below.

WHAT ARE THE LEGAL REQUIREMENTS?

6 There is substantial case law relating to heritage buildings and the appropriateness of protecting heritage through a District Plan. The primary means for giving effect to the recognition of historic heritage is to include items of historic heritage in the District Plan. The secondary step after identifying listed heritage items are the rules relating to what constraints are in place to protect that heritage. We understand your present question concerns a plan change to add or remove buildings from the heritage list.

7 We set out in Appendix A the mandatory considerations for a plan change[9] summarised by the Environment Court in *Colonial Vineyard v Marlborough District Council*[10], *Cabra Rural Developments Ltd v Auckland Council*[11], and more recently *Edens v Thames Coromandel District Council*[12]. Council must apply these considerations when deciding whether to list a building or structure as historic heritage in the District Plan.

8 Most relevantly when dealing with historic heritage, when deciding to change the District Plan to add or remove buildings, Council must:

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[8] Section 85 of the RMA.

[9] Noting that from 19 April 2017, district plans must also give effect to relevant national planning standards.

[10] *Colonial Vineyard v Marlborough District Council* [2014] NZEnvC 55 at [17], updating the summary from *Long Bay-Okura Great Park Society v North Shore City Council*, EnvC Auckland, 16/7/2008 A78/08 at [34].

[11] *Cabra Rural Developments Ltd v Auckland Council* [2018] NZEnvC 90 at [279].

[12] *Edens v Thames Coromandel District Council* [2020] NZEnvC 013, at [11].

8.1 act in accordance with Part 2 of the RMA, which requires[13] Council to recognise and provide for the protection of historic heritage from inappropriate subdivision, use, and development as a matter of national importance;[14]

8.2 have regard to any relevant entry on the NZHL;[15]

8.3 give effect to[16] the RPS.[17]

9 While a number of the provisions of the RPS are relevant to historic heritage,[18] Policy 21 is key to the question of whether a place should be listed in the District Plan as historic heritage. Policy 21 sets out the criteria which should be applied by Council to determine whether an item shall be identified as a place, site or area with significant historic heritage values that contribute to an understanding and appreciation of history and culture. Policy 21 seeks to ensure significant historic heritage resources are identified in a consistent way.[19] These criteria must be applied and assessed by Council in giving effect to the RPS.[20]

10 When determining whether to list a building as historic heritage in the District Plan, Council should consider all relevant statutory considerations and base any decision on the listing on an objective assessment of the heritage value of the place assessed against the relevant criteria from the RPS, taking into account any expert advice. Whether Council is satisfied that the building or structure meets the relevant RPS criteria for inclusion in the District Plan as historic heritage should be the primary focus.

IS A VOLUNTARY APPROACH TO LISTING PERMISSIBLE?

11 We could not locate any case law stating that the listing of any specific heritage building or structure is *mandatory* for Council (ie, listing must be undertaken by Council). A common practice of councils is to list in the District Plan those buildings which are listed on the NZHL given the detailed heritage assessment usually involved in that NZHL listing. This is

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[13] Noting caselaw commentary that section 6 matters can be likened to a duty upon Council: *Royal Forest and Bird Protection Society of New Zealand Inc v New Plymouth District Council* [2015] NZEnvC 219, [64]; *Environmental Defence Society v New Zealand King Salmon Company Limited* 17 (2014) ELRNZ 442 (SC).

[14] Sections 6(f) and 74(1)(b) of the RMA.

[15] Section 74(2)(b)(iia).

[16] As stated in *Environmental Defence Soc Inc v The New Zealand King Salmon Co Ltd* [2014] NZSC 38, [77]: "Give effect to" simply means "implement". On the face of it, it is a strong directive, creating a firm obligation on the part of those subject to it." See also *Port Otago Ltd v Environmental Defence Society Inc* [2021] NZCA 638.

[17] Section 75(3)(c) of the RMA.

[18] Policy 21 and 22, Table 2: Coastal environment, Objective 3, Table 5: Historic heritage, Objective 15, Methods 1, 2, 20 & 32 Also see policies 4, 6, 23, 25, 27, 30, 31, 36, 48, 49 & 53.

[19] Page 103 of the RPS.

[20] *Architectural Centre v Wellington City Council* [2017] NZEnvC 116, [29].

not a legal requirement, but is rather a matter of practice. However, often District Plan listings do not exactly match the NZHL listings.

12 There is no legal basis for Council to adopt a policy of only listing a heritage building in the District Plan where the owner agrees to that listing. The preference of the owner, and any effect of the listing on the value of the property, are not relevant considerations under the RMA when deciding whether a place has heritage values that warrant it being listed. Such considerations are not mentioned in the RPS criteria in Policy 21.

13 As the listing of a building in the District Plan places additional controls and constraints on what the owners can do with their building, it is unlikely that many building owners will 'volunteer' for their buildings to be subject to these additional controls by listing the building or structure. Most owners will avoid additional regulatory controls if possible. It is unlikely that only listing buildings and structures where the owners agree to the listing would therefore meet the Council's requirements of section 6(f) of the RMA or give effect to the RPS to achieve protection of historic heritage in the city of Lower Hutt.

14 The introduction of places onto the heritage list in the District Plan must be undertaken by Council on the basis of a robust assessment against the relevant criteria and the mandatory considerations relevant for a plan change.

15 There is a potential impact of Council choosing not to list a building/structure that meets the criteria for listing, but for the position of the landowner. If a place is not listed in the District Plan, but is historic heritage, then adverse heritage effects *could* be relevant to the determination of any resource consent application,[21] and depending on the circumstances section 6(f) of the RMA *might* also be considered.[22] However, no resource consent will be required under any heritage rules if the place is not listed, so it may be that activities such as demolition of a building (which is not listed but is historic heritage) would be permitted and would not require a resource consent. If a resource consent is required under other rules of the District Plan, discretion/control may be restricted to matters that do not include historic heritage, and/or the application might be required to be processed without notification. There is accordingly no guarantee that the effects of an activity on heritage values of an unlisted building will subsequently be considered, and accordingly demolition or an activity which might affect those heritage values is a real prospect.

16 This potential outcome highlights why a listing in the District Plan of those buildings and structures which meet the relevant criteria assists in achieving 'the protection of historic heritage from inappropriate subdivision, use, and development'.

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[21] For example, cases considering adverse effects to an area not listed as heritage in the district plan include: *New Zealand Transport Agency v Architectural Centre Inc* [2015] NZHC 1991, [354]; *Waterfront Watch Inc v Wellington City Council* [2012] NZEnvC 74, section 104(1)(a) of the RMA.

[22] See *RJ Davidson Family Trust v Marlborough District Council* [2018] NZCA 316 as to when Part 2 might be relevant to a resource consent application.

17 Non-heritage matters raised by owners opposing a heritage listing might include public safety, alternative uses, feasibility, and economic cost. These matters could be relevant at the resource consent stage, depending on the applicable objectives and policies and circumstances of the place in question.[23]

18 It is also open to an affected owner to contend that the listing of the building/structure would make it incapable of reasonable use and place an unfair and unreasonable burden on them pursuant to section 85 of the RMA. That could be raised in their submission/appeal to the Environment Court on a plan change, or through an application to change the plan to the Environment Court under clause 21 of Schedule 1. It is for the owner to raise the point, and prove the basis for it before the Court, rather than for Council to pre-emptively determine that a heritage listing would meet that criteria as part of Council's decision whether that building warrants a heritage listing in technical terms.

19 In *Redmond Retail Ltd v Ashburton District Council* [2020] NZEnvC 78, the Environment Court recently found that section 85 of the RMA did not justify taking financial burden or commercial viability into account in considering an application to remove a heritage building from the district plan list. The Environment Court's decision was upheld on appeal in *Redmond Retail Ltd v Ashburton District Council* [2021] NZHC 2887. The High Court on appeal was satisfied that the Environment Court had properly acknowledged that the RMA requires the burden on a private landowner to be in proportion to the public benefit gained from the restriction imposed by a heritage listing in a district plan. The restriction applying under a heritage listing was not intended to be so great as to preclude reasonable use. Equally, the reasonable use does not need to be the landowner's preferred choice nor the best use of the land,[24] or provide the 'optimum financial return'.[25] Further, the High Court found that the high cost the owner might face in meeting Building Act 2004 or other requirements were not relevant to the test for 'incapable of reasonable use'.[26]

20 Let us know if you have any questions or you would like us to expand on any matter further.

Yours sincerely

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[23] *Lambton Quay Properties Nominee Ltd v Wellington City Council* [2014] NZHC 878; *Tuscany Limited v Christchurch City Council* (2005) NZEnvC 99/205 [74]; economic considerations are within the scope of the purpose of the RMA, section 5.

[24] *Redmond Retail Ltd v Ashburton District Council* [2021] NZHC 2887, [49].

[25] *Landcorp Ltd v Auckland Council* [2012] NZEnvC 203, [68].

[26] *Redmond Retail Ltd v Ashburton District Council* [2021] NZHC 2887, [63]-[65].

APPENDIX A - THE PLAN CHANGE TEST

Extract from *Colonial Vineyard Ltd v Marlborough District Council* [2014] NZEnvC 55, [17]

A. General requirements

1. A district plan (change) should be designed to accord with — and assist the territorial authority to carry out — its functions so as to achieve the purpose of the Act.

2. The district plan (change) must also be prepared in accordance with any regulation (there are none at present) and any direction given by the Minister for the Environment.

3. When preparing its district plan (change) the territorial authority must give effect to any national policy statement or New Zealand Coastal Policy Statement.

4. When preparing its district plan (change) the territorial authority shall:

(a) have regard to any proposed regional policy statement;

(b) give effect to any operative regional policy statement.

5. In relation to regional plans:

(a) the district plan (change) must not be inconsistent with an operative regional plan for any matter specified in section 30(1) or a water conservation order; and

(b) must have regard to any proposed regional plan on any matter of regional significance etc.

6. When preparing its district plan (change) the territorial authority must also:

• have regard to any relevant management plans and strategies under other Acts, and to any relevant entry in the Historic Places Register and to various fisheries regulations to the extent that their content has a bearing on resource management issues of the district; and to consistency with plans and proposed plans of adjacent territorial authorities;

• take into account any relevant planning document recognised by an iwi authority; and

• not have regard to trade competition or the effects of trade competition;

7. The formal requirement is that a district plan (change) must also state its objectives, policies and the rules (if any) and may state other matters.

B. Objectives [the section 32 test for objectives]

8. Each proposed objective in a district plan (change) is to be evaluated by the extent to which it is the most appropriate way to achieve the purpose of the Act.

C. Policies and methods (including rules) [the section 32 test for policies and rules]

9. The policies are to implement the objectives, and the rules (if any) are to implement the policies;

10. Each proposed policy or method (including each rule) is to be examined, having regard to its efficiency and effectiveness, as to whether it is the most appropriate method for achieving the objectives of the district plan taking into account:

(i) the benefits and costs of the proposed policies and methods (including rules); and

(ii) the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules, or other methods; and

(iii) if a national environmental standard applies and the proposed rule imposes a greater prohibition or restriction than that, then whether that greater prohibition or restriction is justified in the circumstances.

D. Rules

11. In making a rule the territorial authority must have regard to the actual or potential effect of activities on the environment.

12. Rules have the force of regulations.

13. Rules may be made for the protection of property from the effects of surface water, and these may be more restrictive than those under the Building Act 2004.

14. There are special provisions for rules about contaminated land.

15. There must be no blanket rules about felling of trees in any urban environment.

E. Other statues:

16. Finally territorial authorities may be required to comply with other statutes.

F. (On Appeal)

17. On appeal the Environment Court must have regard to one additional matter — the decision of the territorial authority.

Appendix 5: Heritage evidence of Chessa Stevens, WSP

BEFORE THE INDEPENDENT HEARINGS PANEL

IN THE MATTER OF:	Hutt City Proposed District Plan Change 56: Enabling Intensification in Residential and Commercial Areas

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SECTION 42A REPORT OF CHESSA STEVENS – HERITAGE ASSESSMENT

Dated 7 March 2023

INTRODUCTION

Qualifications

1. My full name is Francesca Louise Stevens. I practice under my abbreviated name, Chessa Stevens. I am Principal Conservation Architect and National Built Heritage Lead at WSP New Zealand Ltd.

2. I have the following qualifications and experience relevant to the evidence I shall give:

    (a) I hold a Master of Arts with Distinction in Conservation Studies from the University of York, United Kingdom.

    (b) I hold a Bachelor of Architecture with Honours from Victoria University of Wellington, New Zealand.

    (c) I hold a Bachelor of Arts degree from Victoria University of Wellington, New Zealand.

    (d) I am a Registered Architect with the New Zealand Registered Architects Board.

    (e) I am a member of the Executive Board and Co-Secretary of ICOMOS New Zealand (the International Council of Monuments and Sites).

    (f) I have approximately fifteen years' experience in architecture, specialising in heritage and historic buildings.

    (g) I have been employed in a specialist built heritage role at WSP (formerly Opus International Consultants) since 2015.

3. I have been engaged by Hutt City Council (HCC) to assess and respond to the public submissions made in relation to Proposed District Plan Change 56: Enabling Intensification in Residential and Commercial Areas (referred to as 'PC 56') that relate to the proposed Residential Heritage Precinct identified in Chapter 4F (5.1) and the Heritage Areas identified in Chapter 14F (Appendix Heritage 3).

Expert Witnesses – Code of Conduct

4. I confirm that I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023 and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that except where I state I am relying on information provided by another party, the content of this evidence is within my area of expertise.

