

**BEFORE THE INDEPENDENT HEARINGS PANELS APPOINTED TO HEAR AND MAKE
RECOMMENDATIONS ON SUBMISSIONS AND FURTHER SUBMISSIONS ON PROPOSED CHANGE 1
TO THE REGIONAL POLICY STATEMENT FOR THE WELLINGTON REGION**

UNDER	Schedule 1 of the Resource Management Act 1991 (the Act)
IN THE MATTER OF	Hearing Submissions and Further Submissions on Proposed Change 1 to the Regional Policy Statement for the Wellington Region

**STATEMENT OF SUPPLEMENTARY EVIDENCE OF PAMELA ANNE GUEST
ON BEHALF OF WELLINGTON REGIONAL COUNCIL**

HEARING STREAM 3 –

CLIMATE-RESILIENCE AND NATURE-BASED SOLUTIONS

21 August 2023

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INTRODUCTION

- 1 My full name is Pamela Anne Guest. I am a Senior Policy Advisor in the Environmental Policy Department at Greater Wellington Regional Council (the Council).
- 2 I have reviewed the planning evidence and legal submissions received. Those that raise issues relating to the Climate-Resilience and Nature-Based Solutions provisions are:
 - 2.1 Rangitāne Tū-Mai-Rā Trust and Rangitāne o Wairarapa (Rangitāne)
 - 2.2 Meridian Energy Limited (Meridian)
 - 2.3 Wellington Water
 - 2.4 Kāinga Ora - Homes and Communities (Kāinga Ora)
 - 2.5 Upper Hutt City Council (UHCC)
 - 2.6 Waka Kotahi
 - 2.7 Wairarapa Federated Farmers (WFF)
 - 2.8 Porirua City Council (PCC)
 - 2.9 Wellington International Airport Limited (WIAL)

QUALIFICATIONS, EXPERIENCE, CODE OF CONDUCT

- 3 My qualifications and experience are set out in paragraphs 19-22 of my Section 42A report Climate Change: Climate-Resilience and Nature-Based Solutions, dated 31 July 2023. I repeat the confirmation given in that report that I have read and agree to comply with the Code of Conduct for Expert Witnesses.

RESPONSES TO EXPERT EVIDENCE

- 4 This rebuttal evidence responds to submitter evidence in relation to the provisions in this topic. Amendments requested by submitters are shown in **bold underline or ~~strike through~~**. The amendments to the Change 1 provisions recommended in my Section 42A report are shown in red underline or ~~strike through~~ and further amendments recommended in this rebuttal evidence are shown in blue underline or ~~strike through~~. The text of notified version of the Change 1 provisions is shown in underline or ~~strike through~~.

Issue 2: Definition ‘Nature-Based Solutions’

5 The definition for nature-based solutions is addressed in the evidence of Wellington Water, Meridian, WFF, PCC and UHCC.

Wellington Water

6 Ms Horrox generally supports the amendments to the definition for nature-based solutions recommended in my Section 42A report and suggests some minor amendments for clarity and consistency:

6.1 In the definition, replace the phrase “strengthen the resilience” in the third line with “strengthen climate-resilience” for consistency with the proposed new definition for climate-resilience. Delete the remaining words after that phrase as they replicate in substance what is contained in the new definition of climate-resilience.

6.2 Rename the second set of examples from its current “Increasing resilience (climate change adaptation)” to “strengthening climate-resilience”. This is because ‘strengthen’ is the directive in the definition, and “climate change adaptation” is separately defined and means something different from climate-resilience.

Meridian

7 Ms Foster supports Meridian’s request to add renewable electricity generation as an example of a nature-based solution. While Ms Foster accepts my Section 42A response, that this is not an action that itself reduces greenhouse gas emissions, she considers that it as an action that supports and facilitates greenhouse gas emissions and increases the community’s resilience and therefore fits within the scope of increasing resilience. She notes that “When compared with some of the other examples in the list of resilience actions, it is one that will arguably have greater impact in securing community and economic resilience.”

WFF

8 Ms McGruddy reiterates the WFF view that the definition for nature-based solutions should be replaced by that set out in the Aotearoa New Zealand Biodiversity Strategy (ANZBS).

PCC

9 Mr Rachlin considers that the amended definition still reads as a description of the concept of nature-based solutions rather than a definition. While Mr Rachlin accepts that the amendments are based on the National Adaptation Plan (NAP) and the International Union for the Conservation of Nature (IUCN) definitions, he considers they should be adapted to be more appropriate in a resource management system. Mr Rachlin refers to the definition of Green Infrastructure under the National Planning Standards¹, which he considers overlaps considerably with the amended definition of nature-based solutions. He also opposes the reference to “action” as this is more appropriate for a policy and considers the list of examples are not necessary because the actions encompassed by nature-based solutions are not new to resource management. Mr Rachlin therefore recommends the following definition instead:

“Nature-based solution: means the use or management of natural resources in a way that contribute to a reduction in greenhouse gas emissions and/or an increase in resilience to the effects of climate change.”

UHCC

10 Ms Rushmere considers that there is a lack of clarity on the relationship between the Change 1 definition for “nature-based solutions” and the definition of “green infrastructure” in the National Planning Standards and recommends that the definition is amended and reviewed alongside the definition of green infrastructure. She recommends replacement of the clause “Actions to protect, enhance or restore natural ecosystems” with **“The use and management of natural processes”**.

Analysis and recommendations

11 I agree with Ms Horrox that given the proposed new definition for “climate-resilience” a review of terms should be carried out to ensure consistency and clarity with this definition. However, I do not agree with all the amendments she suggests. I consider it is important to distinguish between climate-resilience and climate change adaptation. Resilience is the state of being able to withstand impacts and recover from effects,

¹ Defined in the National Planning Standards as: means a natural or semi-natural area, feature or process, including engineered systems that mimic natural processes, which are planned or managed to: (a) provide for aspects of ecosystem health or resilience, such as maintaining or improving the quality of water, air or soil, and habitats to promote biodiversity; and (b) provide services to people and communities, such as stormwater or flood management or climate change adaptation.

whereas adaptation is the process of adjusting to actual or expected effects. To clearly distinguish between these terms, I recommend that climate change adaptation is added to the definition of nature-based solutions, that the heading for the second set of examples in the note be amended to refer to Strengthening resilience and climate change adaptation, and that “providing resilience” be deleted from the sub-headings to refer to “for people” and “for ecosystems and species”. This list could be split further to distinguish between resilience and adaptation measures, but I do not think this is necessary.

