

Proposed Plan Change 42: Mangaroa and Pinehaven Flood Extents

Hearing: Wednesday 27th, Thursday 28th, Friday 29th September 2017

To: Hearing Commissioner

From: Save Our Hills (Upper Hutt) Incorporated (SOH), C/- Stephen Pattinson, President

1.1 Summary and Conclusion of the Submission by Save Our Hills (Upper Hutt) Inc.

1.1.1 Upper Hutt City Council (UHCC) consultants are more or less recommending that the Commissioner reject all submissions that oppose this Plan Change (about 80% of the submissions received), and recommend approval of this Plan Change.

1.1.2 If the Commissioner recommends approval of this Plan Change, the Commissioner:

- will be accepting flood hazard maps that misrepresent baseline flood hazard extents;
- will be denying a critical independent review of particular aspects of the flood hazard maps that the community is requesting;
- will be approving a plan change which, rather than protecting people and property, will increase the risk to people and property from flooding.

1.1.3 UHCC consultants claim that:

- Plan Change 42 has been developed in collaboration with the community
- community concerns have been listened to and satisfactorily addressed
- flood hazard extent maps have been rigorously audited and found 'fit for purpose'
- the GWRC flood hazard extent maps informing PC42 have been officially approved and cannot be challenged in this Plan Change process or at this hearing
- UHCC are legally bound to recognize GWRC's flood hazard extents in the District Plan and to impose provisions to control development within the identified flood extents to prevent unacceptable increase of risk to people and property from flooding.

1.1.4 Despite UHCC claims, SOH notes that about 20 of the 25 submitters on PC42 (about 80%) oppose this Plan Change, about 18 of whom (72%) express that they either want the Plan Change withdrawn and/or investigated by an independent expert, because their concerns and the concerns of the wider community have not been heeded and properly addressed. SOH has shown that:

- Council's consultation with the community has not been genuine
- the community's knowledge and concerns have not been heeded
- GWRC's flood hazard extent maps have not met with community acceptance
- GWRC's flood maps misrepresent the flood hazard extents, are misleading, and misinform the PC42 Flood Hazard Maps. In fact there were no GWRC flood hazard extent maps publicly available during the PC42 consultation period for either Pinehaven or Mangaroa that inform the hazard extents of PC42 Flood Hazard Maps. And this remains to be the case for both Pinehaven Stream and Mangaroa River.
- the 2015 audit did not investigate the issue which the community asked to be reviewed; the s42A expert evidence that claims to address this issue actually does not address the issue adequately, and is not a transparent review
- s32 evaluation fails to adequately consider land use change, forest clearance, land instability, subdivision and earthworks in the upper catchments (the Guildford land, i.e. Council's 'Southern Growth Area') and the impact of these activities on flooding;

these activities in the upper catchments are unrecognized (Mangaroa) or sidelined (Pinehaven) in PC42

- the history and procedure for PC42 has been irregular, disadvantaging submitters opposing it.

1.2 The Problem that Plan Change 42 claims to be addressing:

1.2.1 UHCC states that the operative District Plan does not recognize flood risk and hazards that have been identified for the Pinehaven Stream and Mangaroa River; Council claims that the objectives and provisions introduced by this Plan Change will prevent unacceptable increase of risk to people and property from flooding. Quoting the plan change documents:

“The purpose of this plan change is to address the risk from flooding associated with the Pinehaven Stream and the Mangaroa River. Both of these water bodies have had flood hazard maps prepared for a 1 in 100-year flood event...

“The Flood Hazard Extent for the Pinehaven Stream is supported by the Pinehaven Floodplain Management Plan. In this plan, the Flood Hazard Extent and flood risks are identified ...

“The Mangaroa River does not have a specific Flood Management Plan.

“The current District Plan objectives, policies and rules do not recognise the identified Flood Hazard Extent and associated risk to development for either the Mangaroa River or the Pinehaven Stream. Consequently, further development undertaken in accordance with the existing District Plan provisions within either of these Flood Hazard Extents could unacceptably increase the risk to people and property from flooding.”

s42A Report p4 para. 2 – 5 (S32 Evaluation p2 para. 1.1 – 1.5 similar)

1.2.2 Save Our Hills (SOH) fully supports the purpose and objectives of this plan change i.e. *“to address the risk of flooding associated with the Pinehaven Stream and the Mangaroa River.”* However, this proposed Plan Change (the Proposal) fails to achieve this purpose.

1.2.3 The Proposal fails in its stated purpose for several reasons:

- a) it fails to recognize and address the impact on flooding in both the Pinehaven Stream and Mangaroa River catchments of intended forest clearance (already begun) and subdivision and earthworks on the Guildford land within the upper catchments (the land referred to as the ‘Southern Growth Area’ in Council’s ‘Land Use Strategy Upper Hutt 2016 – 2043 Draft FINAL v10, adopted 21 September 2016, pp80-82);
- b) the flood hazard types and extents identified in the flood hazard maps have no hydraulically modelled basis, for either Pinehaven Stream or Mangaroa River, and misrepresent the true flood hazard extents; as noted by Submitter #25- *“The maps are inaccurate and show a far greater inundation area than can be justified...”*; in the 2015 audit, GWRC’s flood hazard extent maps were found to be dubious in the way they represent flood hazard. They remain dubious, misleading and not fit for informing hazard types and extents in District Plan flood hazard maps;
- c) The 2015 audit also found GWRC’s flood maps not fit for purpose regarding future development; they misrepresent baseline information that will be used for assessing hydraulic neutrality of future development on the Guildford land, giving unreliable results about the impact it will have on flooding in Pinehaven and Silverstream. There has been no transparency regarding the assumptions and data that Michael Law has since reviewed regarding this serious flaw in the flood maps about future

development. Local residents remain justifiably concerned about their well-being and safety from increased flooding that could result from future development on Guildford land (Council's so-called 'Southern Growth Area').

1.2.4 Evidence indicates the current flood hazard maps misrepresent (i.e. grossly inflate) the actual flood inundation extents. Consequently, significant additional run-off from intended large-scale development on the Guildford land at the head of both the Mangaroa River and Pinehaven Stream catchments could go undetected when assessed for hydraulic neutrality against **GWRC's inflated and fictitious** flood maps. Significant additional run-off from future development on Guildford land could swell the waterways of the Pinehaven Stream and Mangaroa River, causing increased flood risk to people and property, which is unacceptable.

1.2.5 In short, this Plan Change will serve the opposite of its intended purpose, increasing rather than addressing the risk to people and property from flooding.

1.3 How are the objectives of this Plan Change achieving the purpose of the Resource Management Act 1991 [the Act]?

1.3.1 The purpose of the Act is *"to promote the sustainable management of natural and physical resources"*, meaning *"managing the use, development, and protection of natural and physical resources in a way ... which enables people and their communities to provide for their social, economic, and cultural well-being and for their health and safety while ... avoiding, remedying, or mitigating any adverse effects of activities on the environment."*
RMA Part 2 Section 5

1.3.2 The Section 32 Evaluation, para. 7.3, points out that the existing Objective 9.3.1 in UHCC's operative District Plan *"is a general objective which is intended to promote earthworks and subdivision that take into account the characteristics of the existing surroundings."* The proposed plan change fails to *"take into account the characteristics of the existing surroundings."* It fails to acknowledge and address the effect on flooding of **activities related to** future development on the Guildford land at the head of both catchments which are the subject of this plan change.