BACKGROUND

Commission

5. WSP and Ian Bowman were together commissioned by HCC to undertake a district-wide technical review and assessment of heritage items, sites, and areas in Lower Hutt in September 2020 (hereafter referred to as the 'Heritage Inventory Review'). The heritage professionals involved undertaking this review (which I refer to as 'we') were:

    (a) Ian Bowman, historian, registered architect, architectural conservator specialising in built heritage conservation, and principal of his own firm formed in 1992. Mr Bowman has undertaken multiple heritage inventory reviews for Hutt City Council.

    (b) Alex Pirie, WSP Heritage Consultant who has a Master of Architecture degree and, at the time that the work was undertaken, had approximately four years' experience specialising in built heritage.

    (c) Myself (refer to paragraphs 1 and 2 above).

6. At the time of the commission, this piece of work formed part of a District Plan review. It was required to take account of all of the relevant legislative changes that had occurred since the heritage provisions of the Operative District Plan were last updated; and to incorporate items, sites and areas of historic heritage in Lower Hutt that have not previously been identified for protection and were therefore vulnerable to inappropriate subdivision, use and development.

Methodology for Assessing Heritage Areas

7. The initial stage of the Heritage Inventory Review was a desktop assessment that identified items and areas that were already scheduled in the Operative District Plan and should remain scheduled; items and areas which should be moved between schedules or removed from the existing schedules entirely; and new items and areas which should be included.

8. Prior to commencing this desktop assessment, we developed the assessment and recording framework that we used to assess (or reassess) and record the heritage values for all items and areas, both existing and proposed.

9. Heritage significance is typically assessed by analysing evidence gathered through documentary and physical research, and evaluating this evidence against a set of assessment criteria.

10. Although the RMA defines 'historic heritage' and identifies its protection from inappropriate subdivision, use and development as a Matter of National Importance, there is currently no National Direction on how to assess historic heritage. Therefore, it is generally accepted that, where Regional Policy Statements include more detailed criteria for the assessment of heritage places and/or guidance on how to apply these criteria, they are the most appropriate tool for assessing historic heritage under the RMA. Further, as territorial authorities are required to comply with Regional Policy Statements, they must apply the historic heritage assessment criteria identified in the relevant Regional Policy Statement, although they may add their own further criteria if they consider this to be necessary.

11. As Lower Hutt falls within the Wellington Region, the criteria that we used to assess the heritage significance of items in Lower Hutt were taken from Policy 21 of the Wellington Regional Policy Statement 2013 (RPS). We did not consider it necessary to add any further criteria as the RPS criteria are thorough and provide adequately for the qualities identified in the definition of 'historic heritage' in the RMA. Policy 21 states:

> *District and regional plans shall identify places, sites and areas with significant historic heritage values that contribute to an understanding*

and appreciation of history and culture under one or more of the following criteria:

a) historic values: these relate to the history of a place and how it demonstrates important historical themes, events, people or experiences.

b) physical values: these values relate to the physical evidence present.

c) social values: these values relate to the meanings that a place has for a particular community or communities.

d) tangata whenua values: the place is sacred or important to Māori for spiritual, cultural or historical reasons.

e) surroundings: the setting or context of the place contributes to an appreciation and understanding of its character, history and/or development.

f) rarity: the place is unique or rare within the district or region.

g) representativeness: the place is a good example of its type or era.

Desktop Review of Heritage Areas

12. Heritage Areas are groupings of interrelated, but not necessarily contiguous, places or features that collectively represent historic value. These individual components of an area collectively form a streetscape, townscape or cultural environment that has value for its architectural style, town planning or urban design excellence, landscape qualities, strong historic associations, or legibility as an archaeological landscape. Change in these areas and landscapes needs to be carefully managed to preserve heritage values. Demolition, relocation, or

inappropriate additions can undermine the collective integrity of historic areas and landscapes.[1]

13. In accordance with Policy 21 of the RPS, we assessed Heritage Areas using the same criteria as individual items, being those identified in paragraph 9. However, the emphasis is on the collective values of the area and the consistency of these values across the area, rather than the significance of individual places.

14. It is not necessary for a Heritage Area to contain scheduled heritage items. There are areas where there may be no individual items that meet the criteria for scheduling alone, but where there is a consistency of building age, architectural style, materials, height, shape, site position, and site coverage that give the area physical heritage values. Often, this consistency is the result of development during a specific time period, or for a particular purpose, meaning that they also have historic and social heritage values.

15. The Operative District Plan identifies Heritage Areas in Chapter 14 Appendices Heritage 1 and Historic Residential Areas in Chapter 4C. In both cases, these areas are not well defined, either in terms of their boundaries, or the reasons why they are recognised. The inclusion of some areas in both of these Chapters adds further complication. To resolve these complications, we recommended that a new schedule be created for Heritage Areas.

16. The areas identified in Chapters 4C and 14 were reviewed as part of the desktop assessment to ascertain whether and to what extent they were likely to meet the criteria.

17. New areas with the potential to meet the criteria for scheduling were also identified as part of the desktop assessment by reviewing past heritage inventory reviews, undertaking a strategic district-wide street-by-street review

[1] This was identified by HNZPT in their Sustainable Management of Historic Heritage Guidance Series, Information Shed No. 17, 2007.

using a thematic framework, and requesting recommendations from Heritage New Zealand Pouhere Taonga (HNZPT) and community heritage groups.

18. The Desktop Heritage Inventory Review Report was completed in April 2021. It proposed seven Heritage Areas, and recommended further investigation of seven additional areas as follows:

    (a) Heritage Areas

    - Heretaunga Settlement
    - Riddlers Crescent
    - Lower Hutt Civic Centre
    - Jackson Street
    - Baring Head
    - Naenae Civic Centre
    - Matiu/Somes Island

    (b) Areas Requiring Further Investigation

    - Hutt Road Area
    - Moera Railway Area
    - Petone Foreshore Area
    - Dudley Street
    - Petone State Housing Precinct
    - Hardham Crescent State Housing Area
    - Wainuiomata Road Terracrete Homes State Housing Area

Site Investigations and Draft Recommendations for Heritage Areas

19. During May and June 2021, site investigations were undertaken. Along with the majority of individual items, the seven Heritage Areas (with the exception of Baring Head) and the seven areas requiring further investigation were visited.

20. Property owners were contacted by HCC prior to the site investigations being carried out. All areas and items were surveyed from publicly accessible places: from the street, walking tracks, parks or reserves, carparks, railway platforms, pedestrian overbridges, and the like. In some cases, it was not possible to view

an item from these publicly accessible places; and, therefore, it was not possible to complete a full assessment of their physical values.

21. Following the site surveys, the conclusions of the Desktop Heritage Inventory Review Report were re-evaluated, and the items and areas were placed into the following categories:

    (a) Items/areas that met the criteria for scheduling, for which assessment forms were then completed.

    (b) Items/areas that had some physical values, but required further documentary research to determine if their historic and social values were sufficient to meet the criteria for scheduling. Where these values were considered to be sufficient, assessment forms were completed.

    (c) Items/areas that did not have physical values sufficient to meet the criteria for scheduling, for which assessment forms were not completed.

22. A Draft Heritage Inventory Review Report, which included draft assessment forms for each item or area in category (a) and (b) above was issued to HCC for their review in June 2021.

23. During July 2021, we were able to get access to some items that we had previously been unable to visit, and a revised Draft Heritage Inventory Review Report, including draft assessment forms, was issued to HCC at the end of that month. The Heritage Areas proposed at that time were as follows:

Name of Area	**Location**	**Typology/Theme**	**Reference**
Hardham Crescent	Petone	State Housing	HA-01
Heretaunga Settlement	Petone	Early State Housing	HA-02
Hutt Road Railway	Petone	Railway Cottages	HA-03
Jackson Street	Petone	Commercial	HA-04
Lower Hutt Civic Centre	Hutt Central	Civic	HA-05
Riddlers Crescent	Petone	Early Settlement	HA-06

Name of Area	Location	Typology/Theme	Reference
Moera Railway	Moera	Railway Cottages	HA-07
Petone Foreshore	Petone	Early Settlement	HA-08
Petone State Flats	Petone	State Housing	HA-09
Matiu/Somes Island	Matiu/Somes Island	Various	HA-10
Wainuiomata Terracrete Homes	Wainuiomata	State Housing	HA-11
Baring Head	South Coast	Various	HA-12

24. In April 2022, we met with HCC and representatives of Kāinga Ora to discuss a review they had commissioned from Dave Pearson Architects of those areas that were predominantly or entirely made up of state housing. Following this, we amended our recommendations regarding the naming and extent of the Petone State Flats Heritage Area and the Moera Railway Heritage Area.[2]

25. In December 2021, Parliament passed the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 (referred to as 'the Housing Supply Act') to strengthen and accelerate the implementation of the National Policy Statement on Urban Development 2020 (NPS-UD). The amendments require all territorial authorities to prepare a district plan change, known as an Intensification Planning Instrument (IPI), to enable greater building heights and density in urban residential and commercial areas. PC 56 is HCC's IPI.

26. In August 2022, ahead of public notification of PC 56, we issued a revised and abridged version of the Draft Heritage Inventory Review Report (referred to as the 'Sub-Report') that addressed Areas only.[3]

[2] Refer memorandum from WSP to HCC dated 22 June 2022

[3] Open space and rural areas are not included in PC 56. Therefore, while the Matiu/Somes Island and Baring Head Areas are included in the Sub-Report, they are not part of PC 56.

27. Neither I nor the other authors of the Draft Heritage Inventory Review Report and associated assessment forms were involved in making any decisions with regards to inclusion of Heritage Areas in PC 56; nor was I involved in drafting the objectives, policies and rules presented in PC 56. However, my understanding of PC 56 is that it provides for limitations on building heights and density to the extent necessary to protect historic heritage as a qualifying matter under the NPS-UD. The protection of historic heritage is necessarily broader than just the management of height and density, and this will be addressed by HCC as part of a wider district plan review.

MATTERS RAISED BY SUBMITTERS

28. Ahead of preparing this evidence, HCC provided me with a list of submissions that included comments relating to heritage areas, and a summary of the relevant points made by each submitter. In preparing this evidence, I have relied on this information and have only read and commented on those submissions specifically identified by HCC, being numbers 37, 44, 55, 93, 102, 116, 143, 145, 157, 163, 243, 244, 246, and 248; and, subsequently, numbers 132, 161, 206, and further submission F01.

29. For ease, I have responded to points made by multiple submitters where I consider these points to be the same, or where differences are inconsequential. I have used sub-headings to identify these.

Submissions for Inclusion of Jackson Street between Tory and Cuba Streets in the Jackson Street Heritage Precinct, Petone

30. There were multiple submissions made requesting the inclusion of Jackson Street as far east as Cuba Street in the Jackson Street Heritage Area, including: Heritage New Zealand Pouhere Taonga (HNZPT) (37.21), Petone Community Board (116), Petone Historical Society (163.9), Sheree Freeman (143.7), Martha Craig (243.7), Rex Torstonson (244.7) and Brett Nicholls (246.7).

31. As noted in HNZPT's submission, the Jackson Street Historic Area that is listed with HNZPT extends to Cuba Street in the east. As the area identified in the

Operative District Plan is a direct translation of the area identified by HNZPT, this necessarily also extends to Cuba Street in the east.

32. In 2005, the Jackson Street Heritage Building Inventory was prepared by Warwick Johnston, Ian Bowman and Eymard Bradley for HCC. A review of the Jackson Street historic area was carried out by Ian Bowman in 2018.

33. Two buildings between Tory and Cuba Streets are identified in the 2005 Heritage Building Inventory as having heritage value: 358-360 Jackson Street (Soprano Italian Caffe) (Lot 11 DP 445), and 362-364 Jackson Street (Vivid Photography) (Lot 12 DP 445). These buildings are adjacent to each other on the southern side of the street. The remaining buildings in this block are either modern, or have been substantially modified.

34. I support the addition of the properties at 354, 358, 360, 362 and 364 to the Jackson Street Heritage Precinct to incorporate the contributing buildings. The remainder of the block from 313 to 337 on the northeastern side of Jackson Street, and 374 to 378 on the southwestern side of Jackson Street, is either modern or heavily modified. Therefore, these properties are not considered to contribute directly to the heritage values of the area.

35. Submissions 143.7, 243.7 and 246.7 state:

> *The areas surrounding heritage items, settings and areas have the ability to detract or add to the heritage values that are being protected under S6(f) of the RMA. This is recognised in the RMA which includes surroundings associated with the natural and physical resources in the definition of historic heritage. The surroundings associated with the Jackson Street Heritage Precinct are particularly influential over such a protected area and therefore need to be regulated so as to accomplish the protection of historic heritage under section 6(f).*

36. Further to this, in response to Amendments 4, 16, and 48, the Petone Historical Society (163) request that "the areas adjacent to the Jackson Street Heritage Precinct (Petone Commercial Activity Area 1) beyond 800m from Ava Station and Petone Station on the railway line) have a maximum height of 4 storeys"

or “22m” to avoid undermining “the character and well-functioning nature of the historic area”.

37. These points raise an interesting question with regards to “surroundings” and the extent to which transition or “buffer” zones should be included within the Area’s boundaries, in order to prevent development that may diminish its values.

38. In our assessment of the Jackson Street Heritage Precinct against the criteria of RPS Policy 21 we did not consider the inclusion of a buffer zone. This is largely because our commission was to undertake a Heritage Inventory Review, and it was not within our scope to consider objectives, policies or rules (either operative or proposed) relating to the management of these areas.

39. I do not disagree that the height and intensification of development on sites adjacent to the Jackson Street Heritage Precinct have the potential to impact on the values of the area. However, I would also highlight the following:

    (a) The values of the Jackson Street Heritage Precinct are typically experienced from within the street itself.