- 12 I do not consider that it is necessary to amend all references to resilience to refer to climate-resilience, as the definition also applies to resilience/resilient when used in relation to climate change and natural hazards.
- 13 I do not support deleting the end text in the Definition itself, as suggested by Ms Horrox, as I consider it provides clarity as to the outcomes sought by a nature-based solution. In particular, I consider it is important to make specific reference to providing benefits to indigenous biodiversity as this is a key attribute to be sought by a nature-based solution. While I agree that some of these matters are covered in the definition for “climate-resilience”, I consider it is helpful for this text to be retained in the nature-based solutions definition.
- 14 In response to Ms Foster, I retain the view that renewable electricity generation does not meet the definition of a nature-based solution – it does not protect, enhance, or restore natural ecosystems nor is it an engineered system that mimics natural processes. While it aligns with the outcomes sought by nature-based solutions, as it will lead to reductions in greenhouse gas emissions and increased community resilience, these outcomes are not what makes something a nature-based solution. I also note that there is a suite of provisions in Change 1 that recognise and provide for the benefits of renewable energy generation; I do not consider that the policies and methods for nature-based solutions are relevant to renewable energy generation.
- 15 Ms McGruddy provides no rationale to support replacement of the definition for nature-based solutions with the one set out in the ANZBS. I have addressed this in my Section 42A report and retain the view that the Change 1 definition is more useful in a resource management context.

16 I agree with Mr Rachlin and Ms Rushmere that there is an overlap with the Planning Standard’s definition for “green infrastructure”. In my opinion, and as also acknowledged by Mr Rachlin, the term nature-based solutions is broader than green infrastructure as it incorporates measures that provide climate change mitigation (i.e. sequester or retain carbon). The concept of nature-based solutions has become universally adopted as an umbrella term that encompasses a range of concepts, including green infrastructure, green-blue infrastructure, and water-sensitive urban design. As green infrastructure is a sub-set of nature-based solutions I do not consider that it is efficient to repeat both terms throughout Change 1 and I also do not consider it necessary. I am cautious about the addition of ‘notes’, but one option to provide clarification, if the Panels consider it is necessary, could be to add an additional Note to the definition: “Nature-based solutions is an umbrella term that encompasses concepts such as green infrastructure (including as defined in the National Planning Standards), green-blue infrastructure, and water-sensitive urban design.”

17 In relation to deleting the examples, Mr Rachlin considers that “While the term, nature-based solution is new, the concept and actions it encompasses are not new to resource management”. I agree, but because the term “nature-based solutions” is relatively new, it is my experience that the term itself is not well understood, and I therefore consider it is helpful to retain the list of examples.

18 I recommend the following amendments to the definition for nature-based solutions and associated notes:

Nature-based solutions: Actions to protect, enhance, or restore natural ecosystems, and the incorporation of natural elements into built environments use of engineered systems that mimic natural processes, to reduce *greenhouse gas emissions*, *support climate change adaptation* and/or strengthen the resilience and well-being of humans people, indigenous biodiversity, and the natural and physical resources environment to the effects of climate change.

Note that “nature-based solutions” is an umbrella term that encompasses concepts such as green infrastructure (including as defined by the National Planning Standards), green-blue infrastructure, and water-sensitive urban design.

Note, Examples include:

Reducing greenhouse gas emissions (climate change mitigation):

- planting forests to sequester carbon

- protecting maintaining peatland to retain carbon stores
- Increasing Strengthening resilience and providing for {climate change adaptation}
- a. providing resilience for people
- planting street trees to provide relief from high temperatures reduce urban heat
 - restoring coastal dunelands to provide increased resilience to the damaging effects of storms surges linked to sea level rise
 - leaving space for rivers to undertake their natural movement and accommodate increased floodwaters
 - the use of water-sensitive urban design principles and methods, such as rain gardens to manage contaminants and reduce stormwater runoff in urban areas
 - retaining wetlands and planting swales on farmland to slow runoff, reduce flood peaks, retain base flows, and protect water quality
- b. providing resilience for ecosystems and species
- restoring indigenous forest to a healthy state to increase its resilience to increased climate extremes
 - leaving space for estuarine ecosystems, such as salt marshes, to retreat inland in response to sea level rise.

Section 32AA evaluation

In accordance with section 32AA of the RMA, I consider that my recommended amendments to the definition of nature-based solutions and associated notes are the most appropriate way to achieve the purpose of the RMA. The amendments recommended through this rebuttal statement are minor amendments to provide clarity about the differences between the terms “climate change adaptation” and “climate-resilience” subsequent to the proposed new defined term for “climate-resilience” and to clarify the relationship between the term “nature-based solutions” and other similar concepts, especially the National Planning Standards definition for green infrastructure. The section 32AA analysis contained in my section 42A report in respect of this definition still applies.

Issue 3: Objective Cc.4

19 Objective CC.4 is addressed in the evidence of Kāinga Ora, PCC, UHCC and WIAL.

Kāinga Ora

20 Kāinga Ora’s submission sought an amendment to replace ‘resilience’ with ‘well-being’. Ms Woodbridge agrees with my response that resilience encompasses well-being but considers the objective would be further strengthened through inclusion of this term which would be consistent with Section 5(2) of the RMA which refers to “enables people

and communities to provide for their social, economic, and cultural well-being and for their health and safety”.

PCC

- 21 Mr Rachlin considers the recommended amendments to Objective CC.4 do not describe an outcome, but rather the means to achieve an outcome. He states that nature-based solutions are actions to contribute to greenhouse gas emissions reduction and climate resilience and should therefore be provided for by policy direction. Mr Rachlin also considers that Objective CC.4 should refer to Green Infrastructure as he considers it to include some of the tools in the umbrella term of nature-based solutions. He recommends that to state the outcome clearly, reflect the NAP and ERP, and better support the other climate change objectives, Objective CC.4 should be replaced with the following:

Nature-based solutions and Green Infrastructure are prioritised in how the Region reduces emissions and becomes climate-resilient.

UHCC

- 22 Ms Rushmere raises concerns with the word “integral” as she considers this means that all solutions must include an element of nature-based solutions, particularly as this carries the weight of an objective. She seeks that the objective be reworded as “Nature-based solutions are can be an integral important part of...” as the term ‘important’ recognises the value of nature-based solutions and would provide sufficient encouragement to consider nature-based solutions alongside more traditional approaches and would be consistent with the definition of nature-based solutions. This would also allow district councils to define and provide guidance on what tools best work under this policy.

