If calling, please ask for Democratic Services

Environment Committee

Thursday 19 June 2025, 9.30am

Taumata Kōrero – Council Chamber, Greater Wellington Regional Council
100 Cuba St, Te Aro, Wellington

Quorum: *Seven Members*

Members

Councillors

Penny Gaylor (Chair)
David Bassett
Chris Kirk-Burnnand
David Lee
Daran Ponter
Yadana Saw
Simon Woolf
Quentin Duthie (Deputy Chair)
Ros Connelly
Ken Laban
Thomas Nash
Hikitia Ropata
Adrienne Staples

Appointee

Barbie Barton

Recommendations in reports are not to be construed as Council policy until adopted by Council

Environment Committee (A Committee of the Whole)

1 Purpose

Oversee the development, implementation and review of Council's:

a Environmental strategies, policies, plans, programmes, initiatives and indicators to improve environmental outcomes for the Wellington Region's land, water, air, biodiversity, natural resources, parks and reserves, and coastal marine area

b Regional resilience priorities in the delivery of plans, programmes, initiatives and activities for flood protection, erosion control, and regional parks and forests

c Regulatory systems, processes and tools to meet Council's related legislative responsibilities

d Plans, programmes, and efforts to increase volunteer uptake, community involvement and mahi tahi with others seeking to improve environmental outcomes in the Wellington Region.

2 Specific responsibilities

The Committee's environmental responsibilities include the areas of land use management, air quality, water health and quality, regional natural resources, river control, flood protection, regional parks and reserves, coastal marine environment, maritime navigation and safety, biosecurity and biodiversity.

2.1 Apply Council's Te Tiriti o Waitangi principles when conducting the Committee's business and making decisions.

2.2 Oversee the development and review of Council's:

a Environmental strategies, policies, plans, programmes, initiatives and indicators

b Regional resilience priorities

and recommend these matters (and variations) to Council for adoption.

2.3 Review periodically the effectiveness of implementing and delivering Council's:

a Environmental strategies, policies, plans, programmes, initiatives and indicators

b Regional resilience priorities.

2.4 Consider regional, national and international developments; emerging issues and impacts; and changes in the legislative frameworks for their implications for Council's:

a Environmental strategies, policies, plans, programmes, initiatives and indicators

b Regulatory systems, processes and tools.

2.5 Recommend to Council changes to improve the effectiveness of Council's:

a Environmental strategies, policies, plans, programmes, initiatives and indicators

b Regional resilience priorities

c Regulatory systems, processes and tools.

2.6 Review Greater Wellington's compliance with Council's related legislative responsibilities[1], and the monitoring and enforcement of compliance.

2.7 Ensure that the Committee's decision making:

a Considers climate change-related risks (mitigation and adaptation)

b Is consistent with Council's plans and initiatives to give effect to Council's declaration of a climate emergency on 21 August 2019, including agreed emissions reduction targets.

2.8 Review, after each Farming Reference Group meeting, a written report of the business conducted at that meeting.

3 Delegations

3.1 Subject to sections 3.3 to 3.7, Council delegates to the Committee all the powers, functions and duties necessary to perform the Committee's responsibilities (except those that must not be delegated, have been retained by Council, have been delegated to another committee, or have been delegated to the Chief Executive).

3.2 The Committee has the authority to approve submissions to external organisations for matters pertaining directly to the Committee's purpose.

3.3 The Committee may make decisions on matters with a financial impact only where the related costs are:

a Budgeted for in the relevant business group's budget

b Not budgeted for in the relevant business group's budget, but can be met from savings within that budget.

3.4 Where the Committee considers a decision with a material financial impact is needed[2], the Committee must refer the matter to Council for its decision.

3.5 The Committee may not make a decision that is materially inconsistent with Council's Annual Plan or Long Term Plan.

3.6 Where a matter proposed for consideration by the Committee (including during the development of proposed Greater Wellington plans and policies) is of strategic

[1] These responsibilities include those under the Resource Management Act 1991 and for the granting of resource consents, the Soil Conservation and Rivers Control Act 1967, the Biosecurity Act 1993, the Reserves Act 1977, and the Maritime Transport Act 1994.

[2] That is, where savings are identified from other business groups' budgets to meet the related costs; or no savings are identified across Greater Wellington's overall budget to meet the related costs.

importance to the Wairarapa Constituency, that matter shall first be referred to the Wairarapa Committee or its members for their consideration.

3.7 The Committee shall ensure that it acts under the guidance of the Memorandum of Partnership in working with Greater Wellington's mana whenua partners of the Wellington Region to ensure effective Māori participation in the Committee's deliberations and decision-making processes.

4 Members

4.1 All thirteen Councillors.

4.2 The Chair of the Farming Reference Group.

5 Voting entitlement

The Chair of the Farming Reference Group sits at the table and has full speaking rights, but has no voting rights at any Committee meeting.

6 Quorum

Seven Committee members.

7 Meeting frequency

The Committee shall meet six times each year, with additional meetings as required.

Environment Committee

Thursday 19 June 2025, 9:30am

Taumata Kōrero - Council Chamber, Greater Wellington Regional Council
100 Cuba St, Te Aro, Wellington

Public Business

Please note these minutes remain unconfirmed until the Environment Committee meeting on 19 June 2025

Report 25.210

Public minutes of the Environment Committee meeting on Thursday 15 May 2025

Committee Room, Greater Wellington Regional Council
34 Chapel Street, Masterton at 10.03am.

Members Present

Councillor Gaylor (Chair)
Councillor Duthie (Deputy Chair) (from 10.12am)
Councillor Bassett
Councillor Connelly
Councillor Kirk-Burnnand
Councillor Laban
Councillor Nash
Councillor Staples

Barbie Barton

Councillors Connelly and Laban participated at this meeting remotely via Microsoft Teams and counted for the purpose of quorum in accordance with clause 25A of Schedule 7 to the Local Government Act 2002.

Karakia timatanga

The Committee Chair opened the meeting with a karakia timatanga.

Public Business

1 Apologies

Moved: Cr Nash / Cr Staples

That the Committee accepts the apology for absence from Councillors Lee, Ponter, Ropata, Saw and Woolf.

The motion was **carried**.

2 Declarations of conflicts of interest

There were no declarations of conflicts of interest.

3 Public participation

Richard Johns, Kirsty McCarthy and John Hart, Wairarapa Catchment Collective, spoke to the work of the Collective in Wairarapa. A presentation was tabled.

Councillor Duthie joined the meeting at 10.12am during the above presentation.

4 Confirmation of the Public minutes of the Environment Committee meeting of 20 February 2025 - Report 25.21

Moved: Cr Bassett / Cr Kirk-Burnnand

That the Committee confirms the Public minutes of the Environment Committee meeting of 20 February 2025 - Report 25.21.

The motion was **carried**.

5 Wairarapa Water Resilience Strategy Implementation – Report 25.144 [For Information]

Nicola Patrick, Director Catchment, and Pete Huggins, Catchment Manager – Ruamāhanga, spoke to the report.

6 Regional Predator Control Programme Change – Report 25.204 [For Information]

Henk Louw, Principal Advisor Ecosystems, and Jack Mace, Director Delivery, spoke to the report.

Noted: The Committee requested an analysis of trends in predator numbers and the associated effects on trends in biodiversity.

7 Catchment Engagement Approach – Report 25.162 [For Information]

Nicola Patrick, Director Catchment, spoke to the report.

8 Community Environment Funding Update – Report 25.167 [For Information]

Jo Fagan, Senior Community and Capability Advisor, and David Boone, Manager Ecosystems and Community, spoke to the report.

Noted: The Committee requested a schedule of funding grants made and the outcomes.

9 Te Rōpū Taiao | Environment Update – May 2025 – Report 25.205 [For Information]

Lian Butcher, Group Manager Environment, Fathima Iftikar, Director, Strategy, Policy and Regulation, and David Boone, Manager Ecosystems and Community, spoke to the report.

Noted: The Committee requested an update on the development and mana whenua endorsement of place names and storytelling within our Regional Parks. Names and stories should support mana whenua partners in revealing their stories and connections to whenua as per Toitū te Whenua.

Karakia whakamutunga

The Committee Chair closed the meeting with a karakia whakamutunga.

The public meeting closed at 12.09pm.

Councillor P Gaylor

Chair

Date:

Environment Committee
19 June 2025
Report 25.140

For Decision

BELMONT REGIONAL PARK LONG-TERM RESTORATION STRATEGY

Te take mō te pūrongo
Purpose

1. To outline to the Environment Committee (the Committee) the preferred restoration strategy for Belmont Regional Park. Acknowledging the existing strategic direction contained in Toitū Te Whenua, Parks Network Plan 2020-2030, and to confirm alignment between other strategic direction across Whaitua implementation plans, Plan Change 1 and the Porirua Harbour Accord.

He tūtohu
Recommendations

That the Committee:

1 **Receives** the report.

2 **Notes** the content of the report.

3 **Approves** the restoration strategy described in this report, that future restoration at Belmont Regional Park will involve:

- a Ongoing mana whenua and community involvement,
- b Intensive, staged restoration over an expected period of 10 years, followed by ongoing ecological maintenance alongside other park values,
- c Planned planting areas of about 20 hectares per year designed to enhance the establishment of indigenous ecosystems and restore grazing land,
- d Allowing for natural regeneration of indigenous vegetation to occur over progressive, annual areas of about 80 hectares per year, in proximity to existing indigenous vegetation areas,
- e Utilising grazing in areas, reducing over time to nil, until available resources can actively deliver on restoration objectives.

Te tāhū kōrero
Background

2. Toitū Te Whenua, the parks network plan 2020-2030, approved by Council in 2020, presents a long-term vision for all the Regional Parks with a focus on connectivity and collaboration when caring for the whenua. Focusing on conservation,

recreation, community, and climate change, one feature of the plan is to phase out livestock grazing across parks in favour of restoration of indigenous forests and natural ecosystems. Actions include the cessation of grazing in several parks, notably Belmont Regional Park where intensive restoration is already underway through the Recloaking Papatūānuku programme.

3. To date, restoration has mainly focussed on the Waitangirua side of Belmont Regional Park where initial planting is largely complete. The approach taken at Waitangirua has been "full planting" where the entire area is planted with seedlings at a high density of approx. 2,500 stems per hectare. This is supported until establishment with pest plant and animal control as needed. Some restoration work has taken place on the eastern side of Belmont Regional Park focussing on areas already removed from grazing. To date over 500,000 plants have been planted over approx. 200ha of land.

4. The Recloaking Papatūānuku planting has built upon the work of the many dedicated community groups and individuals who have committed countless hours to improving Belmont Regional Park. The Park has a proud legacy of restoration, with Greater Wellington Regional Council (Greater Wellington) and local community working hand-in-hand to protect and restore its natural environment. Over the years, passionate volunteers, iwi, conservation groups, and Greater Wellington have collaborated to restore native bush, enhance biodiversity, and control pests and weeds. These efforts have turned areas of degraded farmland into thriving habitats for native birds, lizards, and insects. The success of planting days, community events, and ongoing kaitiakitanga has fostered a sense of pride and connection among residents.

5. The "full planting" method is costly and has led to many challenges across the Waitangirua area and other regional park sites where grazing has ceased and restoration work has advanced in recent years. Factors such as fire risk and visitor safety, track maintenance, fence removal, pest plant and animal control and slow progress on a positive contribution to Greater Wellington's net emissions targets are risks that have significant impact on restoration success.

6. The Low Carbon Acceleration Fund (LCAF) began in 2019, with the intention of kick-starting the restoration of formerly grazed areas of regional parks over five years. Over the first four years of the programme, approximately 800,000 plants have been planted across 360ha of regional park land averaging 90ha per year at a cost of about $9 million.

7. From 2025/26 the programme is rates funded through to 2033/2034, at a rate of about $2.5mil annually. This equates to a rate of about 50-80 hectares of planting annually, across all parks. This budget also needs to incorporate significant pest plant and animal control of previously planted sites (which increases each year as we have more previously planted sites to look after and is particularly intense in Queen Elizabeth Park (QEP)), mana whenua and community engagement, and other projects outside of planting (such as wetland restoration work at QEP). The proportion of funding available specifically for Belmont will be determined annually based on these competing priorities across the parks network.

8. The grazing license covering 1065 ha of East Belmont Regional Park, an area five times the size of restoration work already underway at Waitangirua, began in 2016 and ends in January 2026. With the end of the grazing licence, a clear restoration strategy is needed to guide future restoration.

Te tātaritanga
Analysis

Building a future restoration strategy – Structured Decision-Making approach

9. Toitū Te Whenua is clear on restoration being staged and involving native planting, however, there are many implementation options that have merit and perform differently regarding ongoing implications of the direction taken. For example, what if grazing ceased, and natural regeneration was the approach rather than planting? What would vegetative succession involve ecologically? What are the impacts on recreation across a range of park user bases? What would be the risk to park users and restoration investment from fire? How long before a healthy, stable forest establishes?

10. Given the complexity of the risks and influencing factors for future restoration work, it was essential to explore a range of options to give effect to Toitū Te Whenua. Each variable within different options creates consequences and management challenges.

11. In order to better understand the complex factors and their consequences, a Structured Decision-Making methodology was followed. This involved bringing together appropriate subject matter experts to identify and compare various strategic approaches and using detailed science, information and modelling to inform the understanding of each restoration approach based on critical review of each approach's reactive implications.

12. The Structured Decision-Making process resulted in a preferred strategy, labelled "Staged small-area planting". The preferred strategy performed the best across the range of objectives considered. Although budget was not the only limiting factor of other options, the preferred option was the only one that was affordable under current budgets.

13. Further detail of the Structured Decision-Making Process that led to the preferred option is contained in **Attachment 1**.

Mana Whenua and Community Engagement in strategy building

14. Representatives from both Te Rūnanga o Toa Rangatira and Port Nicholson Block Settlement Trust (PNBST) have been involved in the development of the proposed strategy and expressed support and enthusiasm for it going forward.

15. Through their active involvement in restoration, conservation, and cultural initiatives, Te Rūnanga o Toa Rangatira and PNBST play a vital role in shaping the management and future of Belmont Regional Park. Their partnership with Greater Wellington ensures that the park's ecological and cultural values are preserved for future generations.

16. This strategy takes an adaptive approach, allowing a level of flexibility to enable work to adapt over time, depending on funding, issues arising and levels of success. We can speed up retirement, increase planting, or hold back and focus on overcoming issues as we proceed. Monitoring of plant growth, weed control, maintenance costs and other issues will be crucial to this adaptive agile strategy. Community and mana whenua feedback will be critical in informing the next stages of this work and adaptations in the 10-year period.

Preferred restoration strategy description

17. Attachment 1 contains assessment of options considered in the Structure Decision Making process. The descriptions below relate only to the preferred option. The descriptions below of the preferred restoration approach are catagorised into the following themes:

    i) Destocking and restoring grazed land

    ii) Recreation opportunity

    iii) Pest plant and animal control

    iv) Fire risk management

Destocking and restoring grazed land

18. Livestock grazing is an essential feature of the proposed strategy.

19. The strategy involves an approach of reducing stocking rates and retiring land as a priority. Areas of high natural value, regenerating forest, wetlands and erosion prone land will be prioritised for retirement in line with policy drivers noted below in the strategic alignment section.

20. Where possible, it is proposed to run dry stock only, to minimise closures to the public and maximise recreational opportunities. Grazing cattle will be avoided or minimised and cattle will be excluded from high value areas that would be negatively impacted by heavy animals for any future grazing licenses.

21. In order to minimise the need to use funding on altering fencing, retirement will be organised by paddocks and future grazing licenses will explore the use of virtual fencing, using electronic collar technology for cattle.

22. It is proposed to continue grazing the top of the main ridge during the restoration period. This clear ridge will avoid difficult restoration which will likely be unsuccessful, it will act as a key firebreak, and there is recreational value in the walking route with valued viewpoints. As the high tops areas of the park will be the last areas for destocking due to difficulty in planting success, fire management purposes and viewshed values, it is possible that a future decision will be needed whether ongoing grazing on the high tops, with suitable animal welfare shelter areas available, is required in perpetuity. This would likely be unattractive to commercial grazing and would have to be managed in-house by Greater Wellington.

23. To minimise the environmental impacts of grazing and ensure animal welfare issues are managed, all future grazing licenses will involve either external

agricultural expertise or internal expertise in farm systems with our Environment Restoration, farm environment planning team.

24. The recommended restoration strategy involves a phased removal of grazing over a period of 10 years and planting about 20% of available land, whilst allowing the remaining areas to naturally regenerate.

25. Grazing retirement and subsequent restoration ideally would follow a linear pattern over 10 years at 100ha per year. However, that is likely unachievable due to land terrain, existing fencing, location of sensitive areas, presence of high-use recreation areas, etc, and the 100ha per year will be a target, or average over the next decade.

26. Beginning with Toitū Te Whenua, Map 10 - Belmont restoration priorities – and further refinement with spatial planning done in partnership with mana whenua and with input from park community groups, areas will be retired with blocks selected based on areas of existing native vegetation to begin the native regeneration process, erosion prone land, and sites of significance to PNBST and Te Rūnanga o Toa Rangatira. This would see the areas of high biodiversity value protected and begin creating ecological connections.

27. Detailed planning of destocking will follow the confirmation of the restoration strategy defined in this report and will be undertaken with mana whenua and community input through master planning which is described further under the "giving effect to the strategy" section below.

28. Areas for planting will be selected based on ecological factors such as existing seed source and climatic or soil conditions as well as erosion control and cultural value.

Recreation opportunity

29. Grazing retirement and restoration will create valuable opportunities for recreation with walking, cycling and horse riding already popular in the park. Currently 20-30km of tracks are maintained by grazing and as land is retired, these tracks will need to be mown to keep them passable. Through the master planning process track maintenance prioritisation will need to identify future management objectives.

Pest plant and animal control

30. Pest plant control across the park will be varied. Some pest plants may have helpful properties and assist in the succession to a native canopy, whilst some areas may remain as rank grass and require very little intervention such as the high-tops. Other areas may see a rapid increase in pest plants, impacting the visitor experience, reducing ability for native regeneration and potentially increasing fire risk.

31. Reinvasion and growth of pest plant species is determined by a range of ecological processes. Expected weed species are predictable, and the intensity of future management can be estimated by considering such factors as seedbank and species longevity, species historically present and present in surrounding land, pathways for reinvasion and level of soil disturbance.

32. The small-area planting approach has assumed a level of pest plant control to maximise natural regeneration and enabling establishment of planted seedlings. An adaptive approach will enable us to monitor pest plant growth and respond accordingly.

33. Lagomorphs (rabbits and hares) will be the predominant pest animals species in the short-term which directly impact the restoration plantings and natural regrowth areas which are best managed with a staged approach over 10 years. As restoration progresses and forest growth becomes more mature it is likely to attract other pests such as possums and deer which can be managed, however the future costs of pest control are unknown. Generally, the phased approach of around 100ha per year is likely to render less pest management cost than attempting to restore 1,100 hectares simultaneously.

Fire risk management

34. Fire management is a key component of the restoration strategy. The approach will allow the planting of green firebreaks, reducing the need for man-made firebreaks and dividing the park into smaller, more defendable areas. Continued grazing of non-restored areas will help manage those zones until restoration resources are available.

35. Creation of fire breaks is dual benefit in creating additional recreation access opportunities and controlling fire risk. Phasing the destocking over 10 years will enable fire break planning and affordable construction.

36. A key feature of the proposed strategy is the continued grazing of the ridge tops which will create a significant and important firebreak, reducing the likelihood of any fire spreading across both sides of the park and becoming unmanageable.

37. The adaptive approach allows for fire planning and fire breaks to be added as needed, to ensure each zone has the required evacuation points and maintenance access.

Exotic forestry and Greater Wellington net emissions reduction

38. One disadvantage of relying on natural regeneration over much of the area is the slow rate of carbon sequestration, limiting the contribution to meeting the Council's net emissions targets. Emissions Trading Scheme requirements involve forest canopy closure of 30% area and 5m high vegetation, which could take over 50 years depending on site conditions of native vegetation outcompeting exotic scrub vegetation.

39. During the option consideration a "high carbon sequestration" method was considered which would set aside up to 100ha for an exotic/native hybrid planting methodology. This will involve the planting of fast-growing non-natives (likely eucalyptus rather than pine for biodiversity reasons) mixed with natives. The non-natives provide shelter and importantly rapidly sequester carbon and would then be thinned across years 15-30 with all non-natives gone by year 30.

40. Exotic forestry options have not been fully investigated and could be tested for social license during master planning, described below in next steps. The

recommendations put forward in this report are not seeking support at this time for implementing exotic forestry.

Strategic alignment

41. The proposed restoration strategy is consistently aligned with other key strategic documents Toitū Te Whenua, the parks network plan 2020-2030.

42. The proposed restoration strategy provides additional clarity for restoration where the strategic direction set out by Toitū Te Whenua is vague.

43. Commentary is provided below on the relevance of this proposed restoration strategy against the most relevant key shifts identified in Toitū Te Whenua:

    i) *Focusing on restoring natural values across the network including wetlands, phasing out most livestock grazing to enable this*. There are many acknowledgments within Toitū Te Whenua about grazing being necessary in the short-term to meet restoration outcomes. The proposed restoration strategy is clearer than Toitū Te Whenua about the interaction between restoration work and phasing out grazing.

    ii) *Improving access to, within and across parks, making it easier for more people to access and enjoy parks*. The restoration strategy will maximise the co-existence of recreation and restoration work through community involvement. The proposed restoration strategy will inform the development of a park master plan, noted below under Action A160, to supplement the direction already provided in Toitū Te Whenua.

    iii) *Building on collaborative work with mana whenua partners and community conservation & recreation groups, so that we can achieve greater benefits from parks together*. The ongoing successful delivery of the proposed strategy will be enhanced by community and mana whenua input and support. The proposed restoration strategy describes the best possible restoration method with available resources and will lead towards a potential untapped resource in the power of community support.

    iv) *Building our response to climate change into more of the things we do in parks*. The proposed restoration strategy seeks to maximise emissions reduction and climate resilience into the outcomes delivered.

44. The most relevant actions with Toitū Te Whenua are A160, A162 and A200. Commentary of the proposed restoration strategy in consideration of these actions is below:

    - A160 requires the development of a master plan for eastern Belmont Regional Park. The proposed restoration strategy provides clarity on restoration tactics that are unclear in Toitū Te Whenua direction, thus giving the guidance needed to advance master planning.
    - A162 relates to restoring vegetation across the park. This strategy is advancing progress towards A162.

- A200 relates to Greater Wellington's Climate Emergency declaration. Further context about this proposed strategy and climate change is under the Climate Change section of this report.

Whaitua te Whanganui-a-Tara

45. Whaitua te Whanganui-a-Tara is a collaborative catchment management initiative led by Greater Wellington, with input from mana whenua, communities, and stakeholders. While the Whaitua process primarily focuses on freshwater management, its principles and actions influence broader environmental and cultural restoration efforts across the region, including Belmont Regional Park.

46. Whaitua te Whanganui-a-Tara contains underlying principles of integrated catchment management, cultural collaboration, and ecological restoration are reflected in the restoration strategy described in this report. In particular, the proposed restoration strategy demonstrates a commitment to enhancing ecosystem health, preserving cultural heritage, and fostering community involvement in park management.

Te Mahere Wai o Te Kāhui Taiao

47. Te Mahere Wai o Te Kāhui Taiao is a Mana Whenua-led freshwater implementation plan developed by Te Kāhui Taiao, a collective of iwi representatives from PNBST and Te Rūnanga o Toa Rangatira. This plan is part of the broader Whaitua te Whanganui-a-Tara initiative, aiming to restore and protect the freshwater bodies within the Wellington region.

48. While specific details of how Te Mahere Wai o Te Kāhui Taiao applies to Belmont Regional Park are not explicitly outlined, the principles of the plan are relevant. The park features the historic Korokoro Dam and Pareraho Pā, both of which hold ancestral and resource-based significance for PNBST. The park's rich history includes Māori settlement patterns, with various iwi and hapū, including Ngāti Ira, Ngāti Kahukuraawhitia, and Rakaiwhakairi, having ancestral ties to the region.

49. Key Aspects of Te Mahere Wai o Te Kāhui Taiao that are reflected in the proposed restoration strategy include:

    i) Holistic River Care (Te tiaki i te awa katoa i raro i Te Mahere Wai): This approach emphasizes the interconnectedness of waterways, land, and communities. It advocates for comprehensive management strategies that consider ecological, cultural, and social factors to ensure the health and vitality of freshwater systems.

    ii) Catchment Restorative Justice (Te whakaea i ō mua hē i te whaitua): This concept involves acknowledging past impacts on freshwater environments and taking corrective actions to restore their health and functionality. It emphasizes accountability and the need for remedial measures to address historical degradation.

    iii) Creating pathways for partnerships with mana whenua and community groups to restore ecosystem health and preserve cultural heritage.

Te Awarua-o-Porirua Whaitua and Te Wai Ora o Parirua – Porirua Harbour Accord

50. Te Awarua-o-Porirua Whaitua provides valuable insights into the management and future development of Belmont Regional Park, emphasizing the integration of cultural, ecological, and recreational values.

51. Te Awarua-o-Porirua Whaitua highlights the park's role in preserving the region's rich cultural heritage and natural ecosystems. Collaborating with mana whenua, the committee advocates for the restoration of native vegetation and the enhancement of biodiversity within the park.

52. Belmont Regional Park serves as a vital recreational space for the Porirua community and beyond. Te Awarua-o-Porirua Whaitua supports efforts to improve access and facilities, ensuring that the park remains a welcoming environment for activities such as walking, mountain biking, and horse riding.

53. In summary, the Te Awarua-o-Porirua Whaitua Committee envisions Belmont Regional Park as a harmonious blend of cultural respect, ecological restoration, and recreational enjoyment. Through collaborative efforts and thoughtful planning, the park is poised to serve as a model for sustainable land management and community engagement.

54. The Porirua Harbour Accord, officially titled Te Wai Ora o Parirua – Porirua Harbour Accord, is a collaborative agreement aimed at restoring and protecting the health of Te Awarua-o-Porirua (Porirua Harbour). While the Accord does not specifically mention Belmont Regional Park, it indirectly influences the park through its focus on improving water quality, restoring biodiversity, and integrating sustainable land management practices within the harbour's catchment area.

Natural Resources Plan Change 1

55. Whaitua te Whanganui-a-Tara, Te Mahere Wai o Te Kāhui Taiao, and Te Awarua-o-Porirua Whaitua do not have statutory control over Belmont Regional Park until those documents are translated and adopted into Greater Wellington's Natural Resources Plan through a plan change process.

56. Greater Wellington is advancing Plan Change 1 to the Natural Resources Plan, setting the regulatory path to improve water quality in Te Awarua o Porirua and Te Whanganui-a-Tara. Guided by the collaborative Whaitua process—bringing together mana whenua, communities, and council.

57. These documents highlight the need for catchment land use change to restore waterway health and for Greater Wellington to exhibit leadership as land managers. Plan Change 1 provisions focus on the treatment of "erosion risk land" to reach water quality objectives. Much of this "erosion risk land" lies in Belmont Regional Park where the proposed restoration strategy will prioritise erosion risk mitigation.

Giving effect to restoration strategy

58. This report recommends a strategy, not an implementation plan. The parameters, or guidelines, of the recommended strategy will lead to detailed, spatial implementation planning going forward. This future implementation planning will depend on local knowledge of mana whenua and community caretakers of the park to maximise success.

59. The Mauri Tūhono framework, developed by a collaborative working group in the Wellington region, offers a powerful guide for the restoration of Belmont Regional Park by centring te ao Māori values, collective stewardship, and interconnectedness with te taiao (the natural world). The framework, titled Kaipupuri taonga ki te ao whānui—"the taonga we stand for everywhere with everyone"—emphasizes restoring the mauri of ecosystems through inclusive, values-based action

60. Applying this to Belmont Regional Park means recognizing the park not just as a recreational space, but as a living entity whose wellbeing is tied to the health of its waterways, forests, and native species. It encourages collaboration to weave together ecological knowledge, cultural heritage, and long-term sustainability. As Greater Wellington's internal implementation of Mauri Tūhono matures, it will be possible to begin aligning restoration efforts with the Mauri Tūhono principles and enable Belmont to become a model of regenerative practice that honours both biodiversity and cultural identity.

61. **Attachment 2** is a summary of Greater Wellington's technical knowledge of giving effect to this strategy. Engaging with mana whenua and community to be precise on the when, where, and how is essential for future restoration outcomes.

62. Community engagement is essential to ensure that the on-going restoration proposals are effective and that the knowledge, perspectives and passion of locals and park users is harnessed and valued. To date engagement with communities has significantly influenced the outcomes set out in Toitū te Whenua and continue to inform the process.

Master Planning

63. The master planning process, noted in action A160 of Toitū Te Whenua, is already underway. Recent progress with mana whenua has been significant where we have engaged external support to advance QEP/Whareroa Regional Park master planning which is being co-designed by Greater Wellington, Te Ātiawa ki Whakarongotai and Te Rūnanga o Toa Rangatira. The master planning work for Belmont Regional Park will be developed in parallel with QEP/Whareroa utilizing the partnership approach already established with Te Rūnanga o Toa Rangatira and equally involving PNBST – which has been discussed informally with PNBST and will be formally decided at a Rōpū Tiaki[1] meeting on 11 June 2025.

64. Once the proposed restoration strategy is approved, work will progress into detailed planning, where there is a critical need for input from community as the restoration progresses and grazing is removed. Issues such as location of planting areas, species choice, innovative approaches, and pest control all offer opportunity for collaboration.

65. Master planning - the blueprint for how the park will look and be used, integrating natural spaces, recreation facilities, on-going management, and spatial restoration

[1] Rōpū Tiaki is a co-governance forum of PNBST and Greater Wellington currently focusing on the management of Parangarahu Lakes – East Harbour Regional Park and progressing an expansion of co-governance across other areas of Greater Wellington managed land.

objectives – is the key to the many overlaps of park values and desired outcomes. Progress to date has been slow, however with Committee endorsement of the proposed restoration strategy Greater Wellington is well positioned to rapidly advance master planning with mana whenua, and to seek pre-consultation input from key park stakeholder groups prior to public consultation.

Future fire risk management

66. Once the strategic direction of restoration is confirmed and planning is undertaken to identify initial steps of grazing retirement, detailed fire risk assessment will be possible. Greater Wellington has commissioned a fire risk action plan for Belmont Regional Park which will inform visitor safety needs as implementation proceeds.

67. Fire risk will increase as more area is retired from grazing due to the increased fuel source. Although Belmont has unique climate and terrain characteristics compared against other park areas that have had grazing removed, we know that this risk will be present for at least the next 20 years. This risk will decrease as trees create canopy closure.

Restricted Activity Process

68. The permission to allow any future grazing will involve a Restricted Activity process set out by Toitū Te Whenua.

69. There are known areas that can be retired immediately that are adjacent to areas already retired or have had low grazing intensity leading to current regeneration. Areas with existing high recreation use will be prioritised to maintain grazing in the short-term due to increase maintenance cost of track mowing and increase fire risk to park users.

70. Further planning is needed to define priority sensitive areas and community input with stakeholders that know the park will be beneficial to planning phase 1 grazing retirement areas.

71. Along with an environmental values assessment of the grazing area being considered and an AEE – Assessment of Environmental Effects – there are two key Toitū Te Whenua policies that will guide future permissions for grazing as restoration progresses. These are noted below.

    - 17P - To phase out livestock grazing unless it can be demonstrated that there are significant net recreation, conservation or community benefits, with full public access maintained.
    - 20P - To avoid and reduce farming infrastructure investment unless there are direct benefits for conservation, recreation or community activities.

72. Toitū Te Whenua, Appendix Three: Restricted activity application guide provides guidance on deciding on permissions for significant restricted activities. All significant restricted activities, of which grazing on Belmont Regional Park will be, involve limited notification of mana whenua and key stakeholders. Applications for restricted activities are to be publicly notified when:

    i) The activity is considered to be high impact on conservation and recreation and low-benefit.

ii) In the opinion of Greater Wellington to be in the public interest.

73. Based on the paragraph above, any future grazing license process would involve notification of mana whenua and "key stakeholders", being those that are engaged in the master planning process. And, provided that any future grazing licence is consistent with Toitū Te Whenua and this restoration strategy (if approved), officers will be enabled to approve future grazing licences without the need to elevate to Council as noted under 72(i) and (ii) in the preceding paragraph.

Nga kōwhiringa
Options

74. All options considered in the Structured Decision-Making process, summarised in Attachment 1, have not been described in this report. Only the preferred recommended option is being put forward for Council approval.

75. Acceleration of grazing retirement and land restoration has not been put forward as a viable option in this report. The recommended restoration strategy is the best option available given existing resources. However, future Annual Plan or Long Term Plan processes will create opportunity for Council to consider applying more resource to restoration at Belmont Regional Park.

76. During the master planning and ongoing implementation of this recommended strategy, officers will keep Council informed of options and restoration methods that may arise over time.

Ngā hua ahumoni
Financial implications

77. The proposed strategy does not have any financial implications as it has been designed within the limitations of existing budgets.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

78. Representatives from both Te Rūnanga o Toa Rangatira and PNBST (represented by members of the Rōpū Tiaki) were fully involved in the Structured Decision-Making workshop and supported the development of the options and the preferred strategy. They have expressed support for the process and ongoing restoration opportunities.

79. It was clear from the feedback of iwi representatives that there is a strong desire for co-governance and a collaborative approach to carrying out the restoration work. There are many opportunities for this through the detailed planning, integration of a Te Ao Māori approach and provision of work for kaimahi teams from both iwi.

Te huritao ki te huringa o te āhuarangi
Consideration of climate change

80. Grazing intensity, or stock units will be reduced to the minimum required for land management, minimising Greater Wellington's emissions resulting with grazing. This reduction will be designed in the assessment of a future grazing licenses beyond January 2026.

81. Climate change mitigation is one of the core drivers of this work and forms a key part of Greater Wellington's approach to meeting our climate change targets of being climate positive from 2044/45 and reducing gross emissions by 84% by 2039/40. Retirement of grazing and minimising stocking rates where grazing remains will reduce Greater Wellington emissions whilst native planting will sequester carbon. These factors were one of the core objectives considered through the Structured Decision-Making process and the preferred strategy balances these objectives against the other factors considered.

82. The Greater Wellington Climate Change Team have been involved in the decision making and are supportive of this approach.

Ngā tikanga whakatau
Decision-making process

83. The matters requiring decision in this report were considered by officers against the decision-making requirements of Part 6 of the Local Government Act 2002.

Te hiranga
Significance

84. Officers considered the significance (as defined by Part 6 of the Local Government Act 2002) of the matters for decision, taking into consideration Council's Significance and Engagement Policy and Greater Wellington's Decision-making Guidelines. Officers consider that the matter is of low significance. This is due to the alignment with existing statutory documents already approved by Council and that this strategy is adding clarity to existing strategic direction in Toitū te Whenua – Parks Network Plan. Financial implications are within existing budgets.

Ngā tūāoma e whai ake nei
Next steps

85. Planning for implementation is the next phase of works required. This will include:

    i) Establishment of partnership and governance structures with mana whenua. Building on the strong relationships at QEP/Whareroa with master planning work with Te Rūnanga o Toa Rangatira, and the existing strong relationship with Rōpū Tiaki-PNBST which already co-govern other regional park areas and are supportive of this strategy.

    ii) Ecological mapping and values assessment of sensitive areas with the 1,065ha grazed area to enable a renewed, but reduced grazing license.

iii) Community engagement – facilitating input from key stakeholders into master planning before wider public consultation.

Ngā āpitihanga
Attachments

Number	Title
1	Structured Decision-Making options summary
2	Technical Restoration Strategy Description

Ngā kaiwaitohu
Signatories

Writers	David Boone, Manager, Ecosystems & Community
Approvers	Jack Mace, Director Delivery Lian Butcher, Group Manager, Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference The Environment Committee has responsibility to consider all matters across the development and implementation of the work programmes of Greater Wellington's Environment Group.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies Development and implementation of a restoration strategy for Belmont Regional Park and related work programmes fall under the core activities of the 2024-34 Long Term Plan and is relevant to ongoing implementation of Toitū te Whenua – Parks Network Plan.
Internal consultation Internal consultation was limited to officers of Greater Wellington's Environment Group.
Risks and impacts - legal / health and safety etc. This report covers the full breadth of work programmes relevant to Belmont Regional Park, and equally a broad range of environmental, reputational, legal, financial and health, safety and wellbeing risks and associated implications.

Attachment 1 to Report 25.140

Structure decision making options summary

Environment Committee
19 June 2025
Report 25.140

BELMONT REGIONAL PARK LONG-TERM RESTORATION STRATEGY

Background

1. Toitū Te Whenua, the parks network plan 2020-2030, approved by Council in 2020, presents a long-term vision and plan for all the Regional Parks with a focus on connectivity and collaboration when caring for the whenua. Focusing on conservation, recreation, community, and climate change, a key aim of the plan is to phase out livestock grazing across parks, prioritising restoration of indigenous forests and natural ecosystems. Key actions include the cessation of grazing in several parks, notably Belmont Regional Park (BRP), where restoration is already underway through the Recloaking Papatūānuku project.

2. In addition, Toitū Te Whenua recommends the completion of spatial planning[1] for each of the parks including BRP. This work requires a collaborative partner approach with mana whenua and is taking place simultaneously with the restoration planning.

3. Challenges such as pest plant growth, access for recreation, unplanned increases in maintenance costs and fire risk management have emerged following de-stocking park land at other park areas such as Queen Elizabeth Park, Western Belmont-Waitangirua, and Baring Head. The license for grazing at BRP's eastern side expires in January 2026, prompting a cautious approach informed by lessons from other parks experiences.

Policy setting of Toitū Te Whenua

4. Toitū Te Whenua sets out strong direction that de-stocking parks and working towards restored natural ecosystems is the long-term priority. However, there are many acknowledgments of where grazing may be necessary in the short-term. Specific, Toitū Te Whenua guidance relating to grazing is noted below.

5. Description of key shifts for all parks (page 13) sets out the long-term direction of restoration and de-stocking: Phasing out most livestock grazing activities to enable a concerted focus on restoring natural values across the park network including wetlands. This is long-term work which will deliver many benefits including reduced carbon emissions (from drained peat wetlands),

[1] In Toitū Te Whenua this is referred to as 'master planning' however in response to concerns raised about the use of this term, it is now referred to as spatial planning or Te mahere.

improved water quality, biodiversity, habitat connections as well as a more natural experience of these places for people.

6. There are multiple references relating to implementation flexibility around park restoration and grazing. Conservation and restoration opportunities and challenges for all parks (page 26): Phasing out stock grazing and non-recreation related horse grazing in parks (except Battle Hill) is proposed unless conservation and recreation benefits can be demonstrated through environmental impact assessment processes. There may be small areas where it is beneficial for the activity to continue, provided impacts can be avoided, minimised or mitigated.

7. The restoration strategy at Belmont is consistent with all park policies noted in 6.2.1 Policies for all parks (page 43):

    a. 13P To apply AEE process to all annual grazing licence plans.

    b. 17P To phase out livestock grazing (except Battle Hill) unless it can be demonstrated that there are significant nett recreation, conservation or community benefits, with full public access maintained. Manage grazing licence activity practices to: a. Protect soil, water and remnant native vegetation through AEE process. Also refer 13P, 20P b. Ensure full public access in grazing licence areas. Refer Rules

    c. 19P To prohibit agricultural grazing related operational activities deemed (through annual grazing licence plan AEE assessment) to be high impact or in sensitive sites

    d. 20P To avoid and reduce farming infrastructure investment (except Battle Hill) unless there are direct benefits for conservation, recreation or community activities:

8. Objective 1 - Support a range of programmes and works to remove or minimise threats to indigenous species and ecosystems for all parks (page 46) includes relevant Action A5 - Develop and implement a planned approach to removing livestock and non-recreation related horse grazing from parks (except Battle Hill) to support conservation and recreation objectives.