    (b) The southwestern side of the Precinct is partially bounded by the Petone Foreshore Heritage Area where there will also be controls on height and density.

    (c) The Precinct is one property deep, and buildings are typically constructed hard up to the front boundary while there is open space between the building and the rear boundary which provides a separation or a buffer of sorts. These attributes are likely to reduce the degree to which development on adjacent sites will impact the northeastern side of Jackson Street.

Submission to Apply a Recession Plane to Sites Adjacent toJackson Street Heritage Precinct, Petone

40. In their submission on proposed Amendment 82, the Petone Community Board request that a recession plane of 2.5m + 45° be applied to sites abutting the

Jackson Street Heritage Precinct. Though the submission does not provide reasons for this request, it may be assumed from other content in their submission that the Petone Community Board believe this is necessary to protect the heritage values of the Jackson Street Heritage Precinct.

41. I do not believe that the requested recession plane would be an effective way of ensuring that the heritage values of Jackson Street are protected in this case, because:

    (a) The nature of the Jackson Street Heritage Precinct means that the majority of abutting sites are to the rear; and, generally buildings are not constructed right up to the rear boundaries, meaning that there is some space between the buildings and the adjacent properties.

    (b) Typically, the buildings on Jackson Street are between 1 and 3 storeys, constructed with vertical elevations. A building 4 to 6 storeys with vertical elevations is more likely to be appropriate in this context than a building constructed to the precise limits of a recession plane (i.e., with an angled façade).

    (c) It would be more effective to manage adjacent development through the implementation of a design guide and by limiting maximum heights.

Submission Against the Petone Foreshore Heritage Area

42. In submission 132.1, Pam Roberts gives five reasons opposing the proposed Petone Foreshore Heritage Area. Generally, the matters raised by Pam Roberts will be addressed by others on behalf of HCC as they are associated with the level of consultation undertaken, the proposed rules for Heritage Areas including distinction between contributing and other buildings, and the likely cost of consents that will be required for works undertaken to a property within a Heritage Area.

Submissions for the Extension of the Petone Foreshore Heritage Area

43. The heritage values of the Petone Foreshore Heritage Area can be summarised as follows:

    (a) The area has high historic values as an example of some of the earliest residential development in Wellington.

    (b) The area has high physical values derived from the consistent late 19th and early 20th century subdivision patterns, and the integrity of its traditionally constructed late 19th and early 20th century timber frame buildings. There is also high potential for further information about the past of Petone, Lower Hutt and New Zealand to be revealed through investigation by archaeological methods.

    (c) The area has high social values, holding sentimental significance for the generations of people who have lived there, and being well recognised by the community as contributing to the shared history and identity of Petone.

    (d) The area has high rarity for its intact late 19th and (predominantly) early 20th century residential buildings.

    (e) The area features good examples of buildings of a particular age and type, conferring a high level of representativeness.

44. The Desktop Heritage Inventory Review Report issued in April 2021 identified Nelson Street, Bay Street, Beach Street, Queen Street, Buick Street and Bolton Street between Jackson Street and the Esplanade for potential inclusion in a Petone Foreshore Heritage Area. The boundaries of the proposed area did not change in the Draft Heritage Inventory Review Report issued in June 2021.

45. Following the June 2021 Draft, HCC requested a review of the Petone Foreshore Heritage Area due to its size, particularly given the intensification requirements of the NPS-UD and the treatment of historic heritage as a qualifying matter.

46. This review confirmed that Queen, Buick, and Bolton Streets were the most intact, and were therefore critical to the heritage values of the proposed Petone Foreshore Heritage Area; while modern redevelopment at the northern and southern ends of Nelson Street, at the northern end of Beach Street, and sporadically along Bay Street had eroded their cohesion and integrity. The proposed Petone Foreshore Heritage Area was therefore reduced to Queen, Buick and Bolton Streets.

47. In submission 102.1, Graeme Lyon requests that consideration be given to extending the Petone Foreshore Heritage Area to include Beach and Bay Streets, but does not provide a detailed explanation as to why. The submission focusses more strongly on the need for appropriate "zoning" to require "in character development" within the wider foreshore area. My evidence does not discuss the definition of 'character' or the difference between 'character' and 'heritage'. This will be addressed by other experts on behalf of HCC.

48. In submission 44.1, Laura Skilton requests that the Petone Foreshore Heritage Area be extended to include Bay Street and Beach Street "as a minimum" on the grounds that they "are not substantially different" to Queen, Buick and Bolton Streets. In the submission, Laura Skilton has provided an analysis of Beach and Bay Streets against the criteria of Policy 21 of the RPS.[4] In general, I agree with the statements made in this analysis, particularly as regards historic themes and associations, architectural and townscape values, age and representativeness, noting that there has been some dilution of these values through modern development.

49. I have reviewed the extent of the proposed Petone Foreshore Heritage Area, and I agree that Bay Street (particularly the western side) and Beach Street (particularly the south end) have heritage values that are consistent with the other streets included in the proposed Area, and therefore meet the criteria of

[4] Laura Skilton's submission and analysis refer multiple times to "the report", "the analysis" and "the summary document" without specifying which particular report, analysis or summary document are being referred to. I have not cross checked all of these references in reviewing her Policy 21 analysis as I do not believe it changes the general nature of the statements made.

Policy 21 of the RPS. I support the inclusion of Beach and Bay Streets in the Petone Foreshore Heritage Area to the extent shown in Figure 1.

Figure 1: Extent of Bay and Beach Streets proposed for inclusion on the Petone Foreshore Heritage Area. Properties identified in dark red (34 Bay Street and 52 Beach Street) are individually scheduled heritage items. Properties shaded in pale red have been identified as contributing.

Submission for the Consideration of the Petone 2040 Spatial Plan 2017

50. In her submission (44.1) Laura Skilton requests that "consideration is made for the area identified in Figure 2.1.5 of the Petone 2040 Spatial Plan" prepared by McIndoe Urban Ltd in 2017. I have assumed that what is being requested here is for consideration to be given to making all of those residential areas identified in Figure 2.1.5 as "Areas of Cohesive and Intact Traditional Housing" into Heritage Areas.

51. I do not disagree that, to a certain extent, these areas are representative of Lower Hutt's early development, and that many historic residences remain intact or substantially intact in these areas. The Desktop Heritage Inventory

Review Report undertaken in 2021 was necessarily high level. It is possible that more detailed analysis of the area bounded by the railway line, the river, Jackson Street, Kensington Ave and Cuba Street may identify other areas with heritage value.

52. However, I note the Petone 2040 Spatial Plan did not use the criteria of RPS Policy 21 to assess "Areas of Cohesive and Intact Traditional Housing" and, therefore it cannot be assumed that these areas would necessarily qualify as Heritage Areas.

53. I also note that the "Areas of Cohesive and Intact Traditional Housing" encompass other proposed Heritage Areas, including the Riddlers Crescent and Patrick Street Heritage Precincts, and the Hutt Road Railway, Petone State Flats, and Moera Railway Heritage Areas. Therefore, consideration has already been given to these areas.

Submissions for the Removal of Properties from Hutt Road Railway Heritage Area

54. The heritage values of the Hutt Road Railway Heritage Area can be summarised as follows:

    (a) The area has high historic value for its association with the late 19th and early 20th century industrial development in Lower Hutt, and associated schemes to provide accommodation, particularly for railway workers and their families.

    (b) The area has high physical value with dwellings reflecting a range of architectural styles of the late 19th and early 20th century, constructed using traditional methods and materials of the period, and retaining a moderate to high level of integrity.

    (c) The area has high social value derived from its association with generations of railway workers and their families, and from its contribution to a sense of shared history and identity in Petone and Lower Hutt.

(d) The area has a high level of rarity as an intact group of residences built to house railway workers.

(e) The area features good examples of buildings of a particular type, era and class, conferring a high level of representativeness.

55. The Heritage Inventory Assessment Form prepared by WSP for the Hutt Road Railway Heritage Area identifies contributing buildings, being those that directly contribute to these values.

Removal of 5A Hector Street

56. In her submission (55.1), Peggy Maurirere requests that 5A Hector Street "be removed from the list of heritage properties". For clarity, my understanding of this statement is that the submitter would like 5A Hector Street to be removed from the Hutt Road Railway Heritage Area.

57. Peggy Maurirere gives three reasons for her submission. None of these relate to the heritage values of the Hutt Road Railway Heritage Area or the contribution that 5A Hector Street makes to this Heritage Area. Therefore, it is not within my remit to comment on her points directly. However, I note that she has provided no evidence to support her claim that insurance premiums on the property may increase as a result of it being included in the Heritage Area. I address this matter further in paragraph 88 below.

58. The properties at numbers 5 and 5A Hector Street were constructed in c.1911 and are semi-detached.[5] Together they are one of five residential duplexes in Hector Street, all of which are proposed for inclusion in the Hutt Road Railway Heritage Area as they make an important contribution to the area's historic, physical and social values (identified in paragraph 54). As an unusual cluster of early 20th century semi-detached dwellings they also make a particular contribution to the area's rarity.

[5] Research undertaken for the 2008 Hutt City Heritage Inventory Review identified this construction date.

59. Further, given the nature of the building's construction, it would not be logical to remove 5A Hector Street from the Heritage Area without also removing 5 Hector Street.

60. Therefore, I do not agree with Peggy Maurirere's submission that 5A Hector Street should be removed from the Hutt Road Railway Heritage Area.

Removal of 73 Hutt Road

61. The property at 73 Hutt Road was identified as a contributing building within the Hutt Road Railway Heritage Area in our report issued in July 2021. In November 2021, Juan Qu requested that HCC review the inclusion of this property. Following this review, it was determined that 73 Hutt Road was not a contributing building.

62. HCC notified Juan Qu of this change on 9 December 2021;[6] and it is captured in the most recent version of our draft report issued to HCC in August 2022.

63. HCC advised Juan Qu that there could be different restrictions for contributing and "non-contributing" properties incorporated into the proposed District Plan, which would then be open to public consultation; and this option still remains.

64. Notwithstanding the change from contributing to "non-contributing", submissions made by Juan Qu (94.3) and Meng Xu (145.3) request the exclusion of 73 Hutt Road from the Hutt Road Railway Heritage Area on the grounds that 69 Hutt Road is excluded.

65. Assessing the heritage values of an area is not a matter of comparing one property with another. Rather, it is about the contribution that a place makes to the values of an area.

66. The reasons for excluding 69 Hutt Road from the Hutt Road Railway Heritage Area include:

[6] Refer email to Juan Qu from Benjamin Haddrell on 9 December 2021, attached to Juan Qu's submission (94)

(a) Its position on the corner of Nicholls Ave, which is also outside of the Heritage Area and provides a distinctly visible break from the contributing property at 71 Hutt Road.

(b) Its architectural style and age of construction, which are not well aligned with the physical values of the Heritage Area.

67. The same reasons do not apply to 73 Hutt Road.

(a) It is positioned between 71 and 75 Hutt Road which are properties of a similar size and have been identified as contributing, and excluding it from the Heritage Area would leave 71 Hutt Road vulnerable to negative impacts of development on both sides.

(b) It is a small single storey dwelling constructed in the early 20th century that retains some historic fabric and stylistic elements from this period; and, therefore, it is generally consistent with the historic, physical and social values of the Hutt Road Railway Heritage Area (identified paragraph 54).

68. I believe that this is sufficient to justify the inclusion of 73 Hutt Road in the Hutt Road Railway Heritage Area.

69. I note also that the submissions made by Juan Qu and Meng Xu request the removal of the proposed Medium and High Density Residential Heritage Precincts (94.1 and 145.1) and, if they are not removed, that evidence to support their inclusion be provided (94.2 and 145.2). This evidence is provided in the Heritage Inventory Assessment Forms for each area.

<u>Removal of 176 Hutt Road</u>

70. I disagree with Andrew Hendry's submission (248.1) that 176 Hutt Road should not be included in the Hutt Road Railway Heritage Area.

71. The dwelling at 176 Hutt Road is a single storey, single fronted timber frame workers cottage constructed c.1925. It features a weatherboarded and shingled exterior, and timber frame windows, and appears to have a high level of integrity. It therefore contributes to the historic, physical and social values,

rarity and representativeness of the Hutt Road Railway Heritage Area (as identified in 54 above).

Submission for the Addition of Properties to the Hutt Road Railway Heritage Area

72. In their submission on Amendment 171 (tabulated appendix to submission 163), the Petone Historical Society request that 1, 2 and 2A Mill Road and 105 Hutt Road to the Hutt Road Railway Heritage Area on the basis that these are railway cottages that contribute to the heritage values of the area.

73. I agree that, as properties with railway cottages that appear to have had few modifications, 105 Hutt Road and 1, 2, 2A and 4 Mill Road are aligned with the physical, historic and social values of the Hutt Road Railway Heritage Area, and that they should therefore be added to the area.[7]

Submision for the Reinstatement of Operative District Plan Boundaries for the Heretaunga Settlement and Riddlers Crescent Heritage Precincts

74. In their submission (163.8 and comments on Amendment 178) the Petone Historical Society requests reinstatement of the Operative District Plan boundaries and rules for the Patrick Street (Heretaunga Settlement) and Riddlers Crescent Heritage Precincts, stating:

> *The reasons for their original extent were carefully worked out and these reasons have not changed. They have been in statutory Plans and administered as heritage precincts for so long that they should be regarded as having "settled" or "accepted" heritage values (eg, most properties are either original owners or have changed hands with new owners being aware of the heritage status). One excluded property in*

[7] According to current Land Information New Zealand data, the properties at 105, 107, 109, 111, 113, 115, 117, and 119 Hutt Road and at 1, 2, 2A and 4 Mill Road are on a shared title which has led to some confusion regarding boundaries in this part of the proposed Hutt Road Railway Heritage Area. The inclusion of 105 Hutt Road and 1, 2, 2A and 4 Mill Road would mean that the entirety of the area on the title is included in the Heritage Area, which will avoid potential disputes about arbitrary lines being drawn within one legal title.