WIAL

- 23 Ms Hunter requests addition of a new objective and two new policies to recognise the importance of protecting infrastructure and ensuring it is resilient to the effects of climate change. She considers that this is consistent with the NAP, which recognises nature-based solutions but also seeks to ensure infrastructure is resilient from the adverse effects of climate change and is necessary to continue to operate effectively and efficiently in order to support the wellbeing of the community within the region. She states that this would address WIAL’s broader submission points and resolve a number of the concerns relating to the ‘nature-based provisions’.

Analysis and recommendations

- 24 I agree that adding “well-being” to Objective CC.4 aligns with RMA s5, as well as with the Section 42A proposed amendments to the definition of nature-based solutions and am comfortable with recommending this addition as requested by Ms Woodbridge.
- 25 I have responded to the overlap between green infrastructure and nature-based solutions in paragraph 16, noting that green infrastructure is a sub-set of nature-based solutions. I do not consider it to be efficient to refer to both nature-based solutions and green infrastructure as this would need to be repeated across a number of the provisions in Change 1. The addition of a note to the definition for nature-based solutions that green infrastructure is a sub-set of the concept of nature-based solutions may provide some relief as sought on this aspect of Objective CC.4 if the Panels consider this is necessary.
- 26 I do not support use of the word “prioritised”, as suggested by Mr Rachlin, as this doesn’t necessarily deliver an outcome. Similarly, I consider the amendment sought by Ms Rushmere, referring to “can be an important part of”, is a statement rather than describing an outcome.
- 27 I retain the view that Objective CC.4 is clear as to the outcome being sought at a regional level, responds to issues identified in Chapter 3.1A: Climate Change, and aligns with national direction, and therefore recommend it be retained, with addition of reference to “well-being”.

Objective CC.4: Nature-based solutions are an integral part of climate change mitigation and climate change adaptation, improving the health, well-being and resilience of people, indigenous biodiversity, and the natural and physical resources environment.

- 28 Ms Hunter requests a new suite of provisions to protect existing infrastructure assets and ensure that they have sufficient flexibility to respond to the effects of climate change and/or increase their climate resilience. I consider that the relief sought by Ms Hunter is already provided for by a number of provisions in Change 1 that are addressed in the Climate Change: Natural Hazards topic, including through amendments recommended by Dr Iain Dawe in both his Section 42A report on Climate Change: Natural Hazards and his rebuttal evidence in response to submissions from WIAL (e.g. Objectives 19,21 and CC.6 and Policies 29, 51, 52 and CC.16). Dr Dawe addresses the substance of the relief sought by Ms Hunter in paragraphs 81-94 of his rebuttal evidence. I support his conclusions and provide no further recommendations.

Section 32AA evaluation

29 In accordance with section 32AA of the RMA, I consider that my recommended amendment to Objective CC.4 is the most appropriate way to achieve the purpose of the RMA as this is a minor amendment to align with RMA s5(2). The section 32AA analysis contained in my section 42A report in respect of this provision still applies.

Issue 4: Climate-Resilient Areas - Policies Cc.4, Cc.4a, Cc.14, Cc.14a; definitions for ‘climate-resilience’ and ‘water-sensitive urban design’

30 Policies CC.4, CC.4A, CC.14, CC.14A and the definitions for ‘climate-resilience’ and ‘water-sensitive urban design’ are addressed in the evidence of Wellington Water, Kāinga Ora, WIAL, WFF, PCC, and UHCC.

Wellington Water

31 Ms Horrox generally supports the proposed amendments to this suite of provisions but suggests the following changes:

31.1 Amend the chapeau of Policies CC.4, CC.4A, CC.14 and CC.14A to assist readability ...prioritising the use of nature-based solutions, that contribute to climate-resilient urban areas. This includes, including by, as appropriate to the activity:

31.2 Amend variously paragraphs (d) and (c) so that they only refer to climate-resilience functions and values, rather than requiring that significant adverse effects on climate change mitigation and climate change adaptation functions and values of ecosystems are avoided, minimised or remedied. As drafted, this means that the sub paragraph is broader than the primary paragraph which refers only to climate-resilience.

31.3 Consequential to the above, amend the first paragraphs of the explanations to Policies CC.4 and CC.4A to refer to “climate-resilience change functions and values of ecosystems”.

Kāinga Ora

32 Ms Woodbridge considers that the S42A amendments to Policies CC.4 and CC14 partly address the concerns of Kāinga Ora, but recommends several further amendments to Policy CC.14:

- 32.1 Add to the chapeau (presumably also intended to apply to the other policies in this suite): “... as appropriate to the scale and context of the activity...”
- 32.2 Amend clause (a) to read:
- (a) maintaining, enhancing, restoring, and/or creating urban green space at a range of spatial scales to provide urban cooling, including, providing urban green space, particularly canopy trees, to reduce urban heat and reduce stormwater flowrates; through the provision of landscaping which prioritises
- i. prioritising the use of appropriate indigenous species, and
- ii. working contributes towards achieving a wider target of 10 percent tree canopy cover at a suburb- scale by 2030, and 30 percent cover by 2050,
- 32.3 Replace “promoting” with “encouraging” in clauses (e) and (f) and in the Explanation because an ‘encourage’ direction is more appropriate, particularly in a resource consent process, but also within a district or city plan context where policies can encourage consideration of those measures.

WFF

- 33 Ms McGruddy considers the policy suite (policies CC.4, CC.4A, CC.14, CC.14A) should apply to urban areas only, but provides no rationale to support this view.

WIAL

- 34 Ms Hunter requests a new objective and policies, as for Objective CC.4, seeking climate-resilience for development and infrastructure be re-focused so that infrastructure is also sufficiently protected and resilient from the effects of climate change.

PCC

- 35 While Mr Rachlin agrees with the intent of the policy direction, he raises a range of concerns regarding the workability of Policies CC.4 and CC.14 and the amendments proposed in the Section 42 report, including:

- 35.1 the definition of ‘suburb-scale’ and whether it includes rural areas,
- 35.2 whether that extent of tree canopy cover is appropriate in all suburbs,
- 35.3 the implications of section 76 of the RMA,

35.4 what is intended over and above the Building Act,

35.5 wildfire risk, and

35.6 the level of prescriptiveness.

36 Mr Rachlin raises the need for flexibility for territorial authorities to develop appropriate climate resilience direction in a way that is appropriate to the district and works with other regulations and statutes and lists some examples of actions to support climate resilience in the Porirua City Proposed District Plan and other district plans in the Region to illustrate that they are not unknown in resource management.