9. Section 6.3 Recreation Experience (page 49): In parks where land use changes to focus on recreation and restoration is signalled (instead of stock grazing), the process of more detailed master plan blueprint development is proposed. The master planning process will involve extensive mana whenua, stakeholder and public input and seek to address the inequalities in recreation facility provision identified in initial public consultation and provide detailed guidance for restoration work. Initial parks proposed for master planning are Queen Elizabeth, Belmont and Wainuiomata.

10. From the Belmont-specific section of Toitu te Whenua:

    a. Recreation and Amenity (page 104): Removal of redundant internal park fencing will create an open park landscape as grazing is phased out.

b. Master planning for the park (page 105): With a refocus on conservation and recreation for the park and phasing out of stock grazing, detailed planning work is required to identify and guide changes.

c. A194 (page 112): To improve amenity, as farm stock are removed from the park, remove fences not required for park boundaries, conservation or recreation activities to create an open landscape look and feel. Minimise gate closures and new fencing.

The structured decision making approach

11. Structured Decision Making (SDM) is a deliberate and iterative tool designed for complex decision-making processes, especially when faced with competing considerations and strong values like the withdrawal of grazing at BRP.

12. With concern around the affordability, environmental and recreation challenges anticipated to result from an all-at-once, January 2026, withdrawal of grazing the SDM approach aimed to clarify objectives we hope to achieve in the restoration direction set out in Toitū Te Whenua and identify creative alternatives that describe the best method for long-term restoration of BRP.

13. The SDM framework ensures transparency in decision justification, which is crucial given this is a site that will be under significant public scrutiny. By aligning with the objectives of Toitū Te Whenua and delving into their interconnections, SDM facilitated a collaborative forum in which we assessed trade-offs and uncertainties by bringing together a diverse group of subject matter experts and key stakeholders, thus avoiding individual biases. The goal of the SDM process was to reach a single or set of preferred alternatives that meet our objectives with shared understanding. This will ensure the restoration of BRP as a biodiverse regional park that links strongly to the aspirations of our mana whenua partners, Ngāti Toa and Taranaki Whānui, and supports the recreational needs of the surrounding community.

14. The SDM process consists of seven stages (Figure 1)

    1. Formulating a goal statement that defines the decision context
    2. Articulating the fundamental objectives
    3. Identifying potential management alternatives
    4. Predicting and modelling the consequences of management alternatives
    5. Weighing the trade-offs associated with different management alternatives
    6. Identifying the best management option(s)
    7. Implementing the best management option

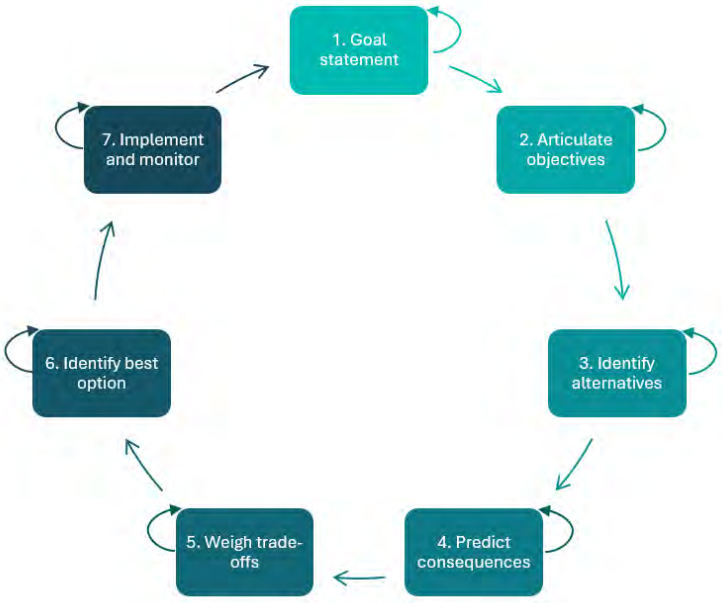

Figure 1: The seven steps in the structured decision-making cycle.

Wānanga

15. Prior to undertaking the SDM process, no agreement on the approach to restoration had been made due to the numerous, and sometimes conflicting values at the heart of restoring parks. In 2023 a Regional Parks Restoration Guide was produced that outlined restoration options for all Greater Wellington managed regional park land[2].

16. The Parks Restoration Guide contains a comprehensive geospatial overview, identifying relative management units present across BRP, with the habitat classification of each section to inform planting/restoration species selection and potential land management approaches. However, whilst this document is informative, it only focused on the ecology of BRP and not the full suite of considerations relating to de-stocking such as carbon emissions/sequestration opportunity or fire risk management. It was not created in partnership with Taranaki Whānui and Ngāti Toa to incorporate iwi aspirations for BRP and does not consider the broader spectrum of alternative management approaches that aligned to Toitū Te Whenua.

17. Expert SDM and facilitation specialists led a series of wānanga with a rōpū of subject matter experts (SMEs) representing each of the values and considerations for BRP restoration (listed in Table 1). Two in-person wānanga were held – a two-day wānanga in September 2024 and a one-day wānanga in February 2025.

[2] He Aratohu Whakahauman Papa | Regional Parks Restoration Guide

Table 1: SDM wānanga attendees including their SME contribution.

SME specialty area	Subject matter expert	Organisation
Biodiversity monitoring	Katrina Smith / Rob Masters	GWRC
Climate change	Jake Roos	GWRC
Environmental restoration	Jamie Peryer	GWRC
Farm management	Fergus Rutherford	Baker Ag
Fire risk	Tony Teeling	Integrated Consultancy Ltd
Ngāti Toa interests	Luke Barnsley	Te Rūnanga o Ngāti Toa Rangatira
Organisational strategy - ecosystems	Henk Louw	GWRC
Parks maintenance	Joel Revill	GWRC
Pest animal control	Reuben Harland	GWRC
Pest plant control	Katrina Merrifield	GWRC
Planting operations	Andrew Daly	GWRC
Recreation and accommodation in BRP	Jeremy Paterson	GWRC
Restoration project management	Kellie Benner/ Janet Lawson	GWRC
Taranaki Whānui interests	Lee Hunter/ Gary Sue	Rōpū Tiaki/ Hem of Remutaka
Hutt City Council interests	*HCC declined requests for their participation.*	HCC

Community consultation following SDM

18. The facilitators and working group made a deliberate choice not to include Council representatives or community group leaders to participate in the SDM process. The purpose of the SDM was to create, define and describe the best methods for implementation of the long-term restoration goals of BRP as set out in Toitū Te Whenua. The SDM process focussed on information gathering and comparing. It served to increase understanding of technical issues and how they inter-relate. As such it allows officers to develop this understanding and information, allowing them to be in a strong position to respond to community aspirations and questions when needed.

19. It was felt that many community interests were specific to either recreational interests or to planting and restoration. It is difficult to find a single SME to represent the diverse and specific viewpoints and without bringing heavy bias into the process. As such, recreational interests were measured as an opportunity to be maximised. Through the many processes happening on the park, such as spatial planning, and detailed restoration planning there will be opportunities for engagement and consultation over the next few years.

SDM goal statement

20. The SDM goal statement was initially drafted by the facilitators based on responses gathered through an online questionnaire that was sent to all participants prior to the first wānanga in September. This questionnaire asked participants their views on the restoration goals and constraints as well as timing, scale and ownership of the decision. The form asked them to articulate their objectives for BRP restoration to assess their value systems and what they wanted to avoid in this decision-making process.

21. Participants then edited the goal statement during the wānanga to ensure that it was fit for purpose. The initial edits were completed in a dedicated session on the first day, with further critical edits being made at the start of the second day. The resulting, collaborative SDM goal statement is as follows:

> *Belmont Regional Park (3292 ha) occupies many of the steep hills and valleys between Porirua and Hutt Valley. It sits within the takiwā of Taranaki Whānui and Ngāti Toa and is administered by the Greater Wellington Regional Council. The park comprises a mosaic of remnant, regenerating, and replanted indigenous vegetation and wetlands, alongside licenced grazing land (c. 1065 ha), some exotic plantings, and with sites of cultural and historical importance scattered throughout. Critically, Belmont Regional Park is an important community asset for recreational activities.*
>
> *The current licence for grazing lands within the park ends in January 2026. There is a Council commitment, expressed through Toitū Te Whenua, to end all grazing and restore the park to a state where indigenous species and ecosystems are dominant. This will contribute to meeting Greater Wellington Regional Council's organisational Emissions Management and Reduction plan and achieve Whaitua water quality objectives. This demonstrates leadership in sustainable, environmentally ethical land use that prioritises biodiversity, cultural and recreational values.*
>
> *However, current replanting at Belmont Regional Park is limited to 80-100 ha per year. Whilst budgets are limited there is greater opportunity for restoration through alternative methods, including natural regeneration.*
>
> *Wildfire is a risk to the park, its users and surrounding properties. Planted and retired grazing land will increase this hazard and the damage potential until new broadleaf forest has been established (20-40 years). Additional risks to ecosystem function include inundation of plant and animal pests.*
>
> *The decision that needs to be made is how to restore Belmont Regional Park to indigenous species and ecosystem dominance while managing these risks and maintaining cultural and recreational access. The decision makers are Taranaki Whānui, Ngāti Toa, Greater Wellington Regional Council and Hutt City Council, with input from community stakeholders, Porirua City Council, Transpower, First Gas and the Department of Conservation. They consider it imperative that a plan is in place as soon as possible.*

Objectives

22. In a session following the goal statement review on day one of the September wānanga each participant was asked to write down their aspirations and concerns (values) for the withdrawal of grazing from and restoration of BRP. These were sorted by the facilitators into a series of themes linked to fundamental objectives, those that reflected separate core end goals, and means objectives, those that supported the achievement of the fundamental objectives.

23. A final set of fundamental objectives were agreed on as a rōpū, along with one or more performance measures that could be used as a metric by which to compare the expected outcomes of the generated alternatives (Table 2). Where appropriate, these performance measures would be presented as cumulative over a 10-year period.

24. Co-governance structures between Greater Wellington, Ngāti Toa and Taranaki Whānaui at both the planning and delivery phases of the restoration were seen to be a necessity by all participants and it was agreed by iwi that there was no specific performance measure for this objective.

25. **Table 2** shows the six fundamental objectives and associated performance measures for planning the withdrawal of grazing from and restoration of Belmont Regional Park. Performance measures that are cumulative over 10 years are indicated with an *.

Table 2: BRP restoration objectives and associated performance measures

Fundamental objective	Performance measure
Minimise cost	$$$*
Maximise indigenous biodiversity	Number of Ha of representative ecosystems by 2050
Maximise recreational opportunities	Number of park visitors* Area available for recreation per annum Number of days per annum the park can be accessed Number of hours spent on community activities*
Maximise response to the climate emergency	Tonnes of carbon sequestered by 2050 Total grazing emissions*
Minimize fire risk	Probability of ignitions occurring Probability of ignitions becoming a fire that spreads within and near the park (~2km)
Co-governance structures are in place with Taranaki Whānui and Ngāti Toa	

Alternative management strategies

26. Once the fundamental objectives had been established, the rōpū identified different management actions that could be applied within BRP with the withdrawal of grazing. The 28 different actions that were brainstormed, along with nine possible restoration alternatives for the whenua formed by the full rōpū, were then debated by participants. These were refined to 13 actions, which could be aligned to different restoration approaches. The different restoration approaches were identified (see paragraph 27) and later refined to six clear strategies.

Restoration alternative assumptions

27. A status quo option would ordinarily always be considered as an alternative during an SDM process. However, in this instance, the current approach to restoration of BRP has been ad hoc as paddocks have become available for planting but aligns broadly to a staged restoration approach of approximately 50ha per year. Therefore, instead of defining a status quo alternative where there has been little forward planning, the rōpū agreed to consider a more staged structured approach at 50 and 100ha per year restoration rates.

28. The agreed restoration alternatives were:

    a. Staged Restoration (full planting) at 50ha per year

    b. Staged Restoration (full planting) at 100ha per year

    c. All at once, (full planting) with external funding

    d. Staged restoration (full planting) at 100ha per year with 10% under an exotic nurse crop

    e. Staged restoration (patch planting) at 100ha per year

    f. All at once natural regeneration (no planting)

    g. All at once (full planting) with internal funding

    h. Staged restoration (patch planting) at 100ha per year, Taranaki Whanui and Ngāti Toa lead

29. Assumptions 1-4 below were applicable to **all** restoration alternatives.

    1. Open hilltops would be retained under all scenarios. The tops would serve as both a fire break and open area for recreation, as well as mitigate the challenges faced in trying to replant such highly exposed terrain.

    2. After some discussion it was determined that an experimental approach to planting could be explored under all scenarios, with paddocks treated differently to determine best restoration approaches. For example, broadcast seeding could be trialled against natural regeneration and patch planting to assess which approach achieves the most diverse establishment of

native trees over time. These techniques may have different access needs for the restoration team.

3. The stocking rate would be greatly reduced in Year 1 of restoration regardless of scenario, and that the appropriate stock rate would be based on the fire risk threshold. Dry stock would be run to avoid partial park closures due to lambing (42 days per year).

4. All scenarios could include opportunities for joint ventures such as wind farming or mānuka honey production.

30. Assumptions below were specific to particular restoration alternatives.

a) **Options c and g - Full native planting** – all at once (whether externally or internally funded) planting where all appropriate areas of the park are planted with native species over one to two years. Stock are removed immediately.

b) **Options a and b -Staged removal of grazing and full planting** – approximately 50 or 100 ha/per year planting programme based on the existing fencing/paddock layout, de-stocking paddock areas one by one that align to the programme's capacity to deliver. This alternative would assume that no new fencing is required. Pest plant and animal control would be gradually intensified over time to coincide with newly released paddocks or those that have been planted.

c) **Option d - Exotic nurse crop and sequestration** – mimics the staged approach at approximately 100 ha/pa, but with a stand of exotics planted over approximately 100ha for fast carbon sequestration purposes or for commercial gain. The commercial gain model could help to fund the rest of the restoration work.

d) **Option e - Staged patch planting** – targeting selected areas of high biodiversity value as well as those that are of significance to Taranaki Whānui and Ngāti Toa for cultural reasons or mahinga kai. These targeted areas are fenced and prioritised for restoration with planting covering approximately 20% of the available area. Retirement would be at a rate of 100 ha per year, with further restoration through natural regeneration. Slowly reducing the grazing pressure on the whenua mitigates the fire risk through full stock removal.

e) **Option f - Full natural regeneration** – no active establishment planting takes place across most of the park. Some planting is required in those areas without natural seed banks, some enrichment planting is required, and all stock are removed immediately.

f) **Option h - Taranaki Whānui/Ngāti Toa led** – follows a similar approach to the staged patch planting, with a focus on passive regeneration. Planning the restoration centres around māramataka to maximise optimal growth and survival conditions. Stock is removed as quickly as possible.

Data collection and revisions to performance measures

31. Following the first wānanga, expert advice was gathered to model what the retirement of the whenua would look like under each of the discussed restoration alternatives. These models informed the calculation from each SME in terms of area available for planting, pest control, recreation and carbon sequestration/emission annually. Some of these value estimates were cumulative over 10 years (such as the operational costs associated with track maintenance, pest control and planting, the net profit of accommodation options and the predicted grazing emissions), and others were a total estimate (such as removal of existing infrastructure and the tonnes of carbon sequestered).

32. During the data collection process, it became apparent that the term "representative ecosystem" was ambiguous due to the successive nature of restorative planting and the inability to know exactly what ecosystem existed at the site prior to colonisation, deforestation and farming. Instead, these measures were replaced with the likelihood of achieving full indigenous canopy cover by 2050 and 2100.

Performance measure outcomes

33. These data were then collated against each alternative to populate the consequence table for discussion at the second wānanga (See table 4). This table allows us to see how each of the restoration alternatives performs against the identified objectives (i.e. the consequences of that alternative) and undertake a comparative analysis – for example one alternative may be very cost effective, but have a higher fire risk or low carbon sequestration.

34. The restoration alternatives were predicted to perform differently in relation to the various objectives.

    1. Cost effectiveness was best met by alternatives f -"All at once natural regeneration" and c - "externally funded all at once" as this either removed planting, the costliest element or sourced funding from alternative sources.
    2. All management alternatives would result in the full restoration of BRP, but option a - "50ha per year staged restoration" approach would take 17 years to achieve, impacting on both the total cost of restoration and the carbon sequestration/emission targets.
    3. Option f -"All at once natural regeneration" was the only alternative that was likely to not achieve full indigenous vegetation canopy cover by 2100.
    4. Due to the retention of grazing for an extended period to reduce the growth of rank grass, option a - "50ha per year staged restoration" approach was predicted to result in the fewest days of park closures when considering fire. This alternative therefore also had the lowest consequence level in the event of a fire establishing in BRP.
    5. Options c, f and g -The three "all at once" restoration alternatives achieved the highest cumulative volume of park visits over 10 years and also performed best in the minimisation of total grazing emissions. All of these scenarios stipulated that grazing would be withdrawn immediately, allowing full use of the park for recreation purposes.
    6. Option d - "exotic nurse crop" alternative performed best in maximising carbon sequestration.

7. The probability of ignitions becoming a fire was predicted to be almost certain under all restoration scenarios.
8. Co-governance structures with Taranaki Whānui and Ngāti Toa were agreed to be in place across all alternatives, with no specified performance measure.

Consequence table

35. During the second wānanga the rōpū used the consequence table (Table 4) to examine the trade-offs between minimising cost, maximising indigenous biodiversity, maximising recreational opportunities, maximising the response to the climate emergency and minimising fire risk.

36. There was extensive discussion on the restoration strategies and their performance under each objective. As a result some objectives were altered and some strategies were refined or removed.

37. The performance measure for maximising indigenous biodiversity was debated extensively. The rōpū determined that whether full canopy cover would be achieved was not in question, but instead it was more valuable to know what the estimated number of years to achieve full canopy cover (and thus able to support a mature ecosystem) would be under each alternative. This could be estimated easily during the session, with the table populated accordingly, and all further decision-making was made using this biodiversity measure instead.

38. The next step in the process involved simplifying the consequence table in a rational manner, accounting for uncertainty, facilitating deliberation and identifying the best options for the restoration of BRP as follows:

    1. Participants voted anonymously on the restoration alternatives that were unacceptable to them and their single preferred management alternative. No alternatives were deemed to be unacceptable at this stage of the process.

    2. Participants then examined the consequence table for alternatives that were outperformed across all objectives by other alternatives. None met the criteria.

    3. The rōpū agreed that option h - “Taranaki Whānui and Ngāti Toa led” alternative aligned strongly to option e - “Staged/patch and natural regeneration” alternative in terms of expectations and performance measures. These were merged and became “staged/patch”. It was agreed that all alternatives could be iwi-led and include mātauranga Māori approaches to restoration so this could be removed.

    4. It was further agreed that an exotic nurse crop planted over 10% of the available land could be a viable management strategy to achieve fast carbon sequestration under any of the specified alternatives. This alternative was otherwise closely aligned to the “Staged restoration 100ha/year” approach and was removed.

    5. Once the consequence table had been simplified, the rōpū anonymously ranked the remaining alternatives from their most preferred to their least preferred management option

(1=most preferred, 6=least preferred). The ranks were then summed for each alternative, with the most preferred alternative receiving the lowest score and the least preferred the highest score.

6. Once ranking was completed, it was clear that three of the restoration alternatives were preferred by the rōpū. These were option h –"staged/patch", option b -"Staged restoration 100ha/year" and option c -"All at once planted – internal" (See Table 5).

39. **Table 3** below shows the consequence table for the restoration of Belmont Regional Park. The best performing figures against each measure are highlighted in green, whilst the poorest performing are highlighted in red. Those that are greyed out have been removed from the analysis. Three measures were removed as they were performing uniformly, whilst two restoration alternatives were incorporated into other options.

40. **Table 4** below shows anonymised individual rankings of preferred restoration alternatives for Belmont Regional Park, listed from the most preferred (staged/patch, total score = 22) to least preferred (All at once natural regeneration, total score = 62).

Table 3: Consequence table for the restoration options at Belmont Regional Park. (see paragraph 39 for legend and explanation)

Objective	Measure	a	b	c	d	e	f	g	h
		Staged restoration 50Ha/year	Staged restoration 100Ha/year	All at once - externally funded	*Stage 100Ha* + Exotic nurse crop	Staged/patch + natural regeneration	All at once natural regeneration	All at once planted - internal	Taranaki Whānui + Ngāti Toa led *staged/patch*
Minimise cost	$$$ *	$25 - 30 million	$25 - 30 million	< $5 million	$25 - 30 million	$5 - 10 million	< $5 million	$20 - 25 million	$5 - 10 million
Maximise Ha restored	Ha	830	1,186	1,186	1,186	1,186	1,186	1,186	1,186
Maximise indigenous biodiversity	*Number of years to achieve full canopy cover*	*45*	*35*	*25*	*40*	*65*	*125+*	*25*	65
	Likelihood of achieving full indigenous vegetation canopy cover by 2100 (%)	100	100	100	100	100	75	100	100
Maximise recreational opportunities	number of days per annum the park is closed	-	13	26	13	*13*	26	26	13
	Number of park visits	9,256,368	9,339,531	9,486,240	9,361,371	9,339,531	9,486,240	9,486,240	9,486,240
Maximise response to the climate emergency	tonnes of carbon sequestered	15,660	18,399	23,344	44,259	*11,316*	10,525	23,344	11,316
	total grazing emissions (tCO2e) *	19,826	14,618	4,919	13,251	14,618	4,919	4,919	14,618
Minimize fire risk	Consequence of fire	Minor	Minor/ Moderate	Major	Minor/ Moderate	*Minor/ Moderate*	Major	Major	Minor/ Moderate
	Probability of ignitions becoming a fire	Almost certain	Almost certain	Almost certain	Almost certain	Almost certain	Almost certain	Almost certain	Almost certain

Table 4: Ranking of alternative options (see paragraph 40 for explanation)

Alternative	1	2	3	4	5	6	7	8	9	10	11	Rank
staged/patch	2	1	3	3	1	4	1	2	1	2	2	22
Staged restoration 100Ha/year	3	3	1	1	2	2	2	3	4	1	3	25
All at once planted - internal	4	2	2	5	4	1	3	1	2	3	1	28
Staged restoration 50Ha/year	5	4	4	2	5	3	4	5	5	5	4	46
All at once - externally funded	1	6	5	4	3	5	6	4	3	6	5	48
All at once natural regeneration	6	5	6	6	6	6	5	6	6	4	6	62

Decision outcomes

41. The rōpū agreed that all three preferred alternatives should be considered for implementation and that no further ranking or weighting exercises were required.

42. Of the three preferred alternatives, it is clear that only one of these is affordable under the current funding regime. This is option e- staged restoration (patch planting) at 100ha per year.

Other considerations

Revenue opportunities

43. After the first wānanga Baker Ag was commissioned to provide insight into the potential financial gains from wind and mānuka honey farming, and these commercial joint venture options were debated by the rōpū as considerations during the decision-making process. They were not considered as a part of any of the individual restoration alternatives, but the financial gains were seen to be a strong influence of which of the preferred options was taken forward into the Te Mahere process.

44. Wind farms were rejected as an option for revenue opportunity in all options. There would need to be a process of changing the reserves status of areas of the park and there is no intent at this stage to undertake such work.

45. The mānuka honey farming model would require Greater Wellington as landowners to grant an interest to the honey company for a set term of 15 years, with Greater Wellington receiving a 50% profit share of the honey revenue as well as 60% of the NZUs gained from planting. All costs of establishing the mānuka forest, as well as pest control and plant maintenance, would be met by

the honey company and plants would take four years to reach the maturity required for honey production. If the full 1065ha were given to honey production, this would provide Greater Wellington with approximately $370,000 annually from Year 8 onwards. This option would allow for recreation but would prevent any further native restoration of BRP for the duration of the contract. This could allow for internal resources to be focused on other park restoration projects and generate passive income during the Te Mahere process.

The economic tipping point for a commercial grazing licence

46. The current grazing licence that is due to expire in January 2026 is at a fee of $80,000 plus GST, which is concessional and below market rates. The current 1065ha provides a medium to large scale opportunity for a commercial farmer and is large enough to support a business. However, as land parcels are withdrawn for restoration in any of the staged alternatives, the land becomes less viable to sustain a business and would reach a tipping point at which commercial grazing is no longer an option if Greater Wellington requires the licence holder to pay a fee. At current farming rates, a single operator would require a minimum of around 400ha as a grazing licence to ensure economic viability. Should Greater Wellington waive the licence fee as a means of ensuring continued grazing for land management purposes whilst restoration is staged, it is likely that a single operator would still be interested in the land to a minimum of approximately 100ha of available grazing.

Next steps

47. With the SDM work complete and the outline of a BRP restoration strategy defined across the implementation features of the preferred alternatives noted above, detailed planning work is required with Spatial Plans, Restoration Planning, and specific grazing license planning.

48. Utilising grazing as a land management tool is a key element of all preferred restoration alternatives. As grazing is a restricted activity under Toitū Te Whenua, this will require the preparation of an Assessment of Environmental Effects (AEE).

Consultation

49. Detailed mapping of areas of significance for our iwi partners, wetlands, fencing and infrastructure will be required to identify our priority areas for protection and to determine the appropriate management units for staged restoration. Additionally, time should be taken to develop the partnership approach and decision-making structures alongside Taranaki Whānui and Ngāti Toa before work begins, to enable a smooth and well-managed restoration.

50. Once the details of where and how grazing will be reduced in the short-term, 2-5 years of restoration implementation, the preparation of an AEE will determine the type of consultation necessary in the process of deciding on a short-term grazing license.

51. Toitu Te Whenua, Appendix Three: Restricted activity application guide (page 216) provides guidance on deciding on permissions for significant restricted activities. All significant restricted

activities, of which grazing on BRP will be one, involve limited notification of mana whenua and key stakeholders. Applications for restricted activities will be publicly notified when:

a) The term sought exceeds 10 years

b) The activity occurs on land held under the Reserves Act or Conservation Act and public notification is required under those Acts. Where it falls under Section 138 of the Local Government Act 2002.

c) The activity is considered to be high impact on conservation and recreation and low-benefit.

d) In the opinion of Greater Wellington to be in the public interest.

e) Requests for easements are considered moderate-high impact.

It is expected that Council input will be involved in the interpretation of consultation requirements noted in (a)-(e) above.

52. The completion of park spatial plans (referred to as Master Plans in Toitū Te Whenua) will involve public consultation. Depending on the clarity of overlapping detail in a park spatial plan and where restoration activities will involve grazing, this will become relevant to the degree of consultation required to issue grazing licenses for restoration planning that may have already been consulted upon with a spatial planning process.

Attachment 2 to Report 25.140

Greater Wellington
Te Pane Matua Taiao

Technical Restoration Strategy Description

Environment Committee
19 June 2025
Report 25.140

BELMONT REGIONAL PARK LONG-TERM RESTORATION STRATEGY

It is anticipated that the technical restoration methods described below will be supplemented by mana whenua, mātauranga and community input.

This summary outlines technical methods for the staged removal of grazing over an approx. 10-year period, modelled on retiring approx. 100ha per year, 20 percent of which would be planted to bush blocks, with the remaining 80 percent of the area left unplanted to regenerate naturally.

The use of a natural regeneration pathways allowing indigenous ecosystems to succeed though a gorse phase is a technique that has been shown to work in places in New Zealand (e.g. Hinewai). This can over time lead to dense, biodiversity rich forest ecosystems. It has not however been demonstrated if this approach is best suited to Belmont Regional Park (BRP) in its entirety. While it is likely that some areas would benefit from this approach, there are questions surrounding which areas would best respond, and if this would be appropriate for 80 percent of land area as proposed.

Under this model, we expect to see indigenous bush patches being established which, if planted with appropriate indigenous species, will attract fruit dispersing birds to facilitate a succession of indigenous plants in the bush clumps.

In the 80 percent of the area outside of the bush patches that is left to naturally regenerate, we expect to see a slow progression initiated by the invasion of exotic shrubs, predominantly gorse.

Based on vegetation monitoring plots established in pasture left to naturally regenerate at the Parangarahu Lakes Block in East Harbour Regional Park, we expect this “gorse phase” to persist for around 30 years before the initial invasion of exotic shrubs grow out and begin to create light-gaps for indigenous plants to begin to establish.

Exotic shrubs will dominate for at least 20-30 years in areas best suited to this approach, this being areas where shelter, organic soils, available moisture and readily available indigenous seed source are present. After this we expect to see indigenous species begin to overtop the exotic canopy. In areas not suited to this approach, where soils are thin, rocky, dry, and sites are exposed, we expect the exotic scrub phase to last much longer, up to 50-100 years. Only at this point will the vegetation begin to reach the target of 30 percent of the canopy over five meters tall to qualify for carbon credits.

The natural regeneration pathway is best suited in areas of BRP where the presence of environmental weeds is low, and there is a readily available indigenous seed source and adequate soil moisture (e.g., pasture dominated gulley heads with adjacent regenerating indigenous forest). Environmental weeds such as Darwin’s barberry, blackberry, wild cherry and

others will also readily establish in gorse and outcompete indigenous plant species in the establishment phase.

During the “gorse phase” the 80 percent of the area left to regenerate naturally will contribute little to the representation of indigenous biodiversity. Providing a source of invasive exotic plants that will be hard to control amongst the gorse (e.g., wilding pines) and pest plant control will be necessary to manage these.

The bush patches are expected to achieve the target 30 percent of the canopy over five meters tall in 20-50 years, but they will need to be larger than one hectare, with a minimum width of 30 metres to qualify for carbon credits.

To ensure the bush patches achieve these minimum standards to qualify for carbon credits, optimise the ecological requirements for restoration (e.g. are located as stepping stones between existing seed sources), and support the management objectives for the park (e.g. soil retention), it is proposed to undertake a spatially supported planning approach. This would identify opportunities to achieve park objectives and ensure ecological requirements are optimised and carbon credit requirements met.

This planning approach would also allow us to test whether the proposed restoration approach is likely to be achievable in practice and to plan adjustments to allow for future infrastructure and recreational use. The following criteria (but not limited to) could incorporated into the planning process:

- Targeting grazed areas where natural generation may be limited (e.g., poor soils, exposed faces, large distance from natural seed source).
- Presence and location of existing environmental weeds
- Opportunities for enhancing ecological services (ie, sediment reduction, slope stability).
- Opportunities for creating ecological stepping stones and habitat provision
- Amenity or cultural requirements
- Fire risk - minimising through green fire breaks

Additionally, this approach allows for inclusion of mātauranga, community knowledge and other factors to be considered in the process, enabling a more robust plan that can be adapted as work progresses, and known risk can be understood.

Environment Committee
19 June 2025
Report 25.270

For Decision

PINEHAVEN FLOODPLAIN MANAGEMENT PLAN STRUCTURAL WORKS IMPLEMENTATION - REVIEW

Te take mō te pūrongo
Purpose

1. To update the Environment Committee on the Pinehaven Floodplain Management Plan (FMP) structural works implementation and the recommendation of the Te Awa Kairangi Hutt River Valley Subcommittee (the Subcommittee).

He tūtohu
Recommendations

That the Committee:

1 **Recommends** that Council agrees the construction of Stages 3-5 of the Pinehaven FMP structural works remain on hold.

2 **Recommends** that Council requests officers to develop, over the next 12 months, alternative options for Stages 3, 4, and 5 of the Pinehaven FMP structural works, and report to Council and its relevant committees on the options.

Consideration by Committee

2. The Subcommittee at their 13 May 2025 meeting discussed Report 25.186, *"Pinehaven Floodplain Management Plan Structural Works Implementation – Review"*, and specifically noted the cost increase from a total of $10.9 million to an estimated $58.6 million. Affordability and return on investment for Upper Hutt City Council (UHCC) and Greater Wellington Regional Council (Greater Wellington) ratepayers was a consideration for the Subcommittee recommendation up to the Environment Committee. The Subcommittee has requested an update on the alternative option development at their meeting on 5 August 2025.

Te tāhū kōrero
Background

3. In 2017, Greater Wellington and UHCC agreed to work together to implement the Pinehaven FMP, with costs to be shared 50% to UHCC and 50% to Greater Wellington agreed in a Memorandum of Understanding (MoU).

4. The Pinehaven Stream has a long history of regular flooding, with the largest flood occurring in 1976. Streets and properties alongside the stream have since been flooded in 2004, 2005 and 2009 and 2019. Greater Wellington and UHCC have partnered to address the risk of flooding. Led by Greater Wellington, the Pinehaven FMP project has two primary objectives:

    a Provide in-channel capacity to accommodate a 1-in-25-year return period flood event (4% Annual Exceedance Probably (AEP)); and

    b b Protect habitable homes within the catchment from flooding up to a 1-in-100-year (1% AEP) return period event.

5. Implementation of the Pinehaven FMP is being led by UHCC as they will own and maintain the assets upon completion of the works as outlined in the MoU. UHCC appointed Wellington Water Limited (WWL) as its agent to undertake the implementation of the structural measures on behalf of both Councils.

6. The works area extends over a length of approximately 1,200m in the lower catchment of the Pinehaven Stream, extending from the Pinehaven Reserve to the inlet where the Pinehaven Stream is piped to Hulls Creek.

7. In addition to the project's primary objectives, the works are designed to reduce risk of injury or harm from flood flows, integrate overland flow paths into the stormwater network, and enable efficient and effective construction and ongoing maintenance of the structures.

8. The structural works are to be completed in five phases shown in Figure 1; Phases 1 and 2 are complete:

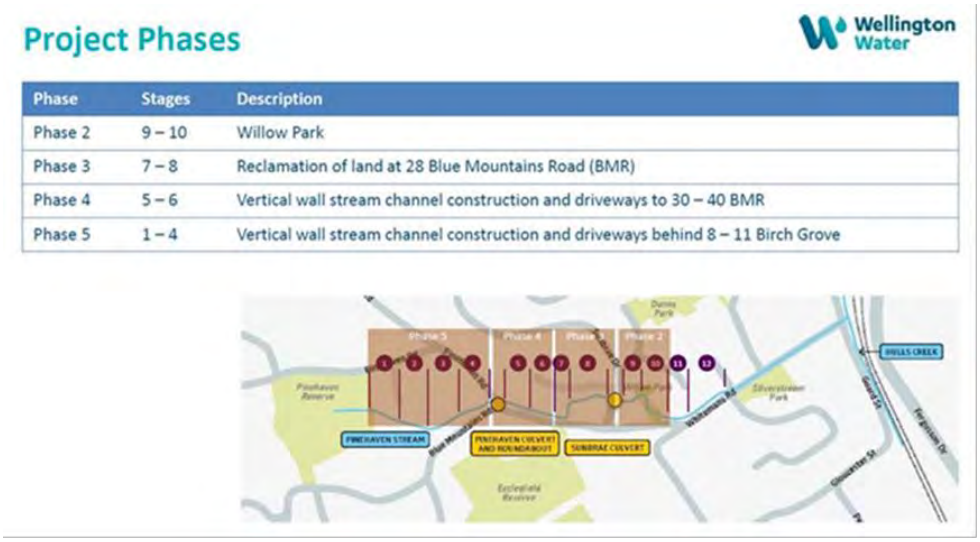

Figure 1: Phase location plan.

9. A workshop was held with the Subcommittee on 11 February 2025 for the purpose of explaining why the construction of the structural works for the Pinehaven FMP was on hold and to propose an alternative way of achieving the FMP outcomes.

10. In summary, the structural works are on hold due to the significant cost escalation and these costs are discussed in the Financial Implications section of this report.

11. The remaining works in Stages 3, 4 and 5 are largely on private property and include several private driveway bridges as well as lengths of concrete walled channel.

12. An alternative option involving a more natural channel form with fewer structures could offer a viable alternative to what is currently proposed, and this is being explored.

Te tātaritanga
Analysis

13. As delivery of the works evolved from the concept design conceived in the FMP, significant cost escalations have occurred. This is due to increasing scope and complexity as detailed design was completed and the full scale of the works became apparent, as well as construction costs generally increasing over this period.

14. Notwithstanding the above, Stages 1 and 2 of the project have been completed for a cost of $22.5 million. These stages included work on the main public infrastructure including the Sunbrae and Pinehaven Road culvert crossings as well as a channel upgrade through Willow Park.

15. The more detailed modelling completed as part of the structural works design identified 70 buildings at risk of inundation in a 1% annual exceedance probability (AEP) plus climate change flood event. This was significantly greater than the 33 buildings identified as being at risk in the FMP.

16. The completed Stage 1 and 2 works have reduced the flood risk to 13 buildings with 57 remaining at risk. The works currently proposed for Stages 3, 4 and 5 reduce the flood risk to a further 28 buildings taking the total number of buildings relieved of flood hazard in the modelled 1% AEP plus climate change flood event to 41 buildings.

17. At the completion of the currently proposed FMP structural works, 29 buildings will remain at risk of inundation in the 1% AEP plus climate change flood event.

18. In August 2024, WWL were instructed to pause any further construction work on Stages 3, 4 and 5 in light of the significant cost increases and the Subcommittee requested a review of the project.

19. This review identified the following:

    a Costs have increased from $10.9 million when the Pinehaven FMP was developed to $58.6 million.

    b Remaining work for Stages 3 to 5 of the project is estimated to cost $36.1 million.

    c Benefits after completion of Stage 2 are that 13 habitable floors are relieved from flooding from a modelled 1% AEP plus climate change flood event.

    d It is an opportune time to take stock of the benefits achieved from the first two stages, document the learnings from the work to date, and consider more cost-effective delivery options for Stages 3 to 5 that still meet the objectives of the FMP.

e Consideration is needed of options for future stages and how they will be funded including longer term maintenance.

f A review of governance and project management arrangements is required.

g Consideration should be given to asset ownership and maintenance, including responsibilities for river management.

h Project timescales need to be revised.

20. Following on from this review, the Pinehaven Steering Group (comprised of senior officers from the respective councils) considered that the structural works proposed in the FMP be re-evaluated and alternative, more cost-effective options be developed.

Nga kōwhiringa
Options

21. Three options are to be analysed so that an informed decision can be made as to the scope of the remaining FMP structural works:

a Option 1 – Proceed with works as currently proposed

b Option 2 – More naturalised channel enlargement with minimal structures

c Option 3 – Do no further structural works but enhance maintenance and emergency management provisions to manage flood risk.

22. To enable these options to be evaluated, modelling and design work is required to develop realistic cost estimates. This would then be used as the basis for a cost benefit analysis to help inform which option provides the best overall outcome.

Ngā hua ahumoni
Financial implications

23. The FMP was originally forecast to cost $10.9 million. In 2017 this estimate was revised to $18.2 million and work started on Stage 1. In 2020, the cost increased to an estimated range of $37 million to $45 million. The current estimate to complete is $58.6 million total. $22.5 million has been spent to date leaving $36.1 million remaining to be spent.

24. Greater Wellington has allocated approximately $18 million in their 2024-2027 Long Term Plan.

25. Upper Hutt City Council has a total capital budget of $6.53 million in their 2024-2027 Long Term Plan. This amount represents the total cost, with 50% of the revenue budget expected to come from Greater Wellington. Consequently, the net budget amounts to $3.27 million. Assuming a 50:50 cost share, this leaves a shortfall of $14.83 million.