Patrick St has a relatively new house which has been built under the current design guide for the precinct. Two of the others predate the Workers Dwelling Act houses (ie, were part of the environment within which the Workers Dwelling Act houses were built. Modifying the extent of the Precinct does not recognise the importance of Patrick Street as a whole, or the RMA's definition of "historic heritage" which includes the surroundings of natural and physical resources. This is an area of probable international significance, and it should not be changed.

Heretaunga Settlement Heritage Precinct (Patrick Street)

75. The properties that have been removed from the Heretaunga Settlement Heritage Precinct (Patrick Street) are: 225 The Esplanade, which was removed as the building on this property is now a large modern home; and 424-430 Jackson Street which were not part of the original Heretaunga Settlement (as identified in the Draft Heritage Inventory Assessment Form) and therefore were not considered to share the same heritage values as the rest of the area.

76. I understand that these properties have been included within a Heritage Area for some time, and that this is generally accepted. However, in and of itself, this was not sufficient to keep the properties within the Heritage Area when it was assessed against the criteria of RPS Policy 21.

77. I note that our assessment of the Heretaunga Settlement Heritage Precinct against the criteria of RPS Policy did not consider the inclusion of a buffer zone for the same reason described in paragraph 38 above,

Riddlers Crescent Heritage Precinct

78. One of the two properties that have been removed from the Riddlers Crescent Heritage Precinct is 5 Riddlers Crescent, which is now a service entrance to K-Mart. At present, 5 Riddlers Crescent does not contribute to the values of the Heritage Area. I have not reviewed what consent conditions, if any, apply to this property, and it may be that there are provisions that will prevent further development.

79. The other property that has been removed from the Riddlers Crescent Heritage Precinct is 93 Hutt Road, which is now proposed to be part of the Hutt Road Railway Heritage Area as it is more consistent with the values of this area.

Submissions on the Impact on Property Owners of Scheduling in a Heritage Area

80. This section of my evidence deals predominantly with the submission of the Hutt Voluntary Heritage Group (VHG). I note that this group have not identified which (if any) of the homeowners impacted by PC 56 it actually represents.

Voluntary Heritage Scheduling

81. In submission 157, the Hutt VHG requests that HCC adopt the following policy*:*

> *That a property should only be classified as heritage in the District Plan with the express written consent of the property owner.*

82. In submissions 55.1, 161.1 and 248.1, Peggy Maurirere, Michael Basil-Jones and Andrew Hendry articulate a similar view that properties should not be included within the proposed Heritage Areas without the consent of the property owners.

83. The matter of whether or not property owners should decide if a place is scheduled as historic heritage in a District Plan and/or protected in accordance with the RMA will be addressed by other experts on behalf of HCC.

Heritage Area Analysis

84. I disagree with the Hutt VHG's statement (157.17) that:

HCC has relied upon an incomplete heritage analysis to determine heritage values sufficient for designation, and therefore as a qualifying matter.

I have explained the methodology and limitations of the Draft Heritage Inventory Review in paragraphs 5 to 27 above.

85. I disagree with the Hutt VHG's statement (157.17) that:

Volume 2 of PC56 makes a number of references to "heritage values" and the retention of heritage being of value to the community. However, it does not define what these "heritage values" are nor who values this particular heritage and to what extent.

I refer to paragraphs 11 and 12 above that explain the heritage values assessment criteria and their source, being RPS Policy 21. Further, I note that HCC is legally required to comply with the RPS.

Cost-Benefit Analysis

86. It is not within the scope of this evidence to provide a detailed analysis of the costs and benefits of heritage protection or, more particularly, of the inclusion of a property within a Heritage Area as PC 56 does not propose any changes to individually scheduled heritage items. However, in relation to the points made in submission 157.23 to 157.33, it is prudent to highlight the following:

(a) Section 32 of the RMA requires the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of a proposed provision to be identified and assessed and, if practicable, quantified. Historic heritage has environmental, social and cultural benefits – in other words, values that are well beyond the economic (refer paragraph 11 above). It is often impossible, let alone impracticable, to quantify these values in economic terms.

(b) The study into the price premium of heritage in the housing market cited in submission 157.28 found that properties within both heritage areas and special character areas had a price premium of 7.91%.

Firstly, it must be noted that this study was specific to Auckland. Secondly, as special character is not considered to be a qualifying matter under the NPS-UD, it may be assumed that special character areas will disappear from District Plans, while heritage areas will continue to offer the kind of protections that made special character areas popular, such as preservation of streetscapes and lot sizes, height and boundary-setback limitations, and more nuanced management of the design of new developments. Therefore, the study is not "empirical evidence" that homeowners with houses in the proposed Heritage Areas will "see a 10% decline in price". The associated economic analysis presented in 157.32 is therefore flawed.

Contributing Buildings

87. At 157.43 the Hutt VHG notes that the inventory report identifies contributing items, and that "no allowance has been made for restrictions to impose restraint only on those buildings with actual heritage value". This matter will be addressed by other experts on behalf of HCC.

Insurance of Properties in Heritage Areas

88. In Annex 2 of their submission, the Hutt VHG have provided written responses from three insurance companies to demonstrate the "significant negative impact" that inclusion in a Heritage Area will have on the insurability of a property. A similar point is made in the submission of Peggy Maurirere (55.1). It is not within the scope of this evidence, or my area of expertise, to make comment on the insurance policies of particular companies as they relate to properties within Heritage Areas, or how those policies are justified. However, it is prudent to highlight the following:

    (a) There are many other insurance companies beyond the three from whom responses have been provided.

    (b) Two out of the three companies that responded did not say that they would increase premiums.

(c) NZI said there would be a minimum increase of 25% in premiums and higher excess for Category 1 and Category 2 listed buildings. The vast majority of properties proposed for inclusion in the Heritage Areas are not Category 1 or 2 listed. Further, it is HNZPT that has the authority to enter places onto the New Zealand Heritage List, not territorial authorities.

(d) I do not disagree with HVG at 157.36 that "damage to a heritage property may require the repair or reproduction of specific components of the building in a style and form of construction that most closely resembles the original architecture" and that "skilled and unique labourers may need to be engaged to complete this work". But this does not necessarily mean an increase in insurance premiums.

Comparison with Other Territorial Authorities

89. In Annex 3 of their submission, the Hutt VHG present "the results of research conducted into the heritage policies and practices of district councils in New Zealand" to "determine how the heritage practices of Hutt City Council compare with other councils in New Zealand".

90. According to the VHG's research, HCC is:

(a) 12th highest of all 67 councils in terms of number of non-HNZPT private residences heritage listed sites;

(b) 18th highest of all 67 councils in number of non-HNZPT private residences heritage-listed per thousand people; and

(c) 7th highest among district councils in % of locally significant heritage listed sites that are private residences.

91. Assuming, without corroboration, that these numbers are correct, I believe that this demonstrates a commitment on behalf of HCC to take its responsibility to protect historic heritage from inappropriate subdivision, use and development seriously, and its willingness to undertake a thorough analysis.

92. Further, the numbers presented by VHG reflect the reality that Lower Hutt is a large city that exists within a confined geographic area with a complex past, whereas many territorial authorities manage districts with low populations spread over large geographical areas that are predominantly rural with small and disbursed settlements.

Submissions on State Housing Heritage Areas

93. I have reviewed the submission of Kainga Ora (206).

94. At 206 4 (e) (iii) Kainga Ora requests that the boundary of HA-09 be adjusted and the name of the Petone State Flats Heritage Area to "Petone State Housing Area".

95. I do not see any reason to adjust the boundary of HA-09 as this has already been reviewed (refer to the analysis contained within the Memorandum from WSP to HCC dated 2 June 2022, and included in the Technical Reports supporting PC 56).

96. The name of the Petone State Flats Heritage Area was previously discussed with Kainga Ora. I do not have any particular objection to their proposed name change, other than to say that it should include the word "Heritage" for consistency with the other Areas.

97. With regards to points 18, 71, and 118 of Appendix 1 of submission 206, it is my opinion that the analysis contained within the Memorandum from WSP to HCC dated 2 June 2022, and included in the Technical Reports supporting PC 56, is correct.

98. The matter of whether Heritage Areas are identified as overlays or precincts (points 71, 118, and 168 Appendix 1 of submission 206) will be addressed by other experts representing HCC.

Chessa Stevens

WSP Principal Conservation Architect and National Built Heritage Lead

7 March 2023

Appendix 6: Flood hazard evidence of Alistair Osborne, Wellington Water

Before the Hearings Panel
At Hutt City Council

Under	Schedule 1 of the Resource Management Act 1991
In the matter of	Hutt City District Plan Change 56: Enabling Intensification in Residential and Commercial Areas
Between	**Various**
	Submitters
And	**Hutt City Council**
	Respondent

Statement of evidence of Alistair Osborne on behalf of Hutt City Council (Flood Hazard Modelling)

Date: 3rd March 2023

INTRODUCTION:

1 My name is Alistair Mark Osborne. I am employed as a Senior Hydraulic Modeller at Wellington Water Ltd (**Wellington Water**).

2 I have prepared this statement of evidence on behalf of the Hutt City Council (**Council**) in respect of technical related matters arising from the submissions and further submissions on Hutt City Council's District Plan Change 56: Enabling Intensification in Residential and Commercial Areas (**PC56**); primarily in relation to flooding hazard modelling and mapping.

3 I have been providing input into the flood hazard mapping for PC56 since 2021. This input includes managing the hydrological and hydraulic modelling, peer review programme, and development of flood hazard mapping based on model output.

4 In preparation of this evidence I have reviewed the following documents:

4.1 PC56

4.2 Relevant submission points as outlined in the PC56 'Summary of Decisions Requested' documents;

4.3 PC56 Summary of information for natural hazard areas memo, from Nathan Geard, 18 August 2022;

4.4 New Zealand Standard 4404:2010 (referred to in EQC's submission point 180.5).

5 I am authorised to provide this evidence on behalf of Wellington Water and the Council.

QUALIFICATIONS AND EXPERIENCE

6 I hold the qualification of a Master of Science (with Honours) from Victoria University, Wellington.

7 I have 19 years experience in hydraulic and hydrological modelling in New Zealand. I have worked for both Engineering Consultancies and Councils.

8 I am a member of the New Zealand Hydrological Society.

Code of conduct

9 I have read the Code of Conduct for Expert Witnesses set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing my evidence and will continue to comply with it while giving oral evidence before the Council hearing panel. My qualifications as an expert are set out above. Except where I state I rely on the evidence of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

SCOPE OF EVIDENCE

10 My statement of evidence covers the following matters:

10.1 The framework that Wellington Water and Council have applied to manage flood risk.

10.2 Comments on submission points as follows:

10.2.1 Submission DPC56/221 by Cuttriss Consultants Ltd

10.2.2 Submission DPC56/180 by EQC.

FLOOD HAZARD MODELLING AND MAPPING

11 Wellington Water generates flood hazard overlay data from hydraulic models developed based on the Wellington Water Hydraulic Modelling Specification (Wellington Water, 2017). This process includes model validation and external peer review (as set out in the specification).

12 The flood hazard overlays for PC56 are based on the outputs from validated hydraulic models, flood records and feedback from the community.

13 The modelling and mapping approach is in line with industry standards applied in major centres across New Zealand, but it has been tailored toward the Wellington environment and the needs of Wellington Water's client councils.

14 The modelling and flood hazard mapping approach for the Hutt valley is consistent with the approach used to inform flood hazard overlays in both Porirua and Wellington City.

15 The flood hazard overlays have been developed from modelled scenario of the 100-year Annual Return Interval (ARI) design storm, with an allowance for climate change out to the year 2120. The climate change allowance has been applied in the modelled scenario with a 20% increase in rainfall and a 1 metre rise in sea-level.

16 The modelled catchments are as follows:

16.1 Stokes Valley – modelling initiated in 2016 and completed in 2022.

16.2 Black Creek (Wainuiomata) - modelling initiated in 2018 and completed in 2022.

16.3 Eastern Lower Hutt - modelling initiated in 2019 and completed in 2022.

16.4 Petone (including the western hills from Korokoro to Normandale) - modelling initiated in 2017 and completed in 2022.

17 Wellington Water and Hutt City Council ran eleven public engagement sessions on natural hazards in the Hutt Valley in 2021. I attended four of the public engagement meetings to present the flood hazard information on behalf of Wellington Water and Hutt City Council to the community and receive feedback on the validity of the mapping.

18 Feedback from the community engagement sessions generally supported the modelled flood extents and provided some additional validation of the modelling. There was no significant opposition that required a review of, and changes to the modelling.

19 Hydraulic models for the Eastern Bays and the western hills from Tirohanga north are still in development. No flood hazard layers have been developed for these catchments yet. The modelling for both these areas is expected to be completed by July 2023.

20 Modelling for South Wainuiomata will begin in March 2023 and will be combined with the modelling for Black Creek (Wainuiomata) to develop a full Wainuiomata model. It is expected that this modelling will be finalised by June 2024. This will complete the stormwater modelling for Hutt City Council stormwater catchments.

21 The flood hazard overlays for PC56 show flooding hazards in the following categories:

21.1 **Stream Corridors** – typically consists of a no-build buffer of 5m either side of the stream centreline. Open water courses in urban areas were selected to be included in the stream

corridor layer alongside contributing branches in the upper reaches of stormwater catchments. Flooding in stream corridors is the most hazardous of the three types we have identified due to it being deep and fast flowing water.