37 Mr Rachlin does not support the use of a consideration policy to provide this direction, due to it being too broad and uncertain, and duplicating other direction. He recommends that Policies CC.4 and CC.14 are replaced with three policies in Chapter 4.1:

District **and regional** plans shall include objectives, policies, rules and/or methods to provide for **increased climate-resilience, including by prioritising the use of nature-based solutions and green infrastructure.**

District plans shall include objectives, policies, rules and/or other methods that enable, where appropriate, the implementation of stormwater management strategies and water sensitive urban design.

District plans shall include objectives, policies, rules and/or other methods that recognise and provide for the role of esplanade reserves and esplanade strips in increasing climate-resilience.

38 Mr Rachlin supports the addition of definitions for 'water sensitive urban design' and 'climate resilience' but seeks that the recommended definition of climate resilience is replaced with the following:

Climate-resilient/climate-resilience/resilience/resilient: (in relation to climate change or natural hazards) means the region is able to respond, at any one time, to predicted changes to climate and associated effects on the severity/frequency of natural hazards²⁴ in a way that maintains the function and structure of the region.

For the purposes of this definition, responds includes the ability to prepare for, recover from and adapt to climate change impacts.

39 He also seeks the inclusion of two additional definitions in the RPS: the definition for "Stormwater Management Strategy" from the Natural Resources Plan, and the definition of "Green Infrastructure" from the National Planning Standards:

Stormwater Management Strategy: A strategic document, required by Rule R53 of the Natural Resources Plan for the Wellington region, that links stormwater asset management and land use planning (including state highways) with water quality outcomes. A stormwater management strategy describes how sub-catchments within a stormwater network will be managed, through time, in accordance with any relevant objectives identified in the Plan.

Green Infrastructure: Means a natural or semi-natural area, feature or process, including engineered systems that mimic natural processes, which are planned or managed to:

- (a) provide for aspects of ecosystem health or resilience, such as maintaining or improving the quality of water, air or soil, and habitats to promote biodiversity; and**
- (b) provide services to people and communities, such as stormwater or flood management or climate change adaptation.**

UHCC

40 Ms Rushmere raises a number of concerns with the amendments recommended in my Section 42A report, including what she considers to be a duplication of provisions in Chapters 4.1 and 4.2. She requests that proposed Policies CC.4A and CC.14A are not adopted and that Policy CC.14 is deleted. She also raises concerns with the level of specificity and direction to territorial authorities, and requests amendments to significantly simplify Policy CC.4, providing territorial authorities with flexibility to address specific issues in their district. In particular, she raises the following matters:

- 40.1 tree coverage targets conflict with the MDRS. Ms Rushmere considers the replacement of 1 dwelling with 3 would often provide little space for tree planting, depending on lot size, shape and orientation. Reliance on street trees to balance MDRS enablement with tree cover also has potential impacts on the safe and efficient operation of the transport network,
- 40.2 concerns with funding and the lack of space in urban sites to implement some of the measures in Policy CC.14 within the context of the MDRS,

- 40.3 lack of clarity as to how territorial authorities can promote clauses (e) and (f) within the context of the consenting process,
- 40.4 lack of clarity about how climate resilient urban areas can be achieved within the context of existing developments, particularly when many activities can be undertaken without the need for consent.

41 Ms Rushmere’s recommended revision of Policy CC.4 is:

Policy CC.4: Climate-resilient development– district and regional plans

District and regional plans shall include objectives, policies, rules and/or methods to provide for increased climate-resilience which prioritises the use of nature-based solutions where possible.

Analysis and recommendations

The chapeau

42 I agree with the amendments proposed by Ms Horrox and Ms Woodbridge to improve the readability of the chapeau and recommend amendments to Policies CC.4, CC.4A, CC.14 and CC.14A 4A accordingly:

“...in ways that provide for climate-resilience, prioritising the use of nature-based solutions. This includes including by, as appropriate to the scale and context of the activity:

Level of direction

- 43 Mr Rachlin and Ms Rushmere both raise concerns about the level of specificity and direction to territorial authorities and discuss the need for flexibility for territorial authorities to develop climate-resilience direction in a way that is appropriate to the district and works with other regulations.
- 44 Policies CC.4 and CC.14 require district plans to develop objectives, policies, rules and methods to ensure that development and infrastructure respond appropriately to predicted climate change effects in the Wellington Region. Each of the clauses respond to different climate stresses as listed in the notified Explanation to Policy CC.4: increased temperatures and urban heat island effects, increased intensity of rainfall and urban flooding and increased discharge of urban contaminants, droughts and urban water scarcity and security, and increased intensity of wind, cold spells, landslides, fire, and air

pollution. The technical evidence of Mr Farrant discusses the significant risks for people and the environment if “business-as-usual” development continues in the face of predicted climate change.

45 In my opinion the drafting of these policies gives flexibility to territorial authorities to draft provisions in a way that is appropriate to their district and the specific activities being addressed. For example, as part of the Upper Hutt District Council Intensification Planning Instrument (IPI) plan change, GWRC requested amendments to require canopy trees as part of the Residential Zone Standards. Examples were provided to show how canopy tree cover metrics had been applied in other cities and districts, but it was left for UHCC to develop the details as fit the specifics of their district.

46 I consider that the level of specificity of Policies CC.4 and CC.14 is pitched at an appropriate level, with the clauses setting out the critical matters required for development to respond adequately to the climate impacts predicted for the Wellington Region.

47 I do not consider that the policies suggested by Ms Rushmere or Mr Rachlin provide sufficient direction to ensure this level of consistent response by development across the region to the different climate stresses. I note that there are already several policies in Change 1 that address stormwater management (e.g., Policies 14, 15, FW.3 and FW.4) and therefore consider that the new policy and definition for stormwater management strategy requested by Mr Rachlin is not necessary. In my opinion the use of esplanade reserves and esplanade strips are examples of provisions that territorial authorities may choose to use to provide for the climate-resilience matters listed in Policies CC.4 and CC.14, but that this level of detail is not appropriate for Change 1.