1.3.3 The Section 32 Evaluation then goes on to point out that more specific provisions are required in the District Plan *"to ensure flood risk is appropriately considered"*. Yet the plan change restricts the scope of this consideration to the flood hazard extents, failing to include consideration of *"the characteristics of the existing surroundings"* upstream of the flood extents, the Guildford land in the upper catchments, that can contribute to the flood hazard extents downstream.

1.3.4 In particular, the proposed plan change fails to take into account the effect from subdivision and earthworks associated with future development on the Guildford land on downstream waterways and drainage infrastructure, and especially on how silt run-off can exacerbate flooding extent. This issue is highlighted in a statement from Mr Barry Yandel who comments as follows on flooding he has witnessed in Fendalton Crescent, Pinehaven:

“The culvert at the end of Chichester Drive did not get blocked in the 1976 flood. The culvert has been blocked 2 or 3 times on later occasions because of silt and mud going into the stream and drains after the development behind Hobbit Lane began.”

Mr Barry Yandel, part of statement dated 20/9/17 (resident at 26 Fendalton Crescent during the December 1976 flood in Pinehaven)

1.3.5 Local residents Colin Buckett, Brian Rickerby and Kevin Keown and others have clear recollections of not just silt but also large land slips, rocks and pine trees being washed down the steep upper catchments in the 1976 flood causing significant damage to property and threat to life in Elmslie and Pinehaven Roads. Some years ago, the construction of a new house on the ridge above Blue Mountains Road resulted in a massive landslide during heavy rain that brought hundreds of tonnes of earth and pine trees 60 meters down the steep hillside, blocking Blue Mountains Road below the construction site on the ridge. These *“characteristics of the existing surroundings”* are well known by locals and by Council. Equally well known now is Council’s intention to promote large-scale urban development in Council’s so-called ‘Southern Growth Area’, the Guildford land along the ridges in the upper catchments around Blue Mountains, Pinehaven and Silverstream. Yet this plan change is SILENT about the potential effects of subdivision and earthworks on the Guildford land in the upper catchments *“exacerbating the flood risk to people and property”* downstream.

1.3.6 It is a serious omission of this proposed plan change that, whilst claiming to consider the effects of subdivision and earthworks, it fails to identify and address subdivision and earthworks on the Guildford land in the upper catchments *“exacerbating the flood risk to people and property”*. This is an obvious deficiency and a serious failure of this plan change, thwarting Council’s obligation to consider *“the characteristics of the existing surroundings”* and the intention *“to address the risk from flooding associated with the Pinehaven Stream and the Mangaroa River”*.

1.3.7 By overlooking subdivision and earthworks on the Guildford land, the objectives of this Proposal fail to achieve the purpose of the Resource Management Act to promote sustainable management of the environment *“in a way ... which enables people and their communities to provide for their ... well-being ... health and safety while ... avoiding, remedying, or mitigating any adverse effects of activities on the environment.”*

1.3.8 It is a serious oversight of this Proposal that it omits specific objectives and provisions concerning the possible effect on flooding from subdivision and earthworks associated with any future development on the Guildford land (Council’s so-called ‘Southern Growth Area’).

1.3.9 This omission of specific objectives and provisions concerning the effect on flooding from subdivision and earthworks associated on the Guildford land is inexcusable, given the paragraph in the Section 32 Evaluation (para. 7.4) which acknowledges that:

“The nature of flood hazards in Mangaroa and Pinehaven are such that stronger and more specific direction is required through recognising ... the effect that development can have ... (this includes the effects of land use changes in the upper catchment of the Pinehaven Stream) ...”

1.3.10 The above reference to *“the effects of land use changes in the upper catchment”* must include development on the Guildford land, which will not only affect the Pinehaven Stream catchment but also the Mangaroa River catchment since Council’s Land Use Strategy shows intended development on the Guildford land straddling both sides of the ridge where the upper reaches of these two catchments meet.

1.3.11 The Proposal also omits objectives or provisions concerning the possible impact on flooding from the felling of pine trees on the Guildford land, either in association with harvesting or with clearance for subdivision. Para. 7.4 and 7.7 (s32 Evaluation) acknowledge the need for, but fail to require, objectives and provisions that address the effects of future land use change on the Guildford land that could impact on flooding.

1.3.12 The proposed objectives 9.3.2, 9.3.3 & 14.3.2 are limited to subdivision and earthworks controls within the flood hazard extent, and not in the upper catchments that contribute to the flood hazard extents. Proposed objective 9.3.4 addresses *“subdivision within the upper areas of the Pinehaven Catchment Overlay”* (but not the upper areas of the Mangaroa catchment) for the purpose of hydraulic neutrality. But it does not address forest clearance, land instability, subdivision, or earthworks on the Guildford land and the effects of these activities on flooding in the Mangaroa River and Pinehaven Stream catchments.

1.3.13 In summary, the objectives of this Plan Change Proposal fail to achieve the purpose of the Act *“to promote the sustainable management”* of the environment, by *“managing the use, development, and protection of natural and physical resources in a way that provides for the ... well-being ... health and safety”* of people and communities, and *“to avoid, remedy or mitigate the adverse effects of activities on the environment.”*

1.3.14 In view of the above, SOH **requests** THIS PROPOSED PLAN CHANGE BE WITHDRAWN and reconsidered to *“take into account the characteristics of the existing surroundings”*.

1.3.15 When reconsidering a replacement Proposal that does *“take into account the characteristics of the existing surroundings”*, SOH recommends including the effects on flooding and risks to people and property from activities such as forest clearance, land instability, subdivision, and earthworks associated with the intended change of land use in the upper catchments on the Guildford land, as promoted in Council’s ‘Land Use Strategy Upper Hutt 2016 – 2043 (Draft FINAL v10, adopted 21 September 2016, pp80-82) for the ‘Southern Growth Area’, and the effects of these activities on flooding in the Mangaroa River and Pinehaven Stream catchments.

1.4 How appropriate are the provisions (the policies, rules or other methods) for implementing the objectives of Plan Change 42?

1.4.1 None of the Policies in this Plan Change address forest clearance, land instability, subdivision, or earthworks associated with the intended change of land use in the upper catchments on the Guildford land.

1.4.2 Policies 9.4.4 and 9.4.5 address subdivision only within the flood hazard extents, and not within the upper areas of the Pinehaven Stream or Mangaroa River catchments.

1.4.3 Policies 9.4.6, 9.4.7, 9.4.8 and 9.4.9 address earthworks only within the flood hazard extents, not within the upper areas of the Pinehaven Stream or Mangaroo River catchments.