26. The recommended option will require some expenditure to undertake redesign work but is expected to reduce overall project costs, realising savings back to both councils.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

27. The more naturalised option (Option 2) would generally be considered to be more aligned with the principles of Te Mana o Te Wai, and would also be positive for Māori that live in any of the houses that are to benefit in terms of a reduced flood hazard.

Te huritao ki te huringa o te āhuarangi
Consideration of climate change

28. Matters discussed in the report are considered in accordance with the process set out in Greater Wellington's Climate Change Consideration Guide.

Ngā tikanga whakatau
Decision-making process

29. The matters requiring decision in this report have been considered by officers against the requirements of Part 6 of the Local Government Act 2002.

Te hiranga
Significance

30. Officers considered the significance (as defined by Part 6 of the Local Government Act 2002) of this matter, taking into account Council's *Significance and Engagement Policy* and Greater Wellington's *Decision-making Guidelines*. Officers recommend that this matter is of low significance.

Te whakatūtakitaki
Engagement

31. The Pinehaven community shall be informed that the structural works are on hold for at least the next 12 months while alternative options are being considered. A communications plan is being developed by the Pinehaven Steering Group and is to be led by Upper Hutt City Council.

Ngā tūāoma e whai ake nei
Next steps

32. Modelling and design of alternative options over the next six months followed by cost benefit analysis and reporting to present a business case for the preferred option.

Ngā kaiwaitohu
Signatories

Writers	Tina Love – Team Leader Infrastructure Projects
Approvers	Jack Mace – Director Delivery

	Lian Butcher – Group Manager Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference Management of flood risk and provision of flood risk infrastructure are fundamental responsibilities of both Greater Wellington and UHCC.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies Management of flood risk and provision of flood risk infrastructure are fundamental responsibilities of both Greater Wellington and UHCC.
Internal consultation Pinehaven Steering Group membership provides internal representation. Internal consultation has also been undertaken with the Knowledge and Insights Function of the Environment Group.
Risks and impacts - legal / health and safety etc. The risk of investing too much in a structural works that benefit relatively few properties is considered greater than the risk of delaying structural flood risk improvements to Pinehaven Stream.

Environment Committee
19 June 2025
Report 25.248

For Decision

WAIPOUA RIVER, MANGATĀRERE STREAM AND WAIWHETŪ STREAM FLOOD HAZARD MAPS

Te take mō te pūrongo
Purpose

1. To advise the Committee of the final Waipoua River, Mangatārere Stream and Waiwhetū Stream flood hazard maps.

He tūtohu
Recommendations

That the Committee:

1 **Notes** that the flood hazard maps have been developed in accordance with Greater Wellington's Flood Hazard Modelling Standard.

2 **Endorses** the Waipoua River, Mangatārere Stream and Waiwhetū Stream flood hazard maps.

Te horopaki
Context

2. Flooding is a significant hazard in the Wellington Region that poses a risk to both life and property. Flooding is commonly experienced from three main sources: rivers, coastal inundation, and stormwater flooding.

3. Updating the flood risk modelling for these watercourses is key for understanding the probability and likely extent of flooding for the current and predicted future climate. This information can then be used to understand the issues from flooding that need to be managed.

Greater Wellington Regional Council's Flood Hazard Modelling Standard

4. Flood hazard modelling is the process carried out by Greater Wellington Regional Council (Greater Wellington) to understand flood risk from significant water courses in the Wellington Region. It consists of three key elements: collection of survey information; hydrological modelling; and hydraulic modelling. The flood hazard modelling outputs are the flood maps that are included in district plans, which provide the basis of structural works and river management decision making, and inform civil defence and emergency management actions.

5. Greater Wellington developed the Flood Hazard Modelling Standard (FHMS), which was finalised in May 2021, to outline the protocols to be followed by any person working on Greater Wellington flood hazard modelling projects. The protocols in the FHMS have been developed to ensure that flood hazard modelling projects are undertaken in a robust and consistent way that is in line with accepted industry practice. They are designed to still allow for flexibility in approach and recognise that the optimal approach may be dependent on catchment or project specific factors. The protocols require that every stage of the process is well documented in reports or spreadsheet logs and registers.

6. Figure 1 provides an overview of the FHMS.[1]

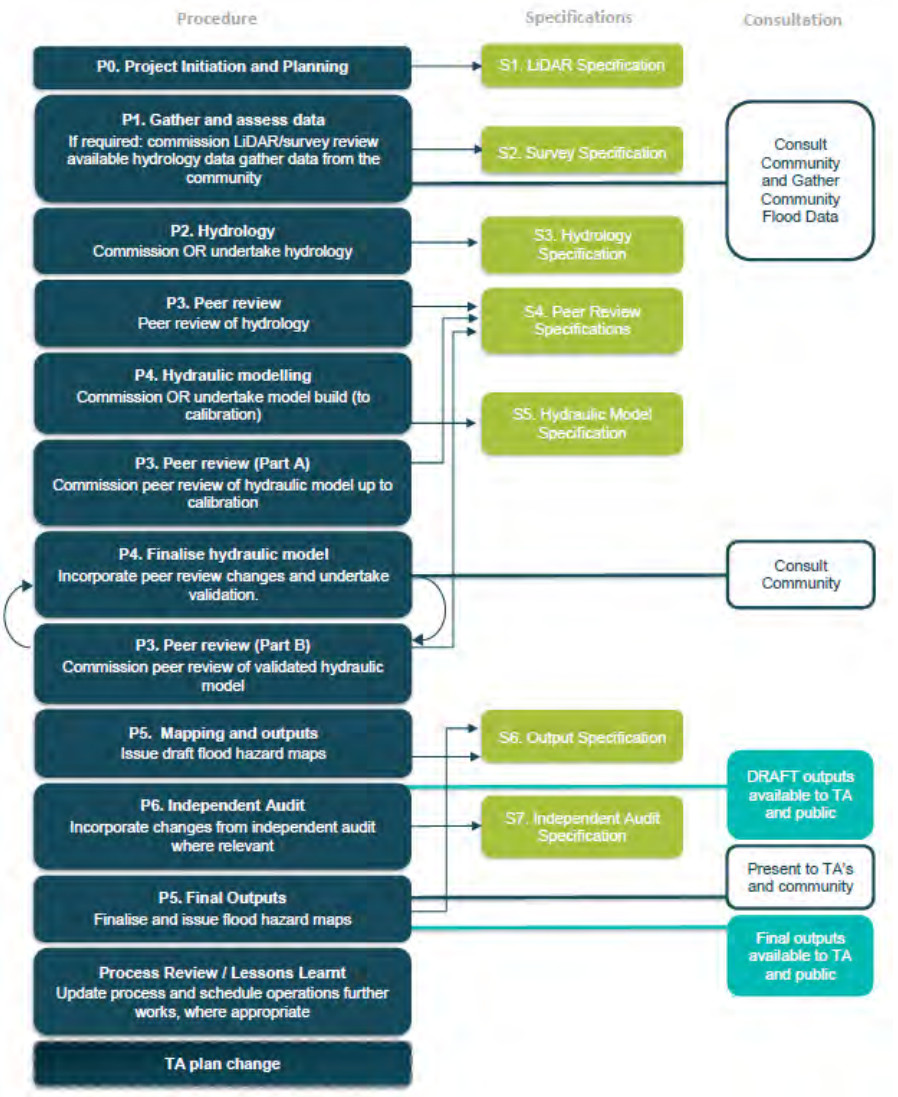

Figure 1: Flood Hazard Modelling Standard overview

[1] https://www.gw.govt.nz/assets/GWRC-Flood-Hazard-Modelling-Standard-R1-May-2021.pdf

Model development – Waipoua River

7. The Te Kāuru Upper Ruamāhanga Floodplain Management Plan (Te Kāuru) was adopted by Council on 25 June 2019.

8. Te Kāuru outlines a major project response to address the flood risk to the Masterton urban area (page 131). This is a five staged approach. Stage 1, 'investigations and option consideration' outlines a need to 'update flood hazard maps [for the Waipoua River] to incorporate the best information available'.

9. The Waipoua Project Team was established in late 2019 to develop a plan for managing the flood risk to the Masterton urban area. At this time, the project team was made up of members of the local community, a representative from Kahungunu ki Wairarapa, Greater Wellington officers, and a Masterton District Council officer. Members of Rangitāne o Wairarapa were also involved in the team at various stages.

10. The initial focus of the Waipoua Project Team was to develop updated flood hazard maps for the Waipoua River. The Project Team worked closely with consultant hydrologists and hydraulic modellers and were heavily involved in the model development and scrutinising the input data.

11. The outcome of this process was the development of robust flood hazard maps based on the most up to date available information.

Model development – Mangatārere Stream

12. Flood hazard modelling for the Mangatārere Stream was initiated prior to the adoption of the FHMS in 2021. However, the overall process still aligns with the procedures, as shown in Figure 1.

13. Similar to the urban reach of the Waipoua River, the flood hazard modelling process was led by a community project team, which was established in early 2019.

14. This team comprised members from the Mangatārere Restoration Society, Greater Wellington officers, a Carterton District Council officer, Carterton District Council councillors, and other local community members. Iwi were invited to partake in the work and were involved in the initial stages but did not attend any meetings from mid-2021.

15. The project team were heavily involved in seeking local knowledge and data to support the modelling process. This included seeking flood photos and old newspaper articles relating to historical flood events. Once collated, a display of this information was provided to the community. This had a secondary benefit of raising awareness of potential flood risk within the community.

16. The project team undertook site visits within the catchment, worked closely with technical experts and were heavily involved in ensuring updated information was collected to help inform the flood modelling process.

17. The team also undertook engagement with landowners within the catchment to share draft outputs and seek feedback to aid in the model calibration.

18. The outcome of this process was the development of robust flood hazard maps based on the most up to date available information.

Model development – Waiwhetū Stream

19. In 2019, Wellington Water Limited (WWL) approached Greater Wellington indicating that they were going to undertake stormwater modelling in the Waiwhetū Stream urban catchment. Greater Wellington and WWL agreed to undertake a joint venture to update the existing Waiwhetū Stream (fluvial) model and combine it with a stormwater model for the urban catchment.

20. Combining the stormwater and fluvial model for the Waiwhetū catchment was a complicated process. Stantec was engaged to complete the integrated 1D-2D model of Eastern Lower Hutt that met the WWL stormwater modelling specifications as well as the Greater Wellington FHMS. This included all known stormwater assets as well as the Waiwhetū Stream.

21. The WWL modelling specification includes a set of specific parameters, including a nested storm hydrological approach. This approach is appropriate for stormwater modelling; however, it is difficult to use with a water body the size of the Waiwhetū Stream.

22. To meet Greater Wellington's FHMS requirements, a different hydrological approach was required using NIWA's temporal design storm methodology to produce a standard rainfall profile.

23. As different hydrological inputs are required, outputs generated for Greater Wellington and WWL differ. However, the model that is used to generate both sets of outputs is the same.

Community engagement – Waipoua River and Mangatārere Stream

24. As specified in the FHMS, an engagement process was undertaken to present the draft flood hazard maps to the community. The purpose of the engagement was to share the flood hazard maps for each catchment with the community.

25. The flood hazard maps for the Waipoua River and the Mangatārere Stream were shared across the same engagement period from 14 November 2022 to 6 December 2022.

26. Engagement activities across both catchments included information provided on the Greater Wellington website, social media campaigns, flyer drops to local households and information provided in the local newspapers.

27. For the Mangatārere Stream, in-person engagement activities included two drop-in stalls at the Carterton Farms Market, as well as two other drop-in sessions at the Carterton Events Centre.

28. For the Waipoua River, a drop-in session and a presentation was held at Lakeview School as well as a drop-in session outside Paper Plus in Charlie's Lane.

29. An engagement summary report was prepared following these events.

Community engagement – Waiwhetū Stream

30. As specified in the FHMS, an engagement process was undertaken to present the draft flood hazard maps to the community. The purpose of the engagement was to

consult the community on the draft flood hazard maps for the Waiwhetū Stream as well as build awareness of the flood hazard maps within the affected community.

31. The official engagement period was from Monday 11 March 2024 to Sunday 31 March 2024, although attendance at meetings/events continued until 17 April 2024.

32. The flood hazard maps, information about the maps, and a feedback form were available both on the Greater Wellington website and as handouts at various in person events.

33. The engagement activities included information provided on the Greater Wellington website, a presentation to Friends of the Waiwhetū Stream, a stream walkover event, social media campaigns, handouts at the local train stations and information provided in the local newspapers. Drop-in sessions at the Riverbank markets and the Naenae Oranga Festival were also held, as well as attendance at a Waiwhetū co-op event.

34. A meeting Taranaki Whānui/Port Nicholson Block Settlement Trust was held on 8 April 2024.

35. A summary report of the engagement process was prepared following these events.

Te tātaritanga
Analysis

Finalisation of the flood hazard maps

36. Development of the Waipoua River, Mangatārere Stream and Waiwhetū Stream flood hazard maps has aligned with Greater Wellington's FHMS. The hazard maps were finalised following independent audits undertaken by Pattle Delamore Partners. The independent audits are provided as **Attachment 1** (Waipoua River), **Attachment 2** (Mangatārere Stream) and **Attachment 3** (Waiwhetū Stream).

37. The independent audits for the Waipoua River and Mangatārere Stream concluded that the modelling process followed is fit for purpose and meets the intent of the FHMS.

38. For the Waiwhetū Stream, the independent audit concluded that the model output is fit for purpose to support relevant planning processes. However, it was recommended that Greater Wellington review the downstream boundary condition over a three to five year timeframe. Greater Wellington has begun this process and is liaising with WWL.

39. Peak flood depth and flood hazard maps have been produced for a range of design flood events for the three water courses. The design events are assessed based on a probability of occurring in any given year and described as having an annual exceedance probability (AEP). The design flood events that have been modelled include:

    - 39% AEP, also known as the mean annual flood
    - 20% AEP, sometimes referred to as a 5-year flood

- 10% AEP, sometimes referred to as a 10-year flood
- 5% AEP, sometimes referred to as a 20-year flood
- 2% AEP, sometimes referred to as a 50-year flood
- 1% AEP, sometimes referred to as a 100-year flood

40. For the Waipoua River and Mangatārere Stream, each of these sized events were modelled for both the current climate (using historic climate data) and for a future climate using predicted impacts of climate change with a Representative Concentration Pathway (RCP) 6.0 scenario. For the Waiwhetū Stream, an RCP 8.5 scenario was used.

41. For the Waiwhetū Stream, the future hazard scenarios assessed include a sea level rise prediction of 1.59 m, which is based on Ministry for the Environment guidance. A prediction for sea level rise was not required for the Waipoua River or Mangatārere Stream as the downstream boundary of these models was not at the coast.

42. Additional modelling for the 1% AEP event included a series of uncertainty runs to represent possible scenarios that are not included in the base modelling. This includes scenarios such as different channel roughness or bridge blockages which could affect the nature of the flood hazard. This scenario also includes climate change.

43. As outlined in the FHMS and Greater Wellington procedure, allowance for these uncertainties (as well as climate change) have been included in the flood hazard mapping overlays for the Wairarapa Combined Plan and Hutt City Council.

44. A copy of the flood depth maps for each of the design flood events listed above is provided in **Attachment 4** (Waipoua River), **Attachment 6** (Mangatārere Stream) and **Attachment 8** (Waiwhetū Stream).

45. A copy of the flood hazard maps for the 1% AEP design flood event, which includes climate change and the combined uncertainty runs, is provided in **Attachment 5** (Waipoua River), **Attachment 7** (Mangatārere Stream) and **Attachment 9** (Waiwhetū Stream).

Wairarapa Combined District Plan and City of Lower Hutt District Plan flood hazard overlays

46. Land use planning, through district plans, is one of the available tools for managing flood risk. It plays a vital role in ensuring that use and development within areas susceptible to flooding is appropriate.

47. Flood hazard is a function of the depth and velocity of flood waters at a particular location. It informs the likely risk to people and property as a result of flooding. Flood hazard is typically low in shallow, slow-moving waters, and increases as the depth and velocity of flood waters increase.

48. Greater Wellington has recommended that flood hazard is categorised in the following three areas for the 1% AEP event (including climate change and allowance for uncertainties) for inclusion in district plans:

- Low Hazard Areas, where flow is typically slow, and flooding is shallow. The Low Hazard Areas include Inundation Areas as well as Residual Flood Hazard Areas.
- Moderate Hazard Areas, where flow is deeper, or faster moving, or development is likely to increase flood impacts nearby. The Moderate Hazard Areas include Overland Flowpaths and Erosion Hazard Areas, where there is the potential for future development to be affected by fluvial erosion.
- High Hazard Areas, where flow is deep or fast, including River/Stream Corridors.

49. Finalised flood hazard overlays using 'low', 'moderate' and 'high' hazard categorisations for the urban reach of Waipoua River, and the Mangatārere Stream have been provided to inform the Wairarapa Combined District Plan. Flood hazard overlays have also been provided for other rivers in the Upper Ruamāhanga catchment.
50. In addition to the flood hazard overlays, flood vulnerability areas for the whole Wairarapa region were also provided to inform the Wairarapa Combined District Plan. The flood vulnerability areas are based on Greater Wellington's Regional Model.
51. Finalised flood hazard overlays using 'low', 'moderate' and 'high' hazard categorisations for the Waiwhetū Stream (as well as the Hutt River) have been provided to Hutt City Council. These maps will inform the development of the City of Lower Hutt District Plan, which at the time of writing is at the 'proposed' stage.

Ngā hua ahumoni
Financial implications

52. No additional financial implications are proposed for flood hazard modelling for the Waipoua River, and the Mangatārere Stream, as the process is complete.
53. For the Waiwhetū Stream, the independent audit recommended that a review of the downstream boundary of the model is undertaken over the next three to five years. There are no additional financial implications proposed to complete this work as it will be undertaken within existing budgets.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

54. Greater Wellington is required to manage land and water within a range of statutory requirements, including giving effect to Te Mana o Te Wai and considering Te Tiriti o Waitangi in the development and implementation of the Council's strategies, plans, programmes and initiatives.
55. Implementation with mana whenua partners is guided by Te Whāriki – the new Māori Outcomes Framework as part of Council's Long Term Plan 2024–34.
56. Local iwi and mana whenua were invited to participate in the development of the flood hazard maps for both the Waipoua River and the Mangatārere Stream.

Representatives involved in this work were included in email correspondence throughout the projects.

57. The flood hazard maps for the Waiwhetū Stream were presented to and discussed with Taranaki Whānui/Port Nicholson Block Settlement Trust.

58. Waiwhetū Marae property is sitting within the flood hazard area. The building itself is sitting above the flood hazard in the updated modelling. The Owhiti Urupā also sits within the flood hazard area and is particularly susceptible to sea level rise.

Te huritao ki te huringa o te āhuarangi
Consideration of climate change

59. Climate change is considered as part of the Flood Hazard Modelling Standard process. Climate projections are modelled as part of the hydrology (for all water courses) and sea level rise inputs (Waiwhetū Stream) allowing Greater Wellington to consider increased hazard impacts.

Ngā tikanga whakatau
Decision-making process

60. The matters requiring decision in this report were considered by officers against the decision-making requirements of Part 6 of the Local Government Act 2002.

Te hiranga
Significance

61. Officers considered the significance (as defined by Part 6 of the Local Government Act 2002) of the matters for decision, taking into consideration Council's *Significance and Engagement Policy* and Greater Wellington's *Decision-making Guidelines*. Officers consider that the matter is of low significance due to the administrative nature of the decision. The matters do not impact on Council's capability and capacity, and it is consistent with existing Council policy and practice.

Te whakatūtakitaki
Engagement

62. The process to develop the flood hazard maps for both the Waipoua River and Mangatārere Stream was led by community members within the respective project teams.

63. Engagement for both the Waipoua River and Mangatārere Stream was undertaken in August 2021. The three-week flood hazard map engagement process was undertaken to collect data from the community regarding past flood events. This fulfils the requirement to gather community flood data for the FHMS. A summary of this engagement is noted in paragraphs 24 to 29 of this report.

64. For the Waiwhetū Stream, two stages of community engagement were undertaken.

- In August 2021, a three-week flood hazard map engagement process was undertaken to collect data from the community regarding past flood events of 2004 and 2016. This fulfils the requirement to gather community flood data for the FHMS.
- In March 2024, a three-week flood hazard map engagement process was undertaken to present the final draft flood hazard maps to the community. This fulfils the requirement to consult the community on the draft outputs for the FHMS. A summary of this engagement is noted in paragraphs 30 to 35 of this report.
- The Waiwhetū Stream flood hazard maps were presented to the Te Awa Kairangi / Hutt River Valley Subcommittee on 13 May 2025. The motion was to seek a recommendation that the Environment Committee endorse the flood hazard maps. This motion was carried.
- The Waipoua River and Mangatārere Stream flood hazard maps were presented to the Wairarapa Committee on 3 June 2025. The motion was to seek a recommendation that the Environment Committee endorse the flood hazard maps. This motion was carried.

Ngā tūāoma e whai ake nei
Next steps

65. The process to develop the flood hazard maps for both the Waipoua River and Mangatārere Stream is complete, and no further work is required.

66. For the Waiwhetū Stream, the independent audit recommended that a review of the downstream boundary of the model is undertaken over the next three to five years. Greater Wellington has begun this process and is liaising with WWL.

Ngā āpitihanga
Attachments

Number	Title
1	Waipoua River flood hazard assessment independent audit summary
2	Mangatārere Stream flood hazard assessment independent audit
3	Waiwhetū Stream flood hazard assessment independent audit
4	Flood depth maps for the Waipoua River
5	Flood hazard maps for the Waipoua River
6	Flood depth maps for the Mangatārere Stream
7	Flood hazard maps for the Mangatārere Stream
8	Flood depth maps for the Waiwhetū Stream
9	Flood hazard maps for the Waiwhetū Stream

Ngā kaiwaitohu
Signatories

Writers	Ella Boam – Senior Project Manager – Investigations, Knowledge Water Resilience Francie Morrow – Team Leader, Knowledge Water Resilience
Approvers	Evan Harrison – Manager Knowledge David Hipkins – Director Knowledge and Insights Lian Butcher - Group Manager Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference The Environment Committee has responsibility to consider all matters across the development and implementation of the work programmes of Greater Wellington's Environment Group.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies The project contained within this report delivers on Greater Wellington's strategic priority area of te tū pakari a te rohe/regional resilience, and support delivery of Greater Wellington's strategic priority area of te oranga o te wai māori me te rerenga rauropi/freshwater quality and biodiversity.
Internal consultation Specific projects consult with groups and departments across Greater Wellington where relevant to the project. This includes Flood Operations – Delivery Function, Environment Restoration – Delivery Function, Catchment Function, various teams across Knowledge and Insights Function, and Finance.
Risks and impacts - legal / health and safety etc. The purpose of implementation floodplain management plans in implementing asset management procedures is to reduce the risk to communities and improve the region's resilience. Greater Wellington has adopted procedures and processes to minimise risks. Working with community committees enables a wider understanding of the risks before adoption of work programmes.

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10 June 2024

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Dear Andy

INDEPENDENT AUDIT SUMMARY, WAIPOUA FLOOD HAZARD ASSESSMENT

This letter provides a short summary of the more detailed independent audit report of the Waipoua Flood Hazard Assessment project undertaken by PDP. The audit follows the Greater Wellington Regional Council (GW) Flood Hazard Modelling Standard dated May 2021 (FHMS or the Standard), specifically Procedure 6 Independent Audit. It is informed by the information provided by GW Project Manager, Floodplain Management Plans Francie Morrow and a workshop with project modeller Matt Gardner (Land River Sea Consulting). Project hydrologist Vicki Henderson (Barnett and MacMurray), hydrology peer reviewer Jacobs and hydraulics peer reviewer Stantec were not available for the workshop.

It is apparent that determining the flood hazard associated with the Waipoua River is a project that has had some complexity to it and accordingly has taken some time to complete. That has in part related to the limited hydrological data available but also the importance of getting the modelling 'right' - the wide array of technical and non-technical opinions that such a high-profile project inevitably elicits (the consequential impacts for Masterton).

In our view the final model output is defendable, in part (and at a high level) based on the comprehensive nature of the project (the extensive technical work and community engagement that has been undertaken) and at a more granular level the additional peer review completed as part of the audit. That peer review focussed on how the Railway Bridge is approximated in the model - the Railway Bridge is a critical component of determining flood exposure for Masterton and that directly relates to the likelihood or otherwise of the bridge blocking with debris during an extreme flood event.

There are inevitably some learnings that GW can take from this project, foremost being how to have confidence in design flood estimates where records (both in regard to rainfall and river flows) are relatively sparse/ short. There are also learnings related to community engagement - building an understanding around the process/ technical work involved and eliciting information (e.g. old flood photos) in a way that doesn't result (perceived or otherwise) in the technical work being community led. More clarity around roles and responsibilities in that regard (and also in regard to elements of the technical work) would be desirable for future projects.

This report has been prepared by Pattle Delamore Partners Limited (PDP) on the basis of information provided by Greater Wellington Regional Council. PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the report. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

This report has been prepared by PDP on the specific instructions of Greater Wellington Regional Council for the limited purposes described in the report. PDP accepts no liability if the report is used for a different purpose or if it is used or relied on by any other person. Any such use or reliance will be solely at their own risk.

Yours faithfully

PATTLE DELAMORE PARTNERS LIMITED

Ramon Strong

Technical Director Water Resources

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18 July 2023

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Dear Andy

INDEPENDENT AUDIT, MANGATARERE FLOOD HAZARD ASSESSMENT

This letter summarises the independent audit that PDP have undertaken of the Mangatarere Flood Hazard Assessment. Managatarere Stream is located between the Waiohine and Waingawa Rivers in the Wairarapa, running in a generally southern/ southwestern direction between Carterton and the Tararuas before joining the Waiohine and then (around 5km downstream) the Ruamahanga River.

The audit follows the Greater Wellington Regional Council (GW) Flood Hazard Modelling Standard dated May 2021 (FHMS or the Standard) and is informed by the information provided by GW Environmental Planner, Flood Protection Amanda Death on 21 April 2023. That information was provided in a form consistent with the headings/ steps outlined in the FHMS (project initiation, gather and assess data, hydrology, peer review, hydraulic modelling, outputs and independent audit) along with a summary timeline of the project. Amanda's summary was particularly helpful in understanding how the project has evolved in the manner that it has.

The audit has consisted of the review of that summary, the information provided and a workshop that took place at GW offices on 8 June. In attendance for that workshop were Andy Brown, Amanda Death and Kirsty Duff from GW, Charlotte Lockyer from Stantec (peer reviewer), Tom Kerr from Tom Kerr Hydrology (project hydrologist) and Matt Gardiner from Land, Water, Sea Consulting (project hydraulic modeller). The workshop consisted of a general discussion of the project and a series of questions derived from the high level review of the documentation provided. The workshop ran for approximately 90 minutes.

The general findings of the audit are appended in the form consistent with Appendix P6 of the FHMS. The first point to note with the audit is that the catchment hydrology has clearly proved problematic, a function of both the dataset and the nature of the catchment (part Tararua foothills and part lowland) reflected in part by the number of consultants that have been involved at various times. The more recent technical work has helped in drawing a line under the previous work and should provide GW with confidence in this aspect of the project, notwithstanding some of the data limitations summarised later in this report.

The workshop did discuss at some length the discounting of the 2017 event both in the hydrological assessment and with the model calibration. The discussion is not reproduced here but concluded with general agreement around the basis for discounting that event and the steps taken to ensure the accuracy of the model output was not compromised. That decision appears to have been made in a robust way.

The margins applied to both the hydrology and hydraulic modelling and the robust sensitivity analysis included with the hydraulic modelling appear to compensate for the relatively short dataset that forms the basis of the hydraulic analysis. Only one very minor issue was identified with the hydraulic modelling during the workshop – sensitivity analysis related to road heights where roads bisect the flatter parts of the floodplain around Carterton.

Workshop discussion also covered the limited mana whenua engagement with the project. GW noted (8 June workshop) that mana whenua representatives were involved in this project from its initiation until around mid-2020. At this point one representative indicated they were not interested in being involved in the modelling investigations and wanted to be more involved in when discussions focused on options to mitigate the risk. There were also concerns raised about attending meetings while COVID-19 was circulating in the community. The other representative reduced their participation with the project, with no formal reason given. Around late 2021/early 2022, when COVID restrictions had eased, the previous facilitator reached out to mana whenua to get a representative back in the room. However, this did not eventuate, resulting in no mana whenua representatives being present in the later stages of the modelling. They have however, still been included in email correspondence throughout the project.

An issue to note is the community engagement - the summary provided referred to the community engagement as seeking a 'mandate' from the community, and clearly the nature of a floodplain hazard assessment is that not all residents will necessarily be happy with the results. The workshop traversed a couple of issues that arose with the preliminary community engagement related to the initial model output. Specifically a suggestion from a resident that the LiDAR on which the modelling is based didn't reflect more recent changes in ground contour and another where a resident was not able to understand due to elevation how a particular area could be flooded. Those matters appear to have been well handled and the decisions made by staff and consultants robust but nonetheless it is possible to be too community lead with the risk that self-interests begin to drive the outputs.

In regard to data gaps there is clearly a lack of rainfall and river/ stream flow record – not so much a spatial issue as a temporal one; the length of record is quite short (well-illustrated with Figure 3-1 of Tom's report) to derive extreme values from. There is no remedy for this other than the passage of time – GW have in the last 20 years significantly increased the number of recording sites in the catchment/ general area. That does give an added level of uncertainty even with the best statistical methods applied and that needs to be carefully conveyed when the information is placed in the public domain.

In summary the process is fit for purpose and does in my opinion meet the intent of the Flood Hazard Modelling Standard. Clearly the manner in which the information is communicated to the public is important – it is a comprehensive statement around flood hazard as it applies to this part of the Wairarapa but equally the accuracy of the outputs are a function of the data used to drive those outputs. Equally flood hazard is a dynamic thing and the nature of that hazard is such that the hazard will continue to evolve and change over time. The options assessment will need to be cognisant of both of those things.

Limitations

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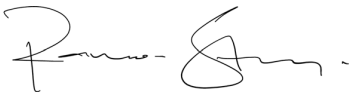
Yours faithfully

PATTLE DELAMORE PARTNERS LIMITED



Ramon Strong

Technical Director Water Resources

Attachment 2 to Report 25.248

Independent Audit																			
Element	Auditor V1 (timeline of issue)		Project team comments - V1 (timeline of issue)		Review - V2 (timeline of issue)		Project team comments - V2 (timeline of issue)		Review - V3 (timeline of issue)		Project team comments - V3 (timeline of issue)		Review - V4 (timeline of issue)	
	Auditor's Comments	Review rating	PM's Comments		Auditor's Comments	Review rating	PM's Comments		Auditor's Comments	Review rating	PM's Comments		Auditor's Comments	Review rating
Overall FHMS process														
Project initation and planning documents required under Procedure 0 have been completed.		Ok												
All steps in the FHMS flowchart have been undertaken, up to independent audit	A somewhat convoluted start to the project that pre-dates the FHMS	Minor												
Community and TA consultation has been undertaken at the correct stages of the FHMS flowchart, at minimum		Ok												
Gather and Assess Data														
Historic flood data was gathered from the community	Process appears robust but the data obtained was limited	Ok												
LiDAR and/or survey work was undertaken in accordance with the requirments of Specification 1 and Specification 2 of the FHMS.	Should ideally put to Matt from LWS as hydraulic modeller during the 8 June workshop. Matt was of the view that the base survey data was fit for purpose for the modelling undertaken.	Ok												
Data has been gathered and assessed in accordance with Procedure 1 of the FHMS		Ok												
Recommendations from the data assessment have been actioned where appropriate.		Ok												
Hydrological Modelling														
Hydrological modelling has been undertaken by a suitably qualified professional.	A few twists and turns early on the hydrology but Tom (brought in later in the project - October 2021) is clearly a SME in that area.	Ok												
The hydrological modelling has been documented in a clear report, and other documentation such as the completed model log are available.		Ok												
Peer Review - Hydrology														
Peer review of the hydrological modelling has been undertaken		Ok												
Reviewers comments on the hydrological modelling have been addressed	Hydrological modelling spans five separate reports	Ok												
Peer review of the hydrological model has been documented in the peer review spreadsheet, for all iterations		Ok												
A report has been prepared on the hydrological model peer review		Ok												
The hydrological model peer review report is clear and documents all required aspects		Ok												
A close out document has been prepared for the hydrological model		Ok												
The hydrological model close out document indicates that all changes have been made to the peer reviewers satisfaction		Ok												
The peer reviewer is considered independent according to the definition in Procedure 3 of the FHMS		Ok												
Hydraulic Modelling														
Hydraulic modelling has been undertaken by a suitably qualified professional.		Ok												
The hydraulic modelling has been documented in a clear report, and other documentation such as the completed model log are available.		Ok												
Peer Review - Hydraulic Model														
Peer review of the hydraulic modelling has been undertaken		Ok												
Reviewers comments on the hydraulic modelling have been addressed		Ok												
Peer review of the hydraulic model has been documented in the peer review spreadsheet, for all iterations		Ok												
A report has been prepared on the hydraulic model peer review		Ok												
The hydraulic model peer review report is clear and documents all required aspects		Ok												
A close out document has been prepared for the hydraulic model peer review		Ok												
The hydraulic model close out document indicates that all changes have been made to the peer reviewers satisfaction		Ok												
The peer reviewer is considered independent according to the definition in Procedure 3 of the FHMS		Ok												
Outputs														
Have the full set of outputs (procedure 6) been produced?	Assume the reference is meant to be procedure 5. Suggest GW consider rationalising the number of model outputs required.	Ok												
Are mapped extents reasonable?		Ok												
Has the mapping been prepared in accordance with Procedure 6 of the FHMS? E.g. style etc.	Assume the reference is meant to be procedure 5.	Ok												
Outputs have been reviewed as part of the peer review, and any action items have been addressed.		Ok												
Community/TA Contact														
The community and TA have been consulted on regarding the relevant draft outputs		Ok												
Specific concerns raised by the community and/or TA have investigated and addressed.	Discussion from the workshop did suggest that this project has, at times, been more community led than typically has been the case	Minor												

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11 September 2024

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Dear Andy

INDEPENDENT AUDIT, WAIWHETŪ FLOOD HAZARD ASSESSMENT

1.0 Purpose

This letter summarises the independent audit that Pattle Delamore Partners Limited (PDP) has undertaken of the flood hazard assessment for the Waiwhetū Stream in eastern Lower Hutt. The audit is in accordance with the Greater Wellington Regional Council (GW) Flood Hazard Modelling Standard dated May 2021 (FHMS or the Standard).

2.0 Background

The Waiwhetū Stream encompasses much of Lower Hutt – in essence the alluvially derived plain southeast of the Hutt River with the catchment including the hills between the Hutt valley and Wainuiomata/ Stokes Valley. The floodplain is intensively developed and, in some cases, very low-lying, largely protected (to varying degrees) by stopbanking. Understandably the high hazard areas are concentrated toward the lower, southern end of the catchment, a function of both the nature of the catchment, ground levels and the influence of the Hutt River/ Wellington Harbour – the Waiwhetū Stream mouth is a matter of a few hundred metres from the Hutt River mouth.

The project originated from work commissioned by Wellington Water Limited (WWL) related to the eastern Lower Hutt (ELH) stormwater network. The project encompasses (in its latter stages) fluvial flood hazard as it relates to the Waiwhetū Stream, which is the principal focus for both GW and this audit. Stantec (NZ) Limited (Stantec) built the model which is, understandably given the scope (replicating the stormwater network for a significant portion of Lower Hutt), very large and complex.

The project was originally commenced in 2017 with the GW scope change occurring in 2021. It appears to have had (referencing the revision schedule contained in the September 2023 Stantec report) a greater than desirable change in Stantec personnel as the project has progressed. The current Stantec personnel (who have remained consistent through the 'GW' phase of the work) have clearly lived and breathed this project (the in-person workshop held with GW and Stantec at GW Cuba Street offices on 14 February 2024).

Principal documents referred to as part of the audit are the Stantec Eastern Lower Hutt Stormwater Model Build report dated September 2023, the Stantec memo to GW Project Manager Francie Morrow dated 10 October 2023 and the peer review reports (principally those associated with the 'GW phase' of the project - the focus on Waiwhetū Stream flood hazard). This project does not have the conventional hydrology/ hydraulics split, attributable to its urban stormwater management origins (the two are intertwined to some degree). Three reviews of the hydrology have been undertaken – the first by WSP for WWL and the following two by SLR. The WSP review is somewhat brief, noting "no concerns". The SLR reviews contain a more extensive commentary on the hydrological component of the project and a comprehensive list of issues that were discussed with Stantec.

3.0 PDP review comments

We reviewed the original work by Stantec and the review findings by WSP and SLR. In our opinion, the credentials of the SLR reviewer and the quality of the review are a high - it does appear to stray a little into the modelling space but given the nature of the project and the urban stormwater focus there is an inevitability to that. It is in our opinion a comprehensive, robust and constructive peer review that meets all the FHMS requirements. The SLR peer review arguably exposes some limitations with the model hydrology but we are of the view that those are not material to GW's primary interests (hazard mapping/ fluvial flood hazard assessment).

WSP reviewed the hydraulic model and, in our view, this has more limitations to it, important given the high consequence environment. The review tends to focus on model schematisation (which clearly is important) but less so on aspects such as the boundary conditions. There are clearly (at face value) limitations in adapting a stormwater model to assess fluvial flood hazard which the review also doesn't appear to consider.

The downstream boundary condition is of particular importance with this modelling; the complexities related to the combination of Waiwhetū Stream flow, Hutt River and Wellington Harbour level that underpins the model outputs (flood depths/ extents/ durations). The impression with the Stantec report is that those considerations have been somewhat cursory and largely based on direction from GW.

That matter was the subject of a workshop with Stantec on 26 June 2024 (modellers/ report authors Ben Caldwell and Andrew Sherson) attended by both Francie Morrow (senior Project Manager) and Susan Borrer (Engineer/ Hydraulic Modeller) and PDP. That workshop essentially confirmed that limited rigour had been applied to that downstream boundary condition; while tools such as the sea rise project have been applied in quantifying climate change effects, a Wellington Harbour-specific assessment is somewhat dated (GW noted that NIWA had done some work in the '1990s'). The Hutt River state assumed was a static 10-year ARI (Average Recurrence Interval) flood level.

GW noted some of the drivers for this work, including District Plan review timelines, also noting that the general approach taken by GW was to use 'the best data we have available at the time'. This is one of the key conundrums with any hydraulic model – at what point is it 'good enough' to produce flood maps for use in a formal planning context. Ideally this project would have been underpinned by a parallel work stream to refresh the extreme value analysis for Wellington Harbour in combination with statistical analysis to substantiate the approach taken. This work would involve determining the combination of the three input datasets – Waiwhetū Stream flow, Hutt River and Wellington Harbour level – that the lower reach of the Waiwhetū Stream and adjoining floodplain is most susceptible to without being overly conservative. Stantec has addressed this to some degree with the sensitivity analysis that accompanied the modelling but the general impression (in the context of a 'sensibility check' – Section 2, Procedure 6 of the FHMS) is that this lacks the finesse of something more statistically-based.

4.0 PDP audit findings

Ultimately the key audit consideration (bullet point 7, Section 2, Procedure 6, FHMS) is whether "the modelling and peer reviews are robust and defensible". In our view the answer to that question is in two parts:

- the model schematisation and
- the boundary conditions.