48 Ms Rushmere questions how climate resilient urban areas can be achieved within the context of existing developments, particularly when many activities can be undertaken without the need for consent. I do not consider this to be an issue. The chapeau of the relevant Change 1 provisions provides that district and regional plan provisions are to be developed to require development and infrastructure to be located, designed, and constructed in ways that are responsive to climate change. Permitted activity standards and design guides provide opportunities for councils to set appropriate conditions within the planning framework to meet these provisions – for example, green space and the use of rainwater re-use tanks can be required as part of a permitted activity rule. Councils can also work to retrofit climate-resilience features into existing urban areas, either as part of

intensification standards or through council-led strategies. For example, WCC has a Green Network Plan which includes a 30-year funding programme, with targets to acquire land and create park spaces. The introduction to the plan states that “The Green Network Plan sets the direction and targets for how we green Wellington’s central city in the next 30 years to take action on the current deficit, provide for growth and to address the climate and ecological emergency declared in 2019.”²

Clause (a) Green space and tree canopy targets

- 49 Ms Woodbridge queries how the requirement for canopy cover could be applied at the scale of an individual resource consent and suggests amendments to clause (a). Ms Rushmere and Mr Rachlin query the appropriateness of the tree coverage targets, with Ms Rushmere concerned at the achievability in relation to medium-density development.
- 50 I note that tree canopy requirements are common internationally (e.g, the South Australian State Planning Policy for Residential Infill Development³) and are starting to be required by New Zealand councils (e.g. the Auckland Unitary Plan PC78 and Hamilton City Council PC12). I note that tree canopy targets at a suburb-scale can be achieved by a variety of measures, including as part of a development (including within the development site itself or as part of a development contribution) and as part of a council’s parks and open space strategy. The technical evidence of Mr Stu Farrant discusses the importance of canopy trees and provides examples of the use of urban street trees in Melbourne (in paragraphs 39.4 and 57). Mr Farrant also provided technical evidence to support the GWRC evidence on the IPI plan changes for PCC, HCC and UHCC, including a graphic that showed how green space can be provided for as part of intensification development, including through the use of green roofs and rain gardens. A copy of this graphic is attached as Appendix 1.
- 51 Mr Rachlin queries the definition of ‘suburb-scale’ and whether it includes rural areas, and whether that extent of tree canopy cover is appropriate in all suburbs. The intent of this provision was for this clause to only apply to urban areas (although I note that the National Policy Statement for Indigenous Biodiversity section 3.22(3) requires a target of at least 10% indigenous vegetation cover for any urban *or non-urban environment – emphasis mine*). As noted in my Section 42A report, there is a strong evidence base

² [Green Network Plan pg5](#)

³ [Raising the Bar on Residential Infill Development | PlanSA](#)

supporting the value of 30% green space in urban areas and I consider that this is appropriate as a 2050 target; with a 10% target setting a realistic target in the near-term. I also note that the framing of this target as notified is clear that it is a target and that it is to be “worked towards”.

52 I agree with the minor amendment requested by Ms Woodbridge to clause (a) to replace “working towards achieving a target” with “**contributing to achieving a wider target**”. I consider that the suggested amendment to add “**through the provision of landscaping**” does not add any value and that the request to move “which prioritises” to the headline of clause(a) does not work grammatically.

53 Mr Rachlin raises concerns regarding wildfire risk. I acknowledge the concern but consider that the benefits of trees for providing cooling to urban areas would generally outweigh the risks and note that in areas close to buildings and in other areas where wildfire is a particular concern that the territorial authority could choose to specify set-backs and/or the use of non-flammable species, as recommended in Fire and Emergency New Zealand guidance documents referenced by Mr Rachlin.

54 Mr Rachlin requests comment on the implications of s76 of the RMA which means that, while territorial authorities can require canopy cover for new development, they are unable to prevent their removal. In my opinion, given the many benefits of increasing tree cover, a lack of ability to stop people removing them does not justify choosing not to implement provisions seeking increased tree canopy cover.

Clauses (d) and (c)

55 I agree with Ms Horrox that clauses (d) and (c) (variously), which refer to “climate change mitigation, climate change adaptation and climate-resilience functions and values of an ecosystem” are broader than the chapeau, which refers only to climate-resilience. However, I do not agree that this then means that these clauses should be deleted so that the policy focuses only on climate-resilience. In my opinion these are critical requirements for future development and infrastructure to provide for. These clauses were recommended to be added to this suite of policies as part of my Section 42A recommendations to delete Policies CC.7 and CC.12 and streamline the requirements for ensuring development and infrastructure provide for climate change matters.

56 To address the mismatch with the chapeau identified by Ms Horrox, I recommend amendments to specify climate change mitigation, climate change adaptation along with

climate-resilience within the chapeau and to amend the policy titles to refer to [climate-responsive development](#). I consider that the use of the term “climate-responsive” includes climate change mitigation, climate change adaptation and climate-resilience.

Clauses (e) and (f)

57 I do not understand Ms Woodbridge’s concern with use of ‘promote’ – the intent of Policies CC.4 and CC.14 clauses (e) and (f) is that territorial authorities promote efficient water and energy use and resilient design of buildings and infrastructure as part of carrying out their functions and responsibilities, recognising the significance of these actions to strengthening the climate-resilience of our communities. I consider that promote is a more active term than encourage⁴ as suggested by Ms Woodbridge and is therefore more appropriate given the level of predicted climate pressures. Ms Woodbridge recommends adding recognition of “to provide for and encourage actions and initiatives” to the Explanations for Policies CC.4 and CC.14, and I agree with this, although referring instead to ‘promote’.

58 Ms Rushmere is concerned at the lack of clarity as to how territorial authorities can promote clauses (e) and (f) within the context of the consenting process, while Mr Rachlin raises concerns about direction over and above the requirements of the Building Act. I note that territorial authorities are not restricted to the use regulatory methods. These matters could be promoted through an urban design guide or could be incentivised by enabling an activity that does not meet all of the regulatory requirements. For example, the Wellington City Council Proposed District Plan includes [HRZ-P13 City Outcomes Contribution](#): “3. Incorporating construction materials that increase the lifespan and resilience of the development and reduce ongoing maintenance costs.”

Definition for climate-resilience

59 I have considered Mr Rachlin’s alternative definition for “climate-resilience”. I prefer the version recommended in my Section 42A report as it specifies the attributes that the Change 1 provisions seek to be resilient (natural and physical resources, including people, communities, businesses, infrastructure, and ecosystems), rather than generally referring

⁴ I note that this view is consistent with case law for ‘promote’ as will be included in the legal submissions for the Council for Hearing Stream 3. I also refer to the Oxford English Dictionary definitions: **Promote**: To further the growth, development, progress, or establishment of (a thing); to advance or actively support (a process, cause, result... **Encourage**: To inspire with courage, animate, inspirit.

to “the region”, and the two key aspects of resilience; being able to withstand impacts and recover from effects. Mr Rachlin’s definition refers to “prepare for, recover from, and adapt to”. As noted in paragraph 11, adaptation is not the same as resilience and should not therefore form part of a resilience definition. Further, in response to Mr Rachlin’s proposed wording, while I consider that seeking to maintain the function of the region is appropriate, I consider that the structure may well need to change to be resilient.