1.4.4 Policy 9.4.10 addresses subdivision within the upper areas of the Pinehaven catchment (but not the upper areas of the Mangaroo catchment) with respect to hydraulic neutrality. But it does not address forest clearance, land instability, subdivision, or earthworks on the Guildford land and the effects of these activities on flooding in the catchments.

1.4.5 Policies 14.4.3, 14.4.4 and 14.4.5 control development only within the flood hazard areas. They do not address development on the Guildford land in the upper areas of the Pinehaven Stream and Mangaroo River catchments.

1.4.6 Policy 14.4.6 addresses the potential for blockages only within flood hazard extents, not in the upper catchment areas. This is an irresponsible oversight because it is well known that a log jam in the upper catchment caused serious damage to property in Elmslie Road in the 1976 flood when cuttings and debris washed down the steep catchment from recent pine forest harvesting, got jammed against standing trees in a gully behind the houses and created a log dam 6m high which backfilled with stormwater and mud and finally burst, plunging across the road and into a house on the other side. Another deficiency with Policy 14.4.6 is that it addresses blockages only **within** the Pinehaven flood extents **and not the upper catchment nor** in the Mangaroo catchment. The potential for log jams and blockages from tree felling exists also in the upper areas of the Mangaroo River catchment which could pose risks to life and property to existing housing on Blue Mountains, Johnsons and Whitemans Valley Roads. There should be objectives and policies that address this risk to life and property, evident following tree felling and bush or forest clearing activities.

1.4.7 Policy 14.4.7, like Policy 9.4.10, addresses development only within the upper areas of the Pinehaven catchment (not the upper areas of the Mangaroo catchment) with respect to hydraulic neutrality. But it does not address forest clearance, land instability, subdivision, or earthworks on the Guildford land and the effects of these activities on flooding.

1.4.8 There is a significant flaw in the way Policies 9.4.10 and 14.4.7 address hydraulic neutrality (in the upper areas of the Pinehaven Stream catchment only; these policies omit the need for a similar control in the upper areas of the Mangaroo River catchment). The flaw has to do with the way **the mapping of flood hazard extents**, for both the Pinehaven Stream and Mangaroo River, fail to accurately and clearly portray baseline 'current situation' run-off. This flaw will be described in more detail later. **[see 1.4.10]**

1.4.9 There is nothing in the proposed rules of this plan change that addresses forest clearance, land instability, subdivision, or earthworks on the Guildford land in the upper areas of the Pinehaven Stream and Mangaroo River catchments (Council's intended 'Southern Growth Area'), and the effects of these activities on flooding in the catchments. This is a gross oversight of foreseeable and unacceptable increase in flood risk to people and property, meaning the provisions of this plan change fail to fulfil the objectives and intention of this plan change, which is *"to address the risk of flooding associated with the*

Pinehaven Stream and the Mangaroa River.” Consequently, this plan change fails to meet the purpose of the Act, which is ...

“to promote the sustainable management of natural and physical resources”, meaning “managing the use, development, and protection of natural and physical resources in a way ... which enables people and their communities to provide for their social, economic, and cultural well-being and for their health and safety while ... avoiding, remedying, or mitigating any adverse effects of activities on the environment.” RMA Part 2 Section 5

1.4.10 Elaborating on Para. 1.2.3c) and Para. 1.4.8 above,

- a) **The GWRC flood maps which inform the proposed UHCC Flood Hazard Maps misrepresent hazard and baseline “current situation” information:**
 - i. viz. the current situation as reported to GWRC by MWH “Pinehaven Stream Flood Hydrology” dated 4 November 2008, revised 2009) and
 - ii. as modified by GWRC to include an allowance for the effect of climate change, as provided by A. Allan (GWRC) to S. Pattinson on 30th September 2014 in the form of spreadsheet data and hydrographs for each of the 15 sub-catchments of the Pinehaven Stream;
- b) A Beca audit 2015 drew attention to this flaw in SKM’s (now Jacobs) flood modelling for the Pinehaven Stream, stating that GWRC’s flood hazard extent maps are not fit for purpose with respect to portraying the impact on flooding from future development on the Guildford land;
- c) this flaw in SKM’s flood model undermines the proposed objective 9.3.4 “To control subdivision within the upper areas of the Pinehaven Catchment Overlay [i.e. on the Guildford land, also referred to by Council as the ‘Southern Growth Area’) to ensure that peak stormwater runoff during both a 1 in 10-year and 1 in 100-year event does not exceed the existing run off ...”
- d) The 2015 audit states: “and so future development runs of SKM’s flood model are *potentially compromised in this regard*”, with a recommendation to “*Review (and update, if necessary) future development hydrology for use in model runs assessing the impact of potential development in the [upper] catchment.*” (Beca Report “Pinehaven Stream – Flood Mapping Audit” 13 July 2015, p9). This review, which the community has specifically requested since 2014, has never been carried out with any public transparency. The proposed objective 9.3.4, whilst addressing hydraulic neutrality (which SOH supports) fails to recognise that “*future development runs of SKM’s flood model are potentially compromised*” [Beca Audit Report 2015, p9], and that before adopting the current flood hazard extent maps into the District Plan there is need for a transparent independent review of the baseline information as portrayed in the flood hazard mapping of the current situation and also with respect to intended large-scale future development on the Guildford land in the upper catchments. This failure is the cause for the community’s lack of confidence in the flood hazard maps, reflected in the rejection of GWRC’s flood hazard extent maps in 2016 (100% of submitters) and again in this Plan Change consultation (excluding GWRC and utility companies, about 90% of submissions from the local community). The request from the community, expressed by the majority of submitters on this proposed Plan Change, for an independent review of the flood hazard maps before they are adopted into the District Plan, is fully justified and must be carried out by Council as part of its responsibility to meet the purpose of the Act to provide for

community “*well-being and for their health and safety while ... avoiding, remedying, or mitigating any adverse effects of activities on the environment.*” RMA Part 2 Sect 5

Stephen Pattinson

President

Save Our Hills (Upper Hutt) Inc.

Thursday 28 September 2017 - AMENDED 29.9.17 (yellow highlights)

The following added Friday 29 September 2017.

2.1 The Section 32 Evaluation

2.1.1 Inadequate assessment of the costs and benefits of this Plan Change:

Because, as noted above, the objectives and provisions of this plan change fail to adequately address land use change, forest clearance, land instability, subdivision, and earthworks in the upper areas of the Pinehaven Stream and Mangaroa River catchments (in particular, on the Guildford land, i.e. Council’s intended ‘Southern Growth Area’), in so far as they affect flooding, the Section 32 Evaluation fails to take the costs of the effects of these activities on flooding in the Pinehaven Stream and Mangaroa River catchments into account. Save Our Hills therefore disagrees with Section 32 Para. 10.21, 10.22, 10.27 and 10.28 which claim that the value of benefits in this Plan Change offset the additional costs imposed by the provisions. The costs to people, the community and property arising from increased risk and damage resulting from additional run-off from development on Guildford land has been completely overlooked in this plan change proposal. These costs include:

- costs associated with providing protection against increased risk to life and property from higher than ‘current situation’ flood levels that the allegedly inflated and fictitious PC42 flood hazard maps will allow;
- costs of disruption, repair and making good of damage to property from higher than ‘current situation’ flood levels that inflated and fictitious flood hazard maps will allow;
- reduced opportunity to subdivide or develop properties unjustifiably included within the flood extents shown in the allegedly inflated and fictitious PC42 flood hazard maps;
- reduced value of properties unjustifiably included within the flood hazard extents;

2.1.2 Because additional run-off from development on the Guildford land potentially affects all flood hazard extents in both the Pinehaven Stream and Mangaroa River catchments, the costs of increased threat to life and increased risk and damage to property are probably incalculable, but certainly far outweigh any benefits associated with this Plan Change.