21.2 **Overland Flowpaths** – these convey stormwater when the pipe or stream network capacity is exceeded or blocked, often due to heavy rain. The flowpaths were identified and mapped using the modelled results backed up with flood records considering depth and velocity to identify hydraulically significant paths. They are identified in the Plan as areas where detailed investigations are required to ensure that buildings do not impede the flow of water and to prevent property damage, which can be extensive in these locations. This type of flooding is generally less hazardous than in stream corridors as the water is shallower and slower.

21.3 **Inundation/Ponding** - these are the low velocity flood extents which have ponding deeper than 50mm. This is the least hazardous of the three types of flooding, however it is important to manage its effects on damage to property, which we are doing by specifying minimum floor levels for habitable buildings.

22 All flood hazards - streams, overland flow paths and inundation – have been mapped for the extreme event of the 100-year Annual Return Interval including Climate Change.

COMMENTS ON SUBMISSIONS

SUBMISSION DPC56/221, CUTTRISS CONSULTANTS LTD

23 Submission point 221.6 requests that Council assess flood hazard effects in addition to building location and floor levels and include

guidance on how flood hazard effects on access could be addressed; having regard to the nature of the risk in terms of frequency, depth and velocity of floodwaters, ability for occupants' and emergency vehicle access, duration of flooding, and provision of alternative access during a major flood event.

24 The flood hazard mapping is based on depth and velocity assessments of modelled results for the 100-year ARI event with allowance for climate change. A brief description of the hazard and risk associated with the three hazard categories that are mapped is provided above in Point 21.

25 At present, Wellington Water assess flood hazard effects on access by providing information to Council on these effects as part of our input into individual resource and building consents.

26 There is currently no overarching national or Wellington Water guidance covering flood hazard effects on access. Wellington Water are looking to develop general flood hazard guidance which would include the effects of flood hazard on access in the future.

27 Submission point 221.7 requests the utilisation of probability to identify flood hazard effects rather than a time interval. The submitter believes time interval gives a false sense of security that a property would be safe from flooding between interval events. The submitter states that the interval between flood events can be random and best practice is now to refer to flood hazards as an AEP. For example, a 100-year average reoccurrence interval equates to a 1% AEP, meaning that at any given year, there is a 1% chance of a flooding.

28 The application of Average Recurrence Interval (ARI) and/or Annual Exceedance Probability (AEP) is complex. However, in my view, it ultimately has little material impact on the management of flood hazard. The advantages of maintaining the use of ARI at present is that ARI is applied by other councils across the Wellington region for flood

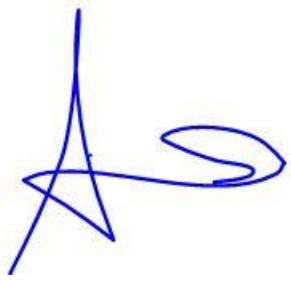
hazard mapping. It therefore enables a consistent approach to be taken across the region. The use of ARI also aligns with current Level of Service targets.

SUBMISSION DPC56/180, EQC

29 Submission point 180.5 requests the specification of the freeboard requirements of buildings within Flood Hazard Areas in line with the NZS 4404:2010, and inclusion of flood hazard information within LIMs.

30 The freeboard requirements set out in NZS 4404:2010 are generic and insensitive to the intricacies of establishing a top water flood level upon which the freeboard is applied, and ultimately allow for a district or regional plan to set a more targeted freeboard value. Wellington Water currently already provides a specified freeboard value when supplying recommended building levels as part of council resource consent and building consent processes. These take account of the modelled water level and surrounding environment. In addition, the extent of the Inundation zone in the flood hazard mapping also allows for freeboard.

Date: 03/03/2023



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Appendix 7: Coastal hazard evidence of Scott Stephens, NIWA

HUTT CITY COUNCIL

PROPOSED PLAN CHANGE 56

STATEMENT OF EVIDENCE OF SCOTT ALEXANDER STEPHENS ON BEHALF OF HUTT CITY COUNCIL

(Coastal Inundation)

INTRODUCTION

1. My full name is Scott Alexander Stephens.

2. I am employed by the National Institute of Water and Atmospheric Research as its Chief Scientist for Coasts and Estuaries.

3. In my evidence I will refer to the National Institute of Water and Atmospheric Research as "NIWA".

4. NIWA is a Crown Research Institute that was established in 1992.

5. I have been employed by NIWA since 2001.

6. I obtained a PhD in Earth Science from Waikato University in 2001.

7. I am a coastal-hazards scientist and have 22 years' experience working in this field.

8. I specialise in extreme sea-level and wave analysis and mapping of coastal hazards for adaptation to sea-level rise.

9. I held the Project Director role for the NIWA project that produced the coastal inundation maps for Hutt City Council, some of which are now included in the proposed Coastal Hazard Overlay – Inundation. I helped to scope the project and reviewed the final report.

10. I have calculated extreme sea level heights and frequencies around the coastline of New Zealand for the purposes of national-scale coastal hazard risk assessments. The Hutt City Coastal Hazard Overlay – Inundation uses these datasets.

11. My current role as chief scientist involves overseeing NIWA's science strategy and delivery for Coasts & Estuaries.

EXPERT EVIDENCE

12. I am giving evidence in my capacity as an expert.

13. I have read the High Court Code of Conduct for Expert Witnesses and I agree to comply with it.

14. My qualifications and experience as an expert are set out above. I confirm that the issues addressed in my evidence are within my areas of expertise.

15. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

16. For the purposes of my opinion evidence:

    (a) I have considered the "Coastal Hazard Overlay – Inundation" within Hutt City Council's proposed zone maps associated with Proposed District Plan Change 56—Enabling Intensification in Residential and Commercial Areas.

    (b) I have considered NIWA's June 2022 report 2022195HN prepared for Hutt City Council and titled "Coastal Inundation mapping for Hutt City". I held the Project Director role for NIWA during the report preparation, I helped to scope the project and I reviewed the final report.

    (c) I have responded to the submissions in relation to the Coastal Hazard Overlay – Inundation in a general sense but have not addressed specific submissions.

SUMMARY

17. I have been asked by the Council to provide coastal inundation evidence in relation Proposed Plan Change 56. My evidence sets out a summary of the coastal inundation mapping NIWA produced for Hutt City Council.

18. My evidence also addresses submissions raising matters relating to coastal inundation mapping. Based on my review of these submissions, my overall conclusions are:

(a) NIWA provided coastal inundation maps for five scenarios. The five scenarios include a large and currently low-probability (1% annual exceedance probability) coastal storm-tide event. To this were added five relative sea-level rise (RSLR) scenarios: 0, 0.9, 1.1, 1.5 and 1.9 m. The 0 m scenario corresponds to present-day (year 2020) and the other four scenarios to RSLR projections by the year 2130 for four different scenarios recommended in Ministry of Environment 2017 guidance and 2022 interim guidance on the use of new sea-level rise projections.

(b) The five scenario maps provided by NIWA to Hutt City Council are appropriate for a basic assessment of coastal inundation exposure that is consistent with (a) the New Zealand Coastal Policy Statement (2010) recommendations to identify and avoid coastal hazards over at least the next 100 years, and (b) meets categories A–C of the minimum transitional sea-level rise values while working towards long-term adaptive planning, as specified in 2022 interim guidance on the use of new sea-level rise projections. The inundation maps are best available information currently and are appropriate for use in planning. Planning to avoid impacts from sea-level rise should not be delayed until better information becomes available.

(c) The mapped scenarios are a basic assessment. They are appropriate as best available information currently but could be improved by undertaking dynamic flow path modelling or detailed site-specific modelling of extreme sea levels and their interaction with pluvial and fluvial and groundwater processes.

(d) NIWA supplied Hutt City Council with four mapped coastal inundation scenarios for the year 2130, but only one scenario has been provided in the online maps. I recommend that all four scenarios be provided. This would provide a range of minimum transitional sea-level rise values for planning. It would satisfy dynamic adaptive pathways planning requirements, enabling

adaptation plans to be tested against several sea-level rise projections as recommended by the national coastal hazard guidance.

(e) The currently used nomenclature of “high” and “medium” coastal hazard area is confusing. Appropriately descriptive names for the sea-level scenarios could be gleaned from Figure 3 of the 2022 interim guidance on the use of new sea-level rise projections. For example: Scenario 1 = “no sea-level rise”, Scenario 2 = “RSLR by 2130 for sustainable scenario”, Scenario 3 = “RSLR by 2130 for middle of the road scenario”, Scenario 4 = “RSLR by 2130 for fossil-fuel scenario”, Scenario 5 = “Accelerated sea-level rise scenario”.

Calculation of extreme sea levels

19. I use the term ‘coastal inundation’ to refer to flooding of the land by the sea. NIWA produced maps of coastal inundation in the Hutt City District by (a) calculating the height of the sea, which I refer to henceforth as extreme sea level (ESL), and (b) identifying land of lower elevation than the height of the ESL.

20. ESL was calculated from the linear sum of several sea-level components:

(a) 1% annual exceedance probability storm-tide + wave setup elevation offshore from Hutt City, which I refer to henceforth as 1%AEPST;

(b) mean sea level relative to Wellington Vertical Datum 1953 (WVD-53) in the year 2020, and

(c) projected relative sea-level rise, which I refer to henceforth as RSLR. Thus, ESL is represented by the following formula: ESL = MSL + 1%AEPST + RSLR.

21. Mean sea level in the year 2020 was calculated to be 0.215 m above WVD-53 based on water level records from the Port of Wellington.

22. A 1%AEPST sea-level height of 1.32 m was used. The 1%AEPST sea-level height of 1.32 m used, compares closely to the 1.1–1.4 m range of values derived in a separate study for Wellington Harbour [1].

23. The value 1.32 m was derived from existing research to calculate extreme sea-levels and their likelihood around the entire coastline of New Zealand. This research has been published in the international peer-reviewed science literature [2]. The calculations included the effects of astronomical tide, weather-related storm surge and breaking waves. They used available sea-level measurements, national-scale tide and wave models, including sea levels measured at the Port of Wellington. The methods used were designed for a national-scale assessment of extreme sea levels and are relatively crude at the scale of an individual harbour or estuary.

24. No detailed site-specific modelling of 1%AEPST or ESL was undertaken for the Hutt City District.

25. No riverine flooding, groundwater flooding, tsunami inundation, or their interactions with coastal inundation were considered.

26. The value 1%AEPST 1.32 m is calculated to have a 1% annual exceedance probability of occurrence under present-day climate conditions. Ministry of Environment 2017 guidance[3] recommends assessing the potential exposure to a 1% annual exceedance probability scenario plus a relatively large RSLR, for the purposes of avoiding coastal inundation.

27. Relative sea-level rise scenarios were derived for the year 2130. This is consistent with the New Zealand Coastal Policy Statement (2010)

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[1] Allis, M., Rautenbach, C., Gorman, R., Wadwha, S. (2021) Coastal hazards and sea-level rise in Wellington City; Supporting the 2020-2021 district plan process, NIWA client report: WCC21201;2021250HN. Prepared for Wellington City Council: pp. 118.

[2] Stephens, S.A., Bell, R.G., Haigh, I.D. (2020) Spatial and temporal analysis of extreme storm-tide and skew-surge events around the coastline of New Zealand. Nat. Hazards Earth Syst. Sci., 20(3): 783-796. 10.5194/nhess-20-783-2020

Paulik, R., Stephens, S., Wild, A., Wadhwa, S., Bell, R.G. (2021) Cumulative building exposure to extreme sea level flooding in coastal urban areas. International Journal of Disaster Risk Reduction: 102612. https://doi.org/10.1016/j.ijdrr.2021.102612

Paulik, R., Wild, A., Stephens, S., Welsh, R., Wadhwa, S. (2023) National assessment of extreme sea-level driven inundation under rising sea levels. Frontiers in Environmental Science, 10. 10.3389/fenvs.2022.1045743

[3] MfE (2017) Coastal hazards and climate change: Guidance for local government. Ministry for the Environment Publication ME1341. Wellington, 279 p. + Appendices https://environment.govt.nz/publications/coastal-hazards-and-climate-change-guidance-for-local-government/.

recommendation to identify (Policy 24) and avoid (Policy 25) hazards over at least the next 100 years.

28. The RSLR scenarios for the year 2130 used in this study were 0.9 m, 1.1 m, 1.5 m and 1.9 m for scenarios SSP1-2.6, SSP2-4.5, SSP5-8.5 and SSP5-8.5H+, respectively. These four scenarios were used because they cover a wide range of possible future sea levels, as recommended by Ministry of Environment 2017 coastal guidance and 2022 Interim guidance on the use of new sea-level rise projections [4]. The projected RSLR heights include an ongoing landmass subsidence of −2.86 mm/year. The four RSLR scenarios were derived from RSLR projections developed as part of the NZ SeaRise project (www.searise.nz/maps) at output location 2494 which is adjacent to Hutt City. The NZ SeaRise RSLR projections are provided relative to a 2005 baseline and NIWA adjusted these to a zero baseline in the year 2020 for inundation mapping purposes.

29. Table 1 provides a summary of the water levels used in the NIWA study.

Table 1: Summary of water levels used in coastal inundation mapping. Note: SSP = Shared Socio-economic pathways, RSLR = relative sea-level rise, VLM = vertical land movement, WVD-1953 = Wellington vertical datum-1953 (local vertical datum), MSL = mean sea level (= 0.215 m WVD-53 for year 2020) and AEP = Annual Exceedance Probability. Totals shown in the final column have been rounded to 1 decimal place.