The model schematisation is in our view robust and defensible but our confidence in the model output is coloured by the apparent lack of rigour in determining the downstream boundary condition. It does not mean the assumptions made are wrong but, in our opinion, further analysis is desirable to demonstrate the efficacy of the approach taken, given the consequential impacts.

The model output is, in our opinion, fit for purpose to support the relevant planning processes. However, we recommend GW robustly confirms or otherwise the adequacy of the downstream boundary condition within say a three-to-five-year timeframe. There are risks with this approach – for example, planning decisions could be made in the interim that are not appropriate if the downstream boundary condition used with the initial modelling is found to be inadequate. There is also the risk that interim arrangements will become permanent. Equally we also appreciate GW's sentiment that potentially incomplete information is better than no information; accordingly this decision ultimately rests with GW.

As a final note, the community engagement with this project is noticeably lighter than that undertaken for the previous two projects audited, likely to be a function of both the urban context and the earlier WWL stages of the project (and noting the overt District Plan driver for the work – the community engagement work presumably lead by Hutt City Council in that regard). I noted at the 26 June 2024 workshop the excellent publication GW had previously produced informing Silverstream and Mangaroa Valley residents specifically about the updated flood hazard assessment work undertaken for those areas; although the nature of the flood hazard for those areas (particularly Pinehaven/Silverstream) is particularly acute it also arguably sets the bar in regard to informing/ building understanding in a Hutt Valley context.

5.0 Closure

Please contact me if you have any questions or clarifications.

This report has been prepared by Pattle Delamore Partners Limited (PDP) on the basis of information provided by Greater Wellington Regional Council, Stantec, SLR Consulting and WSP (not directly contracted by PDP for the work). PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the report. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

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Yours faithfully

PATTLE DELAMORE PARTNERS LIMITED

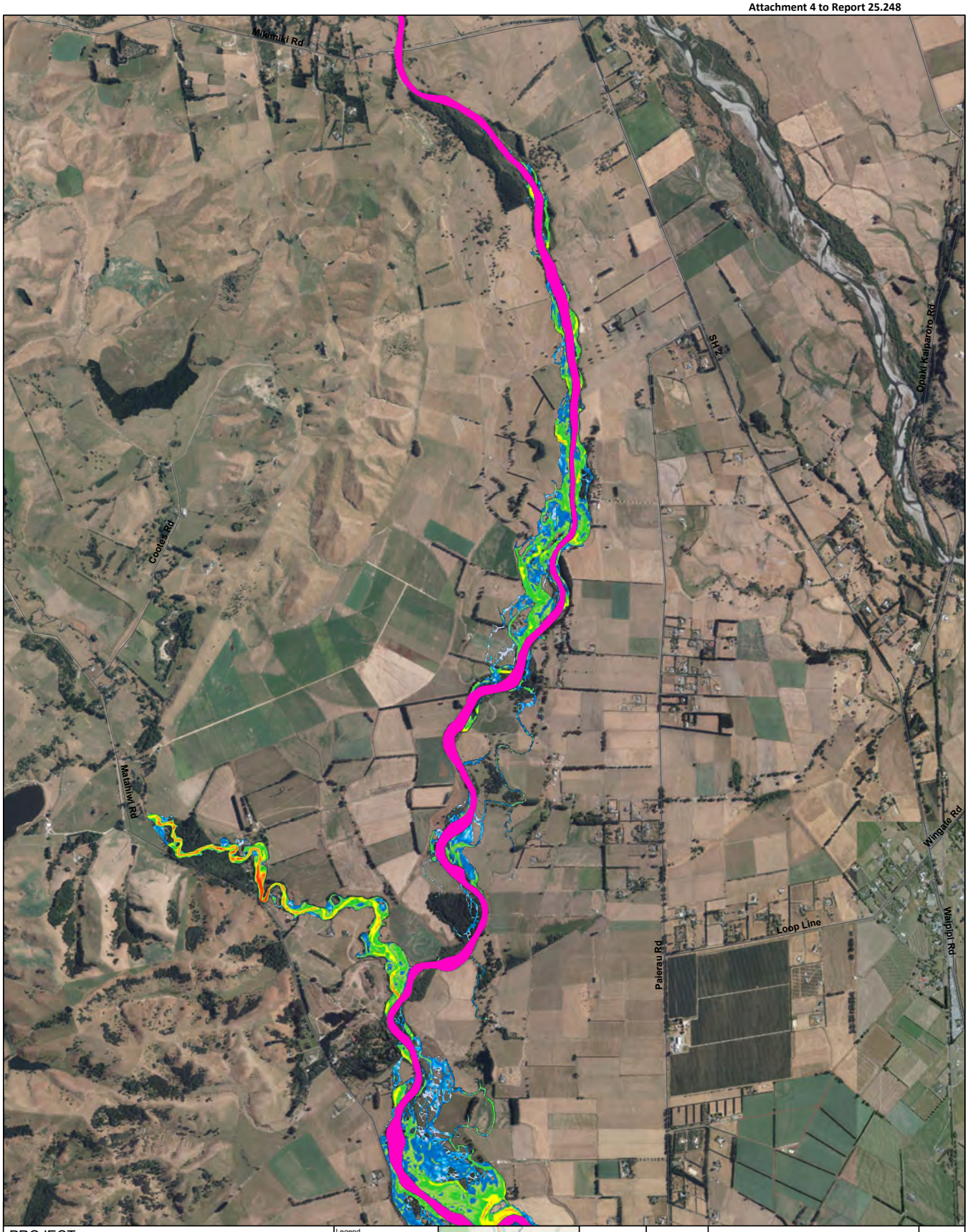
Ramon Strong

Technical Director Water Resources

Attachment 4 to Report 25.248

Greater Wellington
Te Pane Matua Taiao

ATTACHMENT 4 - Flood depth maps for the Waipoua River



PROJECT
Waipoua River Flood Modelling

MAP 1 of 2

PEAK DEPTH MAP

39.35% AEP Flow, Historic Climate

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth (m)
- 0
- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2+

REVISION	01
DATE	1/03/2023
A3 SCALE	1:22,000
CREATED BY	BS
REVISED BY	MG

0 250 500 1,000 Meters

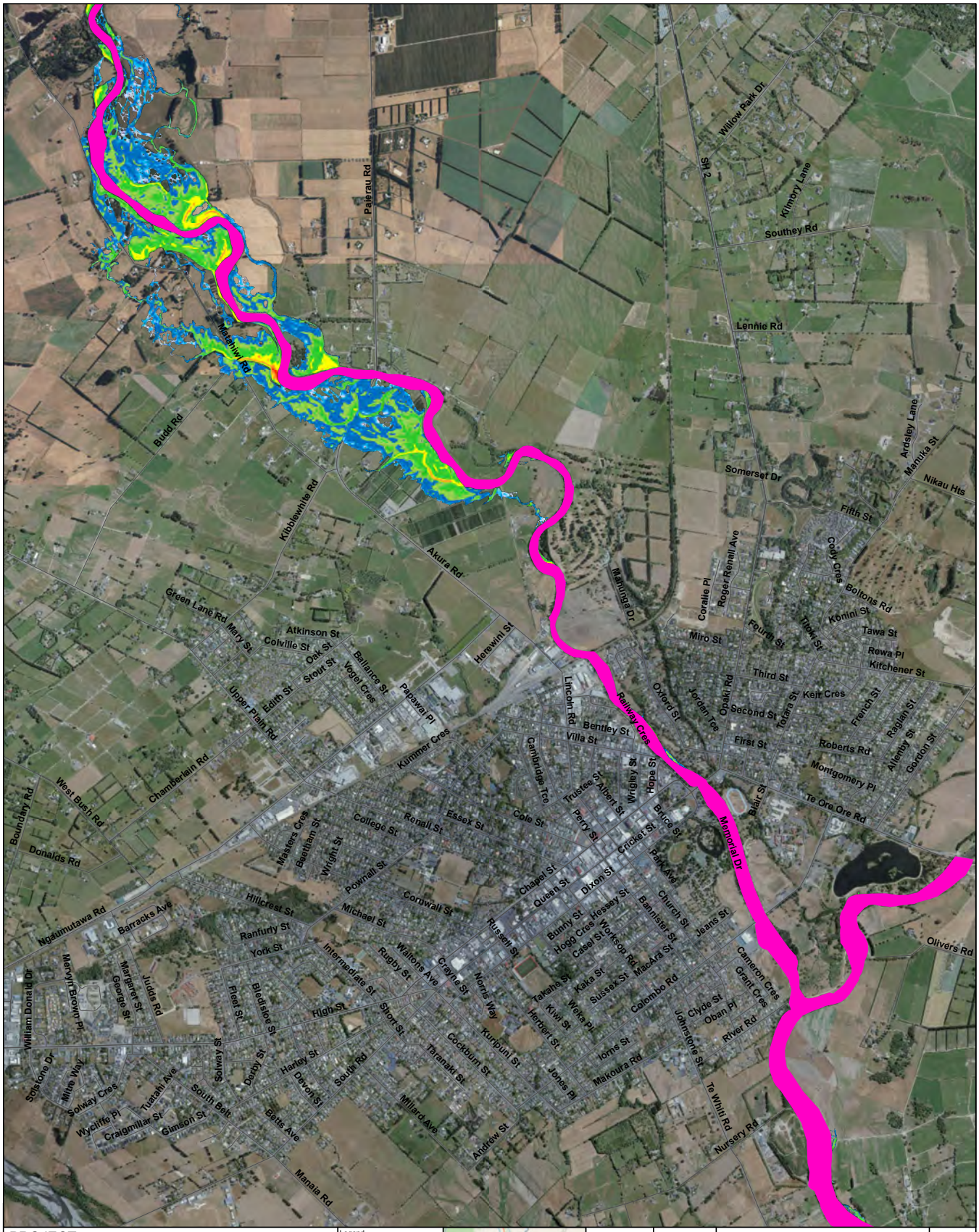
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum

Model Completed:

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao



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Waipoua River Flood Modelling

MAP 2 of 2
PEAK DEPTH MAP

39.35% AEP Flow, Historic Climate

AUTHOR
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Legend
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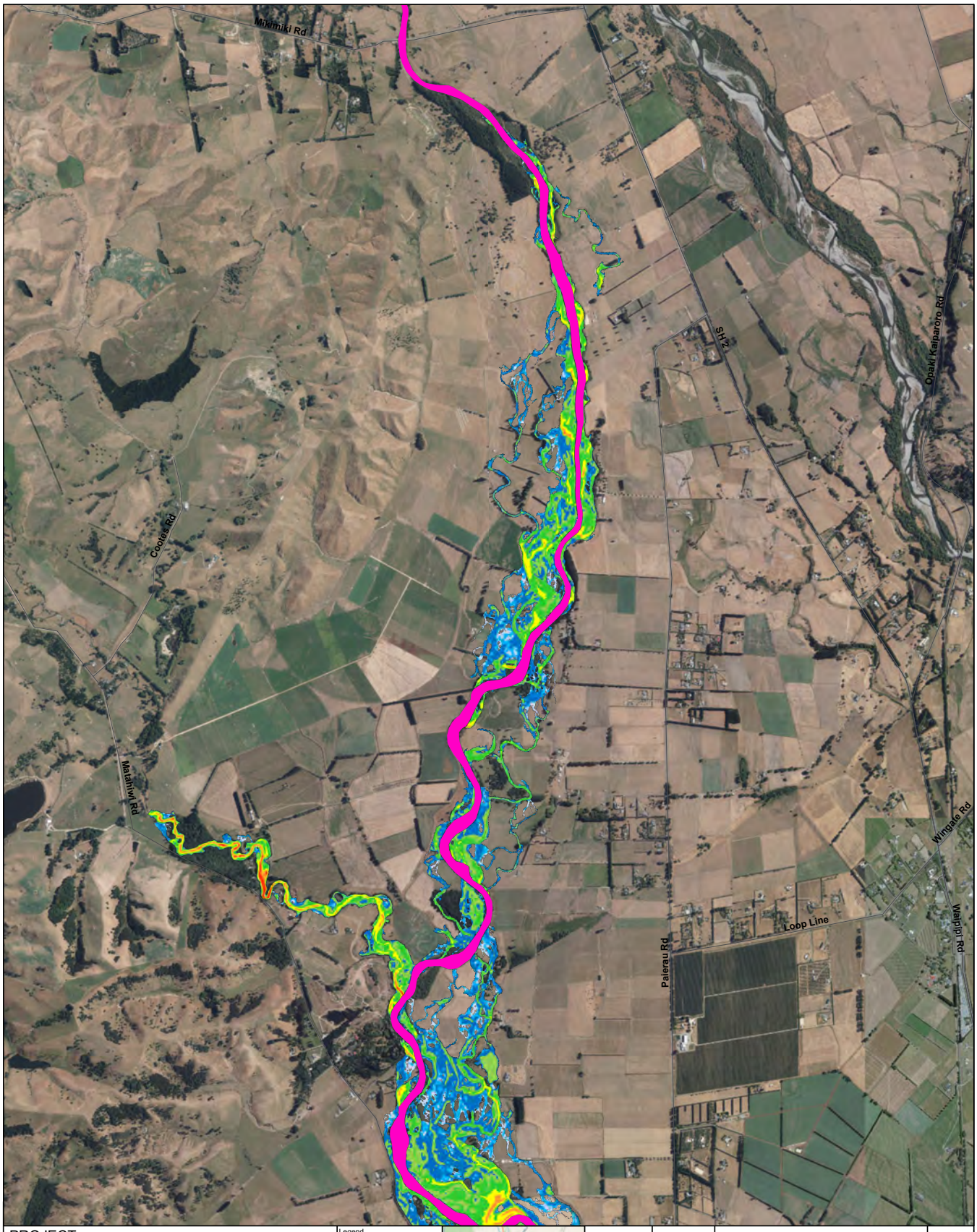

PROJECT
Waipoua River Flood Modelling

MAP 1 of 2
PEAK DEPTH MAP

20% AEP Flow, Historic Climate

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth (m)
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- 0.05 - 0.1
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0 250 500 1,000 Meters

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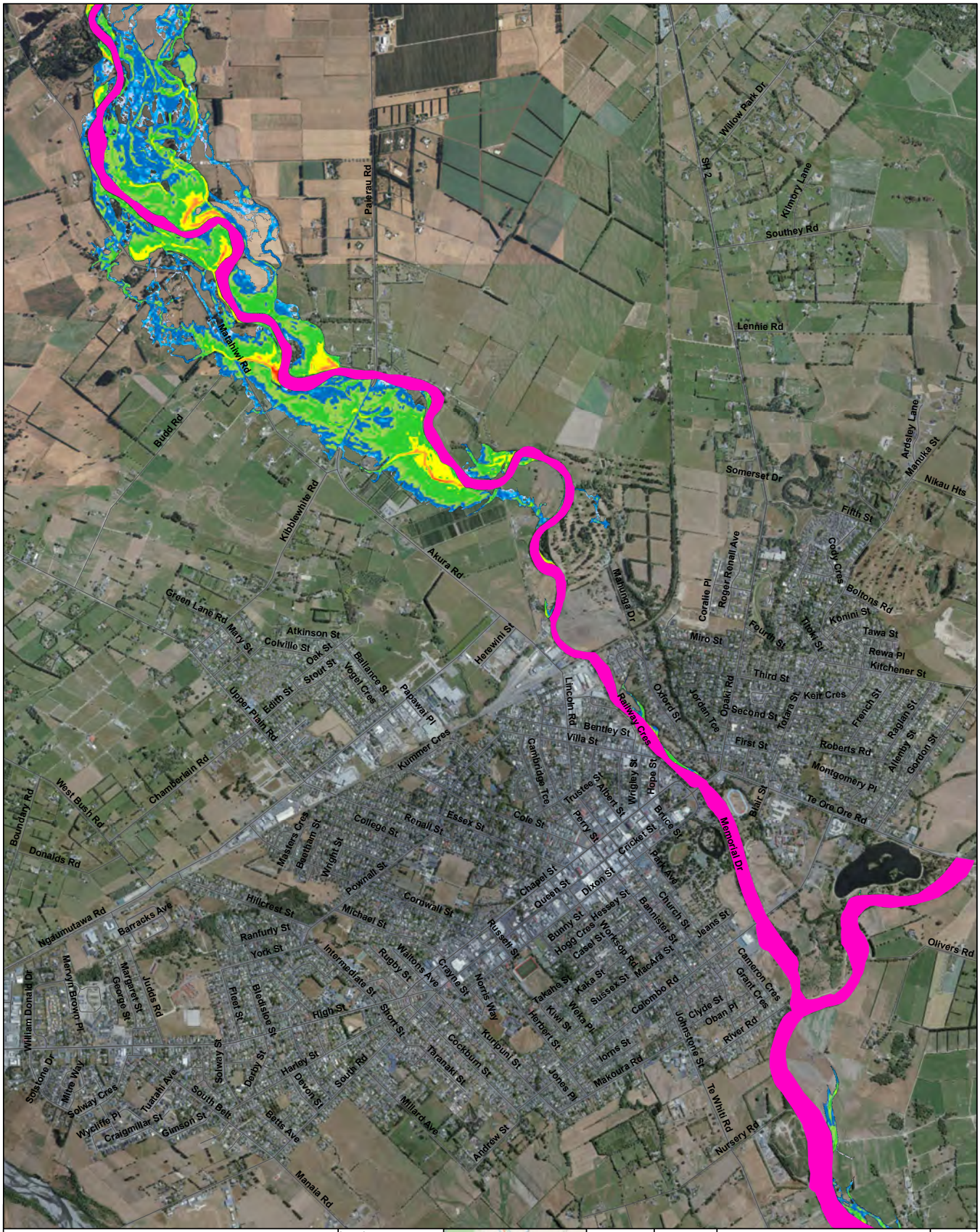

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Waipoua River Flood Modelling

MAP 2 of 2
PEAK DEPTH MAP

20% AEP Flow, Historic Climate

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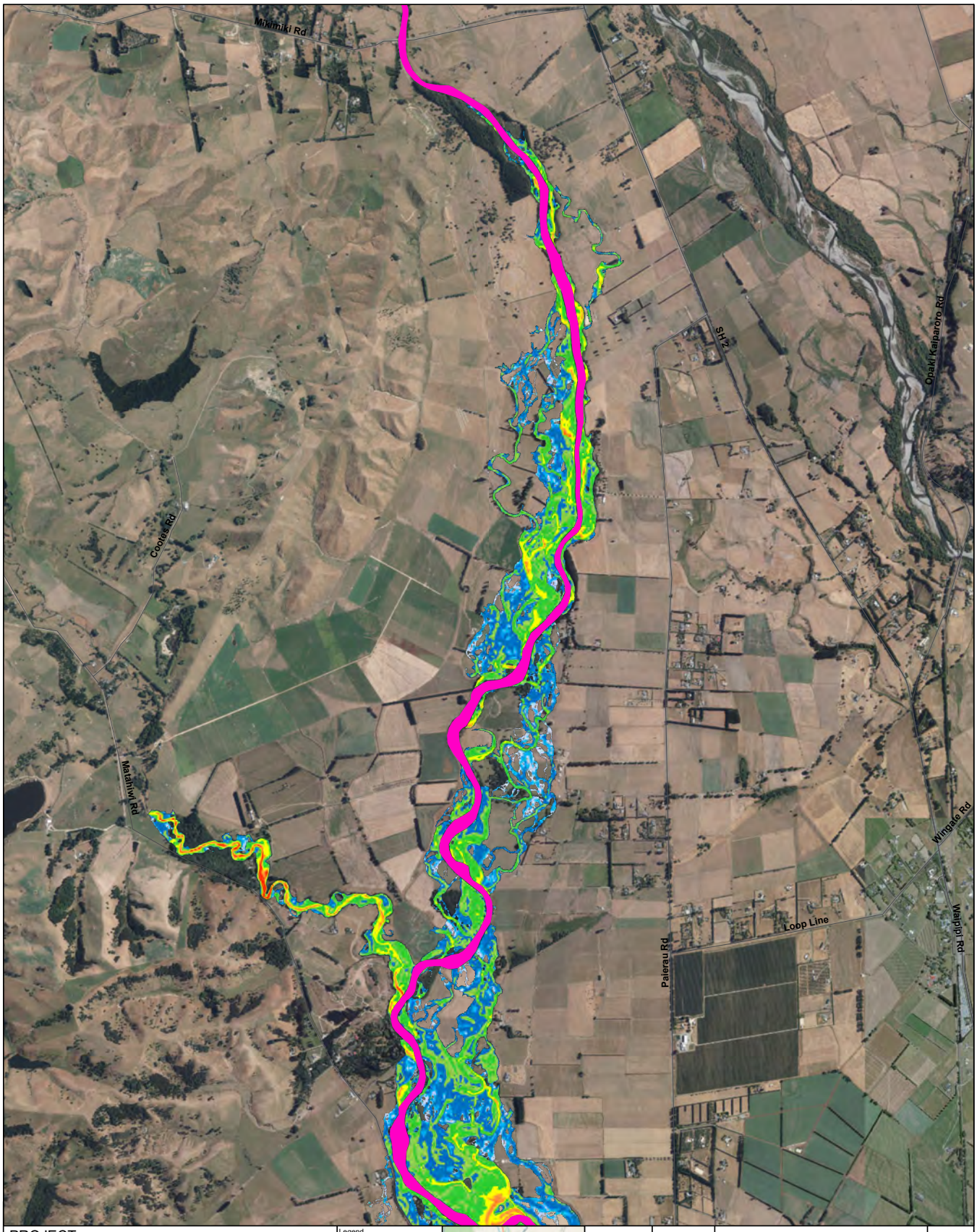

PROJECT
Waipoua River Flood Modelling

MAP 1 of 2
PEAK DEPTH MAP

10% AEP Flow, Historic Climate

AUTHOR
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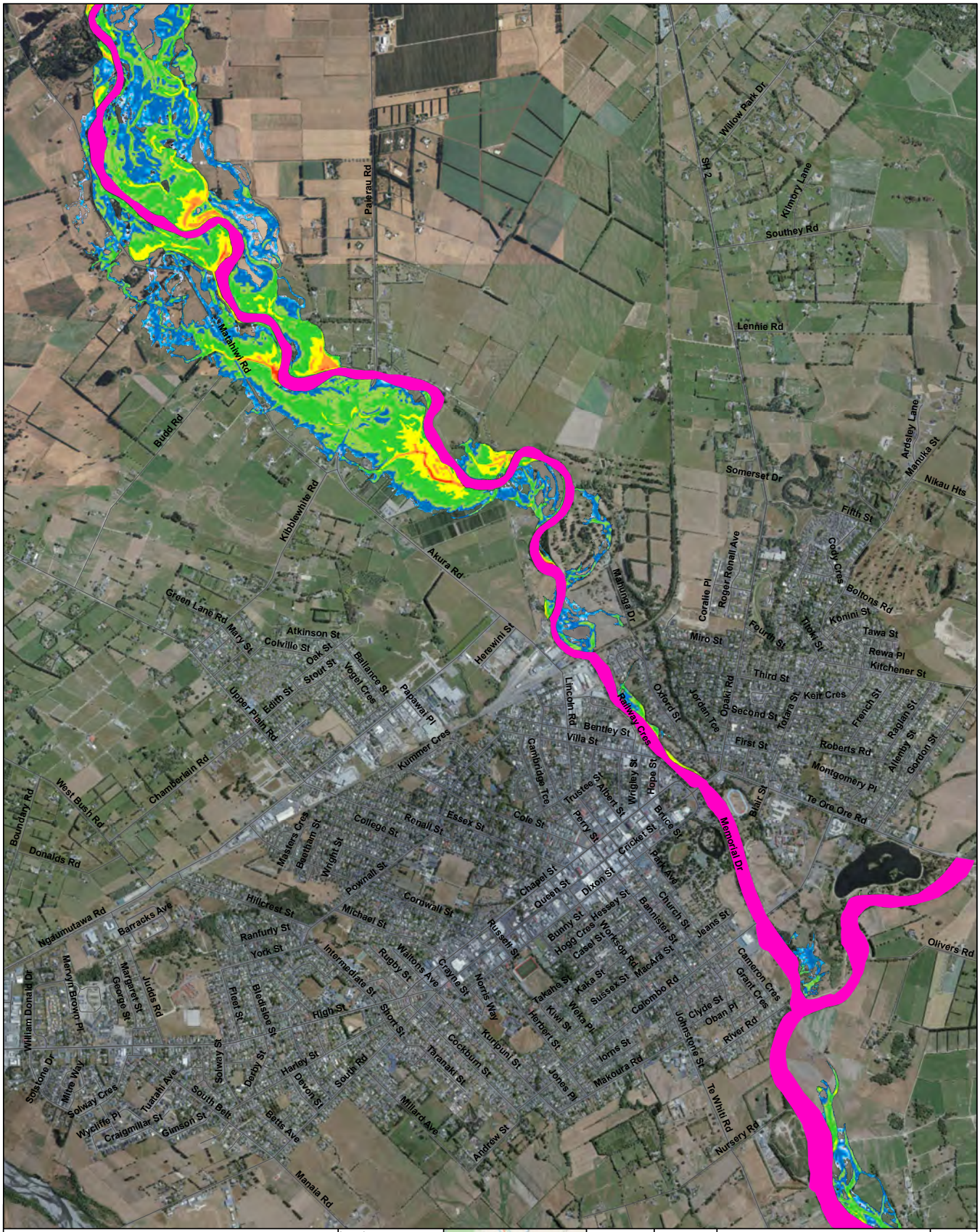

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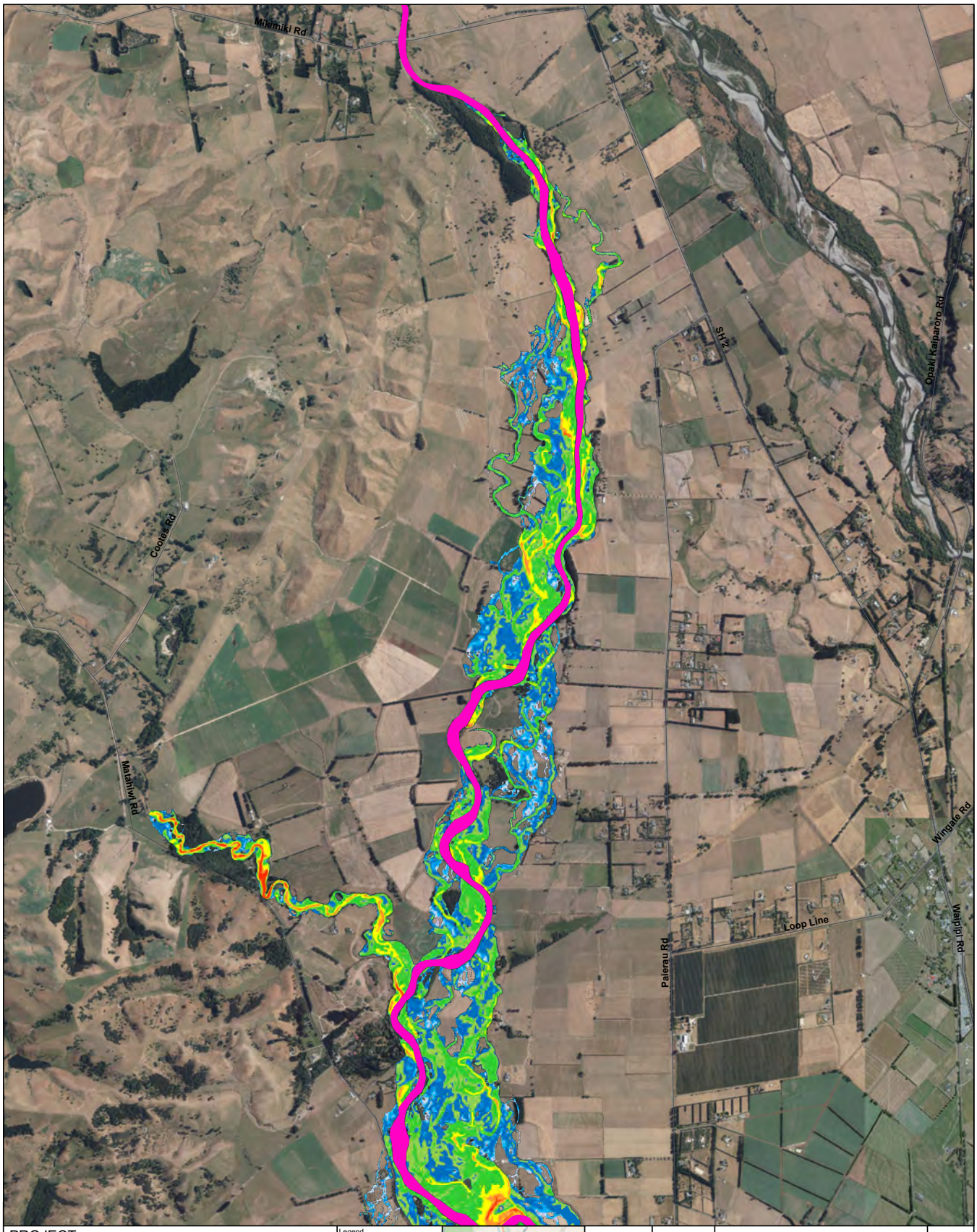

PROJECT
Waipoua River Flood Modelling

MAP 1 of 2
PEAK DEPTH MAP

5% AEP Flow, Historic Climate

AUTHOR
Matthew Gardner

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- Roads

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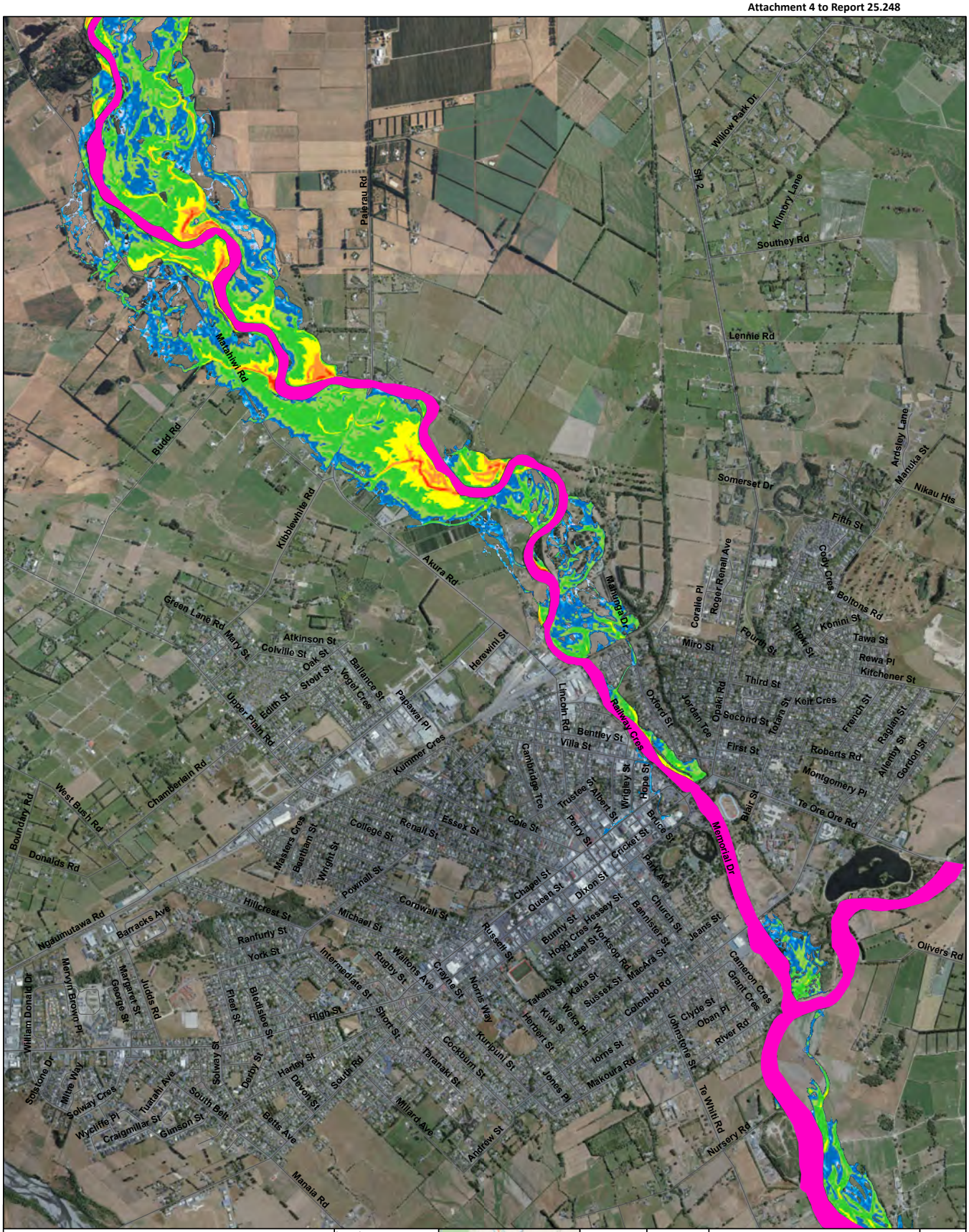

PROJECT
Waipoua River Flood Modelling

MAP 2 of 2
PEAK DEPTH MAP

5% AEP Flow, Historic Climate

AUTHOR
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- Roads

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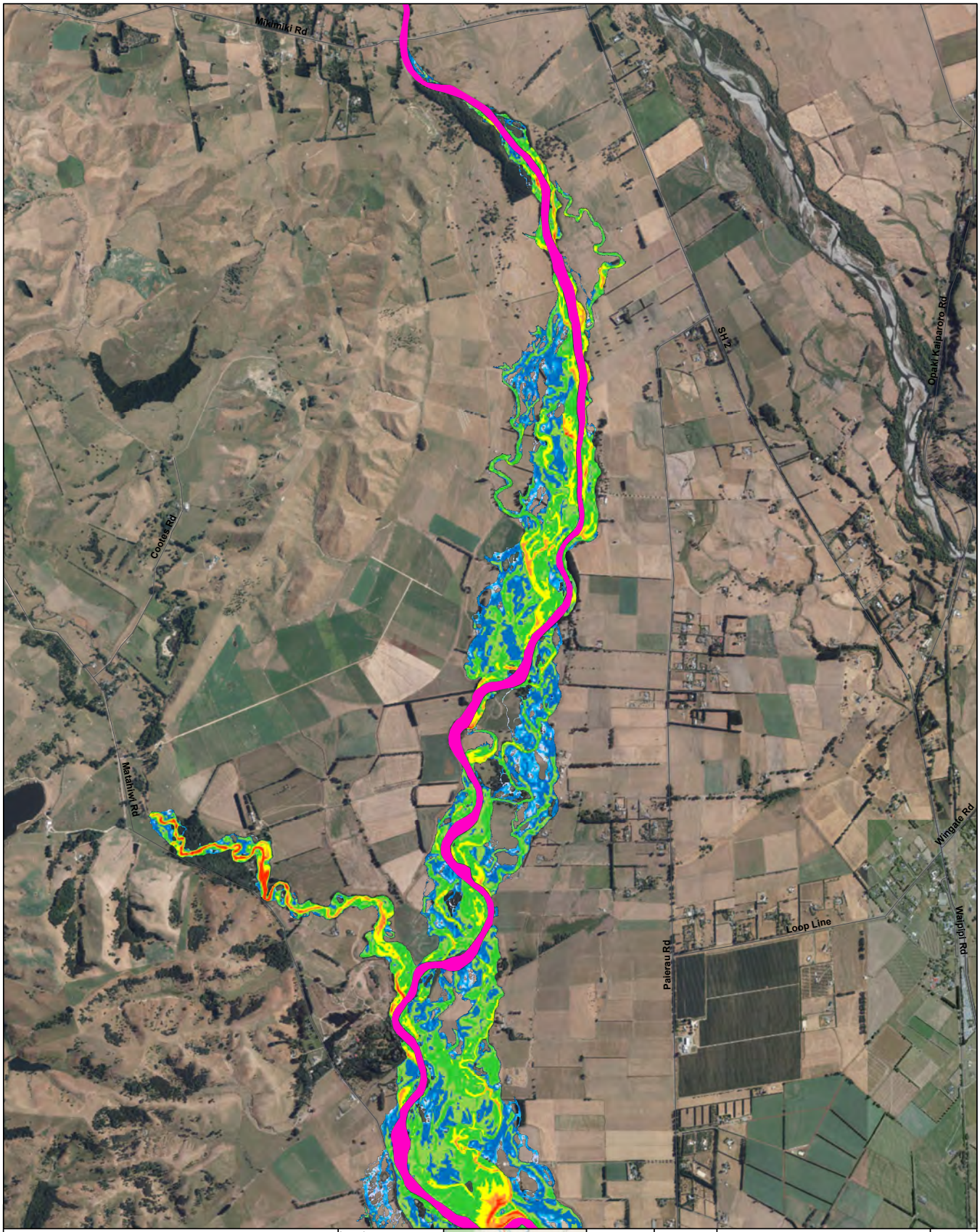

PROJECT
Waipoua River Flood Modelling

MAP 1 of 2
PEAK DEPTH MAP

2% AEP Flow, Historic Climate

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth(m)
- 0
- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2+

REVISION	01
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0 250 500 1,000 Meters

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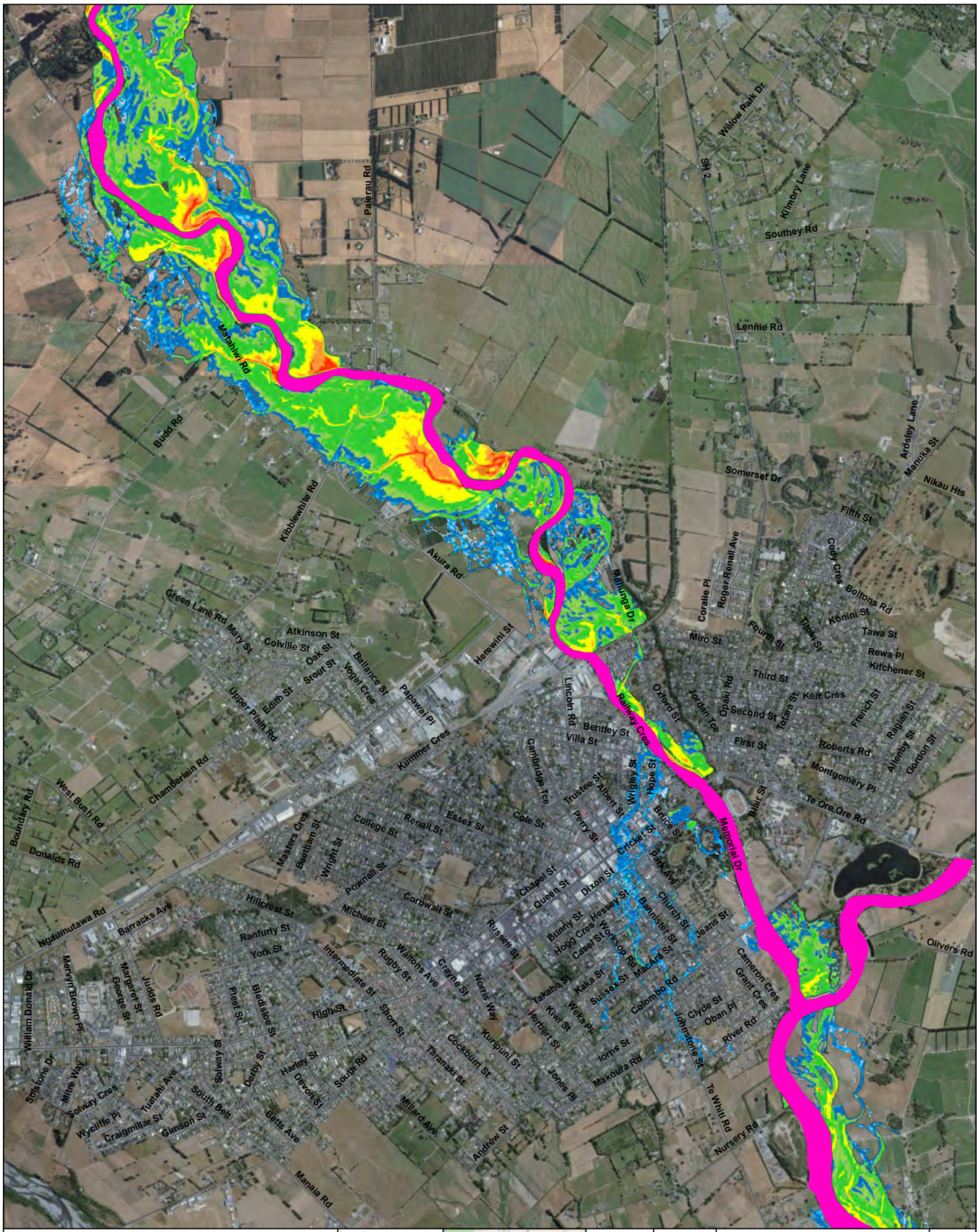
Greater Wellington Te Pane Matua Taiao