2.1.3 In addition to financial costs, there are negative social impacts that would result from this plan change that have not been considered in the Section 32 Evaluation. Pinehaven is a very stable and resilient community. This is evidenced in the number of local residents who have provided eye-witness accounts [18 to date] of the extent of the 1976 flood around their properties, an event that happened 41 years ago. Several of these residents are still living at those same addresses, or nearby. The allegedly inflated and fictitious PC42 UHCC Flood Hazard Maps, if approved, will change the strong community character of Pinehaven forever. Already, there appears to be movement in house sales due to people shifting out of Pinehaven, aware of looming large scale development on the hills that could increase flooding in the valley, and concerned about questionable flood hazard information already

on Council LIM records. 'Southern Growth Area' development would be expedited by allegedly inflated and fictitious PC42 flood hazard maps, and will alleviate proper flood attenuation work for the developer, increasing flood risk in both Pinehaven and Mangaroo. Two-storey terrace housing will replace the scenic backdrop of trees. Pinehaven will become a transient rental community, suffering the consequences of (but having no recourse to address) the impact of increased flooding resulting from future development.

2.2 The introduction of new information after the close of consultation

2.2.1 The PC42 consultation opened 08 March 2017 and closed 08 May 2017, and further submissions closed 08 June 2017.

2.2.2 The Section 42A Report was released 04 September 2017. This Report included new information that had not been notified in this plan change and which submitters had not previously seen. The new information includes:

- a) 32 x new flood maps for Mangaroo River by GWRC, dated 27 July 2017
- b) 10 x new flood maps for Pinehaven Stream by GWRC, dated 27 July 2017
- c) 6 x revised District Plan rural maps (Rural Maps 19, 24, 25, 26, 30, 31) based on the new GWRC flood maps for Mangaroo River dated 27 July 2017
- d) 12 x revised District Plan urban maps (Urban Maps 10, 11, 21, 30, 38, 40, 41, 45, 46, 47, 48, 49) based on the new GWRC flood maps for Mangaroo River and Pinehaven Stream dated 27 July 2017
- e) expert evidence by Michael Law (15 pages) endorsing GWRC's new flood maps dated 27 July 2017 for Pinehaven Stream
- f) expert evidence by Kyle Christensen (40 pages) endorsing GWRC's new flood maps dated 27 July 2017 for Mangaroo River
- g) a new Chapter 1 and a revised Chapter 2 (as a consequence of PC43) not included in the original notified PC42 documentation,
- h) amendments to Chapters 9, 14, 16, 17, 18, 19, 20, 23, 30, 33, and 34.

2.2.3 The hearing is underway 27, 28 and 29 September 2017, just 3 weeks after all this new information was given to submitters. The wider public have not yet seen it.

2.2.4 We are advised by UHCC consultants for PC42 that 100mm has been removed from the extents of the new flood hazard maps just received in the Section 42A report.

2.2.5 The new GWRC flood maps (2.2.2 a & b above) for Mangaroo River and Pinehaven Stream have reduced footprints due to removal of 100mm from the flood hazard extent.

2.2.6 The new UHCC PC42 Flood Hazard Maps (2.2.2 c & d above) have reduced footprints due to the removal of 100mm from the flood hazard extent.

2.2.7 It is incorrect to say the new GWRC flood maps for Pinehaven Stream and Mangaroo River have reduced footprints (2.2.5) because there were no GWRC flood maps to reduce, for either Pinehaven Stream or Mangaroo River, at the time of the PC42 consultation from 8th March to 8th May 2017.

2.2.8 GWRC's July 2017 flood maps (2.2.2b above) introduce a completely new set of flood maps to the public for Pinehaven Stream. There were no GWRC flood hazard extent maps equivalent to the 27 July 2017 flood hazard extent maps in the public realm during the notified Plan Change 42 consultation period (8th March to 8th May 2017) compared to which the July 2017 flood maps could be said to have a 'reduced footprint'. There are now at least five different versions of flood hazard extent maps produced by GWRC for Pinehaven Stream since 2010, all with different nomenclature for describing, and colour coding for delineating, flood hazard areas:

- I. Pinehaven Stream Flood Hazard Assessment - Flood Hazard Assessment Investigation Report: Vol 2, Revision E, 25 May 2010 (Figs. 1 & 2)
- II. Pinehaven Stream Floodplain Management Plan, Revision 2, 13 October 2014, Appendix D
- III. Pinehaven Stream Floodplain Management Plan, Revision 4, 8 September 2015, Appendix E
- IV. Pinehaven Stream Floodplain Management Plan, Revision 5, 19 February 2016, Appendix E (This version of the FMP, following the Beca Audit Report in July 2015, introduced 2 maps, one on page 65 for the lower catchment and one on page 66 for the upper catchment, which show Low, Medium and High Hazard in three shades of blue according to the NSW Government method as recommended in the 2015 audit)
- V. Pinehaven Stream Floodplain Management Plan, Revision 6, 6 September 2016, Revision type: *"Update to split mapbook out from the FMP main document. ... See Volume 2 for Maps"* ['Volume 2 Maps' was not published at the time of Revision 6, and was not made available to the public until posted on GWRC's website AFTER the close on 08 May 2017 of PC42 consultation; when the 'Volume 2 Maps' were posted they were titled "Pinehaven-for-web-FMP-volume-2-update-6-September-2016" (back-dated) and consisted of 10 maps (including a series titled "Pinehaven Stream – Building a Flood Map" and Map 7 – "Pinehaven Stream – Flood Map"), followed by a Section titled "Flood Hazard Maps" (pp13-15) which are the same blue and yellow style of flood hazard maps shown in FMP Revision 4 Appendix E and FMP Revision 5 Appendix E (III and IV above), but no longer including the two maps showing Low, Medium and High Hazard according to the NSW Government method that were in FMP Revision 5 Appendix E (IV above)]
- VI. The only GWRC Pinehaven Stream flood hazard extent map available to the public during the notified PC42 consultation period (8th March to 8th May 2017) was "Pinehaven Stream: Map 0 – Flood Map" in an 8-page publication on GWRC's website titled "Pinehaven Stream: Building a Flood Map";
- VII. What was the definitive GWRC flood map informing the notified PC42 UHCC flood hazard maps for the Pinehaven Stream and available during consultation?
 - a. UHCC (Ike Kleybos email 4.5.17) indicated it was 'Map 7 – Flood Map' http://www.gw.govt.nz/assets/council-reports/Report_PDFs/2016.259a1.pdf
 - b. Brett Osborne confirmed by email 8th May 2017, the last day of PC42 consultation, it was "Pinehaven Stream: Map 0 – Flood Map" (VI above)
- VIII. The new GWRC Flood Hazard Extent maps dated July 2017 and issued to PC42 submitters on 4th September 2017 are different to all of the above (I – VII) and introduce a new nomenclature for describing, and colour coding for delineating, flood hazard areas associated with the Pinehaven Stream.