60 Note that I have addressed Mr Rachlin’s request for a new definition of “Green Infrastructure” under Issue 2 above.

Consideration policies

61 As noted in my Section 42A report, the role and value of Chapter 4.2 ‘regulatory policies – matters to be considered’ has been addressed in the Hearing Stream 2 Section 42A report: Overarching Issues and Objective, Integrated Management, and I agree with Mr Wyeth’s assessment. These policies are not a duplication of Chapter 4.1 policies as they apply to all plan review/change and consenting processes, particularly when the Chapter 4.1 policies have not yet been given effect to in the relevant regional and district plan (i.e. so the policies have some immediate legal weight when considering resource consent applications and notices of requirements). My Wyeth concludes that “This is a logical structure and approach for a RPS in my view to provide direction to lower order planning and consenting processes, particularly given the time lag that can occur before regional and district plans give effect to relevant RPS provisions.”

Other matters

62 As discussed under Objective CC.4, I consider that the new provisions requested by Ms Hunter regarding climate-resilience infrastructure are already provided for by provisions addressed under the Climate Change: Natural Hazards topic.

63 In response to Ms McGruddy seeking that the provisions apply to urban areas only, I consider that ensuring that new development and infrastructure is located, designed and constructed to respond to climate change is relevant to both urban and rural areas. I also note the qualifier in the chapeau, that the attributes sought are as appropriate to the activity, with the addition of “scale and context” as recommended in paragraph 41.

64 I recommend the following amendments, with those to the policy title and chapeau to be replicated across Policies CC.4, CC.4A, CC.14 and CC.14A, and to clause (a) to apply to Policy CC.4 and CC.14:

Policy CC.4: Climate-responsive resilient development urban areas – district and regional plans

District ~~and regional~~ plans shall include objectives, policies, rules and methods to ~~provide for climate-resilient urban areas by providing for actions and initiatives described in Policy CC.14 which support delivering the characteristics and qualities of well-functioning urban environments. require development and infrastructure to be located, designed, and constructed in ways that provide for~~ *climate change mitigation, climate change adaptation and climate-resilience, prioritising the use of nature-based solutions*. ~~This includes~~ *by, as appropriate to the scale and context of the activity:*

- (a) ~~requiring provision of urban green space, particularly canopy trees, to reduce urban heat and reduce stormwater flowrates:~~
 - i. ~~prioritising the use of appropriate indigenous species, and~~
 - ii. ~~working contributing towards achieving a wider target of 10 percent tree canopy cover at a suburb-scale by 2030, and 30 percent cover by 2050,~~

Section 32AA evaluation

65 In accordance with section 32AA and section 30(1)(a), for the reasons set out in my section 32AA analysis as part of my section 42A report, I consider that my recommended amendments to Policies CC.4, CC.4A, CC.14 and CC.14A are the most appropriate way to achieve the purpose of the RMA. The amendments recommended through this statement are minor amendments to improve readability and provide clarity and do not change that analysis.

Issue 5: Ecosystems and habitats that provide nature-based solutions (Policies CC.7 and CC.12)

66 Policies CC.7 and/or CC.12 are addressed in the evidence of WIAL, WFF, and PCC who support the recommended amendments. I therefore provide no further comment on those provisions.

Issue 6: Identifying and supporting nature-based solutions (Methods CC.6 and CC.9)

67 Method CC.6 is addressed in the evidence of UHCC.

UHCC

68 Ms Rushmere recommends amendments to the chapeau of Method CC.6 to delete reference to identifying which ecosystems should be prioritised for protection,

enhancement, or restoration, more closely aligning the wording with its intent, and with achieving the purpose of Policy CC.7 as recommended.

Analysis and recommendations

69 I do not support the amendments sought by Ms Rushmere as I consider it is important to prioritise where resources are focused in terms of supporting the protection, restoration or enhancement of ecosystems for their role as nature-based solutions. I do not recommend any changes to this provision through this statement of evidence.

Issue 7: Objective CC.5

70 Objective CC.5 is addressed in the evidence of WFF, PCC, and HCC.

WFF

71 Ms McGruddy considers that “permanent forest” should be amended to read “afforestation” within the objective.

PCC

72 Mr Rachlin considers that Objective CC.5 states a means to an end rather than an outcome. He refers to a paragraph of the Section 42A report which states that expanding the area of permanent indigenous forest in the region will contribute to other RPS objectives. Mr Rachlin considers that Policies CC.6 and CC.18 provide policy direction on increasing the area of forest in the region to achieve the objectives of the RPS, and that Objective CC.5 is therefore unnecessary. He recommends that it is deleted, referring to scope from a WFF submission. This relief differs from the original PCC submission which sought that the reference to “maximising benefits for carbon sequestration, indigenous biodiversity, land stability, water quality, and social and economic wellbeing” was deleted. However, Mr Rachlin states that if the hearing panel were minded to retain Objective CC.5, that he supports the amendments recommended by the reporting officer.

UHCC

73 Ms Rushmere raises concerns with the capacity of territorial authorities to support the implementation of Objective CC.5, through Method CC.4: Prepare a regional forest spatial plan, in the timeframe and with limited resources. She requests an amendment to read:

Objective CC.5: By 2030, **Regional and District Plans will include objectives, policies, rules and /or methods to provide for the use and management of land that supports the development there is an increase in the area and health** of permanent forest...

Analysis and recommendations

- 74 Ms McGruddy provides no reason for her request to replace “permanent forest” with “afforestation”, although earlier in her evidence she refers to guidance from the Ministry for the Environment on the ERP as to how RMA plans can support initiatives in the forestry sector, including: “Support enabling afforestation (right type and scale of the forests in the right places)”. I consider that the main outcome being sought by Change 1 is for more permanent trees (while also seeking the right type and scale of the forests in the right places), rather than afforestation generally, and I therefore recommend retaining this wording.
- 75 In response to Mr Rachlin’s concerns, I consider that Objective CC.5 seeks a clear outcome, that it is appropriately framed to address the need for carbon sequestration while providing co-benefits for a range of matters, responding to the issues as set out in Change 1, and that it does not duplicate other RPS objectives. I therefore consider that it should be retained.
- 76 I do not consider that the amendments requested by Ms Rushmere provide a useful objective. The outcome being sought is for more trees, achieving multiple outcomes. I do not consider that inclusion of plan provisions is the outcome being sought. In terms of the concern with a lack of resourcing for territorial authorities to implement Method CC.4, I note that this method was broadly supported by a range of submitters, with South Wairarapa District Council, supported by Masterton District Council, seeking that Method CC.4 be retained as notified, noting that this method is critical to ensure that the Wairarapa does not become a carbon sink for the Wellington Region. I also refer to amendments in my Section 42A report such that implementation by city and district councils is “at their discretion”.
- 77 For these reasons, I do not recommend any amendments to Objective CC.5. Method CC.4 is addressed in Issue 8 below.