PROJECT	**Waipoua River Flood Modelling**
MAP 2 of 2	**PEAK DEPTH MAP**
	2% AEP Flow, Historic Climate
AUTHOR	**Matthew Gardner**

Legend
- 1D Channel
- Roads

Peak water depth(m)
- 0
- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
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0 250 500 1,000 Meters

N

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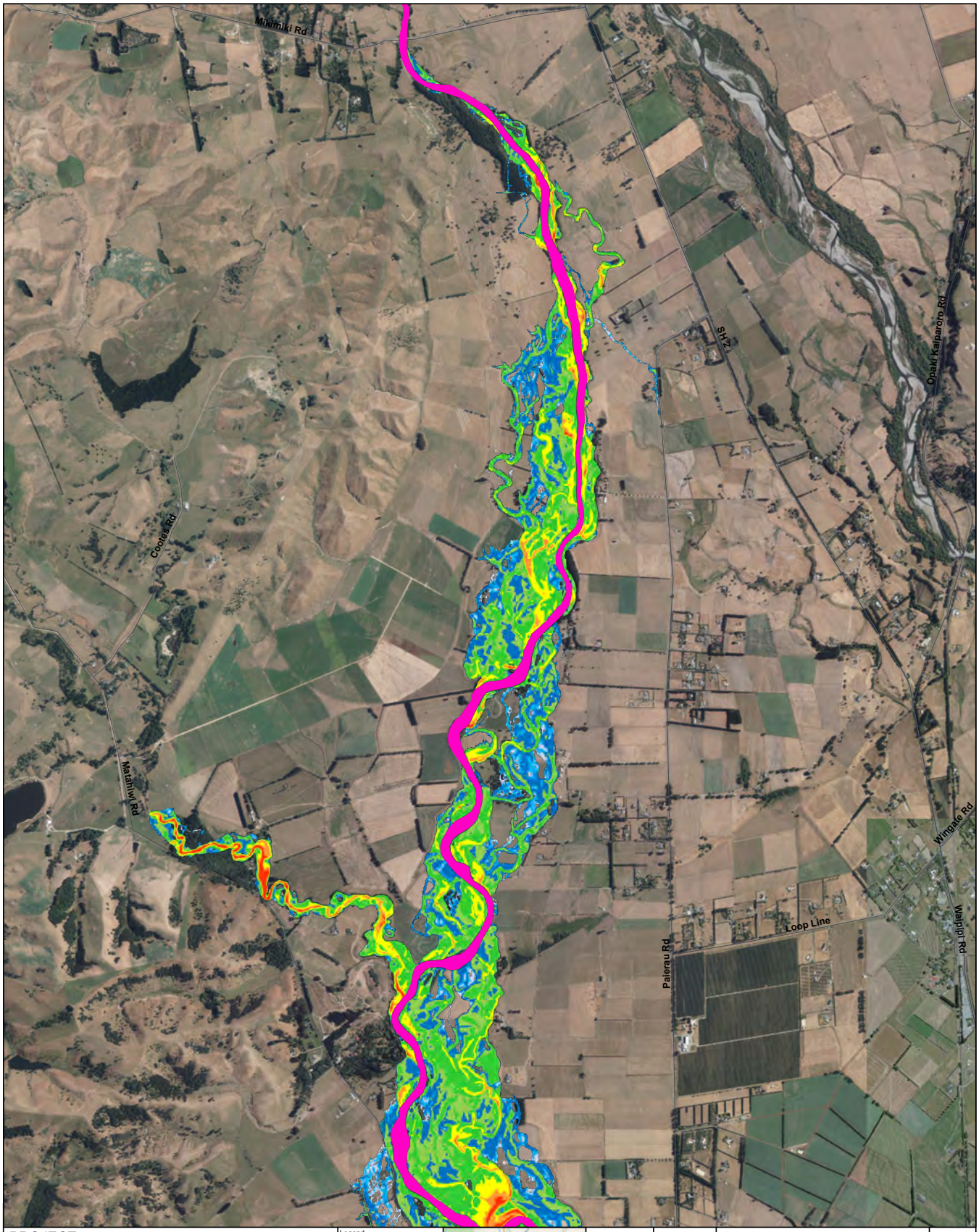

PROJECT
Waipoua River Flood Modelling

MAP 1 of 2
PEAK DEPTH MAP

1% AEP Flow, Historic Climate

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth(m)
- 0
- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2+

REVISION	01
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0 250 500 1,000 Meters

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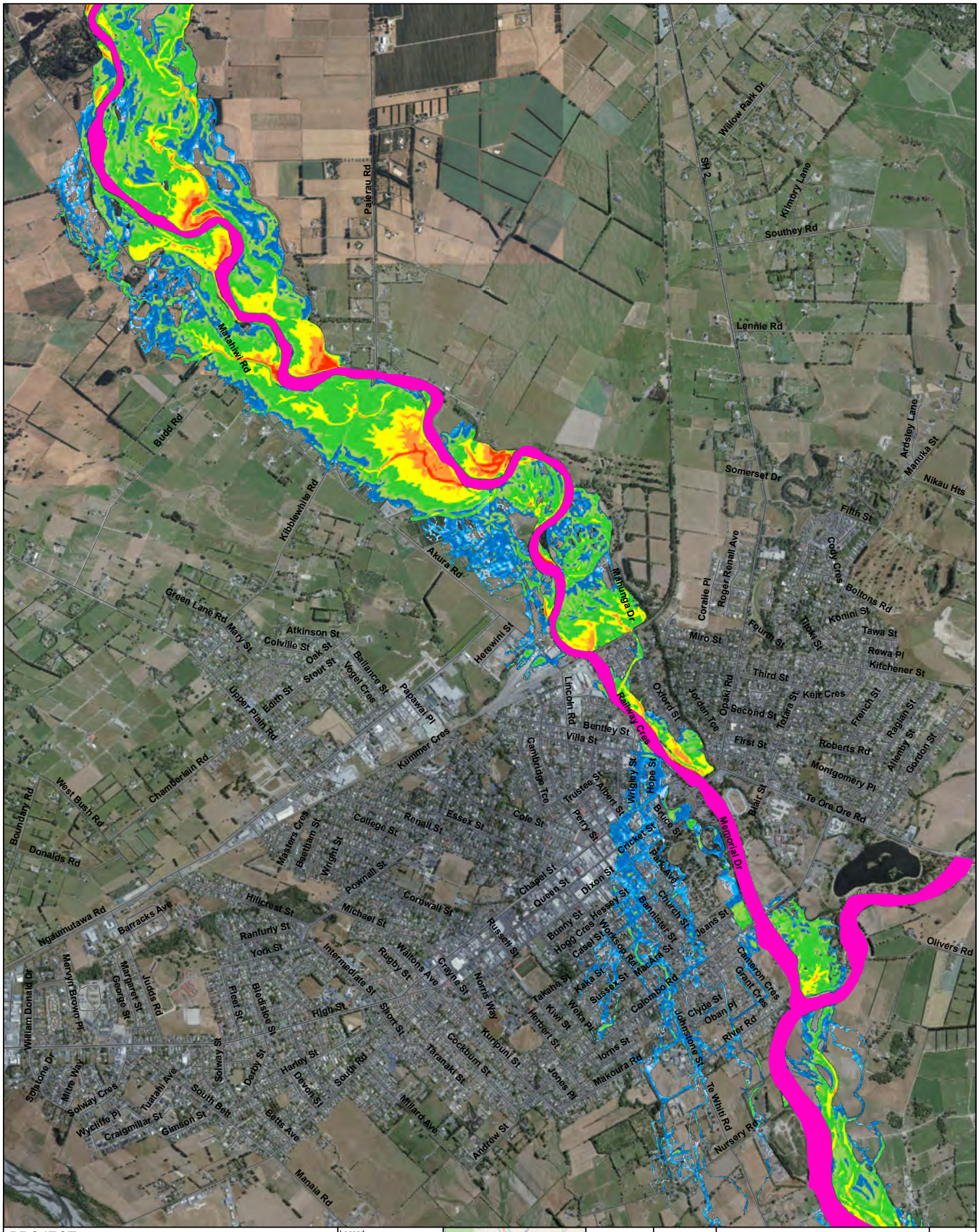

PROJECT
Waipoua River Flood Modelling

MAP 2 of 2
PEAK DEPTH MAP

1% AEP Flow, Historic Climate

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth(m)
- 0
- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.3
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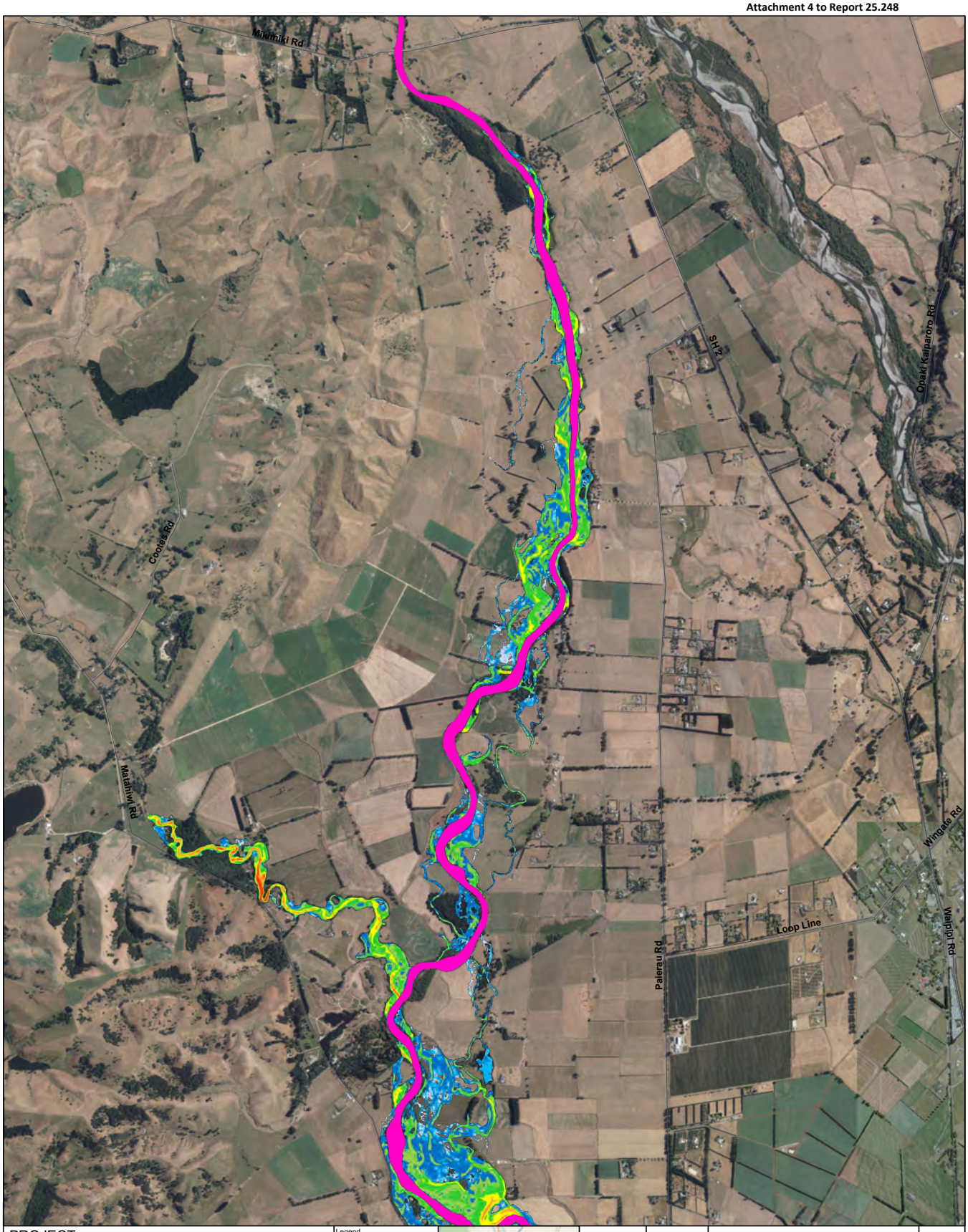

PROJECT
Waipoua River Flood Modelling

MAP 1 of 2
PEAK DEPTH MAP

39.35% AEP Flow, Future Climate (RCP6)

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth(m)
- 0
- 0 - 0.05
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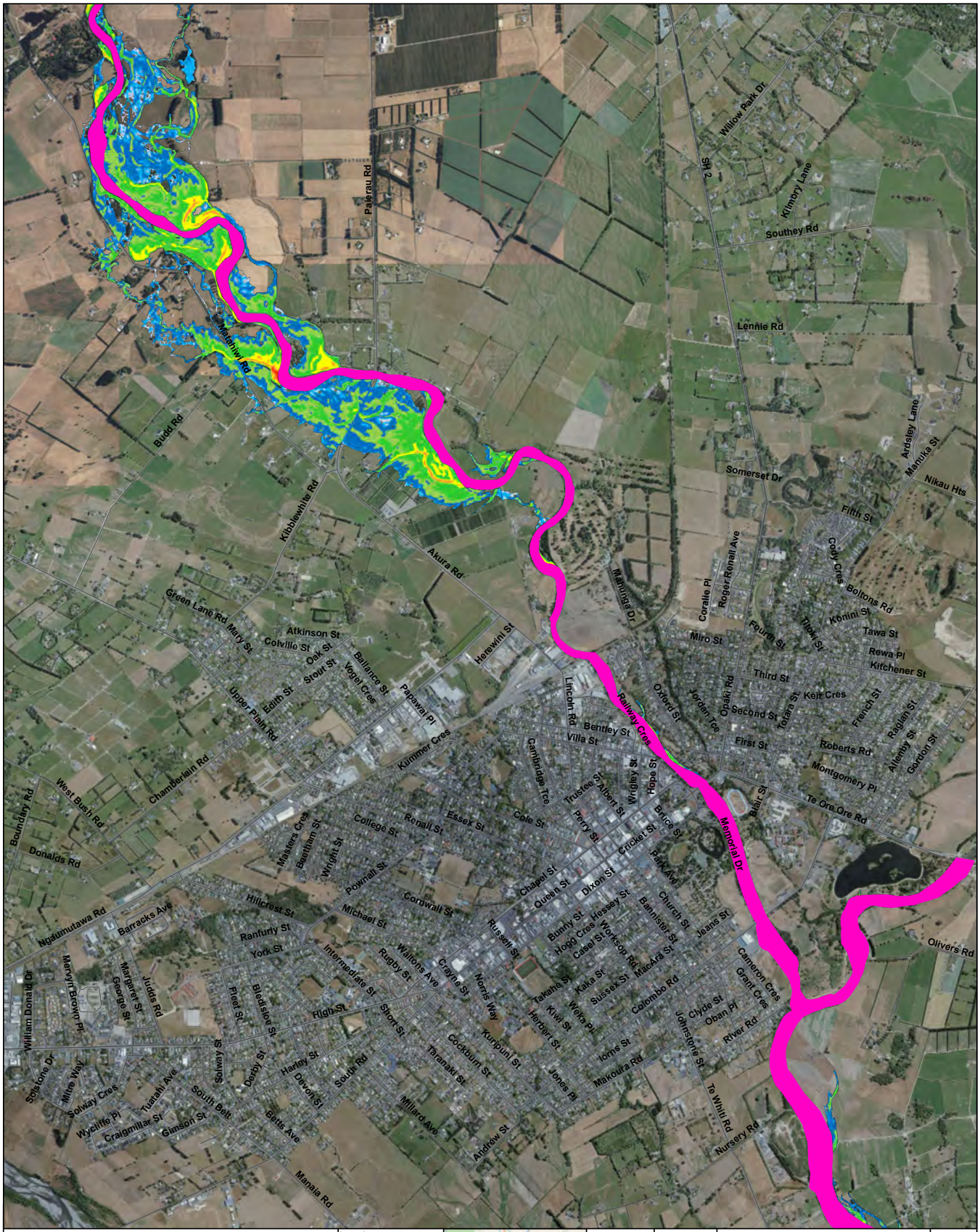

PROJECT
Waipoua River Flood Modelling

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39.35% AEP Flow, Future Climate (RCP6)

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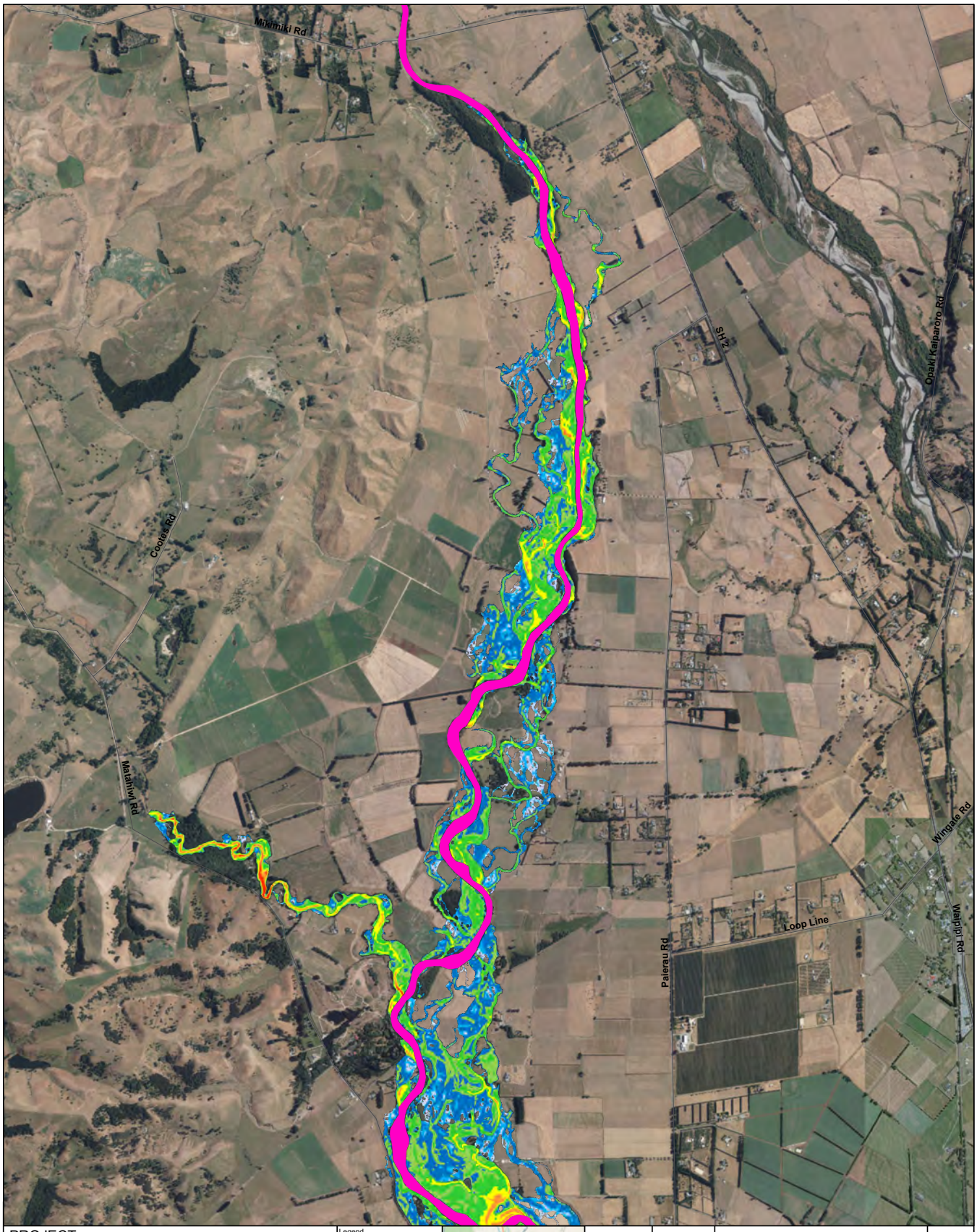

PROJECT
Waipoua River Flood Modelling

MAP 1 of 2

PEAK DEPTH MAP

20% AEP Flow, Future Climate (RCP6)

AUTHOR
Matthew Gardner

Legend
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- Roads

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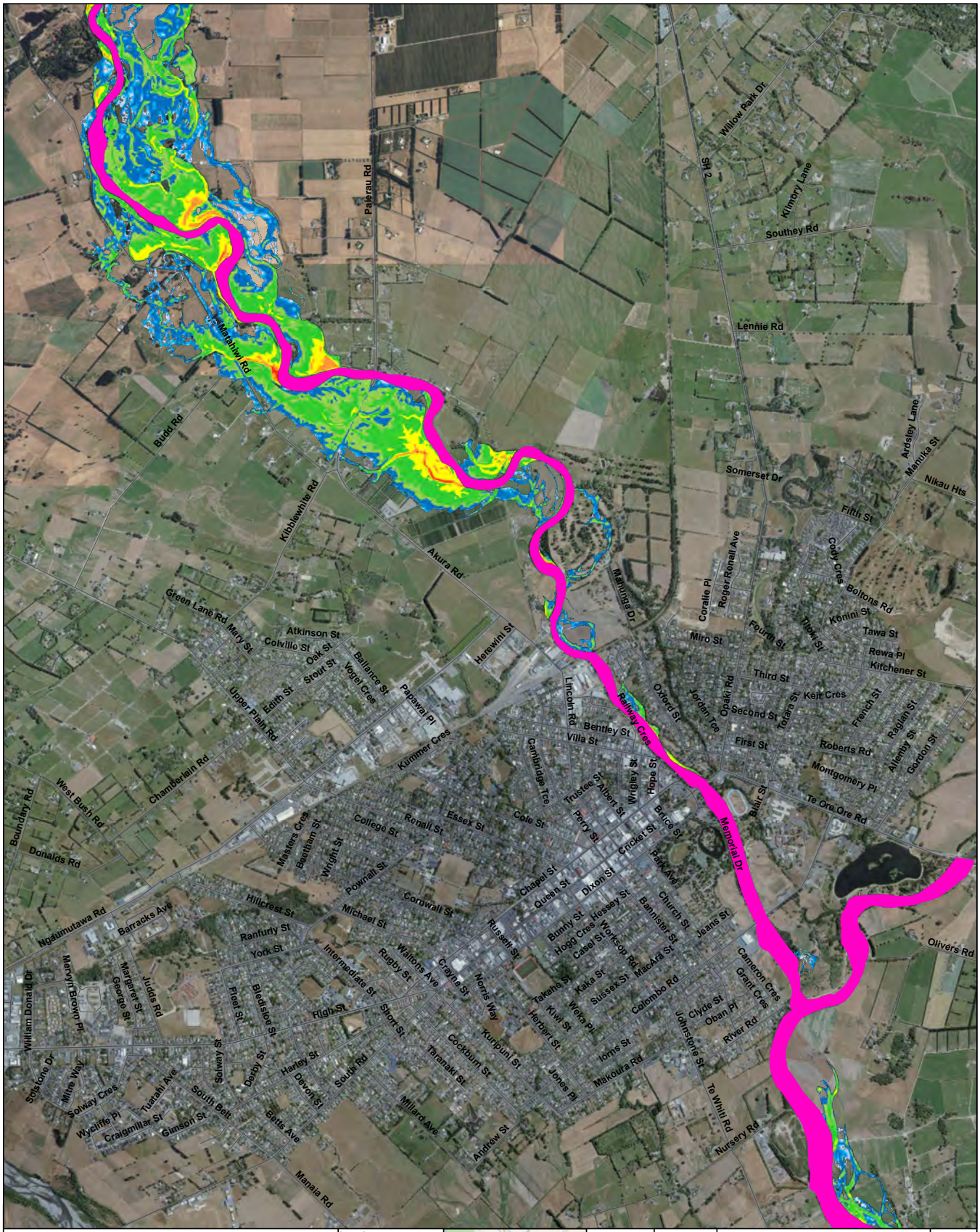
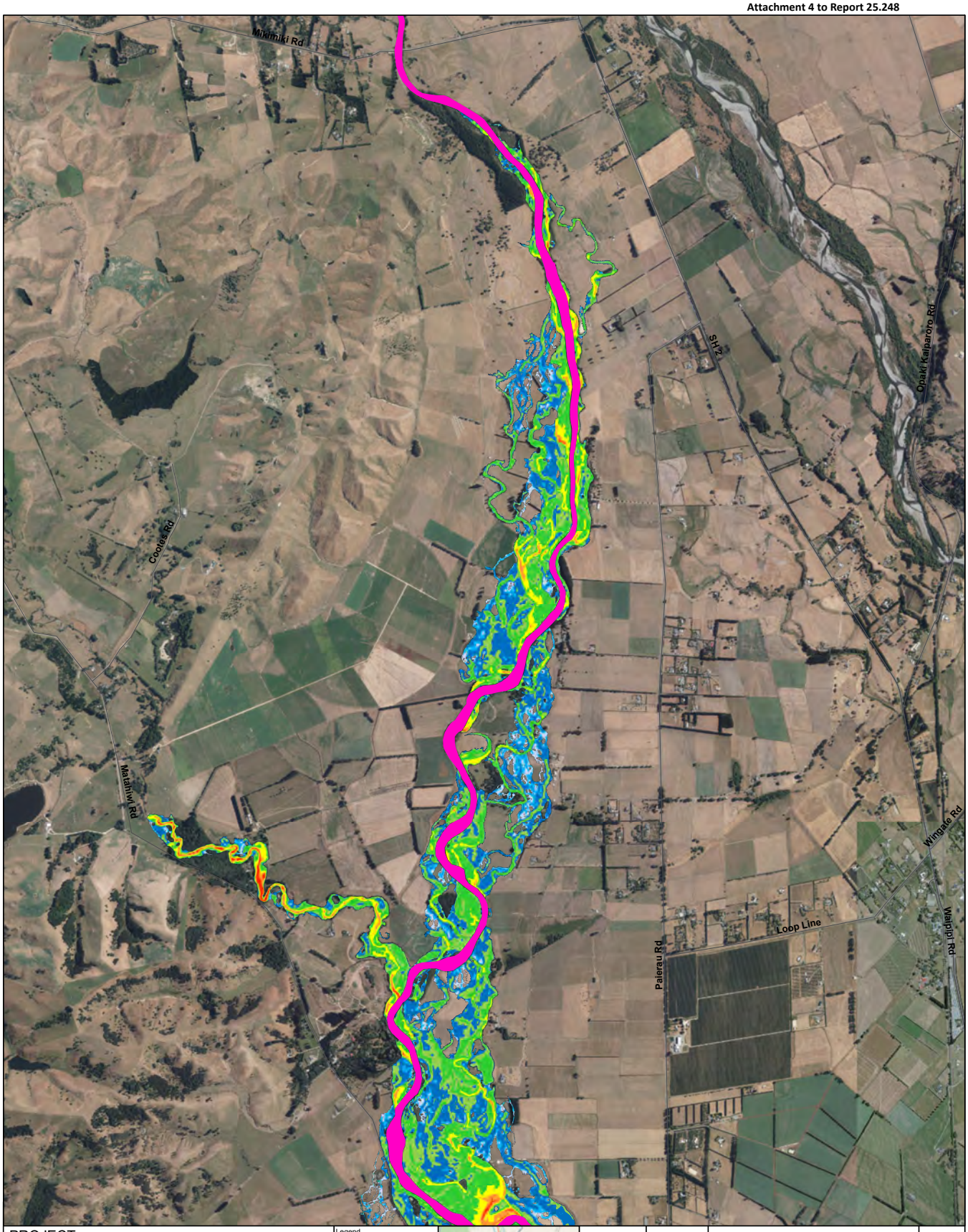


PROJECT **Waipoua River Flood Modelling**	Legend 1D Channel Roads Peak water depth(m) 0 0 - 0.05 0.05 - 0.1 0.1 - 0.3 0.3 - 0.5 0.5 - 1 1 - 1.5 1.5 - 2 2+		REVISION 01 DATE 26/02/2023 A3 SCALE 1:22,000 CREATED BY BS REVISED BY MG
MAP 2 of 2 **PEAK DEPTH MAP** **20% AEP Flow, Future Climate (RCP6)**			0 250 500 1,000 Meters N Model Information: Coordinate System: New Zealand Transverse Mercator Vertical Datum: Wairarapa Local Datum Model Completed:
AUTHOR **Matthew Gardner**		LANDRIVERSEA CONSULTING Greater Wellington Te Pane Matua Taiao	Copyright: This work is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc/4.0/



PROJECT
Waipoua River Flood Modelling

MAP 1 of 2

PEAK DEPTH MAP

10% AEP Flow, Future Climate (RCP6)

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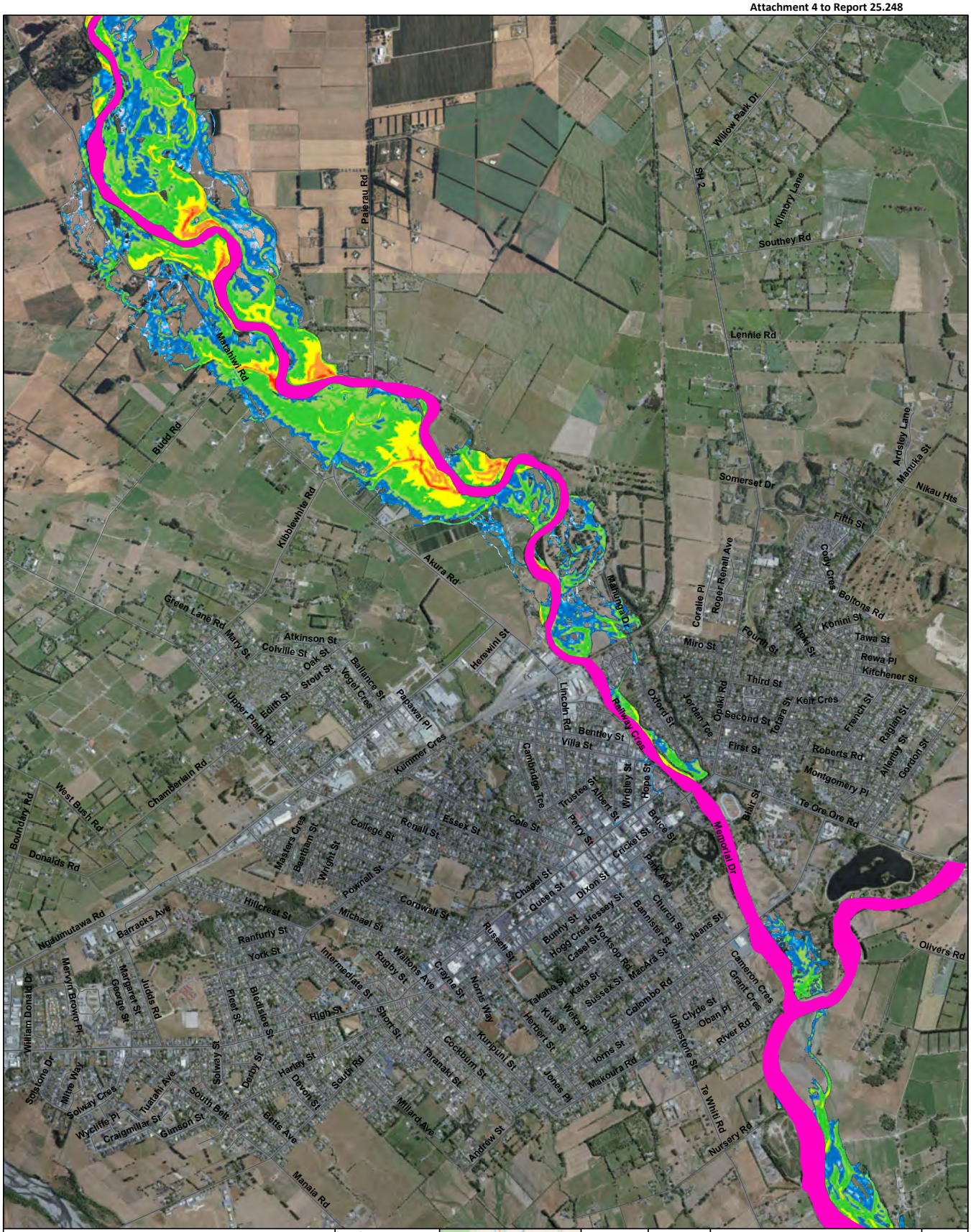

PROJECT
Waipoua River Flood Modelling

MAP 2 of 2

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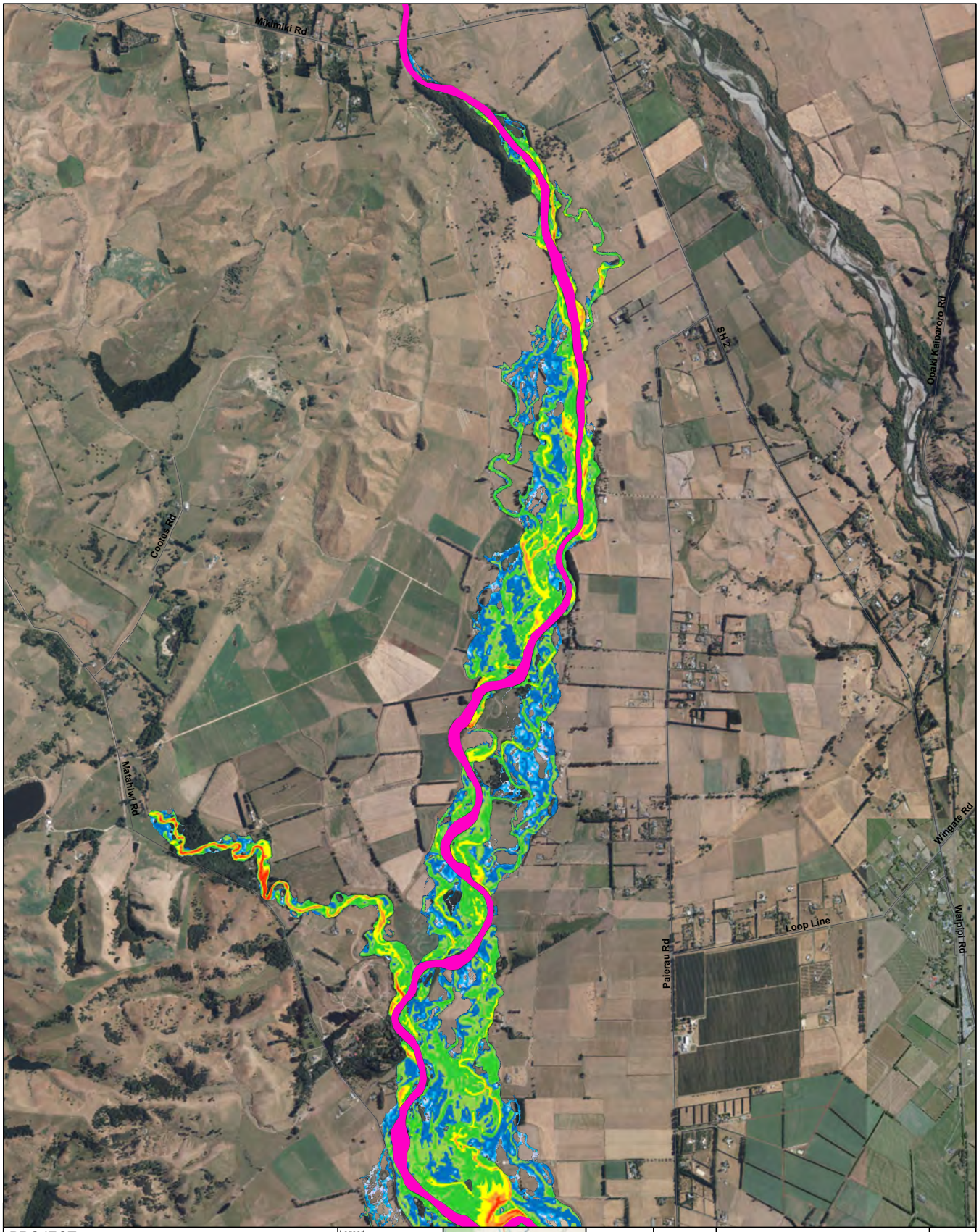

PROJECT
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MAP 1 of 2

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Greater Wellington Te Pane Matua Taiao

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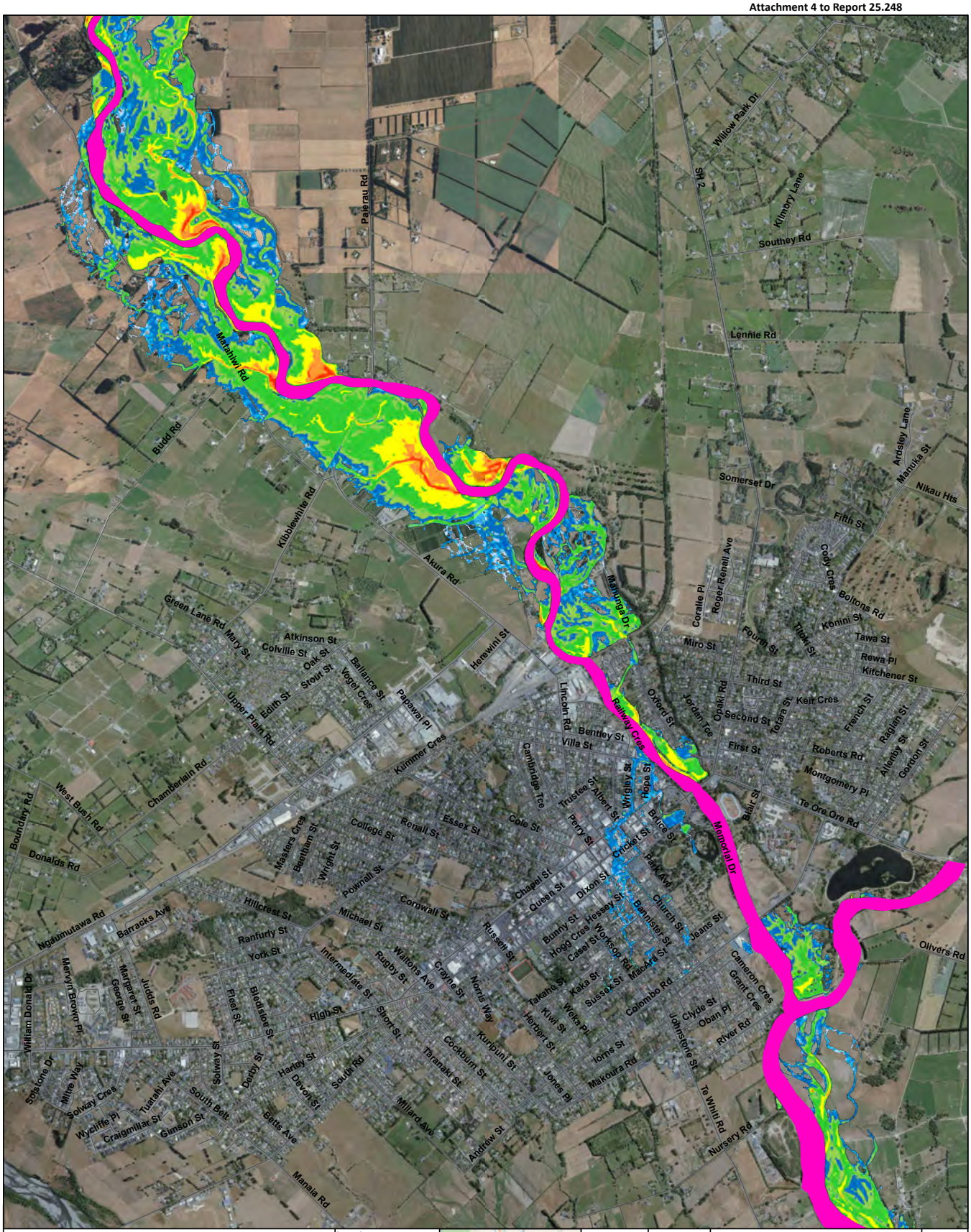