2.2.9 GWRC current flood hazard maps for the Pinehaven Stream: Despite all the various versions of flood maps (2.2.8, I – VIII above) issued by GWRC for Pinehaven Stream since 2010, GWRC recently confirmed that their 2010 flood maps (i.e. I above), are still GWRC's current and most up-to-date flood hazard maps for Pinehaven and Silverstream (confirmed by GWRC OIA response 19.9.2017) and still available on GWRC's website. Depending on where you source them, they look like this:

- a) GWRC 2010 Pinehaven Stream flood maps, sourced from the hard-print publication “Pinehaven Stream Flood Hazard Assessment - Flood Hazard Assessment Investigation Report: Vol 2, Revision E, 25 May 2010” - a sample (at Pinehaven Reserve) looks like this:



Fig. 1_ GWRC “Pinehaven Stream Flood Hazard Assessment - Flood Hazard Assessment Investigation Report: Vol 2, Revision E, 25 May 2010” - flood map at Pinehaven Reserve [Status: still current]

- b) The same map, sourced from GWRC’s website, looks like this:

Flood Hazard Information Sheet 6
Pinehaven Stream

Floods in the Pinehaven Stream
The Pinehaven Stream has a history of flooding, especially in the lower reaches, where the capacity of the stream channel has been greatly restricted. Even in more frequent events (i.e. less than 1 in 10 year return period floods) the stream is known to overtop its banks in certain areas.

Why this information is useful
The hazards associated with flooding and the natural evolution of the floodplain should be considered when new development is being considered on the floodplain. This approach is useful as it helps to:

- Minimise the future damage from flood events to property;
- Identify any potential threat to life;
- Allow evaluation of any impact on the river environment; and
- Alert people to any potential flood and erosion risk.

What it means
The hazard assessment shows areas along the Pinehaven Stream and floodplain that are affected by the 100 year return period flood event. The maps covering the main channels of the Pinehaven Stream are shown in Figure 2. The maps include an allowance for climate change which is based on the latest recommendations by the Ministry for the Environment.

Will this information affect my property value or insurance?
We have been advised by Quotable Value that valuations follow the market rather than set the market. They would not expect to discount a valuation without there being market data to support that approach, and this was not the case from their observations of the market at the time of their valuations. This advice was based on work they have recently undertaken in the Mangaroa Valley which is in a similar situation.

Many areas in the Wellington Region are subject to flood risk. We advise that any known facts relating to the physical risk to a property should be disclosed to an insurer. This includes whether the property is exposed to any particular hazard by virtue of its location (e.g. flood). An insurer requires these facts when evaluating whether or not to underwrite the risk and, if so, on what terms.

Figure 2
PINEHAVEN STREAM - Flood Hazard
SHEET 6 (See Locality Plan)

Fig. 2_ “Pinehaven Flood Hazard Map 6” from a series of nine maps available as “Flood Hazard Information Sheets 1-9: Pinehaven Stream” on GWRC’s website [Status: still current]

2.2.10 The latest version of GWRC’s Pinehaven flood hazard maps, current but not publicly available on GWRC’s website at the time of notification of PC42, was Volume 2 “Pinehaven Stream Floodplain

Management Plan, Revision 6, 6 September 2016". The following screenshot, taken 3rd May 2017, shows that Volume 2 was not on GWRC's website during PC42 consultation:

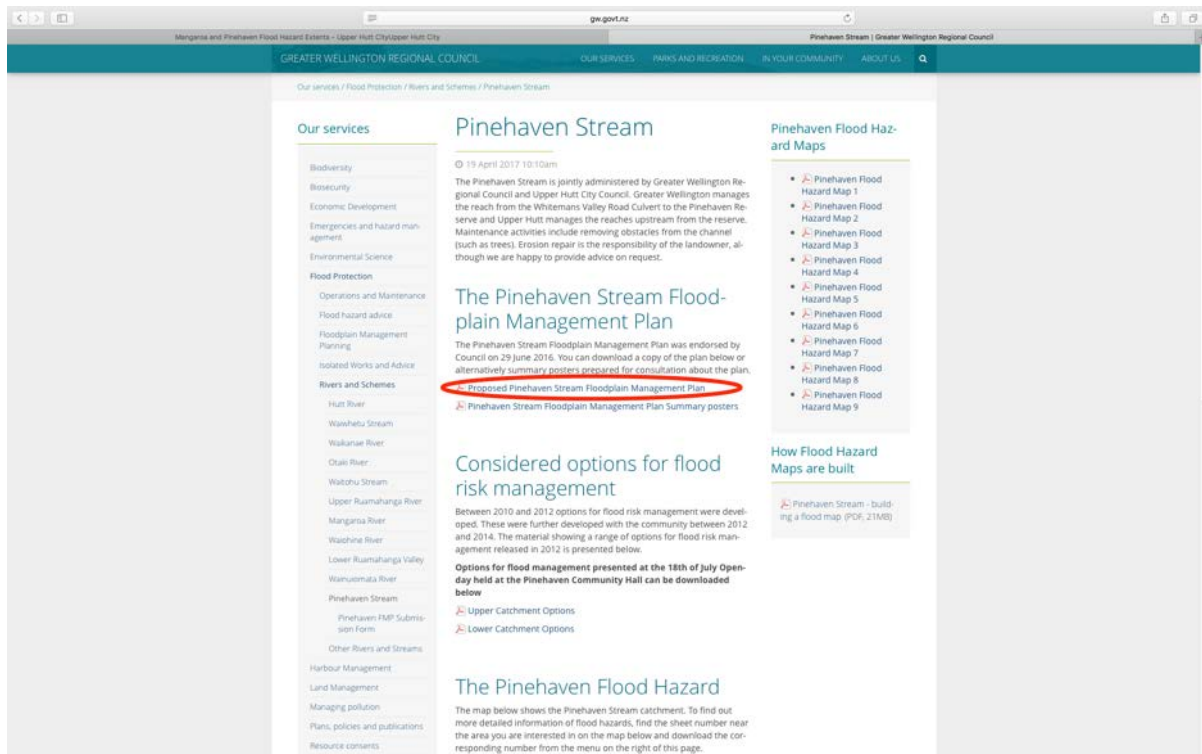


Fig. 3_GWRC – Pinehaven Stream: Screenshot taken 3 May 2017 (PC42 consultation closed 8.5.17)

2.2.11 The document on GWRC's website on 3 May 2017 (encircled in red in Fig. 3 above) is titled "Proposed Pinehaven Stream Floodplain Management Plan". It is Volume 1, the text volume (Fig. 4). Volume 1 has had the flood hazard maps removed (Fig. 5). The maps are purportedly in a separate Volume 2 (fig. 6), but Volume 2 is not available on GWRC's website at this time (PC42 consultation).