Mapping scenario	Sea level rise scenario	RSLR (m)	1% AEP storm-tide + wave setup (m)	MSL ~= +0.215 m WVD-53 for year 2020	ESL (WVD-53) (m)
1	Present-day (0 m SLR)	0 m	1.32	0.215	1.54 [= 1.32 + 0.215]
2	SSP1-2.6 (incl. VLM)	0.9 m, at year 2130	1.32	0.215	2.4 [= 0.875 + 1.32 + 0.215]
3	SSP2-4.5 (incl. VLM)	1.1 m, at year 2130	1.32	0.215	2.6 [= 1.075 + 1.32 + 0.215]
4	SSP5-8.5 (incl. VLM)	1.5 m, at year 2130	1.32	0.215	3.0[= 1.475 + 1.32 + 0.215]
5	SSP5-8.5H+ (incl. VLM)	1.9 m, at year 2130	1.32	0.215	3.4 [= 1.875 + 1.32 +0.215]

Coastal inundation mapping

30. NIWA used a static inundation mapping method which is often colloquially referred to as the “bathtub” method, to produce maps that show the spatial

[4] MfE (2022) MfE (2022) Interim guidance on the use of new sea-level rise projections: Guidance for local government. Ministry for the Environment Publication ME1667. Wellington, 35 p. https://environment.govt.nz/publications/interim-guidance-on-the-use-of-new-sea-level-rise-projections/

extent of coastal inundation that could result from the five ESL scenarios shown in Table 1.

31. The inundation maps were generated by projecting, in turn, the five ESL elevations shown in Table 1 across a digital elevation model of the land surface. Any land of lower elevation than the ESL was mapped as inundated. The mapping was undertaken using GIS software. Isolated, inland areas lower than ESL were removed from the inundation maps if they were not directly connected to seaward inundation areas by a culvert, drain or overland flow path.

32. The digital elevation model used was the Wellington LiDAR 1m DEM (2013-2014), available online from the LINZ data service.

33. The static mapping method has limitations because it does not capture the dynamic and time-variant processes that occur during an inundation event. Consequently the "bathtub" model usually results in an over estimation of coastal inundation [5]. For example, storm-tide peaks may typically last for only 1–3 hours around the time of high tide. This duration may not provide sufficient time to inundate large land areas, particularly if seawater ingress rates are affected by narrow constrictions, such as drainage channels and culverts.

34. Despite its limitations, a static mapping method provides an approximation of coastal inundation extents for identifying key elements at risk (e.g., populations, buildings and roads to name a few). Detailed dynamic modelling may produce more accurate inundation maps, but the difference between dynamic and bathtub models becomes a less significant component of uncertainty when long timeframes and potentially large RSLR-related uncertainties are being considered [6].

35. The NIWA report contains figures of the predicted inundation extent for the five scenarios shown in Table 1.

[5] Stephens, S.A., Paulik, R., Reeve, G., Wadhwa, S., Popovich, B., Shand, T., Haughey, R. (2021) Future Changes in Built Environment Risk to Coastal Flooding, Permanent Inundation and Coastal Erosion Hazards. Journal of Marine Science and Engineering, 9(9): 1011. https://www.mdpi.com/2077-1312/9/9/1011

[6] Stephens, S.A., Paulik, R., Reeve, G., Wadhwa, S., Popovich, B., Shand, T., Haughey, R. (2021) Future Changes in Built Environment Risk to Coastal Flooding, Permanent Inundation and Coastal Erosion Hazards. Journal of Marine Science and Engineering, 9(9): 1011. https://www.mdpi.com/2077-1312/9/9/1011

Comparison of NIWA maps with Hutt City Councils proposed Coastal Hazard Overlay - Inundation

36. The proposed Coastal Hazard Overlay – Inundation includes two layers, which are labelled: (a) High coastal hazard area, and (b) Medium coastal hazard area.

37. From comparison of the NIWA report with the Coastal Hazard Overlay– Inundation I conclude that the proposed High coastal hazard area corresponds to scenario 1 in Table 1 of this evidence, which consists of a coastal storm event at present-day (2020) mean sea level with no added RSLR—this scenario is mapped in Figure 3−1 of the NIWA report (Exhibit A Figure 1). I conclude that the proposed Medium coastal hazard area corresponds to scenario 4 in Table 1 of this evidence, which includes 1.5 m RSLR (SSP5-8.5 median)—this scenario is mapped in Figure 3−4 of the NIWA report (Exhibit B Figure 2).

38. **[PRODUCE NIWA MAP 3-1 – EXHIBIT A]**

Figure 1. Predicted inundation extent for a 1%AEPST plus present-day mean sea level and no added relative sea-level rise.

39. **[PRODUCE NIWA MAP 3-4 – EXHIBIT B]**

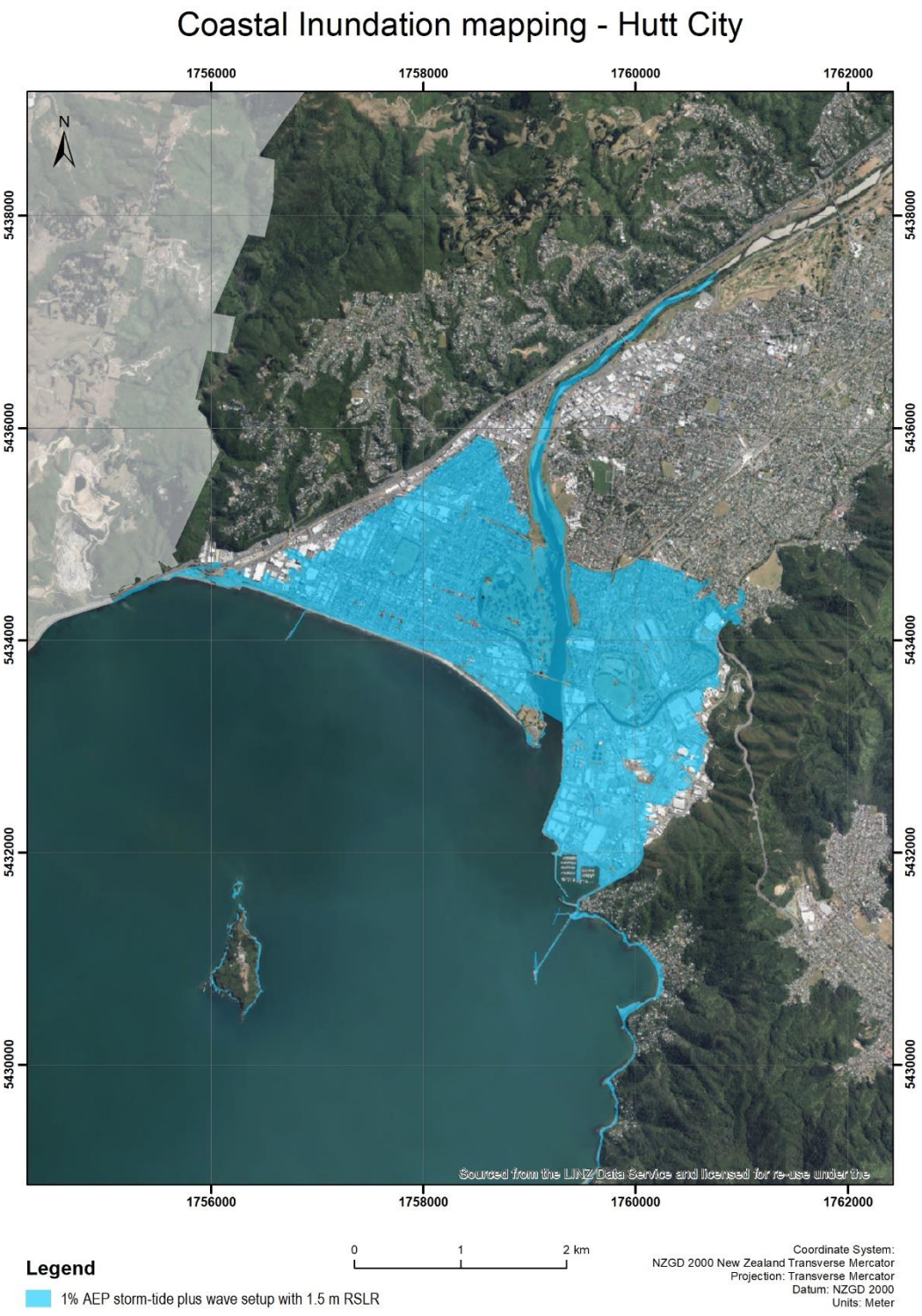

Figure 2. Predicted inundation extent for a 1%AEPST plus present-day mean sea level plus 1.5 m relative sea-level rise commensurate with RCP8.5 median SLR projection plus −2.86 mm/year vertical land motion.

Response to submissions

40. Council officers have referred to me the following submissions raising matters in relation to mapping of the Coastal Hazard Overlay – Inundation:

    (a) Anastay Papadopoulos (70)

    (b) Peter and Katherine Kokich (83)

    (c) Graeme Lyon (102)

    (d) Kimberley Vermacy (114)

    (e) Keith Fraser (134)

    (f) Wellington Regional Council (149)

    (g) Ruth Gilbert and Terry Pinfold (154)

    (h) Fiona Christeller (166)

    (i) Earthquake Commission (180)

    (j) M Playford (187)

    (k) Anne Smith (195)

    (l) York Bay Residents' Association (210)

    (m) Troy Baisden (226)

    (n) Investore Property Ltd (258)

    (o) Te Runanga o Toa Rangatira (on behalf of Ngati Toa Rangitira) (274)

41. With regards to these submissions, I address these in paragraphs 42 to 45 below.

42. Several submissions concern the "high" and "medium" nomenclature used for the coastal inundation layers. NIWA did not use the terms "high" nor "medium" when describing the mapped scenarios. In my opinion the terms high and medium could cause confusion. The high layer could alternatively be described as a "no sea-level rise" scenario and the medium layer as a "sea-level rise in the year 2130" scenario. This removes subjective judgement as to whether a scenario is low, medium

or high. Reference material could describe the logic for using the SSP5-RCP8.5 median + vertical land motion scenario to represent a “sea-level rise in the year 2130” scenario.

43. Some submissions relate to the choice, of the SSP5-RCP8.5 median RSLR scenario to represent coastal inundation exposure in the year 2130, within proposed plan change 56 coastal hazard overlay – inundation, and the implications for managing development and assets within that zone. Ministry of Environment 2017 guidance and 2022 update recommends that a dynamic adaptive pathway planning (DAPP) approach be taken to adapt to coastal hazards and sea-level rise, and that adaptation actions should be tested against multiple sea-level rise scenarios. The guidance recommends minimum transitional sea-level rise values while working towards long-term adaptive planning. For categories of: (A) “coastal subdivision, greenfield developments and major new infrastructure” and (B) “changes in land use and redevelopment (intensification)”, the guidance recommends using a sea-level rise over more than 100 years and the SSP5-RCP8.5H+ scenario that also includes the relevant VLM for the local/regional area. For category (C) land-use planning controls for existing coastal development and assets planning, the guidance recommends using the SSP5-8.5 M scenario out to 2130, which includes the relevant VLM for the local/regional area. For category (D) “non-habitable, short-lived assets with a functional need to be at the coast, and either low-consequences or readily adaptable (including services)”, the guidance recommends using the SSP5-8.5 M scenario out to year 2090 that includes the relevant VLM for the local/regional area.

44. The use of a single [SSP5-RCP8.5 median by the year 2130] scenario satisfies neither the recommendation to test adaptation plans against several recommended sea-level rise projections within a DAPP process and meets only one (category C) of four transitional RSLR scenarios.

45. Some submissions also suggest excluding areas from PC56 until more certainty in the hazard layers is obtained. Ministry of Environment 2017 guidance acknowledges that there will always be uncertainties but waiting until uncertainties are reduced before making decisions, or holding back on making decisions under uncertain conditions, is usually not viable or acceptable to those who are most exposed to the risk, nor for future generations. Delayed action in the present may reduce options for

climate-resilient pathways in the future. A guiding principle of the guidance states that “it is essential that plans and assets designed now have the capacity to be flexible and adaptable (including the prospect of eventual retreat from low-lying coastal areas). Flexibility and adaptability should be factored into decision-making whatever the timeframe, because of the potential lock-in of development pathways from decisions taken today. This flexibility will increase the ability to adjust in the future”.

CONCLUSION

46. NIWA provided coastal inundation maps for five scenarios. The five scenarios include a large and currently low-probability (1% annual exceedance probability) coastal storm-tide event. To this were added five relative sea-level rise (RSLR) scenarios: 0, 0.9, 1.1, 1.5 and 1.9 m. The 0 m scenario corresponds to present-day (year 2020) and the other four scenarios to RSLR projections by the year 2130 for four different scenarios recommended in Ministry of Environment 2017 guidance and 2022 interim guidance on the use of new sea-level rise projections.

47. The five scenario maps provided by NIWA to Hutt City Council are appropriate for a basic assessment of coastal inundation exposure that is consistent with (a) the New Zealand Coastal Policy Statement (2010) recommendations to identify and avoid coastal hazards over at least the next 100 years, and (b) meets categories A–C of the minimum transitional sea-level rise values while working towards long-term adaptive planning, as specified in 2022 interim guidance on the use of new sea-level rise projections. The inundation maps are best available information currently and are appropriate for use in planning. Planning to avoid impacts from sea-level rise should not be delayed until better information becomes available.

48. The mapped scenarios are a basic assessment. They are appropriate as best available information currently but could be improved by undertaking dynamic flow path modelling or detailed site-specific modelling of extreme sea levels and their interaction with pluvial and fluvial and groundwater processes.

49. NIWA supplied Hutt City Council with four mapped coastal inundation scenarios for the year 2130, but only one scenario has been provided in the online maps. I recommend that all four scenarios be provided. This

would provide a range of minimum transitional sea-level rise values for planning. It would satisfy dynamic adaptive pathways planning requirements, enabling adaptation plans to be tested against several sea-level rise projections as recommended by the national coastal hazard guidance.