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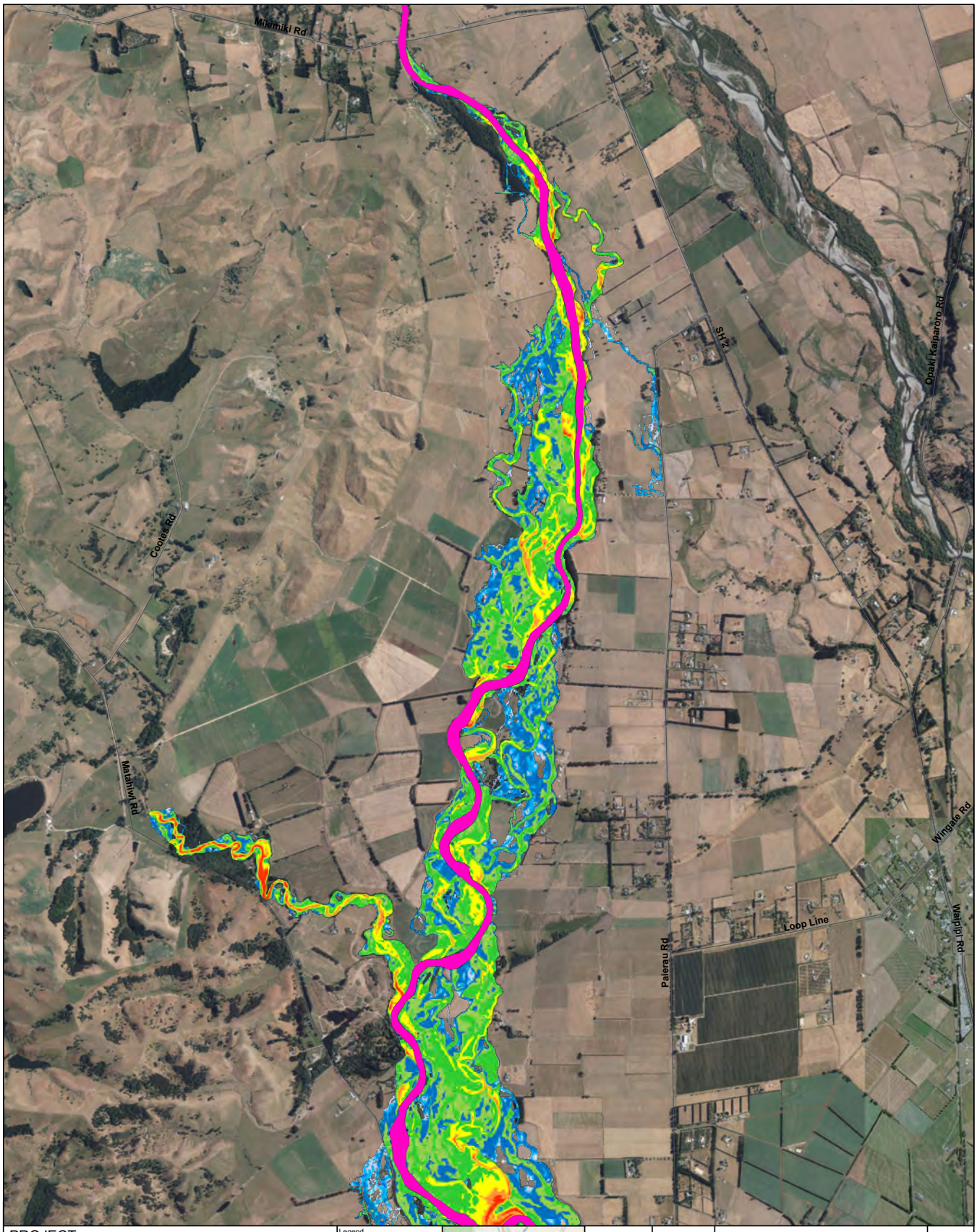
LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao



PROJECT
Waipoua River Flood Modelling

MAP 1 of 2

PEAK DEPTH MAP

2% AEP Flow, Future Climate (RCP6)

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth(m)
- 0
- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2+

REVISION	01
DATE	26/02/2023
A3 SCALE	1:22,000
CREATED BY	BS
REVISED BY	MG

0 250 500 1,000 Meters

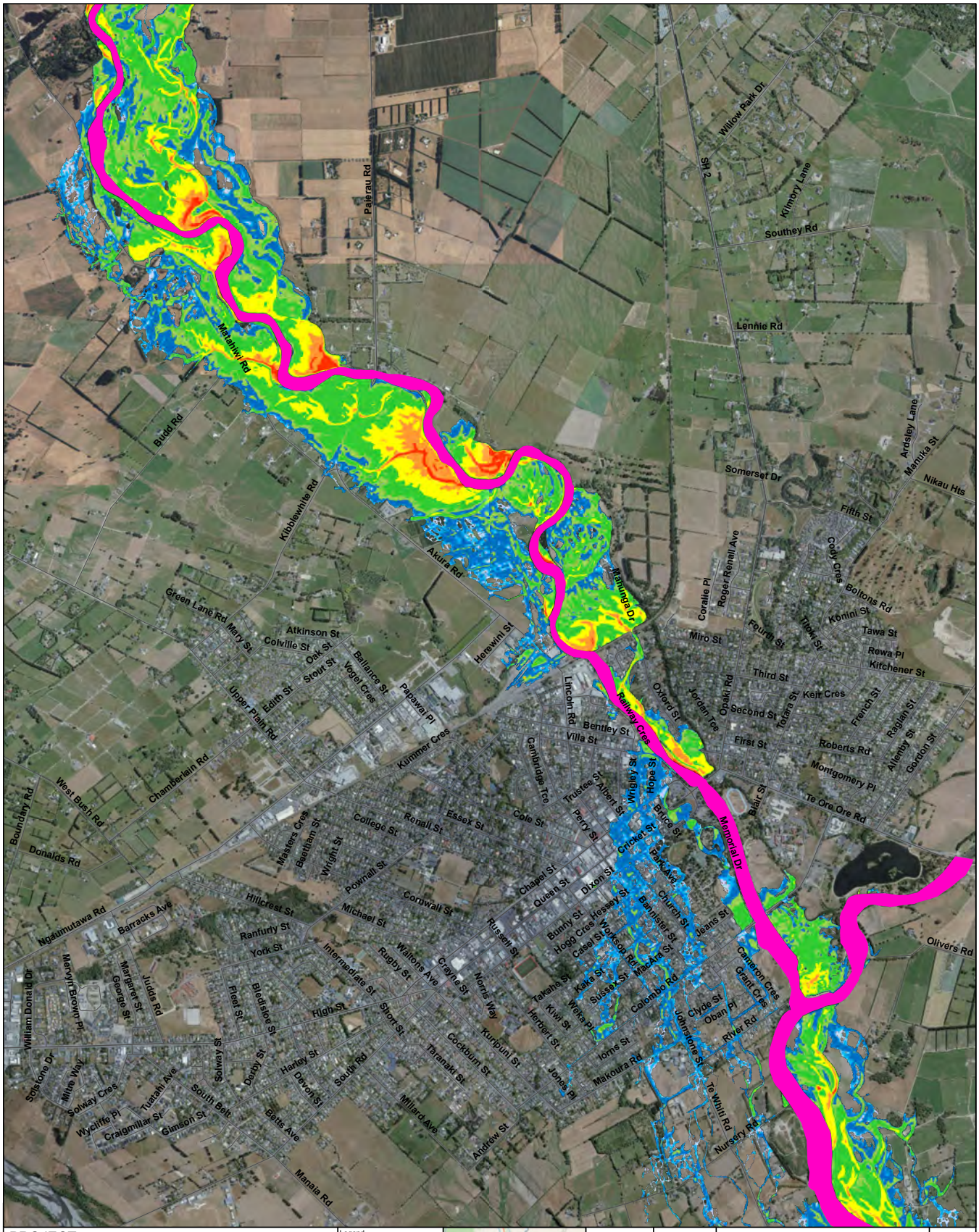
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum

Model Completed:

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao



PROJECT
Waipoua River Flood Modelling

MAP 2 of 2

PEAK DEPTH MAP

2% AEP Flow, Future Climate (RCP6)

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth(m)
- 0
- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2+

REVISION	01
DATE	26/02/2023
A3 SCALE	1:22,000
CREATED BY	BS
REVISED BY	MG

0 250 500 1,000 Meters

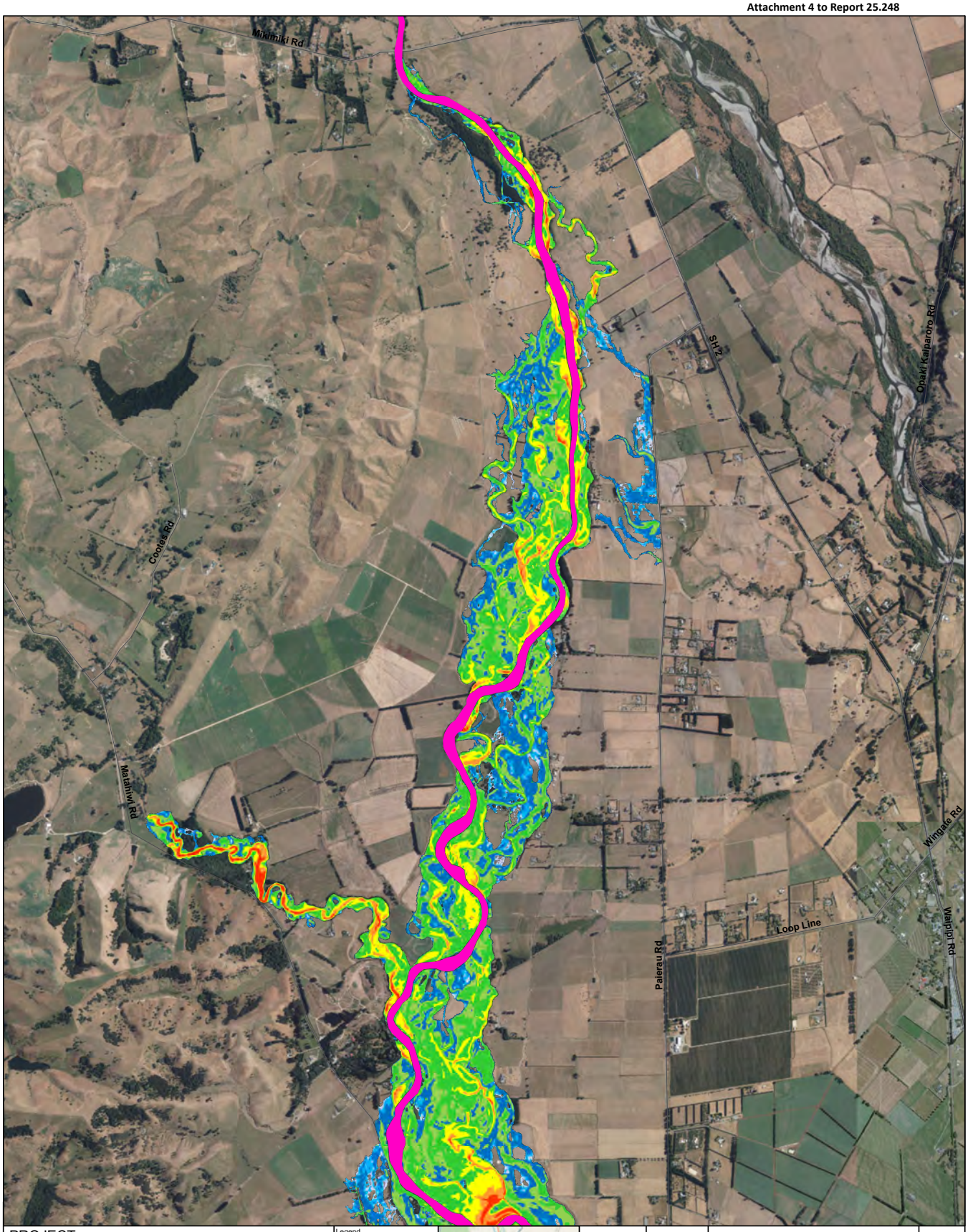
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum

Model Completed:

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao



PROJECT
Waipoua River Flood Modelling

MAP 1 of 2

PEAK DEPTH MAP

1% AEP Flow, Future Climate (RCP6)

AUTHOR
Matthew Gardner

Legend
- 1D Channel
- Roads

Peak water depth(m)
- 0
- 0 - 0.05
- 0.05 - 0.1
- 0.1 - 0.3
- 0.3 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2+

REVISION	01
DATE	26/02/2023
A3 SCALE	1:22,000
CREATED BY	BS
REVISED BY	MG

0 250 500 1,000 Meters

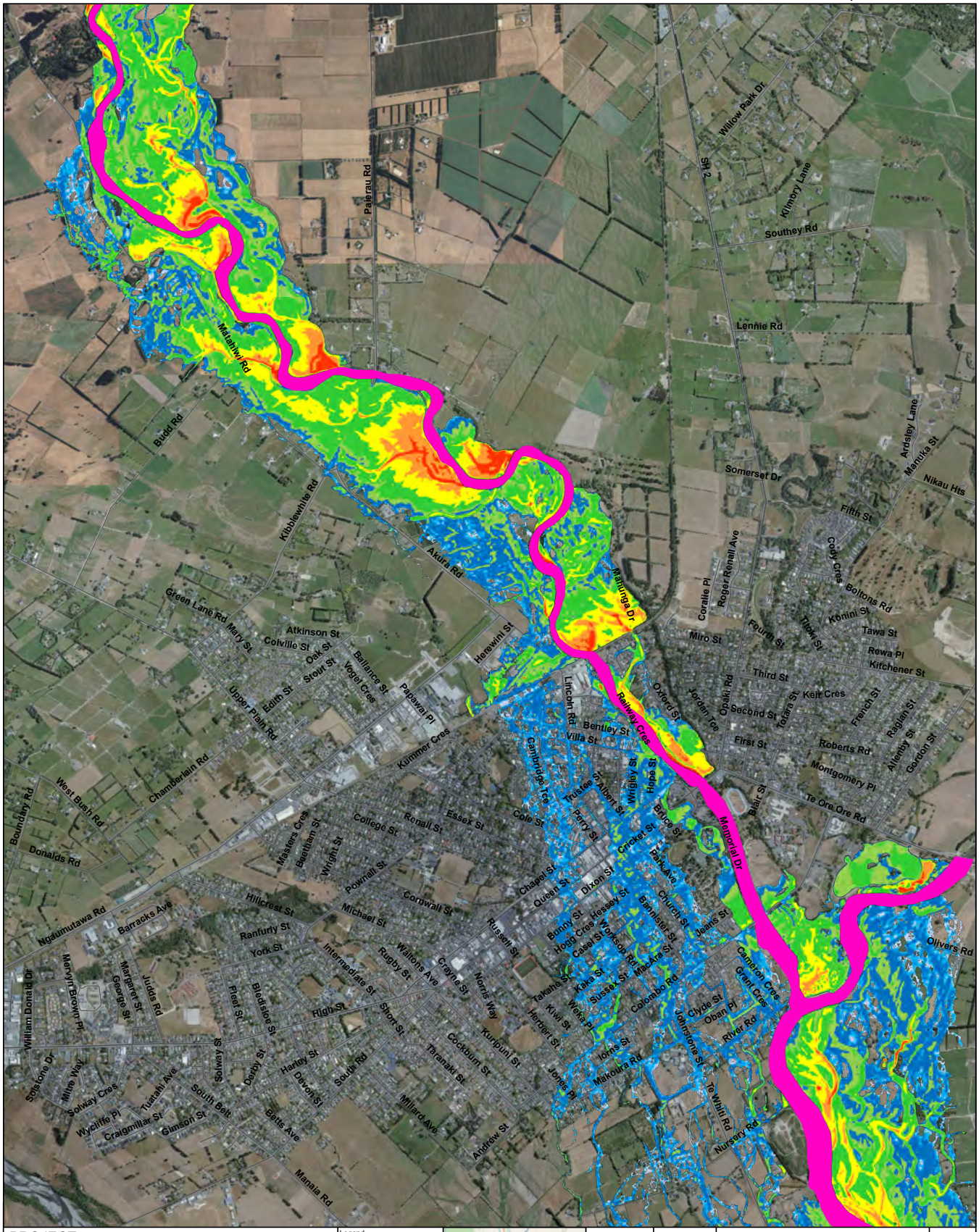
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum

Model Completed:

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao



PROJECT		Legend	
Waipoua River Flood Modelling		1D Channel	
MAP 2 of 2		Roads	
PEAK DEPTH MAP		Peak water depth(m)	
1% AEP Flow, Future Climate (RCP6)		0	
AUTHOR		0 - 0.05	
Matthew Gardner		0.05 - 0.1	
		0.1 - 0.3	
		0.3 - 0.5	
		0.5 - 1	
		1 - 1.5	
		1.5 - 2	
		2+	

REVISION	01
DATE	26/02/2023
A3 SCALE	1:22,000
CREATED BY	BS
REVISED BY	MG

0 250 500 1,000 Meters

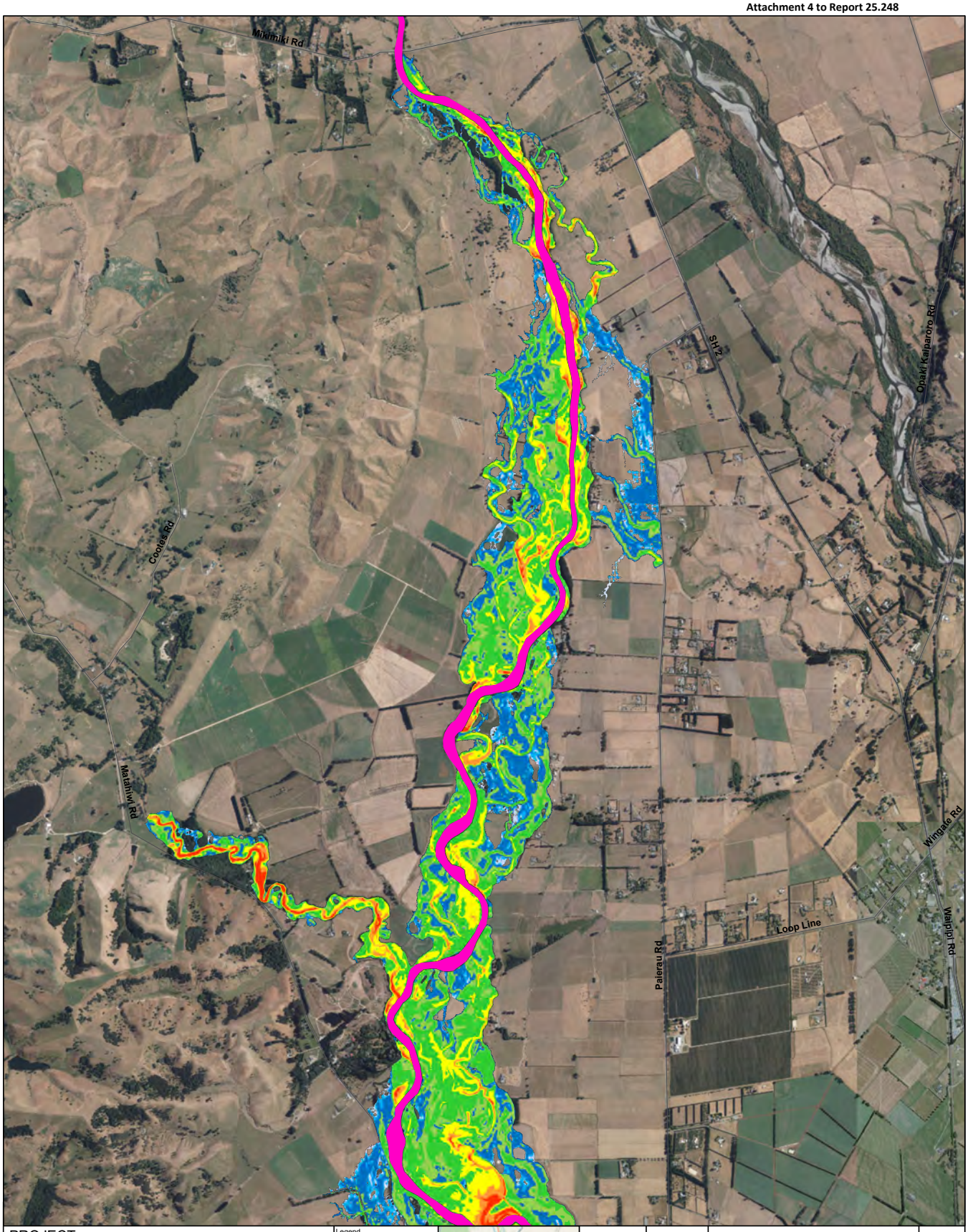
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum

Model Completed:

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao



PROJECT
Waipoua River Flood Modelling

MAP 1 of 2
PEAK DEPTH MAP

Combined Sensitivity Runs
1% AEP Flow, Future Climate (RCP6)

AUTHOR
Matthew Gardner

Legend
1D Channel
Peak water depth (m)
0
0 - 0.05
0.05 - 0.1
0.1 - 0.3
0.3 - 0.5
0.5 - 1
1 - 1.5
1.5 - 2
2+
Roads

REVISION	01
DATE	3/03/2023
A3 SCALE	1:22,000
CREATED BY	BS
REVISED BY	MG

0 250 500 1,000 Meters

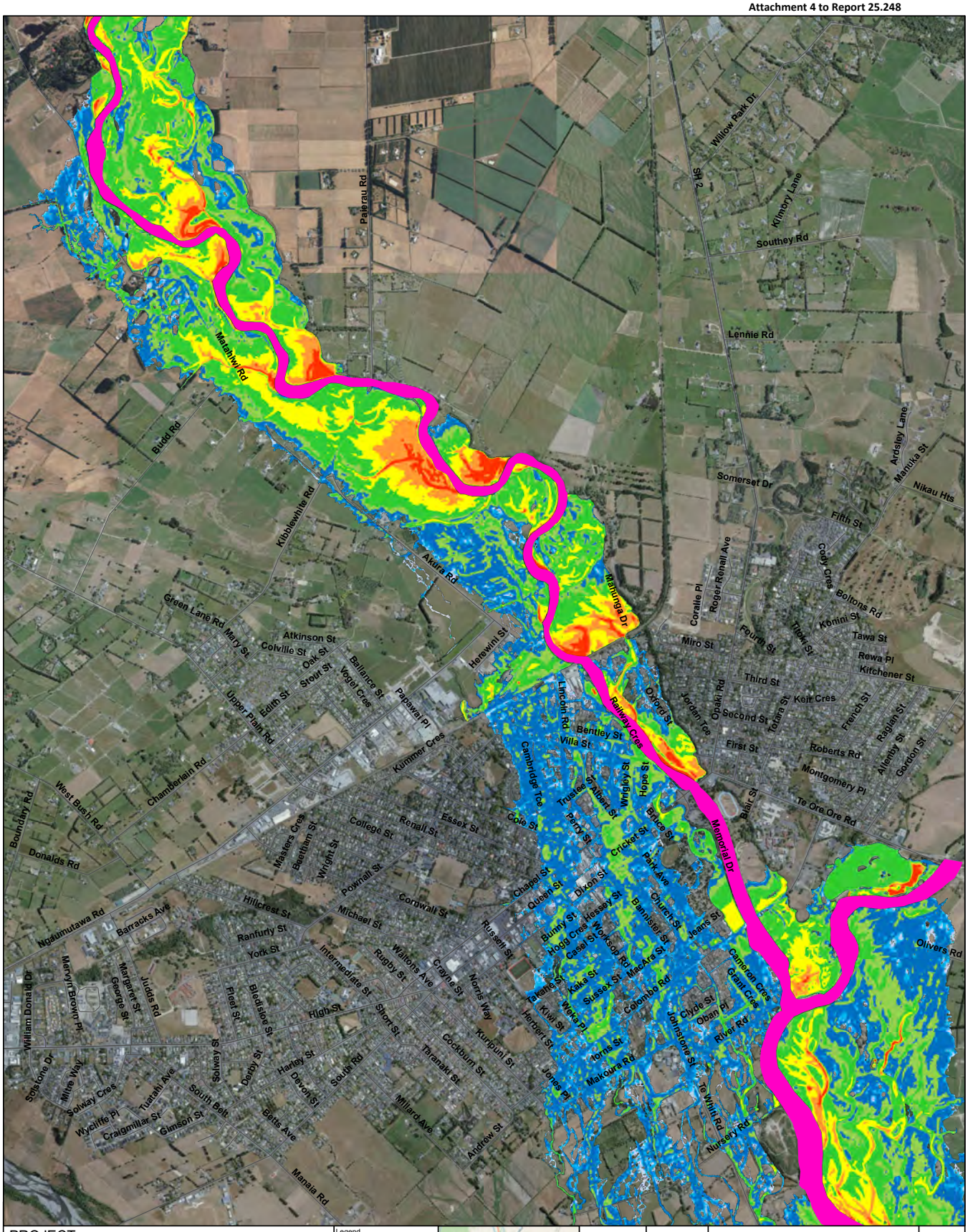
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum

Model Completed:

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao



PROJECT	**Waipoua River Flood Modelling**
MAP 2 of 2	**PEAK DEPTH MAP**
	Combined Sensitivity Runs **1% AEP Flow, Future Climate (RCP6)**
AUTHOR	**Matthew Gardner**

Legend
- 1D Channel
- Peak water depth (m)
  - 0
  - 0 - 0.05
  - 0.05 - 0.1
  - 0.1 - 0.3
  - 0.3 - 0.5
  - 0.5 - 1
  - 1 - 1.5
  - 1.5 - 2
  - 2+
- Roads

REVISION	01
DATE	3/03/2023
A3 SCALE	1:22,000
CREATED BY	BS
REVISED BY	MG

0 250 500 1,000 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum

Model Completed:

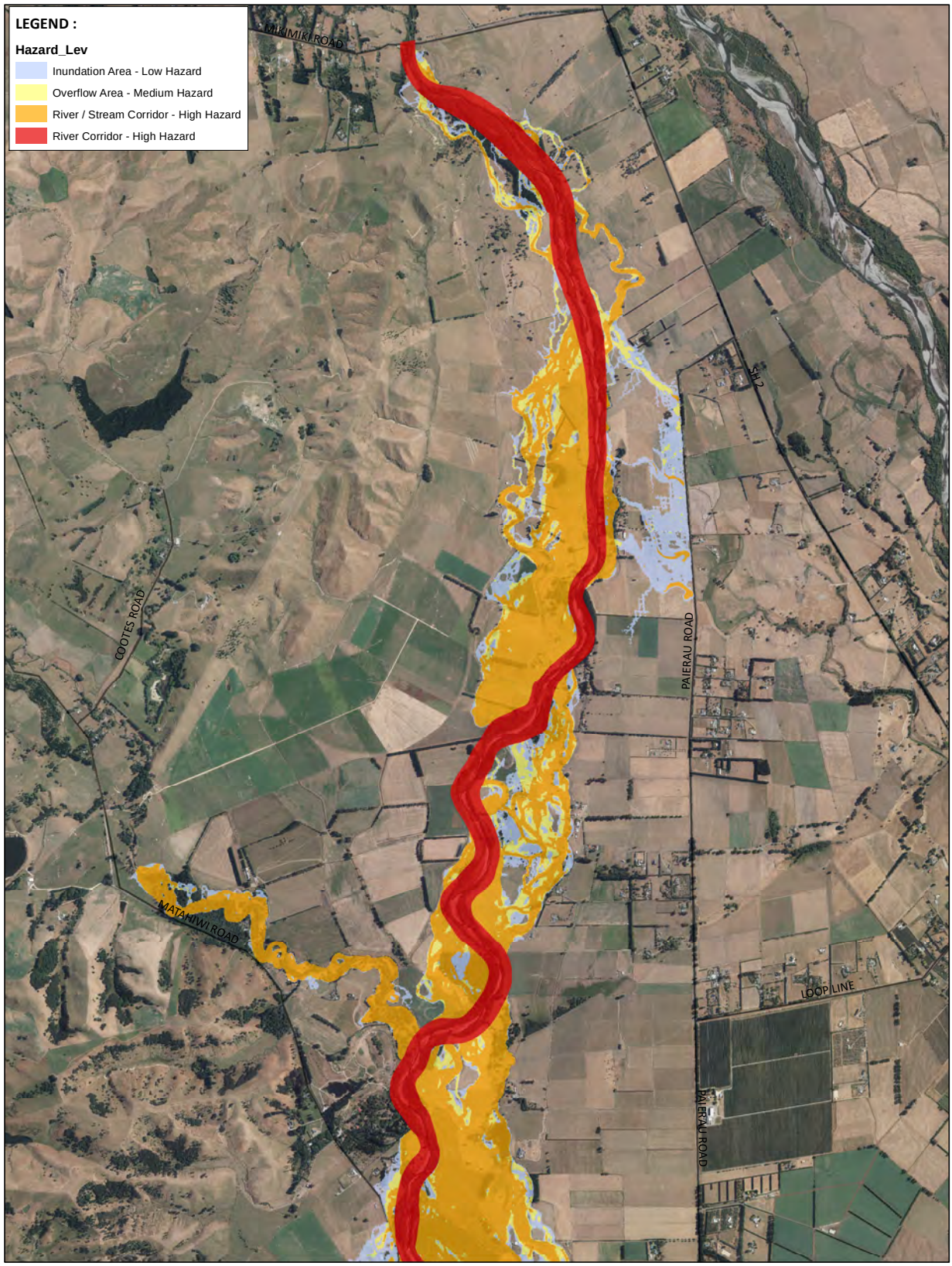
LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

Attachment 5 to Report 25.248

ATTACHMENT 5 - Flood hazard map for the Waipoua River

Attachment 5 to Report 25.248



WAIPOUA RIVER HAZARD MAP
Combined Sensitivity Runs 1% AEP Flow, Future Climate (RCP6)
Map (1 of 2)

N

Greater Wellington
Te Pane Matua Taiao

0 230 460 920 Metres

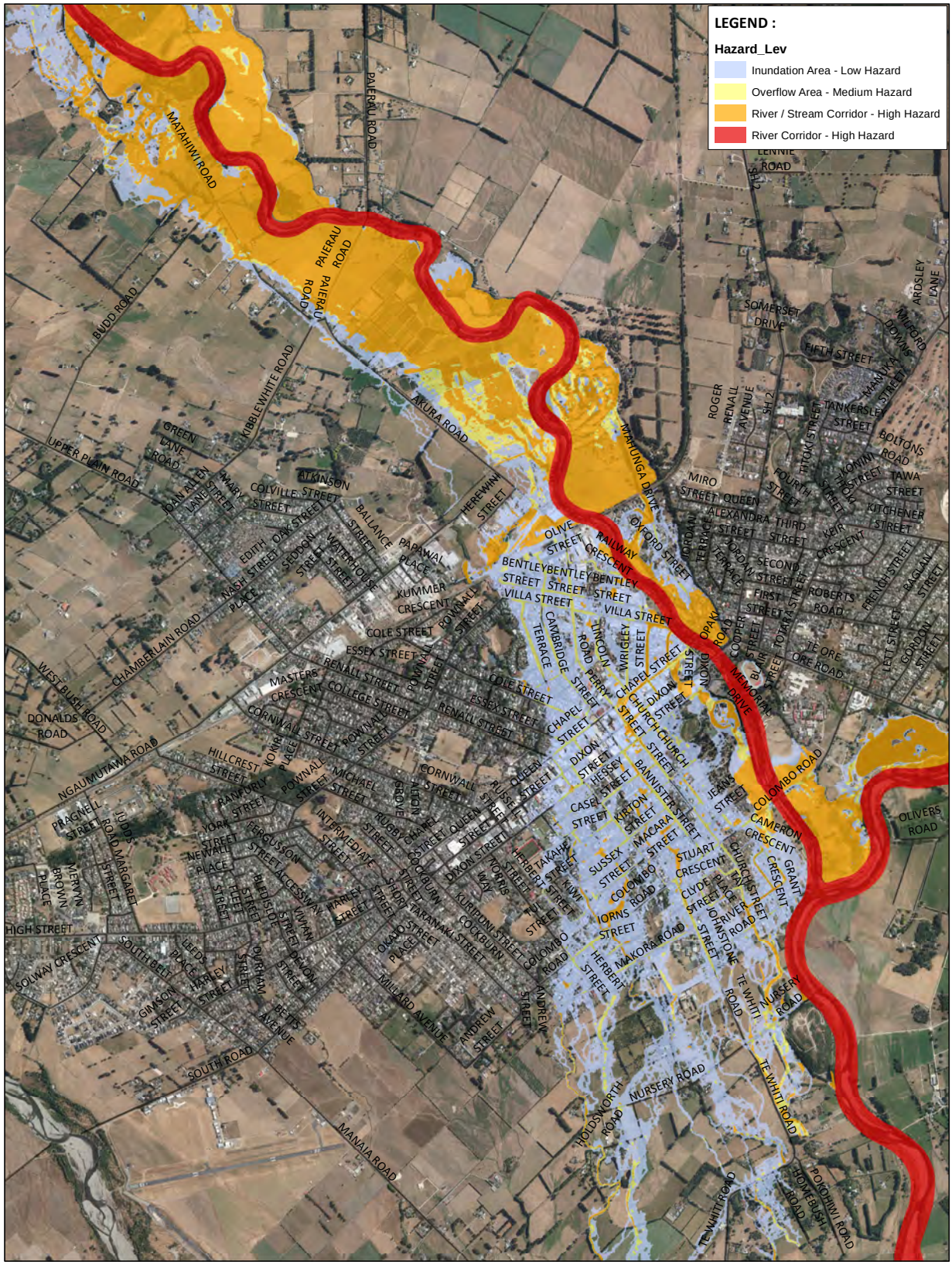
A3 Scale: 1:22,000

DISCLAIMER:
The flood hazard information shown on this plan is based on the best available data at the time of preparation. Specific interpretation of flood risk in any areas shown to be affected by flooding should be obtained by written request from the Greater Wellington Regional Council. The GWRC and other agencies involved in the preparation of this plan assume no responsibility for any interpretation or action taken by any agency or individual in relation to information provided on the plan.

User Name: HeatherSG
Plotted 4:20:21 pm, 19/05/2025
SOURCE OF FLOOD LEVELS :
Database Connections\gwraster_nztm (Raster).sde\gwraster_nztm.SDEADMIN.FLOODPROT_MANGATARERE_1AEPCC_DEPTH_2018

Regional Orthophotography : 2017 GWRC

Attachment 5 to Report 25.248



WAIPOUA RIVER HAZARD MAP
Combined Sensitivity Runs 1% AEP Flow, Future Climate (RCP6)
Map (2 of 2)

0 230 460 920 Metres

A3 Scale: 1:22,000

N

Greater Wellington
Te Pane Matua Taiao

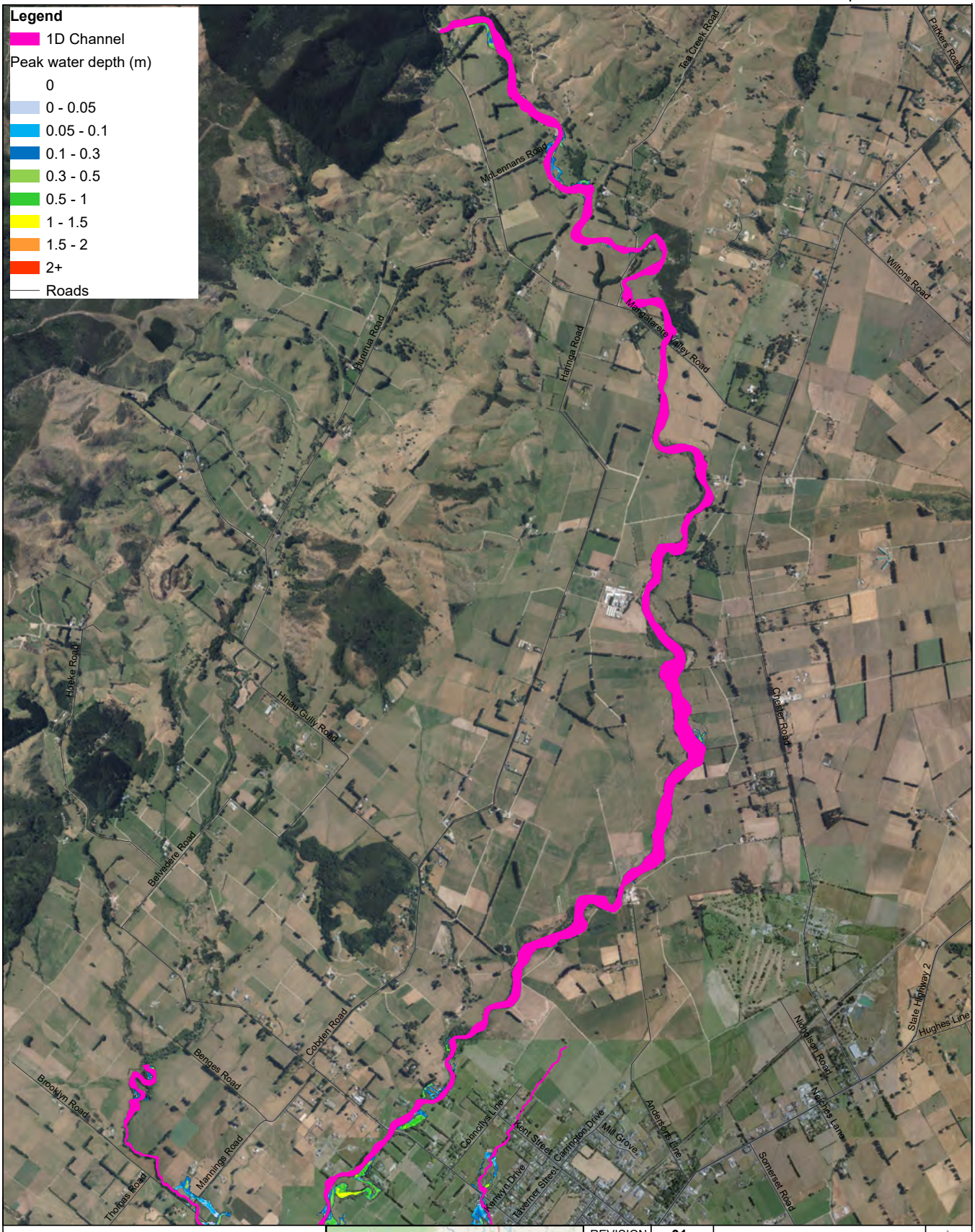
DISCLAIMER:
The flood hazard information shown on this plan is based on the best available data at the time of preparation. Specific interpretation of flood risk in any areas shown to be affected by flooding should be obtained by written request from the Greater Wellington Regional Council. The GWRC and other agencies involved in the preparation of this plan assume no responsibility for any interpretation or action taken by any agency or individual in relation to information provided on the plan.