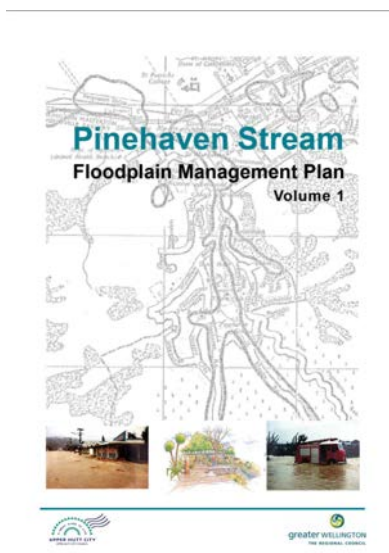


Fig. 4 – PFMP Volume 1

Document history and status

Revision	Date issued	Revised by	Approved by	Date approved	Revision type
A	17 May 2013	Sara Moran	Michael Hall	17 May 2013	Planning review
B	26 May 2013	Nepi Kowhai	Michael Hall	27 May 2013	Tactical review
C	27 May 2013	Clayd Wilson	Michael Hall	31 May 2013	Public and Project Review
D	07 October 2013	Clayd Wilson	Michael Hall	07 October 2013	Response to Open Review
E	24 July 2014	Clayd Wilson	Michael Hall	23 July 2014	Response to Open Review
F	12 October 2014	Clayd Wilson	Michael Hall	02 October 2014	Final publication review
G	25 August 2015	Michael Hall	Michael Hall	25 August 2015	Update to take account of new information and final publication review
H	6 September 2016	Nepi Kowhai	Michael Hall	6 September 2016	Final publication review
I	16 February 2016	Nepi Kowhai	Michael Hall	26 March 2016	Update to take account of new information
J	6 September 2016	Nepi Kowhai	Michael Hall	6 September 2016	Update to take account of new information

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F	1	1	Alister Allen, No Change
G	1	1	Alister Allen, No Change
H	1	1	Alister Allen, No Change
I	1	1	Alister Allen, No Change
J	1	1	Alister Allen

Fig. 5 – PFMP Volume 1 Status – maps split out

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Fig. 6 – PFMP Volume 1 "See Volume 2 for Maps"

2.2.12 UHCC indicated that Map 7 in a series of 10 GWRC flood maps for the Pinehaven Stream that resulted from the Council facilitated Focus Group meetings in Silverstream in April/May 2016 was the underlying map that informed the UHCC PC42 Flood Hazard Maps (2.2.8 VIII(a) and Fig. 7 below).

2.2.13 The definitive GWRC Pinehaven Stream flood map which informed PC42 UHCC Flood Hazard Maps that were publicly notified on 8th March 2017 is “Pinehaven Stream: Map 0 – Flood Map” (2.2.8 VIII(b) and Fig. 8 below). This was confirmed by Brett Osborne on 8 May (closing day of consultation) after he checked with GWRC, noting however that “GWRC advise ... the flood extent in Field Street does not extend north of the railway line.” (Email 8 May 2017 B. Osborne to S. Pattinson) This was the most recent GWRC Pinehaven Stream flood map on GWRC’s website, available in an 8-page publication titled “Pinehaven Stream: Building a Flood Map” during PC42 consultation.

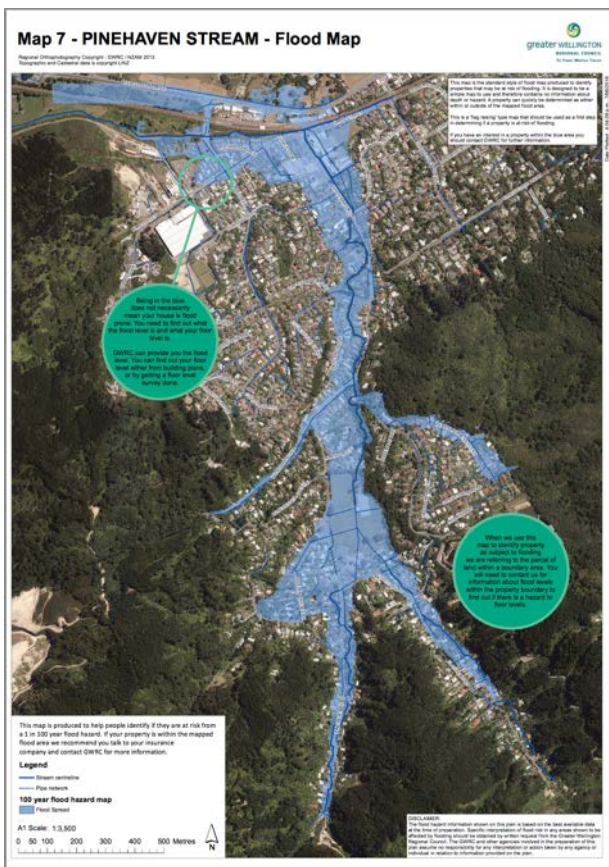


Fig. 7. Map 7 “Pinehaven Stream – Flood Map” From a series of 10 GWRC flood maps for the Pinehaven Stream which resulted from Focus Group meetings facilitated by UHCC and held in Silverstream during April/May 2016. [Status: still current]



Fig. 8 “Pinehaven Stream - Map 0 - Flood Map” The definitive map that informed PC42 Flood Hazard Maps publicly notified 8.3.17; available during PC42 consultation on GWRC website in “Pinehaven Stream: Building a Flood Map”. [Status: still current]

2.2.14 In her oral presentation at the PC42 Hearing on Wednesday 27 September 2017, submitter Nicola Robinson referred to “Map 0 – Flood Map” as “Marge Simpson”, the flurry of blue at the top of the map reminding her of Marge Simpson’s hairstyle. It is noted in 2.2.13 that Marge’s hair was trimmed before the shape file from this map was transferred to UHCC’s PC42 Flood Hazard Maps.