50. The currently used nomenclature of “high” and “medium” coastal hazard area is confusing. Appropriately descriptive names for the sea-level scenarios could be gleaned from Figure 3 of the 2022 interim guidance on the use of new sea-level rise projections. For example: Scenario 1 = “no sea-level rise”, Scenario 2 = “RSLR by 2130 for sustainable scenario”, Scenario 3 = “RSLR by 2130 for middle of the road scenario”, Scenario 4 = “RSLR by 2130 for fossil-fuel scenario”, Scenario 5 = “Accelerated sea-level rise scenario”.

Declaration

51. I declare that this statement is true and that I made it with the knowledge that it is to be used in court proceedings.

DATE 2 March 2023

SCOTT ALEXANDER STEPHENS

Appendix 8: Geological hazard evidence of Nicola Litchfield, GNS

UNDER The Resource Management Act 1991

IN THE MATTER of Proposed Plan Change 56, Hutt City Council

STATEMENT OF EVIDENCE OF NICOLA JANE LITCHFIELD ON BEHALF OF HUTT CITY COUNCIL

(Fault Rupture)

Dated 3 March 2023

STATEMENT OF EVIDENCE OF NICOLA JANE LITCHFIELD

Qualification and Experience

1. My full name is Nicola Jane Litchfield
2. My academic qualifications comprise a Doctor of Philosophy (Geology – 2000) from the University of Otago, a Master of Science with First Class Honours (Geology – 1996) from the University of Canterbury, and a Bachelor of Science (Geology – 1993) from the University of Canterbury.
3. I currently hold the position of Senior Tectonic Geomorphologist / Earthquake Geologist at the Institute of Geological and Nuclear Sciences Limited (GNS Science). I have worked at GNS Science since 2000, including 4 years as a New Zealand Science and Technology Post-doctoral fellow (2001-2004) and 4.5 years as Head of Department (including the Earthquake Geology team) and 1.2 years as Earthquake Geology team leader.
4. My previous work experience prior to working at GNS Science comprises technician positions at University of Canterbury and NIWA, including working with onshore and offshore active fault data.
5. During my time at GNS Science, I have been involved, or am involved, in the following relevant projects:

    5.1 Fault mapping studies include defining Fault Avoidance Zones (**FAZ**s) for District Plans for Upper Hutt City, Porirua, Kaikōura, Taupō, Whanganui, South Wairarapa, Carterton, Masterton and Gisborne Districts, for some individual faults including the Masterton, Greendale, and Wairarapa faults, and the Wellington Fault in Upper Hutt City, and reviewing studies for other regions (Hawke's Bay, Horizons, West Coast, Marlborough, Canterbury, Otago).

    5.2 Paleoseismology studies (i.e., pre-historic earthquake studies) on many faults around New Zealand (e.g., Wellington, Alpine, Dunstan, Akatore, Titri, Mohaka faults and several in the Taupō Rift). These are used to understand the rate of activity, frequency and size of past earthquakes.

    5.3 Long-term (that is, spanning thousands of years) vertical land movements of the coastline in tectonically active areas. This includes the Wairarapa and Wellington south coasts.

5.4 I was involved in the development of the 2010 NZ National Seismic Hazard Model and the 2022 revision. For the 2022 revision I developed and compiled a database (version 1.0) of paleoseismic site data (covering fault rate of movement, timing of past earthquakes and the sizes of past ground surface ruputres) and contributed to version 1.0 of the NZ Community Fault Model.

5.5 I lead the It's Our Fault / Nō Matou Te Hapa research programme, which aims to increase the resilience of the Wellington Region to earthquakes and associated hazards. In June 2022 we held a workshop with Hutt City Council planners to increase understanding of geological hazards and risk in Hutt City.

6. I am a member of the Geoscience Society of New Zealand (national committee member), Seismological Society of America (associate editor of one of their scientific journals), American Geophysical Union, Australia New Zealand Geomorphology Group, New Zealand Coastal Society, and New Zealand Archaeological Association.

Code of Conduct

7. I have read and agree to comply with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2023. I have complied with the code in preparing my evidence. Other than where I state that I am replying on the advice of another person, I confirm the issues addressed in this statement are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of Evidence

8. The statement of evidence sets out:

8.1 The active fault data available to and used by HCC during the preparation of Proposed Plan Change 56; and

8.2 My advice I provided to HCC in response to submissions received on proposed Plan Change 56.

Active Fault Data

9. I did not prepare any specific reports for this plan change. However, based on my experience and knowledge outlined earlier in my evidence, I have a good understanding of active fault data for the Lower Hutt area.

10. Two active faults cross residential and commercial areas in Hutt City, the Wellington Fault and the Whitemans Valley Fault (Figure 1)[1]. Only the Wellington Fault is included in the Hutt City District Plan and Proposed Plan Change 56.
11. It is noted in the 'Summary Of Information For Natural Hazard Areas Memorandum' 18 August 2022, prepared by Nathan Geard that informed the preparation of Proposed Plan Change 56, that the approach to managing the Wellington Fault rupture hazard is to use the existing District Plan approach for the Wellington Fault Special Study Area hazard overlay. However, the spatial extent of the Wellington Fault Special Study Area hazard overlay was revised in Proposed Plan Change 56 based on updated fault hazard mapping.
12. I have checked the Wellington Fault Special Study Area on the Proposed Plan Change 56 zone map and can confirm the footprint is based on the latest available map (FAZ) of the Wellington Fault. That FAZ map is from the study of Beetham et al. (2012)[2].

Response to Submissions

13. Council officers have sought advice as to whether the below requested changes are appropriate from a technical perspective, particularly in terms of the location of fault rupture.

Submitter Name	Submission Point No.	Submission Point Text
Malcolm Lewis	97.3	Amend the rules to not allow any intensification within 1km of a fault line
Kimberley Vermacy	114.2	In areas where there is a good understanding of the fault hazard location, more restrictive policies and rules (such as an avoid policy and non-complying activity status for new buildings, additions, and conversions). Where there is a poorer understanding of the fault location, then less restrictive policies and rules should apply (a policy framework that requires the identification of the position of the fault and a corresponding permitted, controlled, or restricted discretionary activity status).
Allison Thwaite	142.1	Have Manor Park assessed for density zoning by an independent specialist.
Rachel Inglis	186.1	Onehuka Road, Tirohanga be rezoned a Medium Density Residential Area due to increase in risk of landslips.

[1] Figures are contained in Appendix 1.
[2] References are listed in Appendix 2.

Theresa Cooper	197.1	Onehuka Road, Tirohanga, be rezoned a Medium Density Residential Area due to increase in risk of landslips and Faultline.

13.1 Submission Point 97.3. 1 km is an arbitrary distance from a fault line and incorporates several different types of hazards. The hazards of Wellington Fault rupture should be (and are) addressed within the Wellington Fault Special Study Area hazard overlay. Outside of this overlay the hazards directly associated with a Wellington Fault rupture include earthquake shaking and vertical land movement (mainly subsidence on the southeast side), as well as the secondary hazards such as liquefaction, landslides, and tsunami. Data for subsidence on the southeast side are available from the study of Townsend et al. (2015, 2016).

13.2 Submission Point 114.2. The recommended use of different policies in rules for areas with different levels of understanding of the fault location is consistent with the risk-based approach outlined in the MfE Active Fault Guidelines (Kerr et al. 2003). The data that could be used for this approach (classification by fault complexity) is included in the Beetham et al. (2012) data used for the revised Wellington Faultline Special Study Area.

13.3 Submission Point 142.1. I am not appropriately qualified to comment on the appropriateness of land use provisions. The submission questions the date of the GNS evaluation report. I assume this is the Manor Park Wellington Fault investigations report of Beetham et al. (2008). This study was undertaken for the plan and design of a major SH58/SH2 interchange, prior to any consideration of high-density zoning.

13.4 Submission Point 186.1. I am not appropriately qualified to comment on the appropriateness of land use provisions. I can confirm however, that the properties on the south side of Onehuka Road are close to (within 130 m), but outside of, the Wellington Fault Special Study Area hazard overlay. These properties, on the northwest, hill side, of the Wellington Fault, will likely be susceptible to landslides triggered by Wellington Fault rupture, as will other properties in similar locations along the hills above the Wellington Fault. I am not a landslide expert, but studies in the Wellington Region have shown an increased likelihood of landslides on the slopes above Wellington Fault due to a number of factors, such as steepness of slopes, proximity to the fault, damaged rock.

13.5 Submission Point 197.1. I am not appropriately qualified to comment on the appropriateness of land use provisions. I can confirm however, that the properties on the south side of Onehuka Road are close to (within 130 m), but outside of, the Wellington Fault Special Study Area hazard overlay. These properties, on the northwest, hill side, of the Wellington Fault, will likely be susceptible to landslides triggered by Wellington Fault rupture, as will other properties in similar locations along the hills above the Wellington Fault. I am not a landslide expert, but studies in the Wellington Region have shown an increased likelihood of landslides on the slopes above Wellington Fault due to a number of factors, such as steepness of slopes, proximity to the fault, damaged rock.

14. I have reviewed the Hutt City Council s.32 report, Section 7.3.15, particularly the "risk of Acting or Not Acting if Information is Uncertain or Insufficient" and "Other Reasonably Practicable Options for Achieving the Objectives"
15. The amendment in approach in the proposed Hutt City Council Plan Change 56 are appropriate based on the GNS technical assessment. I am not qualified to comment on the appropriateness of the specific land use provisions which have been developed to implement that approach.

Conclusions

16. The footprint of the Wellington Fault Special Study Area Hazard Overlay in Proposed Plan Change 56 is based on the latest available map data and is appropriate for the hazard of fault rupture.
17. Data is available to apply different policies within the Wellington Fault Special Study Area Hazard Overlay and I would recommend applying those in the MfE Active Fault Guidelines (Kerr et al. 2003).
18. Other hazards associated with Wellington Fault ruptures (e.g., subsidence, landslides, liquefaction) should be addressed in other ways because they may require different policies and mitigation measures.

NICOLA JANE LITCHFIELD

3 March 2023

Appendix 1 – Figures

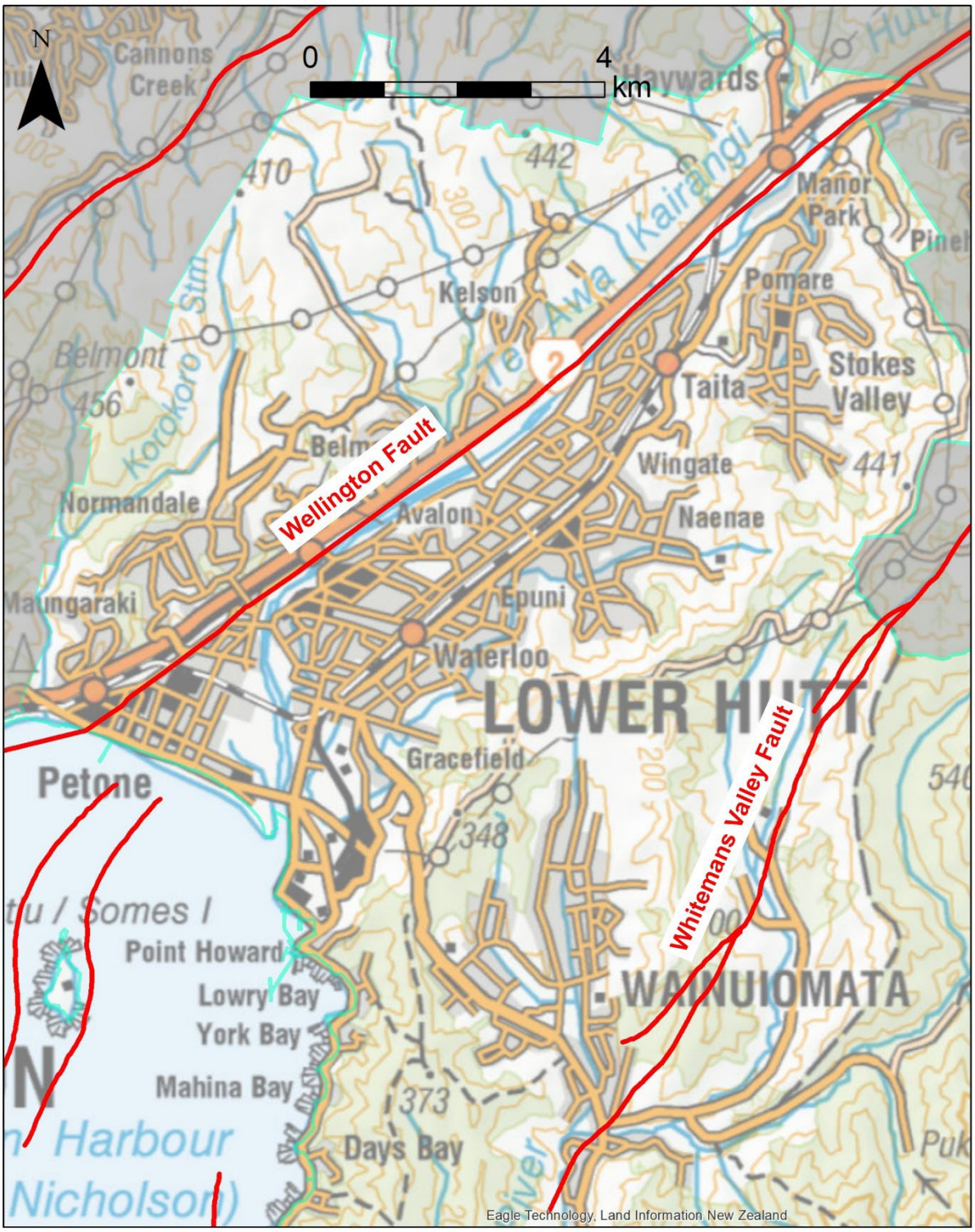

Figure 1 The Wellington and Whitemans Valley faults across residential and commercial properties in Hutt City. From the high-resolution version of the New Zealand Active Faults Database.