Issue 8: Supporting increased forest cover (Policy CC.6, Policy CC.18 and Method CC.4)

78 Policies CC.6, CC.18 and/or Method CC.4 are addressed in the evidence of Rangitāne, WFF, and PCC.

Rangitāne

79 Ms Burns agrees with the amendments proposed to Method CC.4 in the Section 42A report, however, requests changes to recognise the status of mana whenua/tangata whenua, by specifying “...using a partnership approach **with mana whenua/tangata whenua and, where appropriate, other key stakeholders...**”

WFF

80 Ms McGruddy considers that Policy CC.6(b) amounts to close to a blanket prohibition on plantation forestry in the region as it directs that plantation forestry be avoided on highly erodible land, particularly in catchments where water quality targets for sediment are not reached, and requests that this clause be deleted. She opines that this would potentially, probably capture every catchment in the region, that the provisions set a higher bar than the NES-PF without adequate justification and requests the deletion of clause (b).

81 Ms McGruddy also requests that a new clause be added to Method CC.4 to achieve higher resolution mapping to support the forest spatial plan, of the following or similar effect:

Employment of high-resolution mapping tools (1:10,000) to support preparation of the spatial plan and identification of areas appropriate for permanent or plantation forestry, or for other afforestation treatments, eg, space planting

PCC

82 Mr Rachlin is concerned that Policy CC.18 directs and influences how PCC is to use its powers under the Local Government Act or other statutes and is a form of overreach in the level of prescription and direction to territorial authorities. He seeks that the policy is amended as follows, with the deletion of clauses (a) and (b).

~~Promote and s~~**Support the planting and natural regeneration of permanent forest to maximise the benefits for**

Analysis and recommendations

- 83 I do not agree with Ms McGruddy’s interpretation that Policy CC.6(b) essentially amounts to close to a blanket prohibition on plantation forestry and should be deleted. Even a coarse scale map of highly erodible land shows that there are many parts of the region that are not highly erodible and my understanding is that there are many waterbodies, or parts of, where sediment is not an issue. I note that Change 1 sets the policy direction and regional plans will develop the details of the regulation. As required by the National Policy Statement for Freshwater Management (NPS-FM), changes to the Natural Resources Plan will need to identify those parts of freshwater management units where sediment does not meet the target attribute state or to maintain current state and, based on more detailed analysis of the erosion risk, will develop and justify appropriate provisions to control plantation forestry and other land uses that contribute sediment.
- 84 I agree with Ms McGruddy’s request to add a clause to Method CC.4 to develop high-resolution spatial data to support development of the forest spatial plan and recommend addition of a new clause accordingly.
- 85 I agree with Ms Burns to include an amendment to refer fully to mana whenua/tangata whenua in the chapeau of Method CC.4. I acknowledge that the Council has partnership arrangements with mana whenua/tangata whenua and therefore I am comfortable with an amendment to recognise this. However, I consider this provision should refer to partnering with other key stakeholders “as appropriate” as I consider that the Regional Forest Spatial Plan must be prepared in partnership with a range of stakeholders, as also acknowledged by Ms Burns, recognising the critical importance of involving those with a range of specific interests and responsibilities.
- 86 In response to Mr Rachlin’s concerns, I note that territorial authorities have a function to achieve integrated management of the effects of land use, development or protection of land and associated natural resources (RMA s31(1)), and therefore consider that Policy CC.18 appropriately applies to both the regional and territorial authorities. I also note the roles and responsibilities for all local authorities in achieving integrated management under Section 3.5 of the NPS-FM. Policy CC.18 is a non-regulatory policy that will mainly be implemented through Method CC.4 which, as noted earlier, provides discretion for territorial authorities to be involved or not. I therefore do not support his requested amendments.
- 87 I recommend the following amendments to Method CC.4:

By December 2024, prepare a regional forest spatial plan, using a partnership approach with mana whenua/tangata whenua and other key stakeholders, as appropriate, ...

This plan to include: ...

(e) use of high-resolution spatial data to support identification of areas appropriate for permanent or plantation forestry, including site-appropriate indigenous forests and other planting types,

(e)(f) a process to monitor...

Section 32AA evaluation

88 In accordance with section 32AA and section 30(1)(a), for the reasons set out in my section 42A report section 32AA analysis, I consider that my recommended amendments to Method CC.4 are the most appropriate way to achieve the purpose of the RMA. The amendments recommend through this statement are matters of clarification and ensure appropriate technical information is used to support the preparation of the Regional Forest Spatial Plan, and therefore do not change that analysis.

Issue 9: Definitions: Highly erodible land, Permanent Forest, Plantation Forest

89 The definitions for Highly erodible land, Permanent Forest, Plantation Forest are variously addressed in the evidence of WFF and PCC.

WFF

90 Ms McGruddy requests that the definition for highly erodible land be deleted because it is crude and low resolution, has wide effect and no real consent pathway as provided in the NES-PF for applicants to provide higher resolution mapping.

PCC

91 Mr Rachlin supports the amendments to Permanent Forest and Plantation Forest and, while he accepts the definition of Highly Erodible Land as amended, requests a new method as follows:

By December 2024, Greater Wellington Regional Council shall identify and map highly erodible land to help give effect to Policies CC.6 and CC.18.

Analysis and recommendations

92 In my opinion, a definition for 'highly erodible land' in Change 1 is necessary to support Policies CC.6 and CC.18 as well as Method CC.6, to support the identification of areas where plantation forestry is inappropriate due to the high risk of adverse effects associated with clear-fell harvesting, including on land stability, soil erosion and sedimentation of waterways.

93 The definition of highly erodible land I am recommending for inclusion in Change 1 is based on the steepness of the slope and the presence of trees. This is the methodology used by Statistics NZ and Ministry for the Environment, supported by Landcare Research. It is my understanding that, while the mapping of highly erodible land used for national environmental reporting is presented at a coarse resolution, it can be refined using terrain models derived from LiDAR and vegetation mapping from the Land Cover Data Base. I also note that the RPS provisions relating to highly erodible land will be given effect either through a regional plan or the regional forest spatial plan which provides the opportunity for mapping at an appropriate level of detail to be carried out. Further, in response to Mr Rachlin I note my recommendation in paragraph 87 above to add a new clause to Method CC.4 to develop high-resolution spatial data to support the preparation of the forest spatial plan.