2.2.15 Current at the time of the PC42 consultation were the Volume 2 maps of GWRC’s Pinehaven Floodplain Management Plan, Revision 6, dated 6 September 2016 (2.2.8 V). However they were not posted on UHCC’s website until after PC42 consultation closed. A screenshot taken 03 September shows that Volume 1 and Volume 2 are now both available on GWRC’s website (Fig. 9):

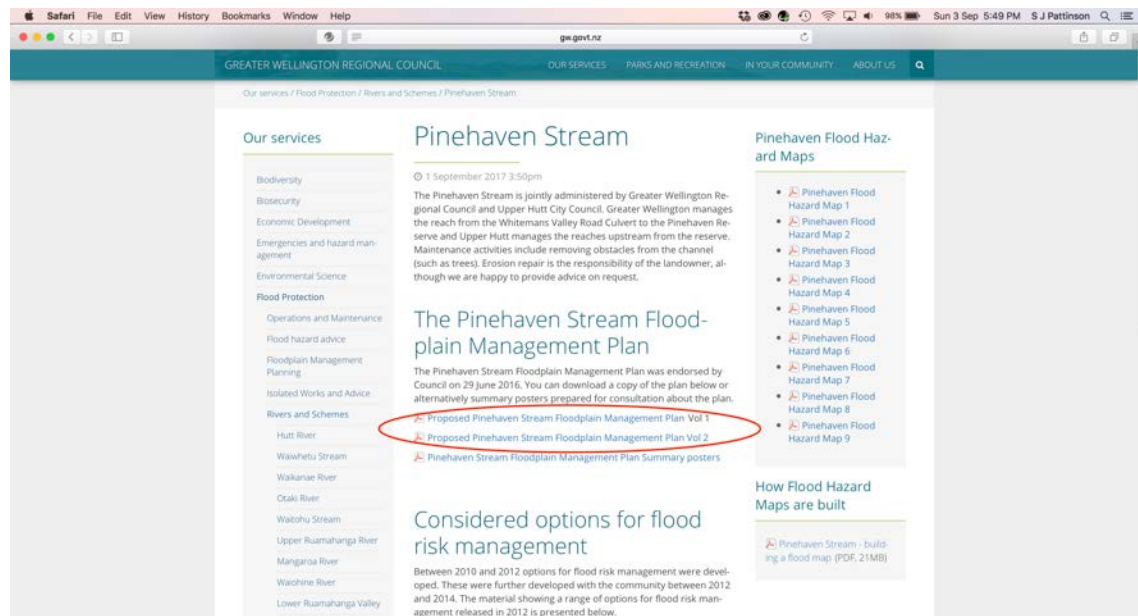


Fig. 9 – Screenshot of GWRC website (03.9.2017) showing PFMP Rev 6, Vol 2 now available

2.2.16 A sample of the style of flood hazard map given in Volume 2 (the flood hazard Pinehaven Reserve) is shown in Fig. 10. These GWRC Pinehaven Stream flood maps are still available on GWRC’s website as at today’s date:

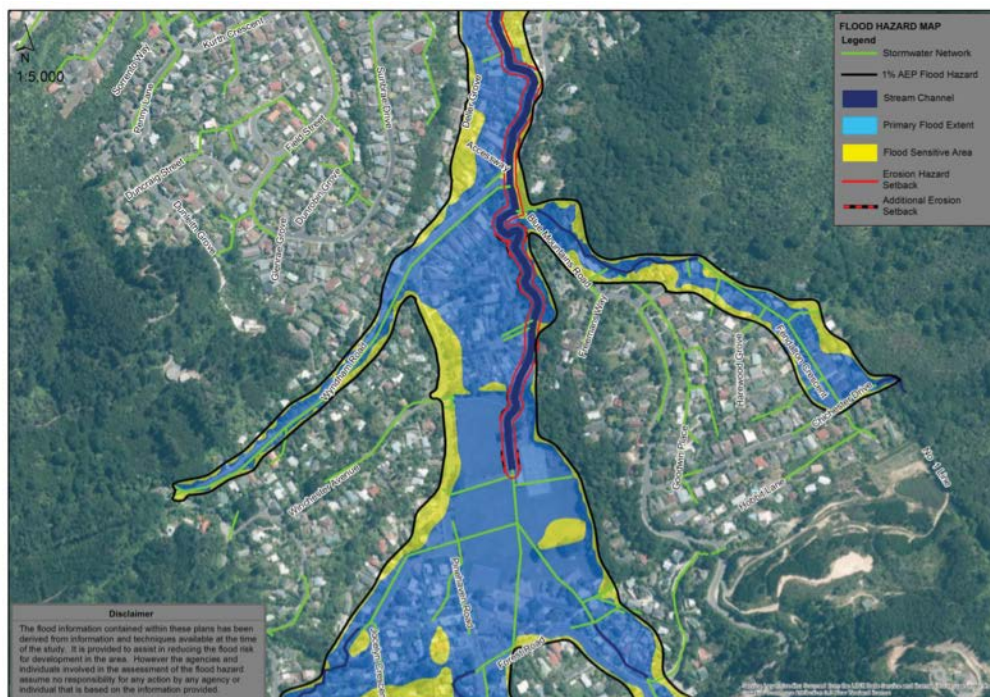


Fig. 10 – GWRC Pinehaven Stream Floodplain Management Plan, Rev 6, 6 Sept 2016, Vol 2 Maps, available now on GWRC’s website, but not during PC42 consultation. [Status: the fact that it is available on GWRC’s website in Volume 2 companion to Volume 1 FMP suggest it’s still current.]

2.2.17 The point of this whole section 2.2 is to show that the new GWRC Pinehaven Stream flood hazard plans dated July 2017, issued to submitters in September 2017 just before the hearing, are an entirely new edition of GWRC flood maps. They are unlike any previous editions of GWRC flood maps for the Pinehaven Stream, including all those that are currently available on GWRC's website [2.2.8, I (Figs. 1 & 2), V (Fig. 10), V & VII a (Fig. 7), VI & VII b (Fig. 8)]. These new maps July 2017 introduce a new nomenclature for describing, and colour coding for delineating, flood hazard areas associated with the Pinehaven Stream (Fig. 11):