Appendix 2 – References

Beetham, R.D.; Cousins, W.J.; Craig, M.; Dellow, G.D.; van Dissen, R.J. 2012 Hutt Valley trunk wastewater earthquake vulnerability study. GNS Science consultancy report 2012/234. 51 p.

Beetham, R.D.; Stagpoole, V.M.; Palmer, N.G.; Begg, J.G.; Berkenbosch, H. 2008 Investigation and location of the Wellington Fault at Manor Park. GNS Science consultancy report 2008/36. 24 p.

Kerr, J.; Nathan, S.; Van Dissen, R.; Webb, P.; Brunsdon, D.; King, A. 2003. Planning for Development of Land on or Close to Active Faults. Institute of Geological & Nuclear Sciences Client Report 2002/124 (prepared for, and published by the Ministry for the Environment, New Zealand).

Townsend, D.B.; Begg, J.G.; Van Dissen, R.J.; Rhoades, D.A.; Saunders, W.S.A.; Little, T.A. 2015 Estimating co-seismic subsidence in the Hutt Valley associated with rupture of the Wellington Fault. Lower Hutt, N.Z.: GNS Science. GNS Science report 2015/02. 73 p.

Townsend, D.B.; Begg, J.G.; Van Dissen, R.J.; Rhoades, D.A.; Saunders, W.S.A.; Little, T.A. 2016 Estimating co-seismic subsidence in the Hutt Valley associated with rupture of the Wellington Fault. Bulletin of the New Zealand Society for Earthquake Engineering, 49(3): 283-291.

Appendix 9: Tsunami hazard evidence of David Burbidge, GNS

UNDER The Resource Management Act 1991

IN THE MATTER of Proposed Plan Change 56, Hutt City Council

STATEMENT OF EVIDENCE OF DAVID ROSS BURBIDGE ON BEHALF OF HUTT CITY COUNCIL

(Tsunami)

Dated 3 March 2023

STATEMENT OF EVIDENCE OF DAVID ROSS BURBIDGE

Qualification and Experience

1. My full name is David Ross Burbidge
2. My academic qualifications comprise of a Doctor of Philosophy (Earth Sciences – 2000) from the Australian National University (ANU) and a Bachelor of Science (First Class Honours in Physics - 1996) also from the ANU.
3. I currently hold the position of Tsunami Team Leader at the Institute of Geological and Nuclear Sciences Limited (GNS Science). I have worked at GNS Science since 2014, including four years as the Head of Department for Tectonophysics (which included the Tsunami Team) before moving into my current role.
4. My previous work experience prior to coming the GNS Science comprises of one year working as a Research Scientist at the Defence Science and Technology Organisation (DSTO) in Australia and then 12 years working at Geoscience Australia (GA). At GA I was the Earthquake Hazard Section Leader for four years and for the rest of that a period I was a Research Geophysicist within that Section. During that time, I worked on a range of projects covering the fields of earthquake and tsunami hazard and risk assessment and tsunami monitoring and forecasting.
5. During my time at GNS Science, I have been involved, or am involved, in the following relevant projects:

5.1 I have led, or contributed to, a range of tsunami inundation hazard modelling projects including projects for Hutt City Council, Wellington City Council, Hawkes Bay Regional Council, West Coast Regional Council, Bay of Plenty Regional Council and Environment Canterbury. In most cases these modelling hazard assessments were used to inform tsunami evacuation maps, but some, such as the one for the Hutt City Council, were designed primarily to inform land-use planning.

5.2 I contributed to the 2021 update to the National Tsunami Hazard Model (NTHM). The NTHM estimates the maximum tsunami height off the coast which has a particular probability of being exceeded each year. The NTHM underpins the tsunami inundation hazard assessments listed above. I was second author on the final report for the update.

5.3 I am currently a member of the Tsunami Expert Panel for New Zealand and sit on the DART (Deep-Ocean Assessment and Reporting of Tsunamis) Project Board and Technical Advisory Group. I have provided tsunami advice through to emergency managers during numerous tsunami responses during my time at GNS Science. Most recently as part the response to the tsunami caused by the Hunga Tonga-Hunga Ha'pai eruption. I am also on the Event

Controller Panel for GNS Science and was recently the GNS Science Controller for GNS Science's Auckland Flooding response earlier this year.

5.4 I lead a research project within GNS Science that aims to assess the hazard and risk posed by earthquakes on the Hikurangi Subduction Zone and all their cascading effects. This includes tsunami, but also includes other cascading effects from earthquakes such as earthquake induced landslides. The project aims to look not only on the direct effect of earthquakes on infrastructure, but also the cascading effect of that damage on lifeline network effectiveness and the economy.

5.5 I lead the Tsunami Strategy Development Sub-Theme within GNS Science. This project aims to put together a coordinated strategy for all the tsunami research within GNS Science. It covers all the tsunami related work that we do, all the way from tsunami monitoring, hazard and risk assessment and through to advice and response.

6. I am a member of American Geophysical Union and the Geoscience Society of New Zealand.

Code of Conduct

7. I have read and agree to comply with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2023. I have complied with the code in preparing my evidence. Other than where I state that I am replying on the advice of another person, I confirm the issues addressed in this statement are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of Evidence

8. The statement of evidence sets out:

8.1 The tsunami inundation hazard mapping report that I prepared for Hutt City Council (HCC) and advice that I provided to HCC during the preparation of proposed Plan Change 56; and

8.2 My advice to HCC in response to submissions received on proposed Plan Change 56.

Report

9. I prepared one report entitled:

Burbidge DR, Gusman AR, Power WL, Wang X. 2021. Hutt City Probabilistic Tsunami Hazard Maps. Lower Hutt (NZ): GNS Science. 26 p. Consultancy Report 2021/115.

10. In the report we provide a range of probabilistic tsunami inundation hazard maps for three annual probabilities of exceedance (APoEs) and at two different sea level values, the present value and one with an additional 1.0 metres of sea level rise included. I led the project, AR Gusman did most of the tsunami inundation modelling, WL Power helped to

determine which scenarios to use from the NTHM and X Wang set up the models used in the assessment. All authors contributed to the final report.

11. To produce these maps, we used the latest version to New Zealand's National Tsunami Hazard Model (NTHM) to select scenarios appropriate at each APoE for the zone offshore the Wellington region. The NTHM estimates the maximum offshore tsunami amplitude across a range of APoEs across for all of New Zealand, including Wellington. We then used a high-resolution digital elevation model combining the bathymetry and topography of the region, and the scenarios described above, to numerically model the inundation expected from each of them in the region covered by HCC. Inundation models were run twice for each scenario, once at each of the sea-level values requested by HCC. These scenarios then combined using a weighted median approach to create probabilistic tsunami inundation maps for each APoE and sea-level rise combination across the area of interest, a total of six maps. The map data then provided to HCC in digital form along with an accompanying methodology report.
12. The level of modelling provided to HCC is consistent with the preferred approach for Level 3 tsunami inundation hazard modelling as outlined in the "*Tsunami Evacuation Zones - Director's Guideline for Civil Defence Emergency Management Groups [DGL 08/16*]" (https://www.civildefence.govt.nz/assets/Uploads/publications/dgl-08-16-Tsunami-Evacuation-Zones.pdf). The models are all physics-based computer simulations and are based on "*multiple scenarios 'de-aggregated' from an appropriate an appropriate probabilistic model and modelled from source*" (page 15, DGL 08/16). In addition to being used to inform Tsunami Evacuation Maps design, Level 3 and above tsunami modelling is the preferred modelling level in DGL 08/16 to inform risk-based Resource Management Act (1991) "*planning measures to avoid or mitigate tsunami risk. They could also be used in pre-event recovery planning, such as establishing options for set-back, retreat or re-design.*" (Section 4.3.1, page 19 of DGL 08/16).
13. I understand the Coastal Hazard Overlay (Tsunami) layers shown in Proposed Plan Change 56 are based on the maps in the figures listed in the table below. If this is the case, I have visually inspected the models on the website (https://maps.huttcity.govt.nz/portal/apps/webappviewer/index.html?id=50fc3e90f3934809824d0b29f57ac157) and the maps in our report (Figure 4.2, 4.4 and 4.6). The Overlays are clearly based on the data we produced for HCC, but I note that there appears to have been some smoothing which has resulted in some small differences around the margins when the Overlays and the maps in the figures are closely compared.

GNS Report Map	Proposed Plan Change 56 Map Layer
Figure 4.2: 1-in-100 years at current MHWS plus 1.0m sea level rise	Coastal Hazard Overlay (Tsunami): High Coastal Hazard Area
Figure 4.4: 1-in-500 years at current MHWS plus 1.0m sea level rise	Coastal Hazard Overlay (Tsunami): Medium Coastal Hazard Area
Figure 4.6: 1-in-1000 years at current MHWS plus 1.0m sea level rise	Coastal Hazard Overlay (Tsunami): Low Coastal Hazard Area

Response to Submissions

14. The Hutt City Council have sought advice as to whether the below requested changes are appropriate from a technical perspective in particular in terms of the identification and mapping of the Coastal Hazard Overlay – Tsunami.

Submitter Name	Submission Point No.	Submission Point Text
Argosy Property No. 1 Ltd	189.4	Delete the hazard rankings, or alternatively reduce the hazard ranking for all tsunami hazards to 'low' to reflect that it is difficult to mitigate the risk of a tsunami

15. Point 189.4 The scope of our report was to produce probabilistic tsunami inundation for three annual probabilities of exceedance. This modelling does not consider the potential mitigation of tsunami risk as a factor. The hazard rankings were not provided in my report and I am not qualified to comment on the appropriateness of the land use provisions.

Conclusion

16. The amendment in approach in the proposed Hutt City Council Plan Change 56 are appropriate based on the technical assessment. I reviewed the submission point 189.4 and the matter raised in the point would not result in me recommending any changes to the tsunami inundation hazard mapping we did for HCC.

SIGNATURE

David R. Burbidge

DAVID ROSS BURBIDGE

3 March 2023

Appendix 10: Tables of the Number of Properties in Natural Hazard Overlays

Number of Properties within Natural Hazard Overlays in Proposed Plan Change 56 As Notified

Flood Hazard Overlay – Number of Properties

Activity Area	Number of Properties **Partly** Covered by **Inundation Area**	Number of Properties **Fully** Covered by **Inundation Area**	Number of Properties **Partly** Covered by **Overland Flow Path**	Number of Properties **Fully** Covered by **Overland Flow Path**	Number of Properties **Partly** Covered by **Stream Corridor**	Number of Properties **Fully** Covered by **Stream Corridor**	Total Number of Properties in **Each Activity Area** Across **Entire Lower Hutt City**
High Density Residential	9104	4964	475	0	525	0	16,403
Medium Density Residential	8384	2410	1952	10	1285	0	19,449
Suburban Mixed Use	104	37	20	0	2	0	284
Total	17592	7411	2447	10	1812	0	36,136

Coastal Hazard Overlay (Tsunami) – Number of Properties

Activity Area	Number of Properties **Partly** Covered by **High Coastal Hazard Area - Tsunami**	Number of Properties **Fully** Covered by **High Coastal Hazard Area - Tsunami**	Number of Properties **Partly** Covered by **Medium Coastal Hazard Area - Tsunami**	Number of Properties **Fully** Covered by **Medium Coastal Hazard Area - Tsunami**	Number of Properties **Partly** Covered by **Low Coastal Hazard Area - Tsunami**	Number of Properties **Fully** Covered by **Low Coastal Hazard Area - Tsunami**	Total Number of Properties in **Each Activity Area** Across **Entire Lower Hutt City**
High Density Residential	244	223	527	1271	650	2067	16,403
Medium Density Residential	206	206	263	394	305	625	19,449
Suburban Mixed Use	8	19	10	40	11	69	284
Total	458	448	800	1705	966	2761	36,136

Coastal Hazard Overlay (Inundation) – Number of Properties

Activity Area	Number of Properties **Partly** Covered by **High Coastal Hazard Area - Inundation**	Number of Properties **Fully** Covered by **High Coastal Hazard Area - Inundation**	Number of Properties **Partly** Covered by **Medium Coastal Hazard Area - Inundation**	Number of Properties **Fully** Covered by **Medium Coastal Hazard Area - Inundation**	Total Number of Properties in **Each Activity Area** Across **Entire Lower Hutt City**
High Density Residential	0	0	608	3275	16,403
Medium Density Residential	4	0	214	563	19,449
Suburban Mixed Use	0	0	23	68	284
Total	4	0	845	3906	36,136

Wellington Fault Overlay – Number of Properties

Activity Area	Number of Properties **Partly** Covered by **Wellington Fault Overlay (Operative District Plan)**	Number of Properties **Fully** Covered by **Wellington Fault Overlay (Operative District Plan)**	Number of Properties **Partly** Covered by **Wellington Fault Overlay (PC56 as notified District Plan)**	Number of Properties **Fully** Covered by **Wellington Fault Overlay (PC56 as notified District Plan)**	Total Number of Properties in **Each Activity Area** Across **Entire Lower Hutt City**
High Density Residential	143	307	132	234	16,403
Medium Density Residential	70	93	67	93	19,449
Suburban Mixed Use	1	0	1	0	284
Total	214	400	200	327	36,136