Issue 10: Water resilience and climate-change adaptation (Policy FW.8)

94 Policy FW.8 is addressed in the evidence of PCC.

PCC

95 Mr Rachlin considers that Policy FW.8 over-reaches in its level of prescription and directs territorial authorities to undertake actions that do not fall within the RMA. He therefore seeks amendments to Policy FW.8 so that it only applies to GWRC.

Analysis and recommendations

96 As discussed in my section 42A response, I consider that territorial authorities have a clear statutory role in managing and protecting freshwater. Although I consider that most of the matters set out in Policy FW.8 are likely to be led out by the regional council, I consider that territorial authorities also have a role to help implement the policy through working with the primary sector and their communities to improve rural water resilience. The actions in Policy FW.8 are worded in an enabling and flexible manner and are therefore

not likely to result in any onerous requirements for territorial authorities in my view. I therefore recommend no amendments.

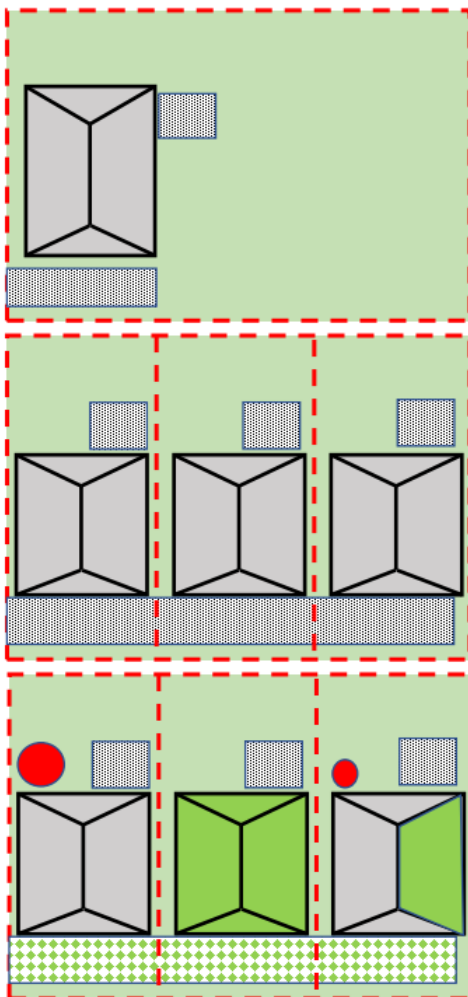
DATE:

21 August 2023

Pamela Guest

Senior Policy Advisor, Greater Wellington Regional Council

Appendix 1: Nature-based solutions as part of urban intensification⁵



1) Existing case - 600 m² Lot with single 120 m² dwelling

- Roof coverage 120 m² (20%)
- Driveway 60 m² (10%)
- Hardstand 30 m² (5%)
- Pervious area 390 m² (65%)

2) Future infill case - 3X 200 m² Lots with 100 m² dwellings

- Roof coverage 300 m² (50%)
- Driveway 60 m² (10%)
- Hardstand 60 m² (10%)
- Pervious area 240 m² (30%)

~70% increase in Stormwater Volume from frequent storms (<10mm depth)

~40% loss in urban greenspace

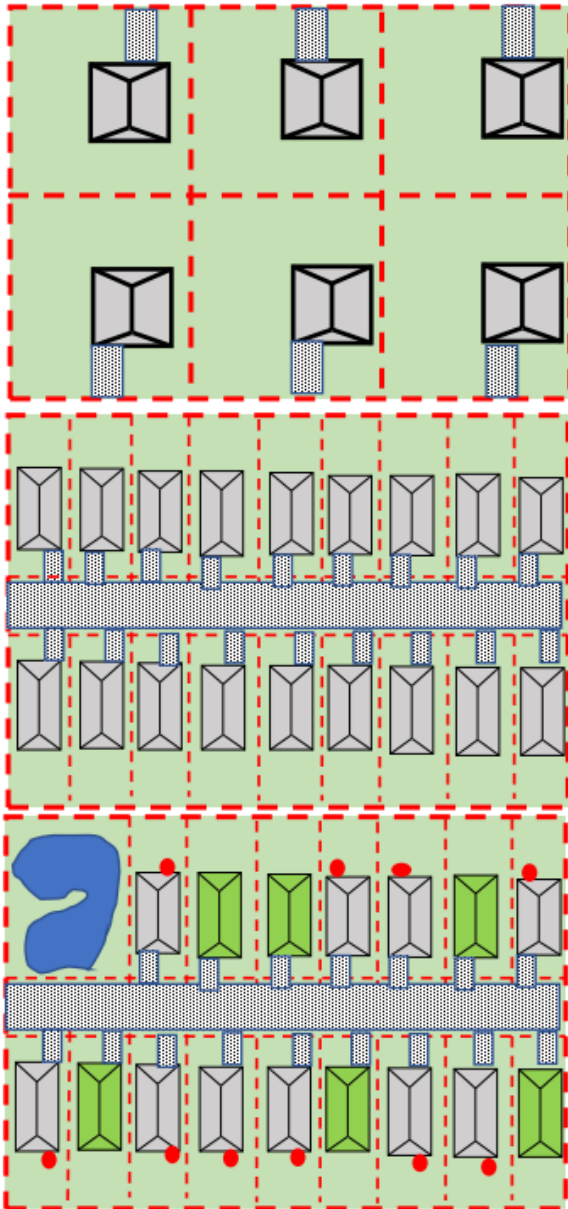
3) Nature based solutions

- Rainwater collection and reuse (toilet flushing/irrigation)
- Green roofs
- Permeable paving
- Lot scale raingarden

~80% decrease in Stormwater Volume from frequent storms (<10mm depth)

~10% gain in urban greenspace

⁵ Graphic prepared by Mr Stu Farrant



1) Existing case – 6 X 500 m² Lot with single 110 m² dwellings

- Roof coverage 660 m² (22%)
- Driveway 120 m² (4%)
- Hardstand 120 m² (4%)
- Pervious area 390 m² (70%)

2) Future infill case – 18 X 150 m² Lots with 70 m² dwellings

- Roof coverage 1215 m² (40%)
- Driveway 360 m² (12%)
- Public road 300 m² (10%)
- Pervious area 1125 m² (37%)

~110% increase in Stormwater Volume from frequent storms (<10mm depth)

~50% loss in urban greenspace

3) Nature based solutions

- Rainwater collection and reuse (toilet flushing/irrigation)
- Green roofs
- Permeable paving
- Lot scale raingarden

~80% decrease in Stormwater Volume from frequent storms (<10mm depth)

~10% gain in urban greenspace – Public realm