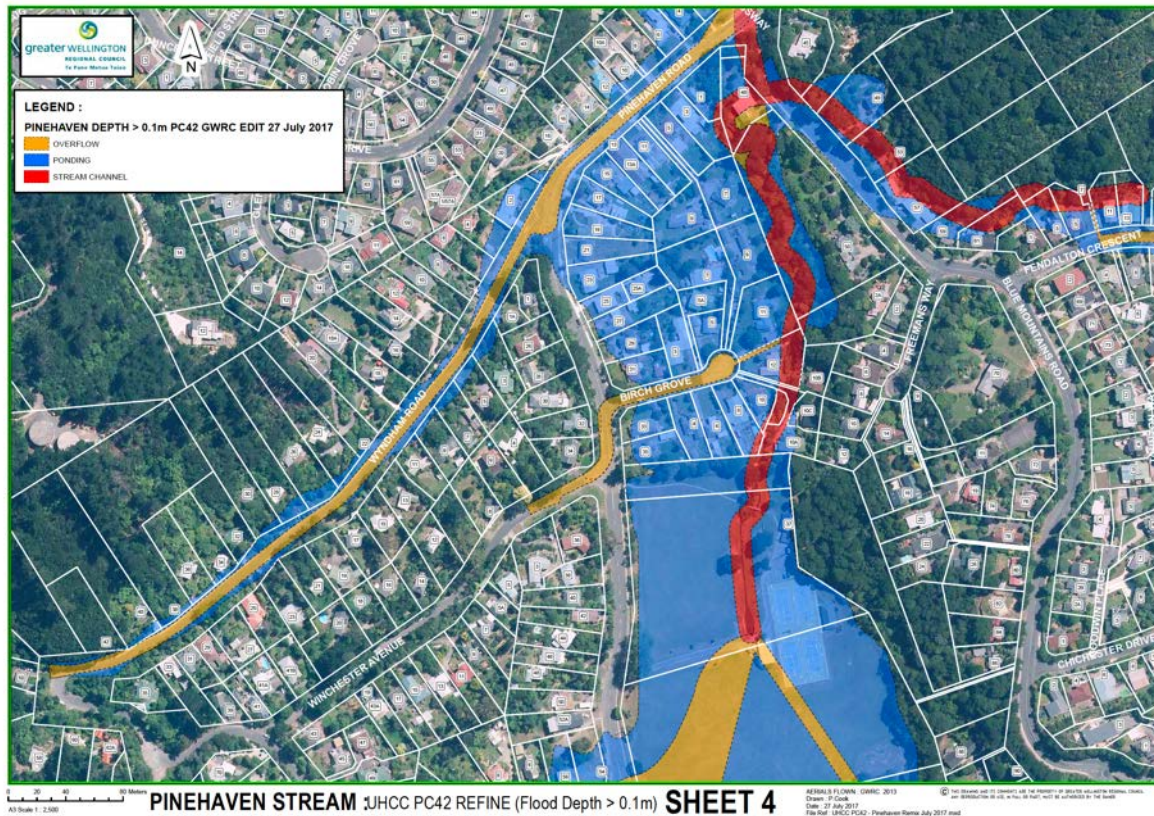


Fig. 11 - GWRC Pinehaven Stream Flood Map Sheet 4 – Pinehaven Reserve (created July 2017, after submissions closed 8th May 2017, and released to submitters 4th September, 3 weeks before hearing)

2.2.18 The new GWRC Flood Hazard Extent maps dated July 2017 maps have a new flood hazard colour coding and legend, different from any flood maps the public have seen before for Pinehaven Stream. These new flood maps show:

- a) “Overflow” – coloured yellow
- b) “Ponding” – coloured blue
- c) “Stream Channel” – coloured red

2.2.19 There is no information on these new flood maps (Fig. 11) about depth of flood water or velocity of flow, and no description of the nature or level of flood hazard. GWRC advise that 100mm has been taken off, but there is no explanation about why, how or where. Anyway it doesn't matter, because GWRC also advise that these are not the real flood maps. The real flood maps are still GWRC's original 2010 maps with the 100mm still on them (Figs. 1 & 2 above). After all these versions and changes in GWRC's flood maps for Pinehaven Stream over the last 7 years, GWRC advise that their 2010 maps are still the current maps!

2.2.20 There is no information in the PC42 s42A report explaining how the 100mm has been removed from the flood hazard extents.

2.3 A new Section 32 Evaluation is required

2.3.1 Given the above, a new s32 evaluation is required to address the shortfalls identified in all the foregoing, including the appropriateness of the new information issued after the PC42 consultation period in fulfilling the objectives of the proposed plan change. The new s32 needs to identify and evaluate the way the 100mm has been removed from the flood hazard extents.

2.3.2 The new s32 evaluation needs to be notified and the public and previous submitters be given opportunity of new consultation to review and submit on the revised maps and new information that was released 4 September 2017.

3.0 CONCLUSION

3.1 Refer to SOH's "Executive Summary" for Key Points

3.2 Refer to SOH's "What to Audit and Rectify"

3.3 In light of the foregoing, and of 3.1 and 3.2, SOH asks the Commissioner to recommend that PC42 be withdrawn or put on hold, and an independent critical audit be carried out of the items we have identified in the above, and (through a process of genuine engagement with the community) problem issues be rectified and resolved to the satisfaction of the Council and the community, before any flood modelling, hazard mapping and planning provisions for Mangaroa River and Pinehaven Stream are adopted into the District Plan.

Save Our Hills (Upper Hutt) Incorporated
c/- Stephen Pattinson
President
M: 027 226 3374

Analysis of Submissions Supporting and Opposing Plan Change 42

No.	Submitter	Supports	Opposes	Asks to be heard
1	Allison Tindale	Yes. "I have assumed that the flood risk areas have been identified using the best scientific information available and have been rigorously reviewed."		N
2	Graham Bellamy UH Forest & Bird		Withdraw PC42	Y
3	Ian D. Stewart	The Proposal generally		N
4	Darryl Longstaffe		Withdraw PC42 Requests independent audit	Y
5	Melanie Brown		Withdraw PC42	Y
6	Kim Williams		Withdraw PC42	Y
7	Burton Planning Consultants for Powerco	Support in part, with various relief sought		Y
8	Charles and Lynese Baines		The flood plan for Pinehaven grossly overstated ... need to be reviewed ... halted until ... proven to be true and accurate	Y
9	Vaughan Allan (notes that the s32 Evaluation Report refers to the proposed Guildford land swap and significant future development)		Object to some aspects ... Before proceeding with any Objectives, Policies or rules ... that a wide ranging assessment including all factors (particularly future developments that may increase risks) be conducted ...	N
10	Jonathan Mackey		Seeks relief from provisions preventing development on land subdivided prior to notification of PC42	Y
11	Nicola Robinson		Withdraw PC42 – investigation by an independent expert	Y

12	Save Our Hills (Upper Hutt) Inc.		Withdraw PC42 – engage independent auditor to investigate	Y
13	Lindsay Forbes		Inadequate drainage infrastructure	N
14	Alexander Ross (retired civil engineer)		“Previous submissions have been ignored, the maps still show the 100 year flood plus freeboard as if it is the 100 year flood and have not differentiated this.” I seek the following decision ... : “Differentiation of the flood and freeboard or alternatively scrap the map and do a proper review”	N
15	Geoff Workman		“An independent audit eliminating false information ... This information is distorted, untrue, and is used to mislead those affected.”	N
16	Susan Pattinson		Withdraw PC42 – an independent investigation	Y
17	John Moynihan		“That the Proposal as it applies to the Mangaroa River proposed 100 year flood be dismissed ...	Y
18	Jenene Moynihan		PC42 be abandoned	Y
19	Bob McLellan, UH Town & Country Assoc.		Withdraw PC42 and resolve issues raised in this submission	Y
20	Kyle McLennan		Withdraw PC42 and address residents’ concerns	N
21	GWRC	Supports PC42		Y
22	Jeff and Noeline Berkett		Errors in the flood plan documents – UHCC must challenge the Plan	Y

23	Alan Jefferies		Withdraw PC42	Y
24	Boffa Miskell for Transpower NZ Ltd	Support in part, with various relief sought		Y
25	T. Duigald Myers (civil engineer)		“The maps are inaccurate and show a far greater inundation area than can be justified ... That Plan Change 42 be withdrawn until residents’ concerns over the flood maps have been properly addressed.”	Y