User Name: HeatherSG
Plotted 4:24:09 pm, 19/05/2025
SOURCE OF FLOOD LEVELS :
Database Connections\gwraster_nztm (Raster).sde\gwraster_nztm.SDEADMIN.FLOODPROT_MANGATARERE_1AEPCC_DEPTH_2018

Regional Orthophotography : 2017 GWRC

Greater Wellington
Te Pane Matua Taiao

ATTACHMENT 6 - Flood depth maps for the Mangatārere Stream



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

39.35% AEP Flow, Historic Climate

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

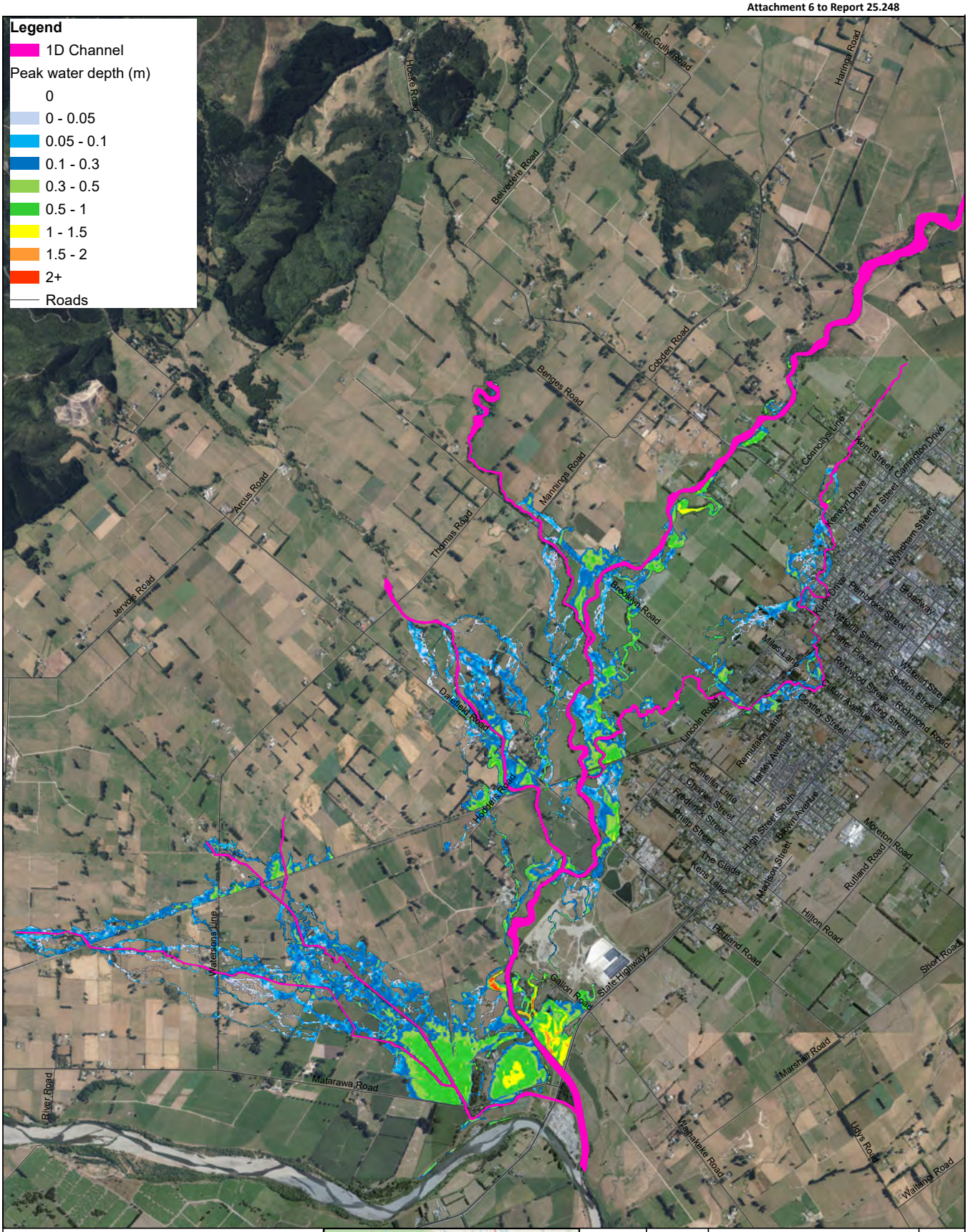
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

PEAK DEPTH MAP

39.35% AEP Flow, Historic Climate

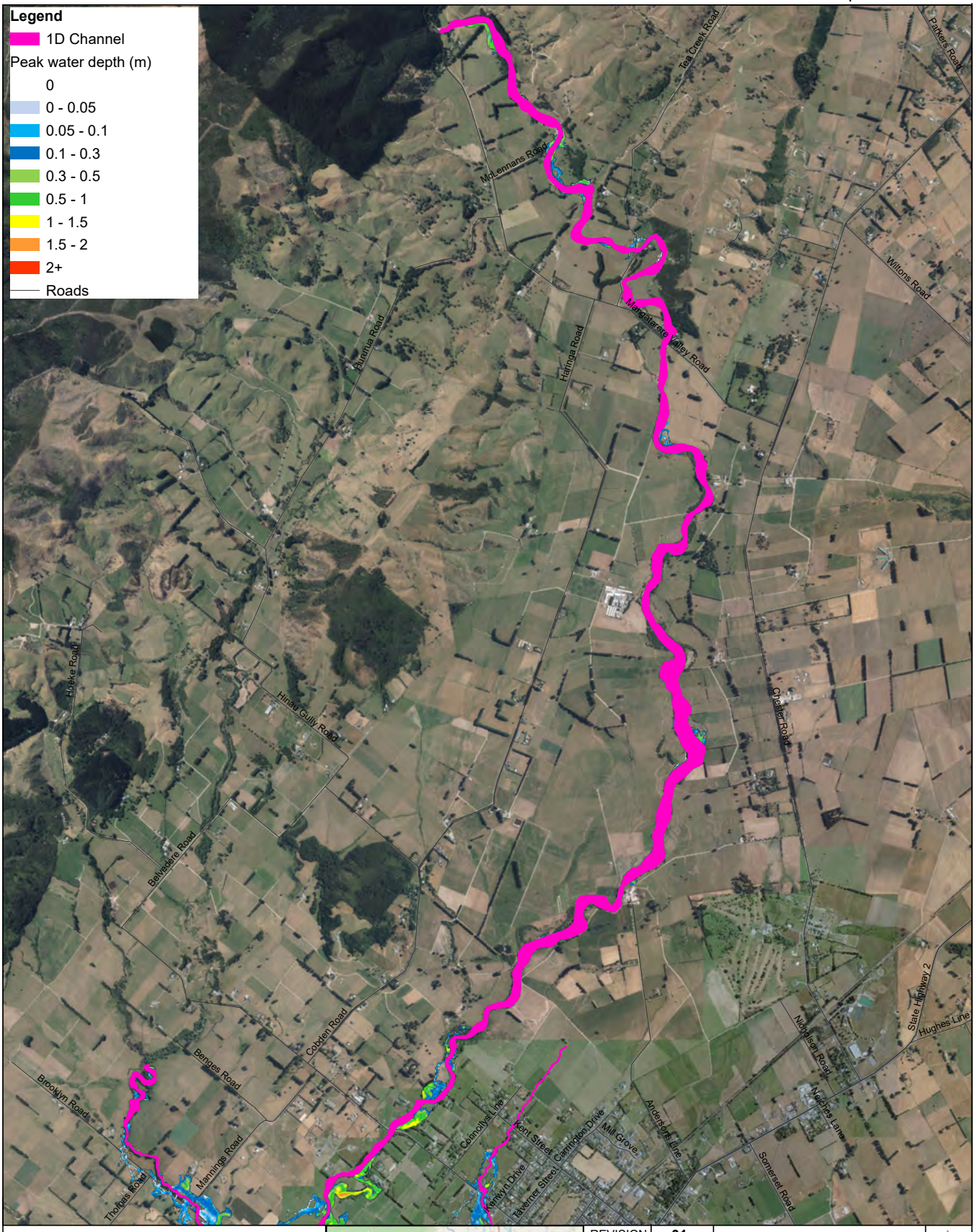
REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

20% AEP Flow, Historic Climate

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

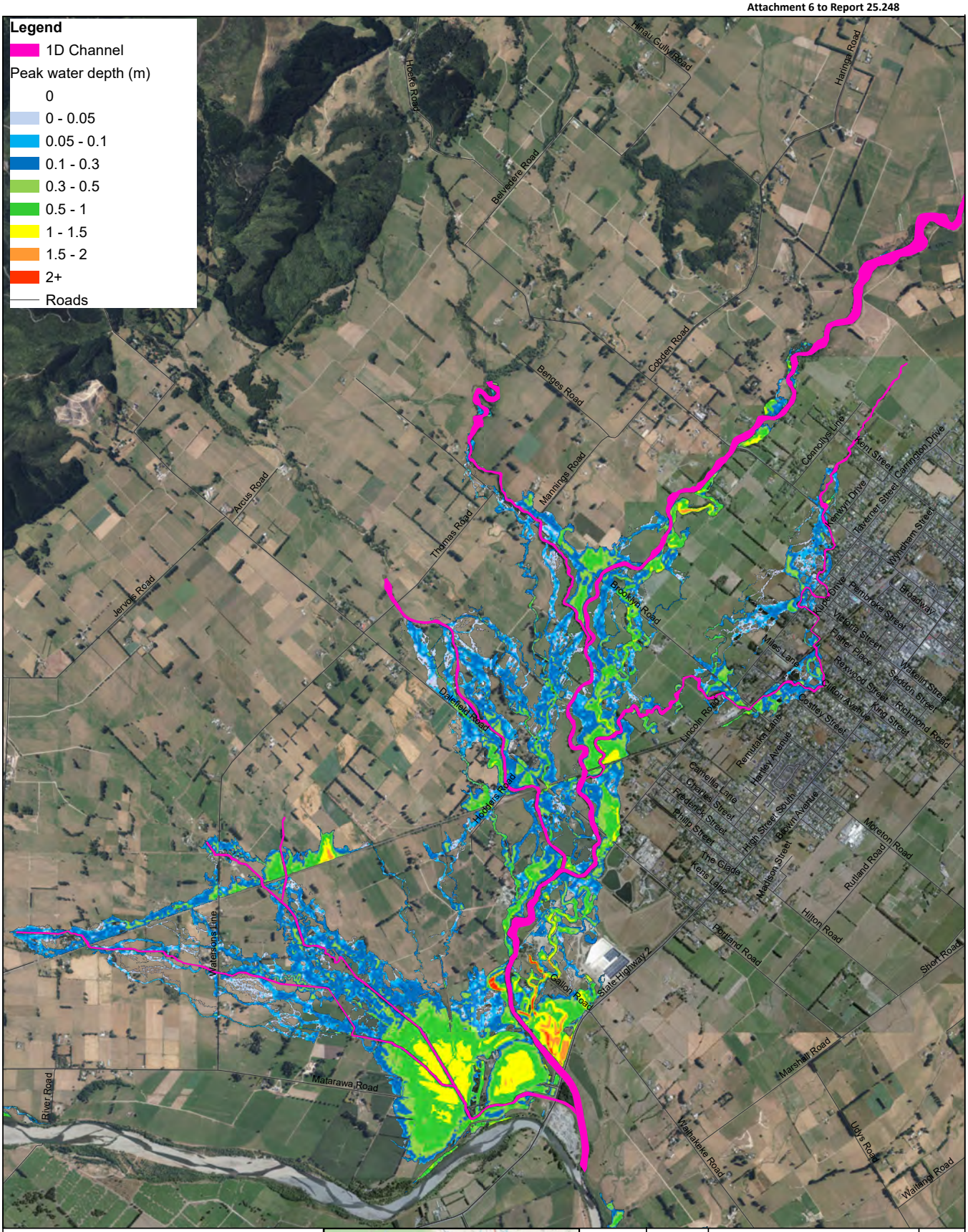
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

PEAK DEPTH MAP

20% AEP Flow, Historic Climate

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

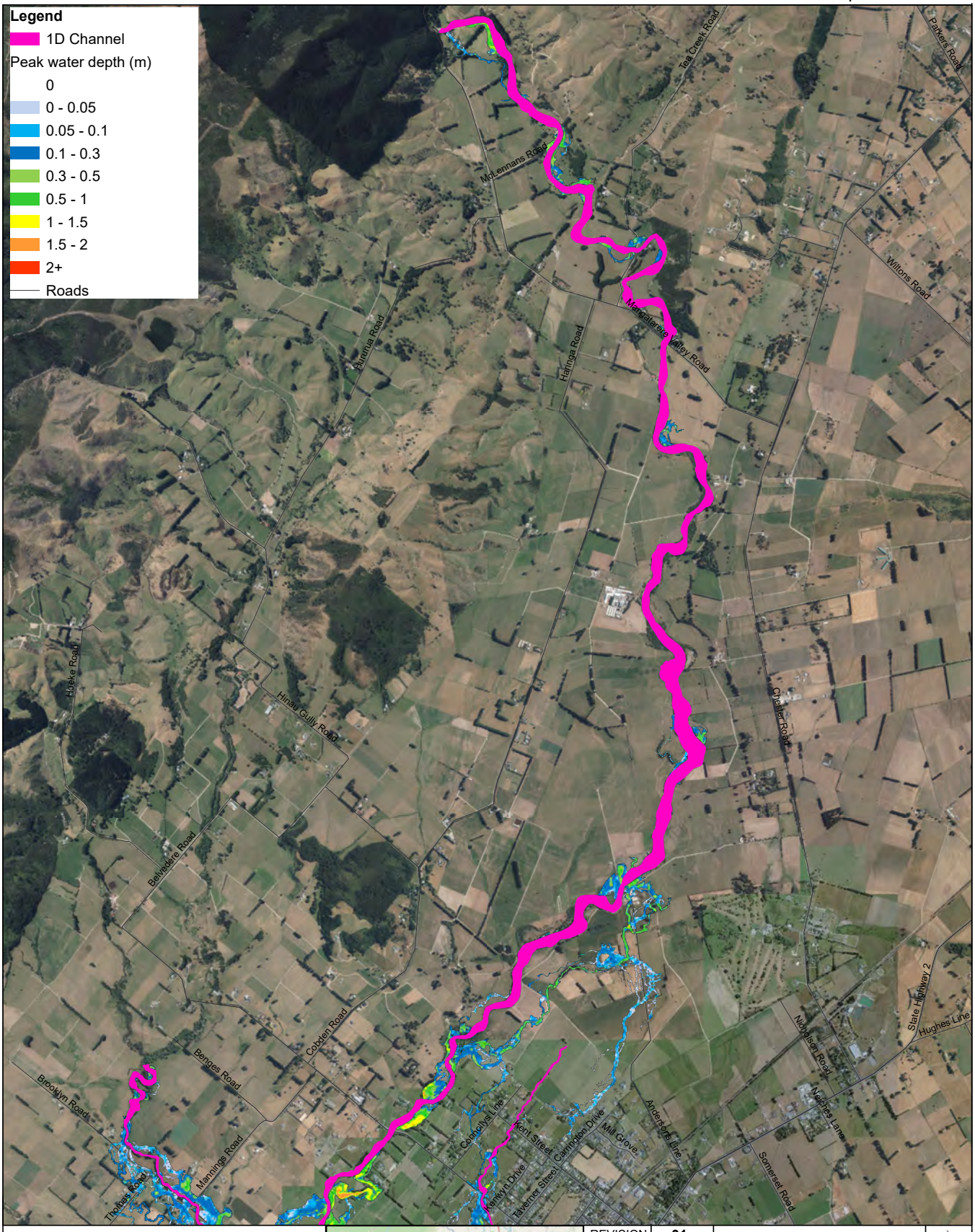
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

10% AEP Flow, Historic Climate

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

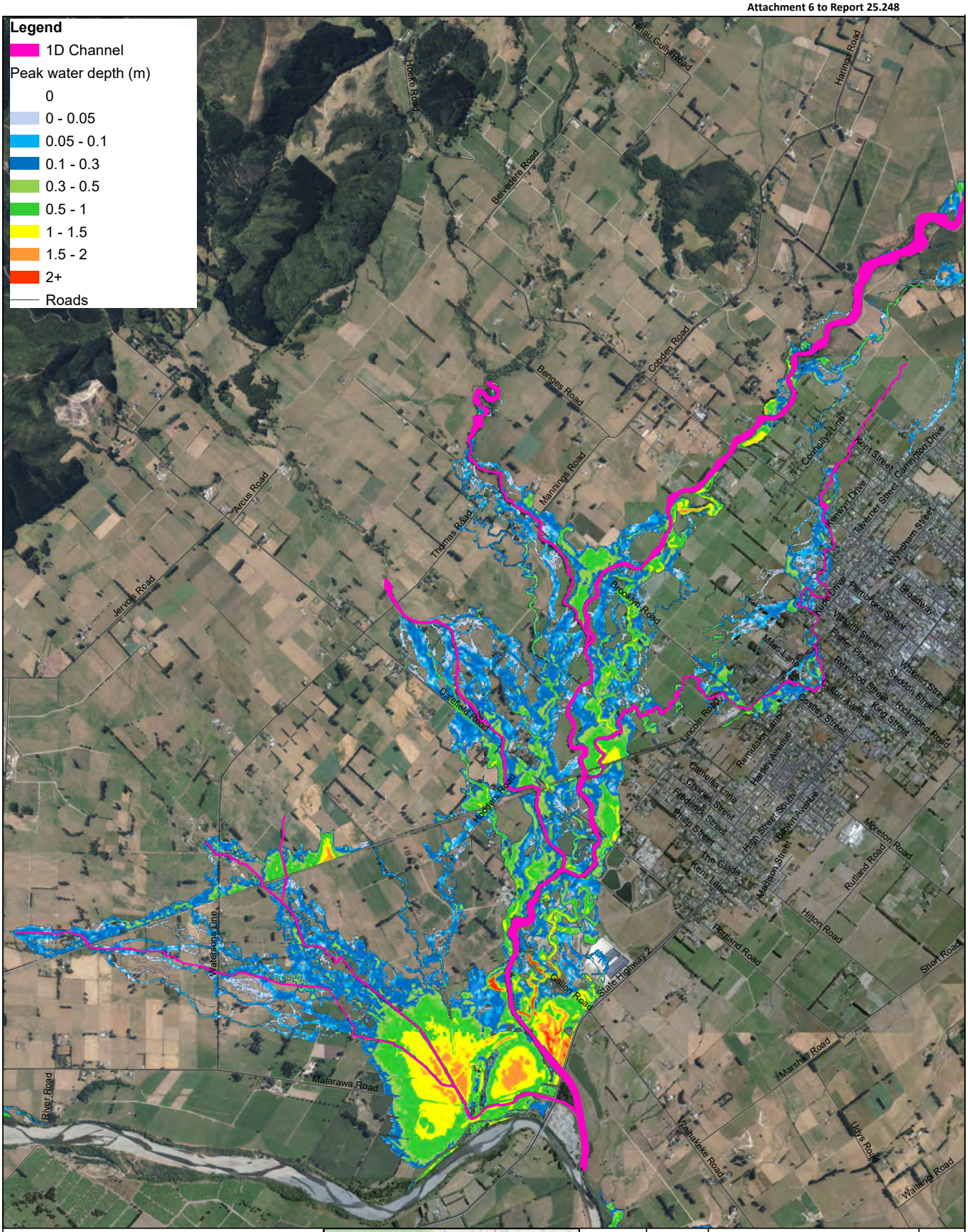
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

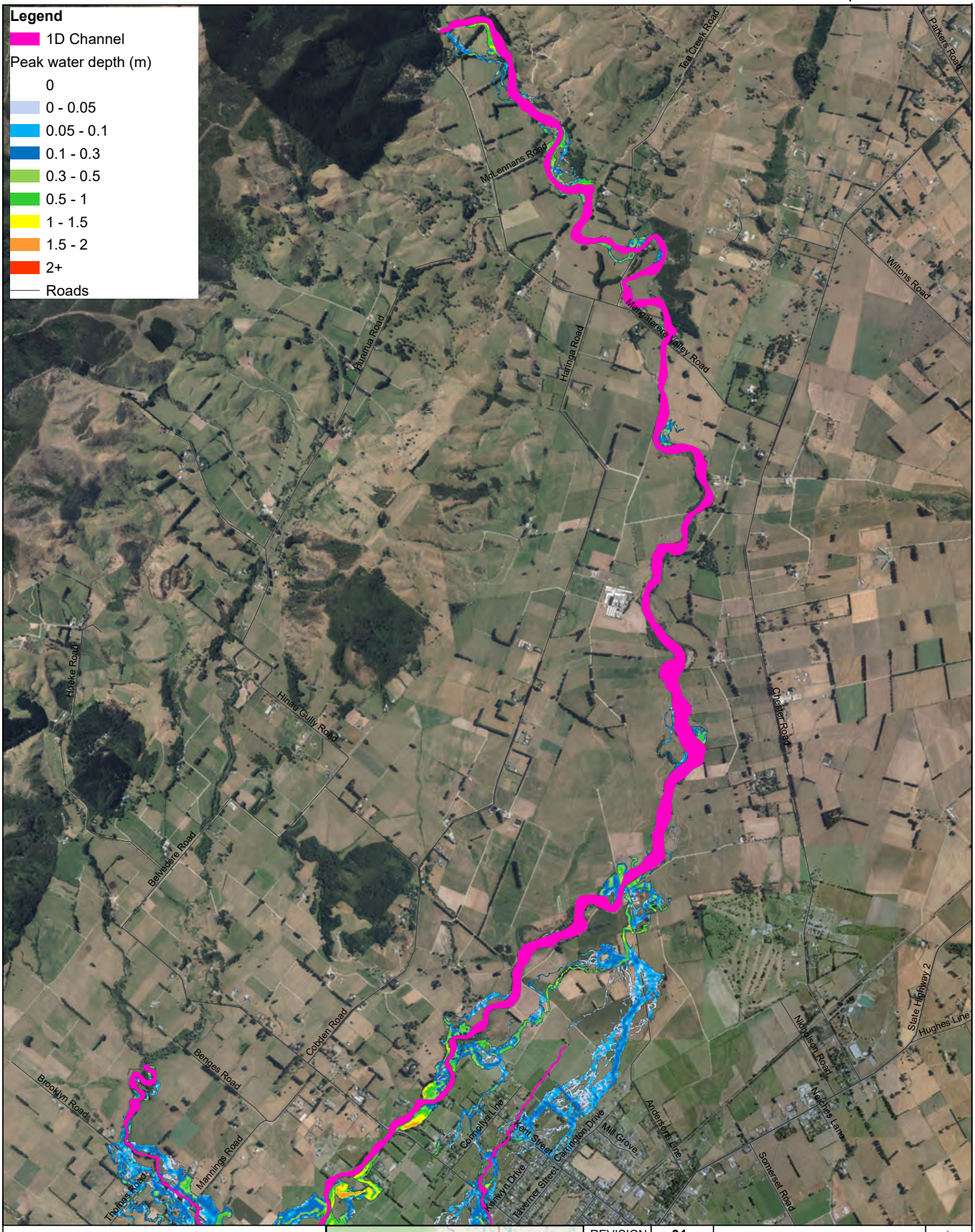
Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT		
Mangatarere Stream Flood Modelling		
MAP (2 of 2)		
PEAK DEPTH MAP		
10% AEP Flow, Historic Climate		
REVISION	01	
DATE	3/03/2023	
A3 SCALE	1:25,000	
CREATED BY	BS	
REVISED BY	MG	
AUTHOR	**Matthew Gardner**	

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

5% AEP Flow, Historic Climate

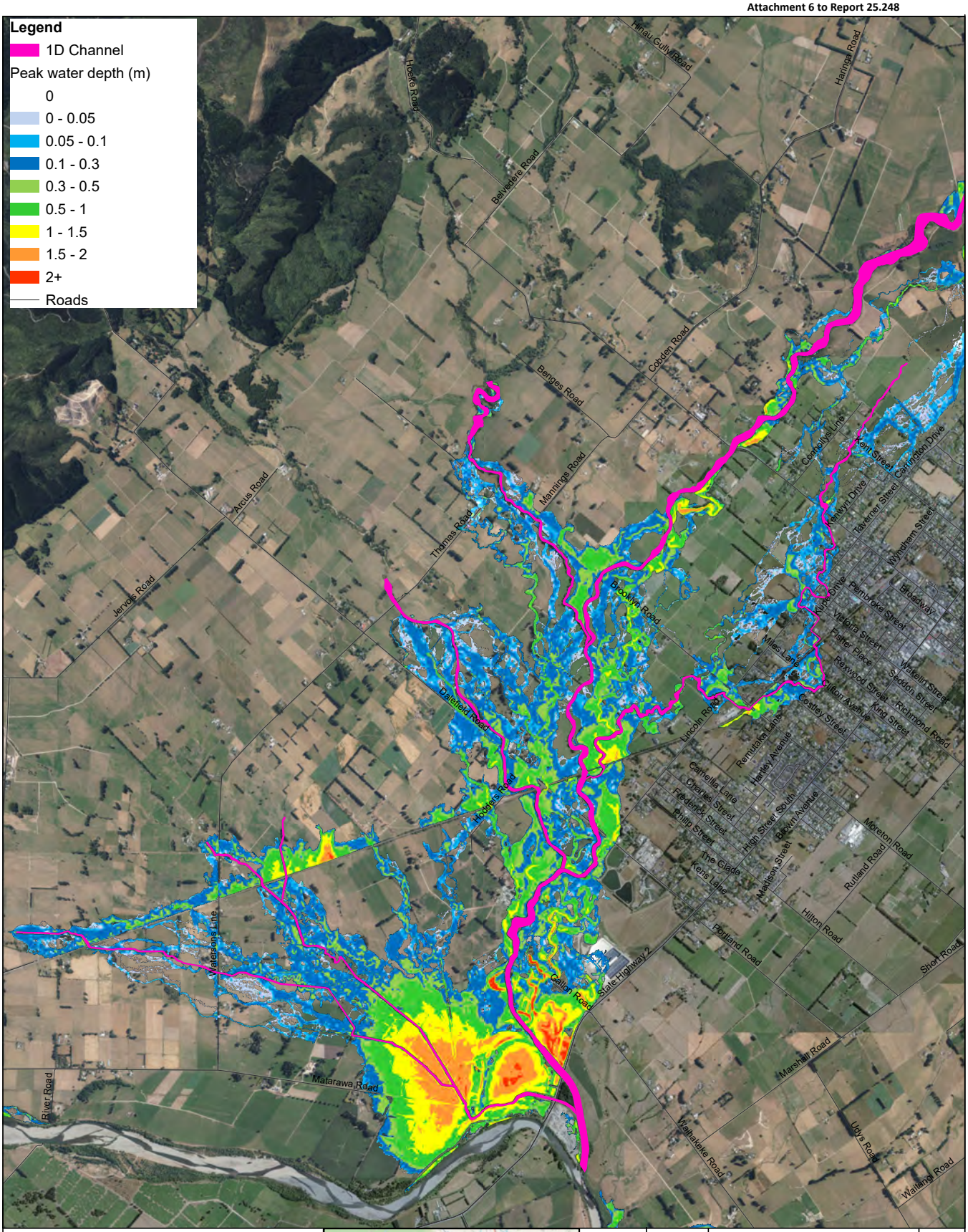
REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

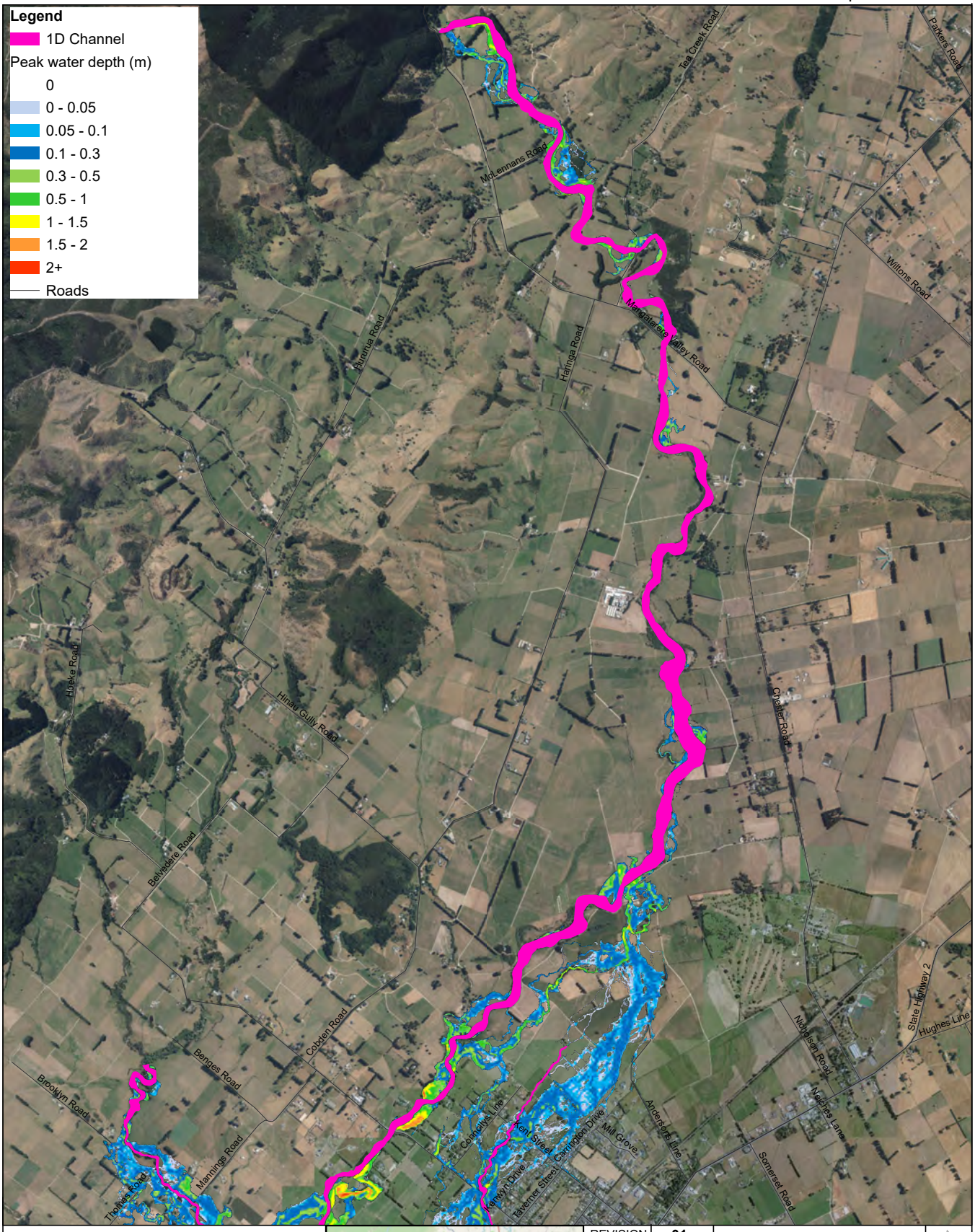
PEAK DEPTH MAP

5% AEP Flow, Historic Climate

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

2% AEP Flow, Historic Climate

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

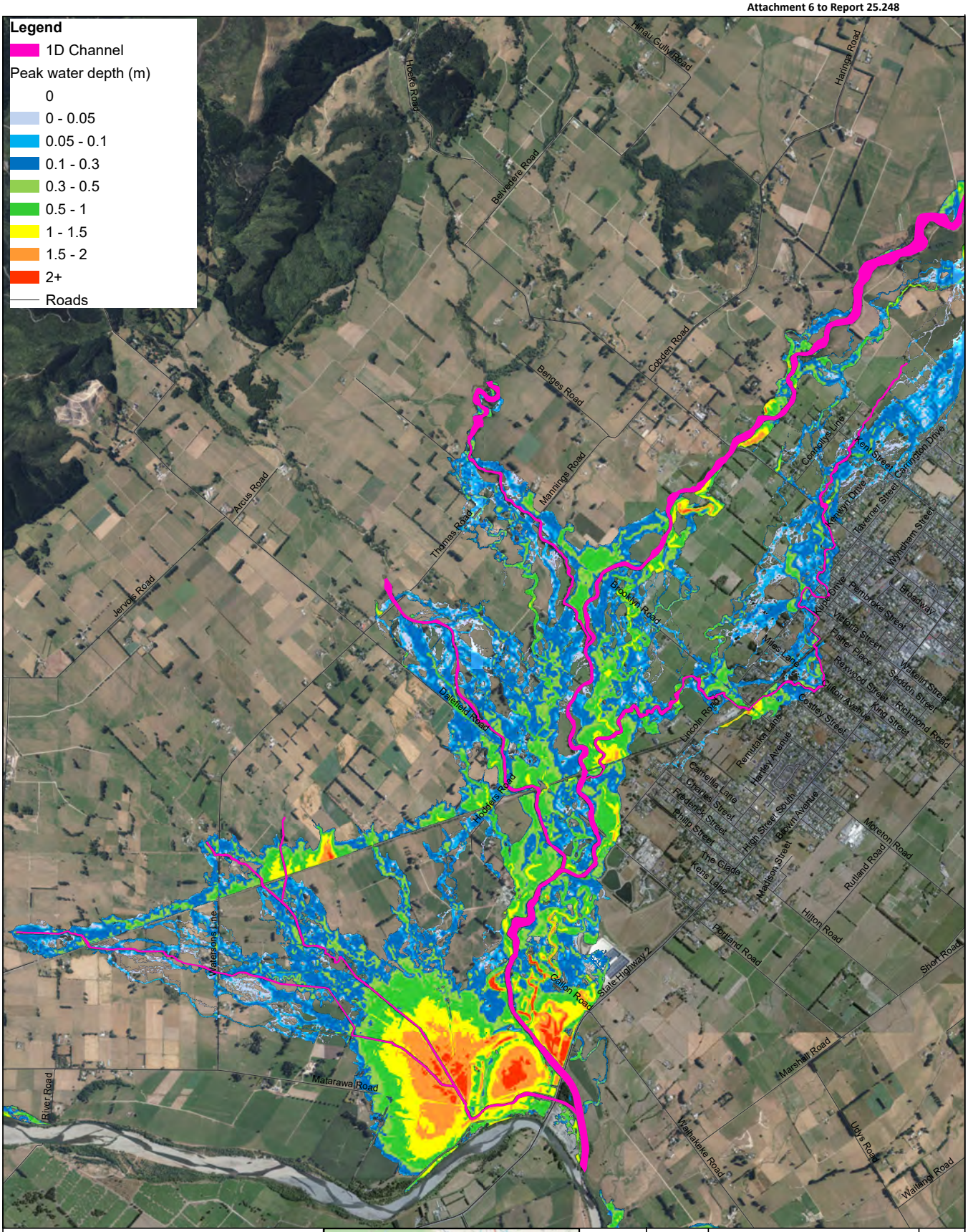
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

PEAK DEPTH MAP

2% AEP Flow, Historic Climate

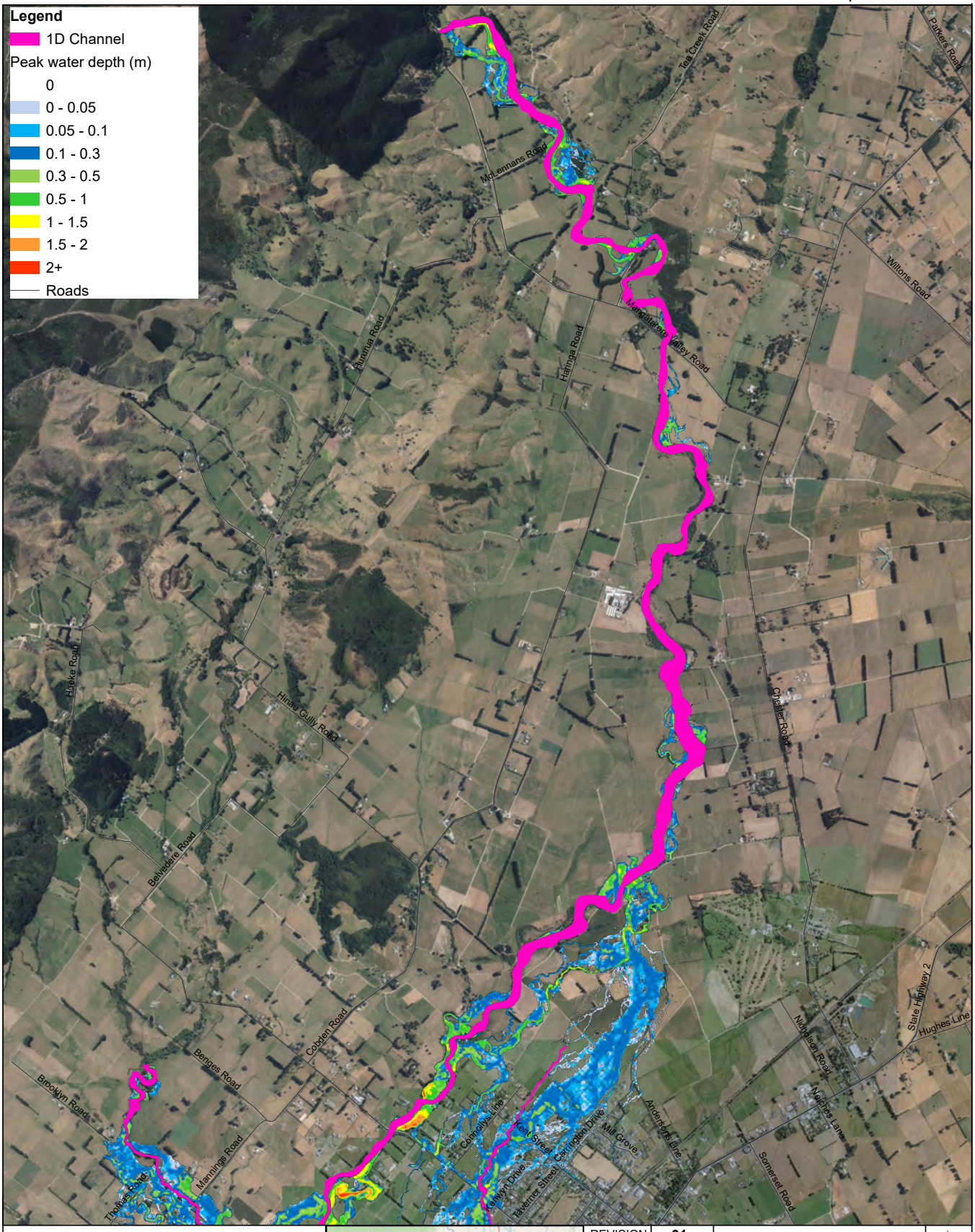
REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner



PROJECT **Mangatarere Stream Flood Modelling**		REVISION	01
		DATE	3/03/2023
MAP (1 of 2)		A3 SCALE	1:25,000
PEAK DEPTH MAP		CREATED BY	BS
		REVISED BY	MG
1% AEP Flow, Historic Climate		AUTHOR	**Matthew Gardner**

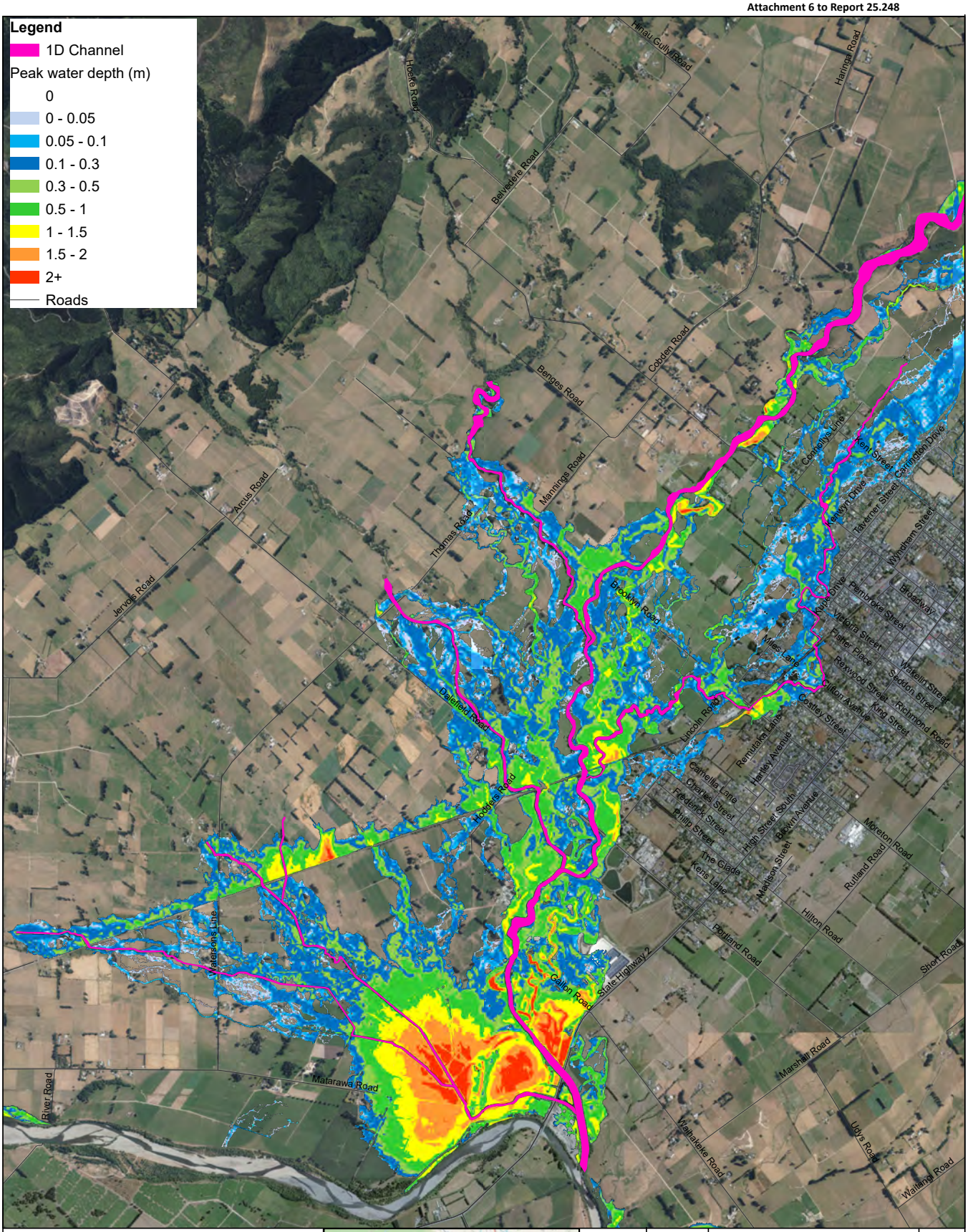
0 300 600 1,200 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

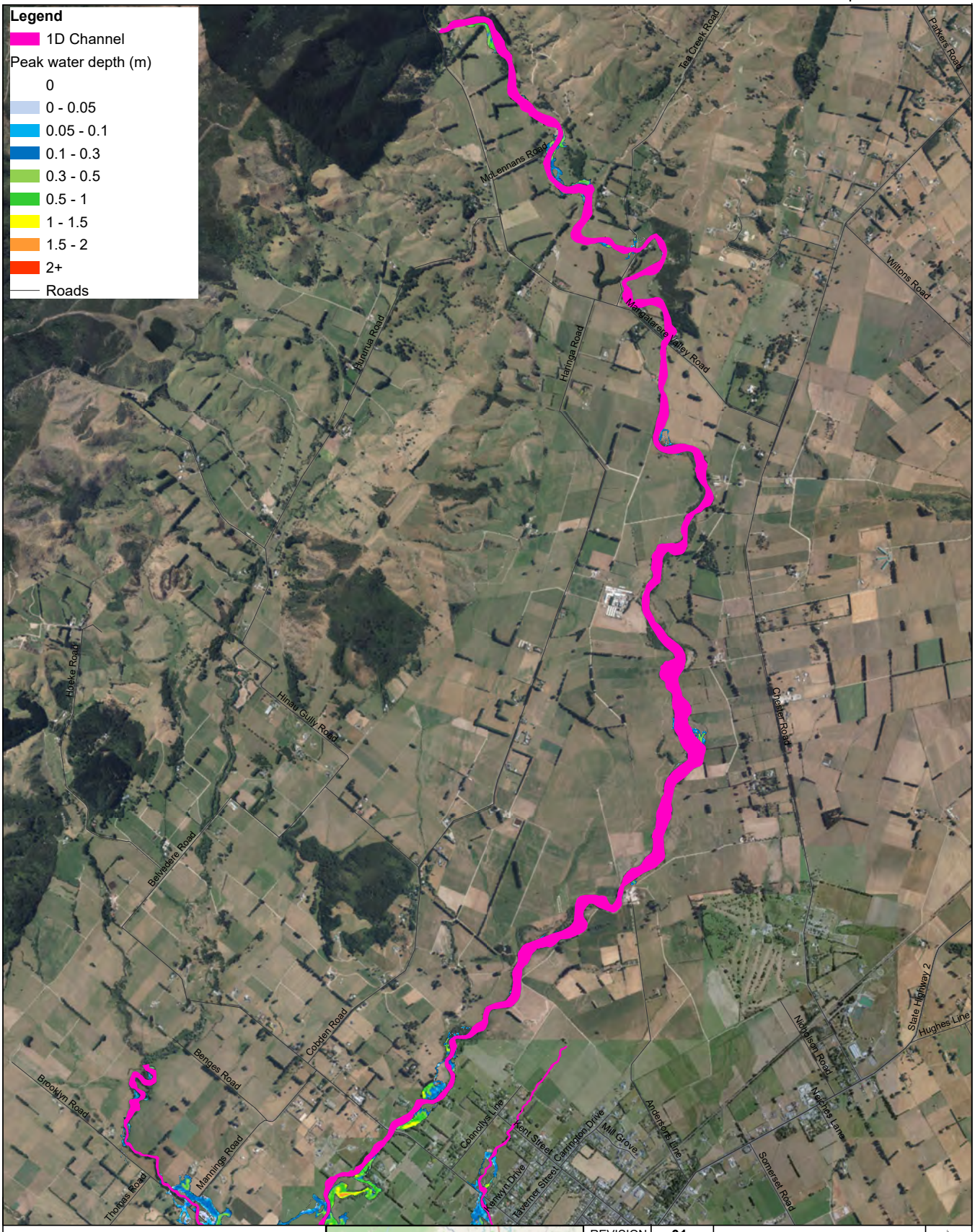


PROJECT **Mangatarere Stream Flood Modelling**		REVISION	01
		DATE	3/03/2023
MAP (2 of 2) **PEAK DEPTH MAP**		A3 SCALE	1:25,000
		CREATED BY	BS
		REVISED BY	MG
1% AEP Flow, Historic Climate	LANDRIVERSEA CONSULTING; Greater Wellington Te Pane Matua Taiao	AUTHOR	**Matthew Gardner**

0 300 600 1,200 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

39.35% AEP Flow
Future Climate (RCP6)

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

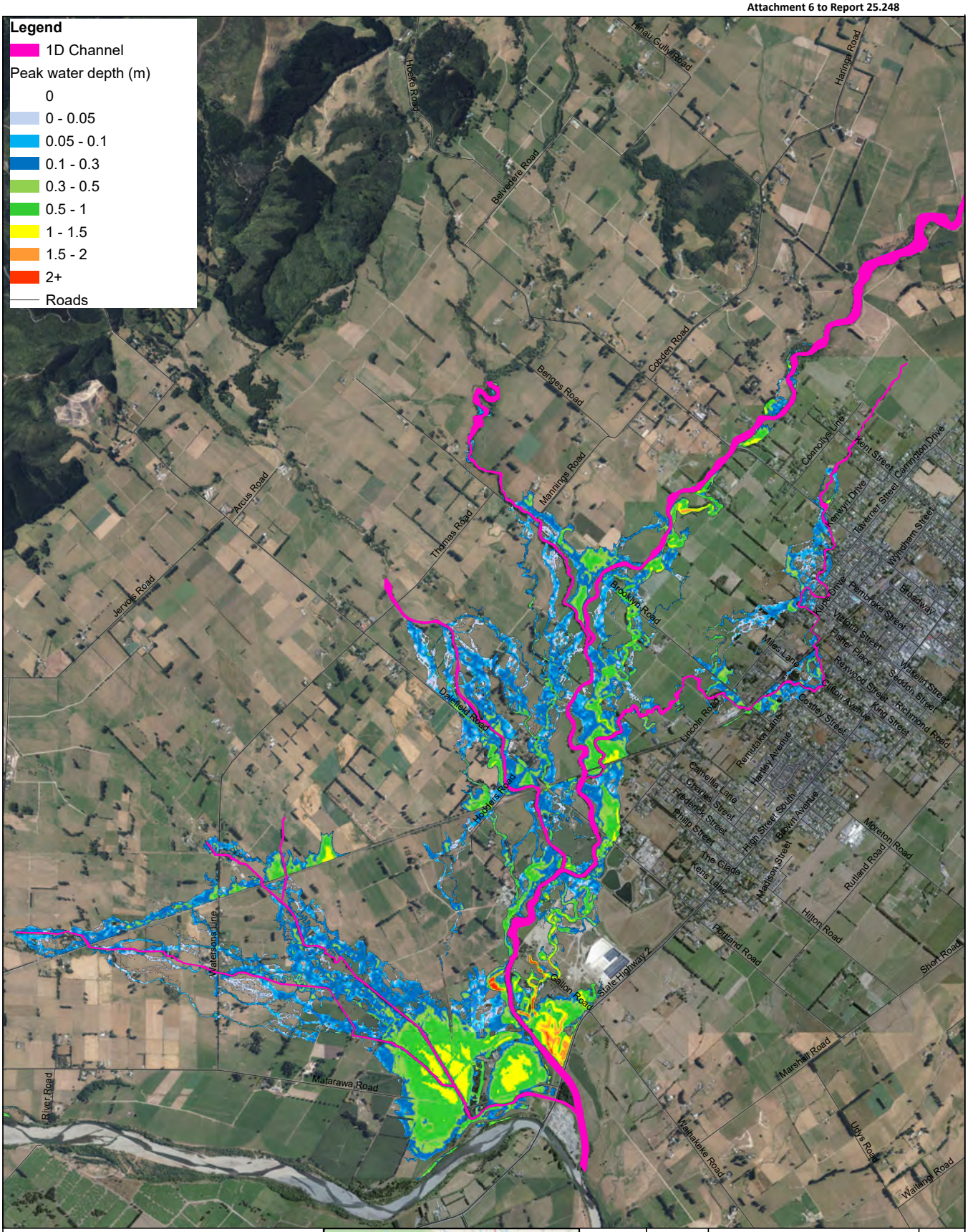
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

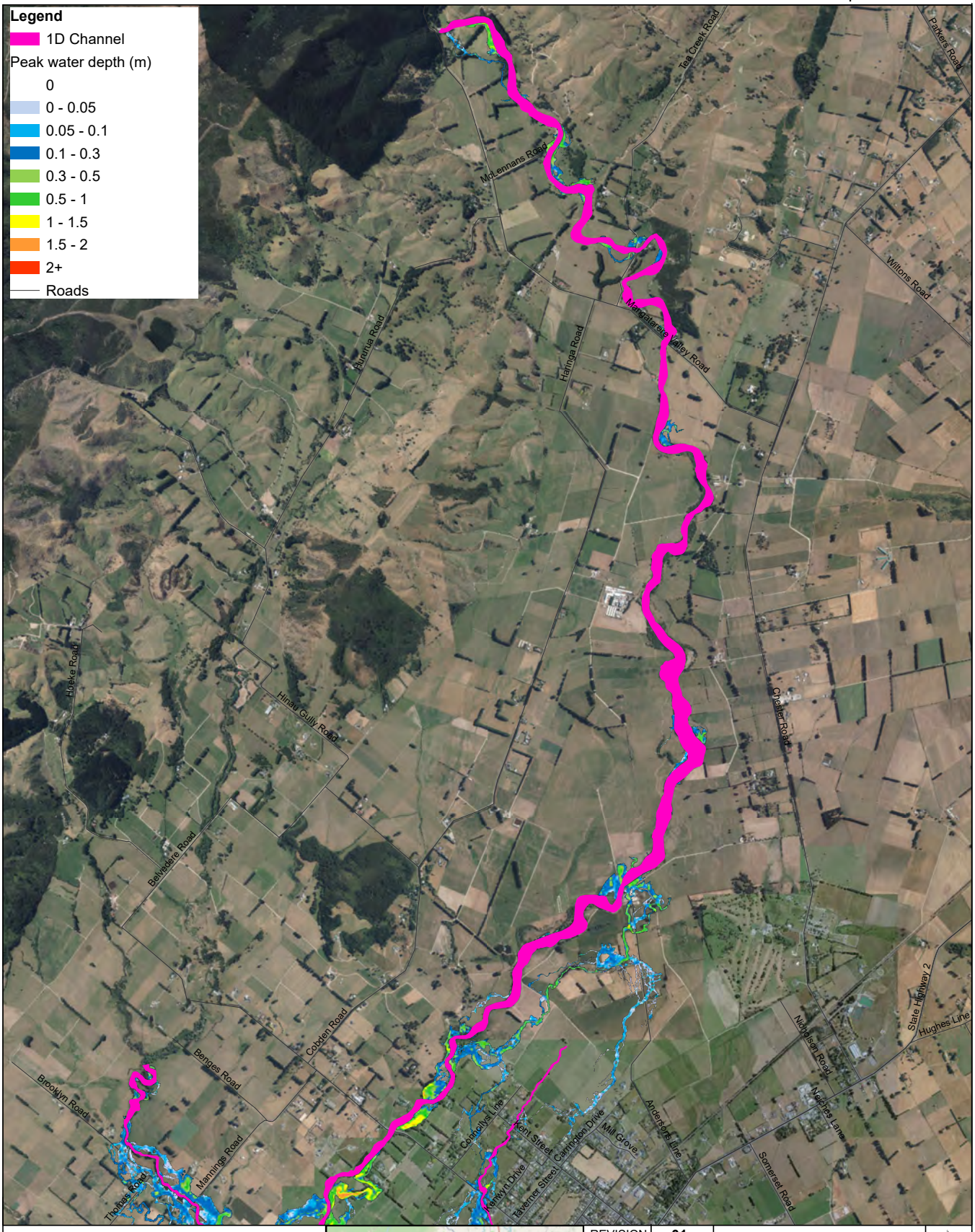
PEAK DEPTH MAP

39.35% AEP Flow
Future Climate (RCP6)

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

20% AEP Flow, Future Climate (RCP6)

REVISION	01
DATE	3/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

Model Information:
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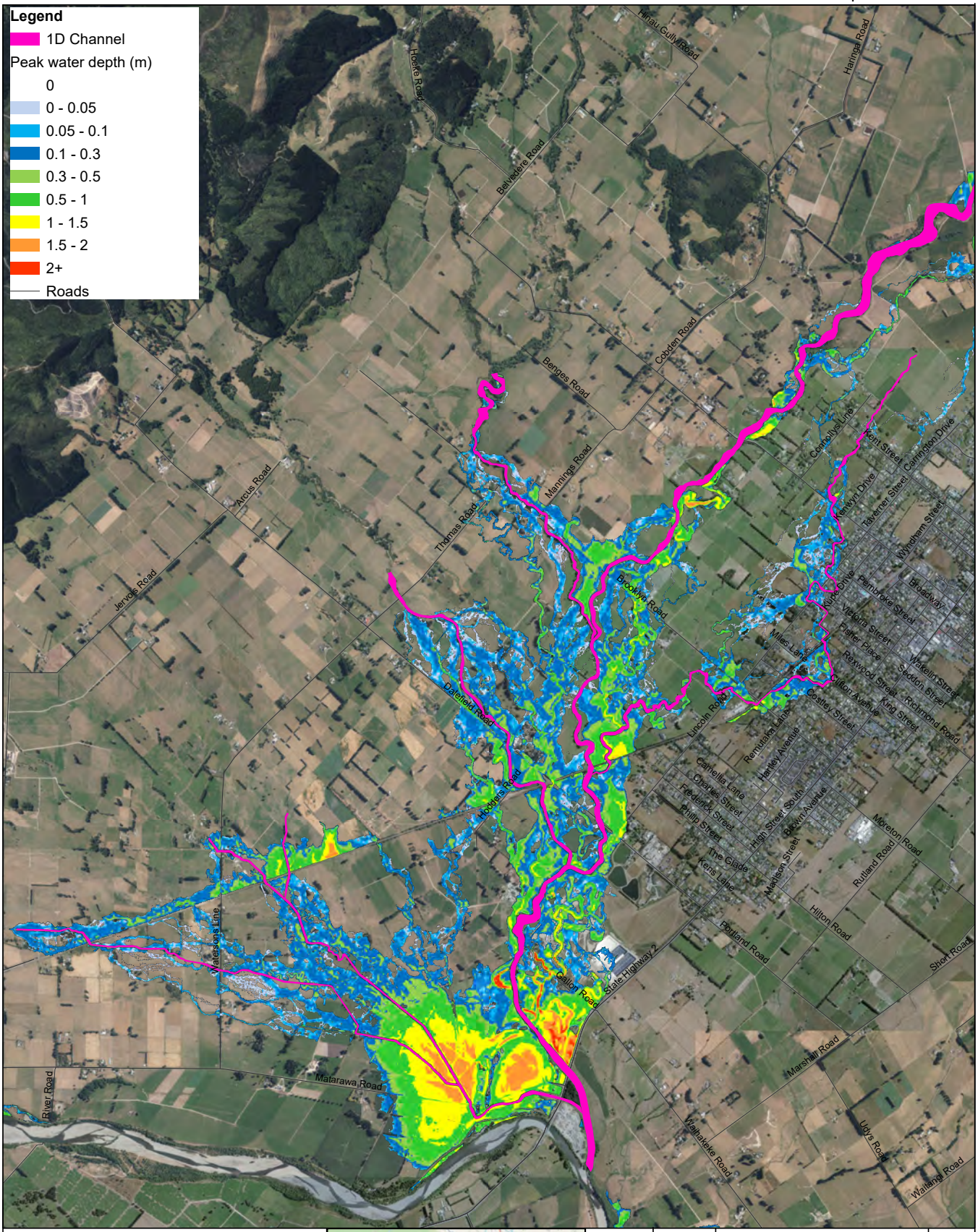
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner

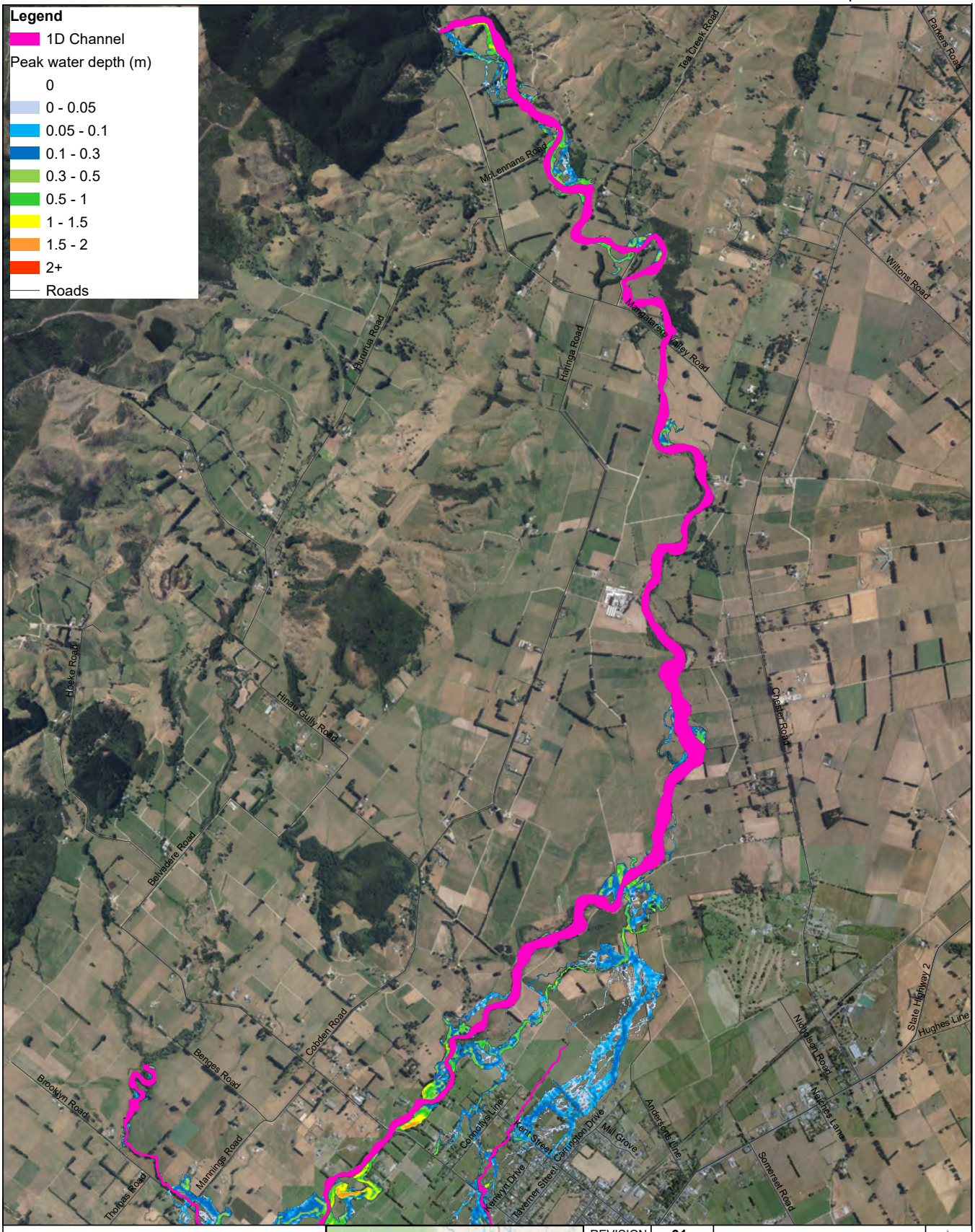


PROJECT **Mangatarere Stream Flood Modelling**		REVISION	01
		DATE	3/03/2023
MAP (2 of 2) **PEAK DEPTH MAP**		A3 SCALE	1:25,000
		CREATED BY	BS
		REVISED BY	MG
20% AEP Flow, Future Climate (RCP6)	LANDRIVERSEA CONSULTING / Greater Wellington Te Pane Matua Taiao	AUTHOR	**Matthew Gardner**

0 300 600 1,200 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

10% AEP Flow, Future Climate (RCP6)

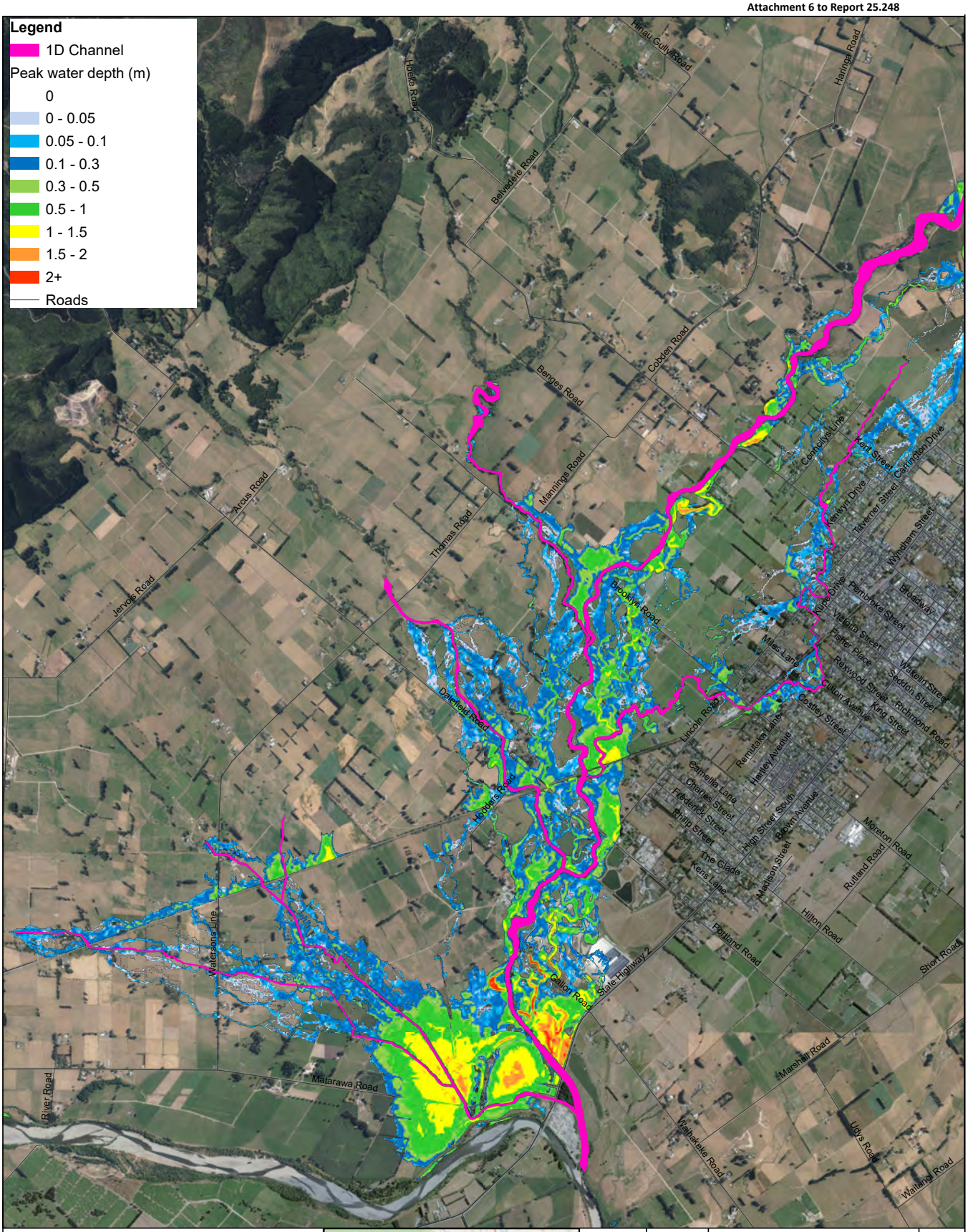
REVISION	01
DATE	1/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

PEAK DEPTH MAP

10% AEP Flow, Future Climate (RCP6)

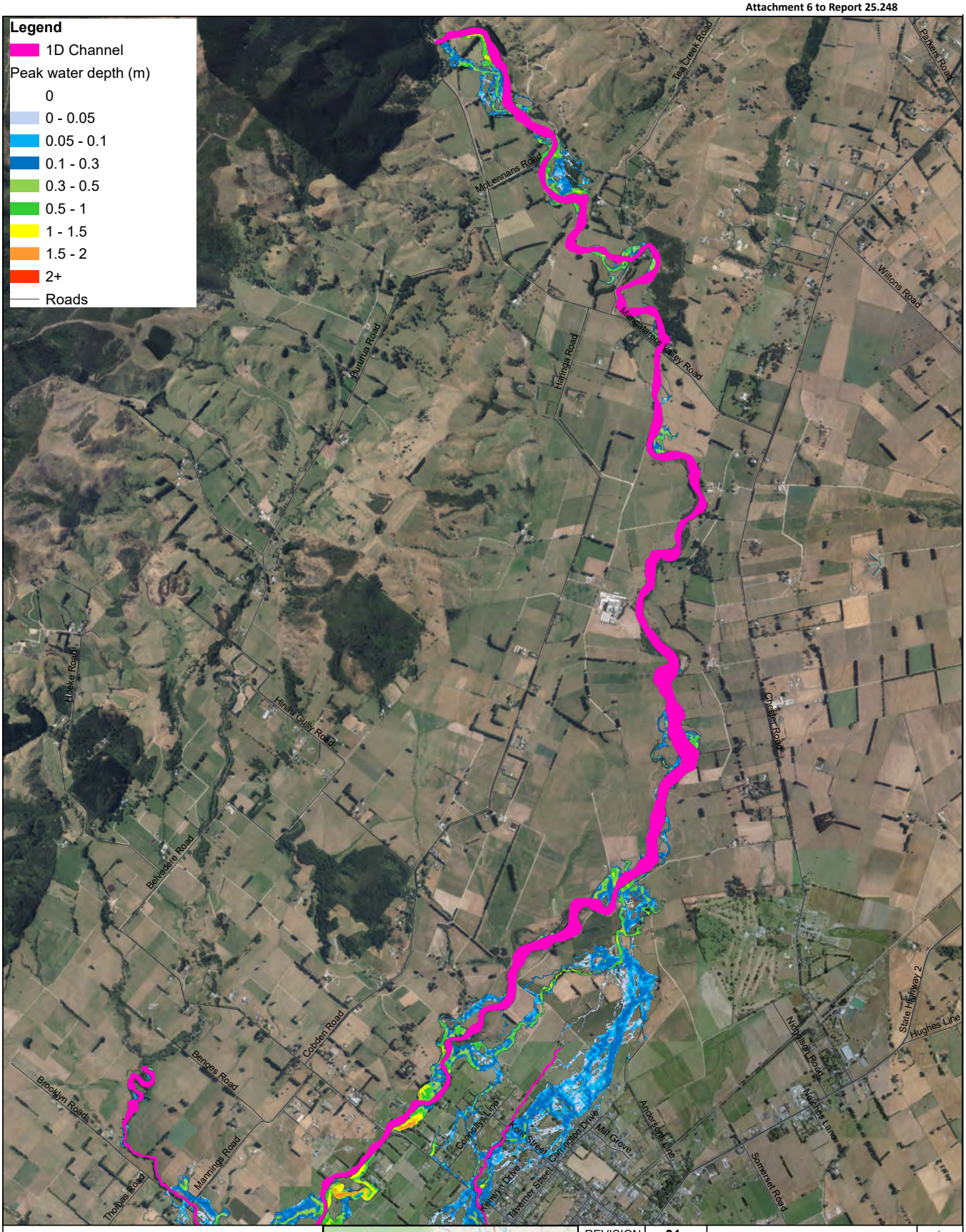
REVISION	01
DATE	1/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

5% AEP Flow, Future Climate (RCP6)

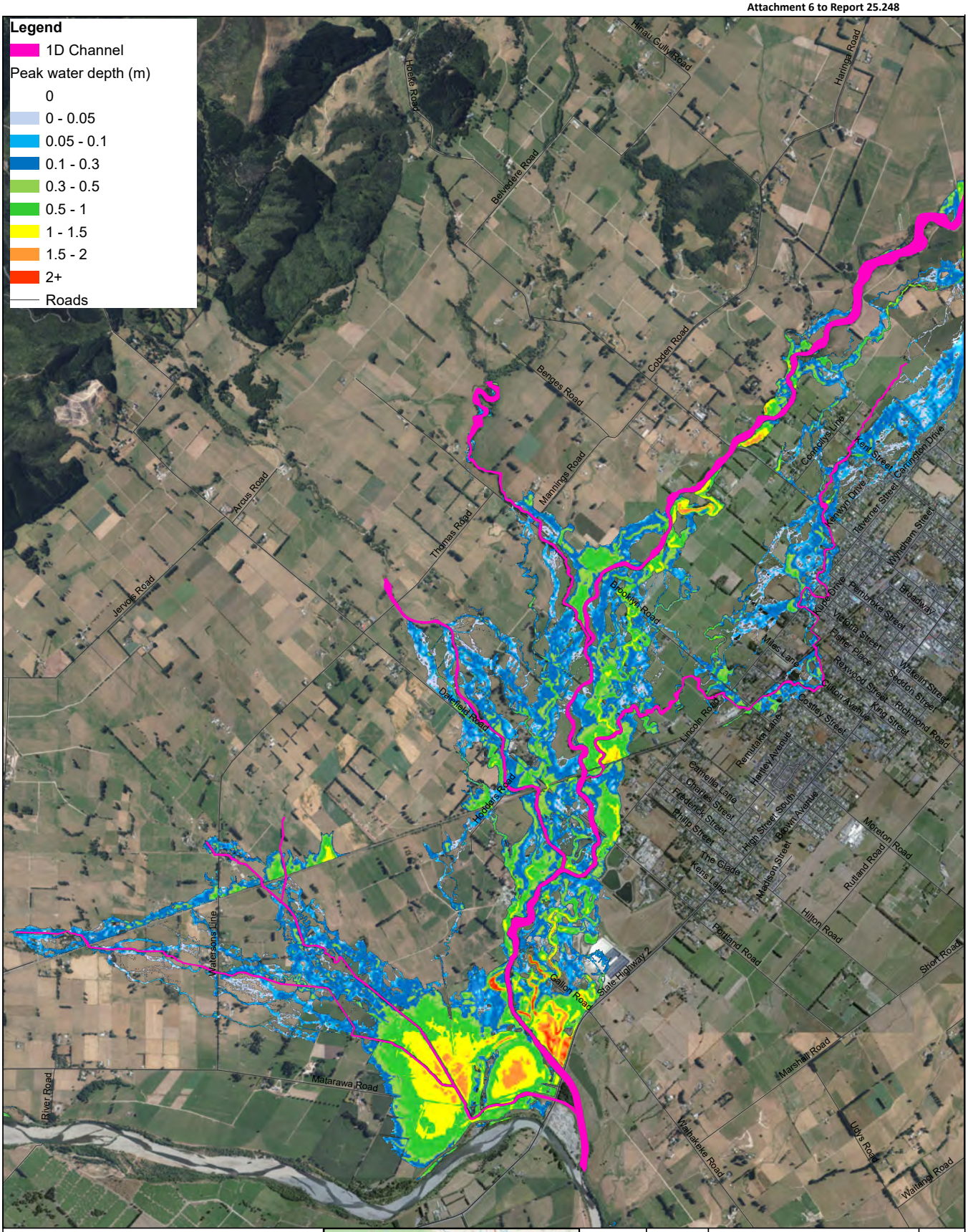
REVISION	01
DATE	1/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

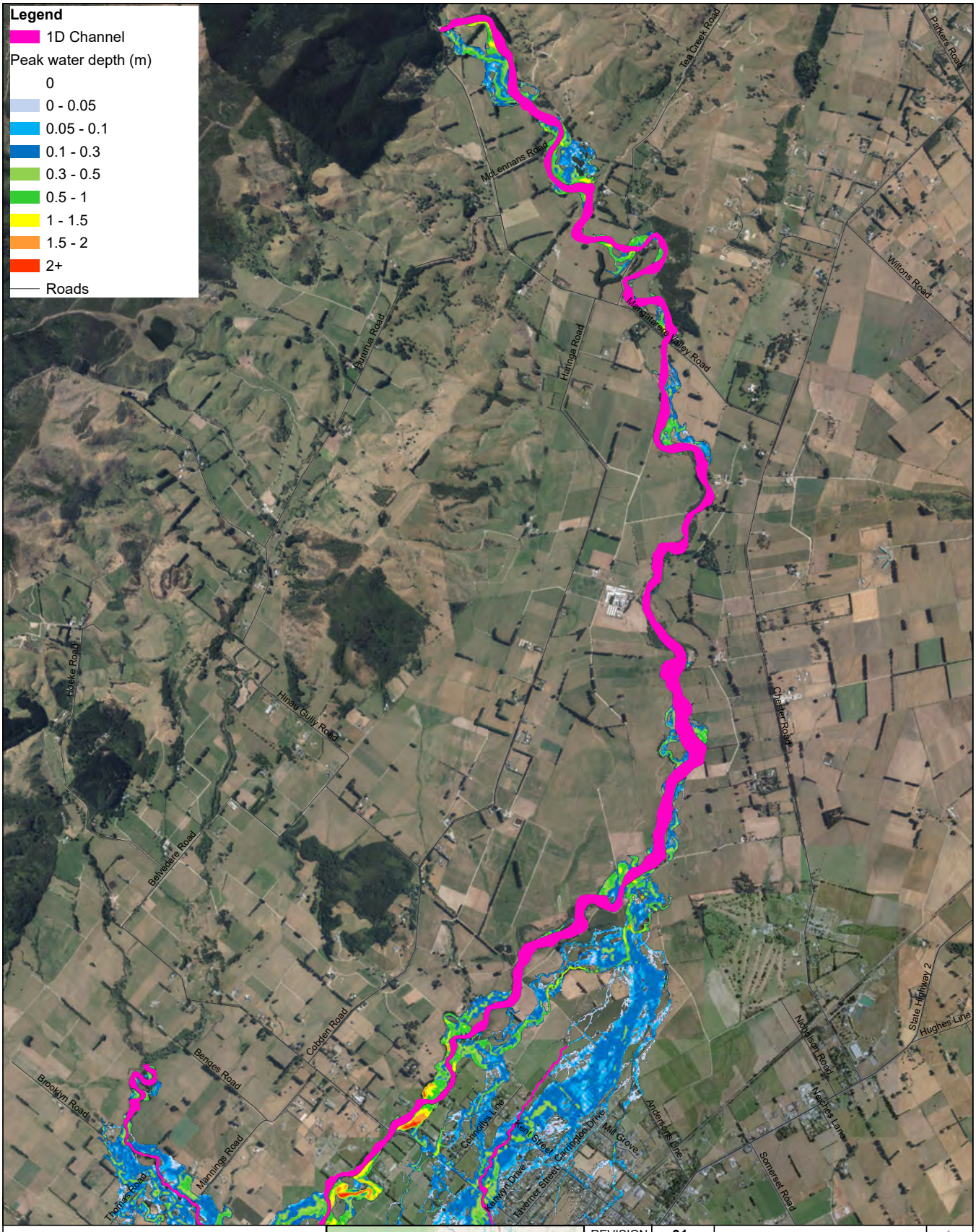
PEAK DEPTH MAP

5% AEP Flow, Future Climate (RCP6)

REVISION	01
DATE	1/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

2% AEP Flow, Future Climate (RCP6)

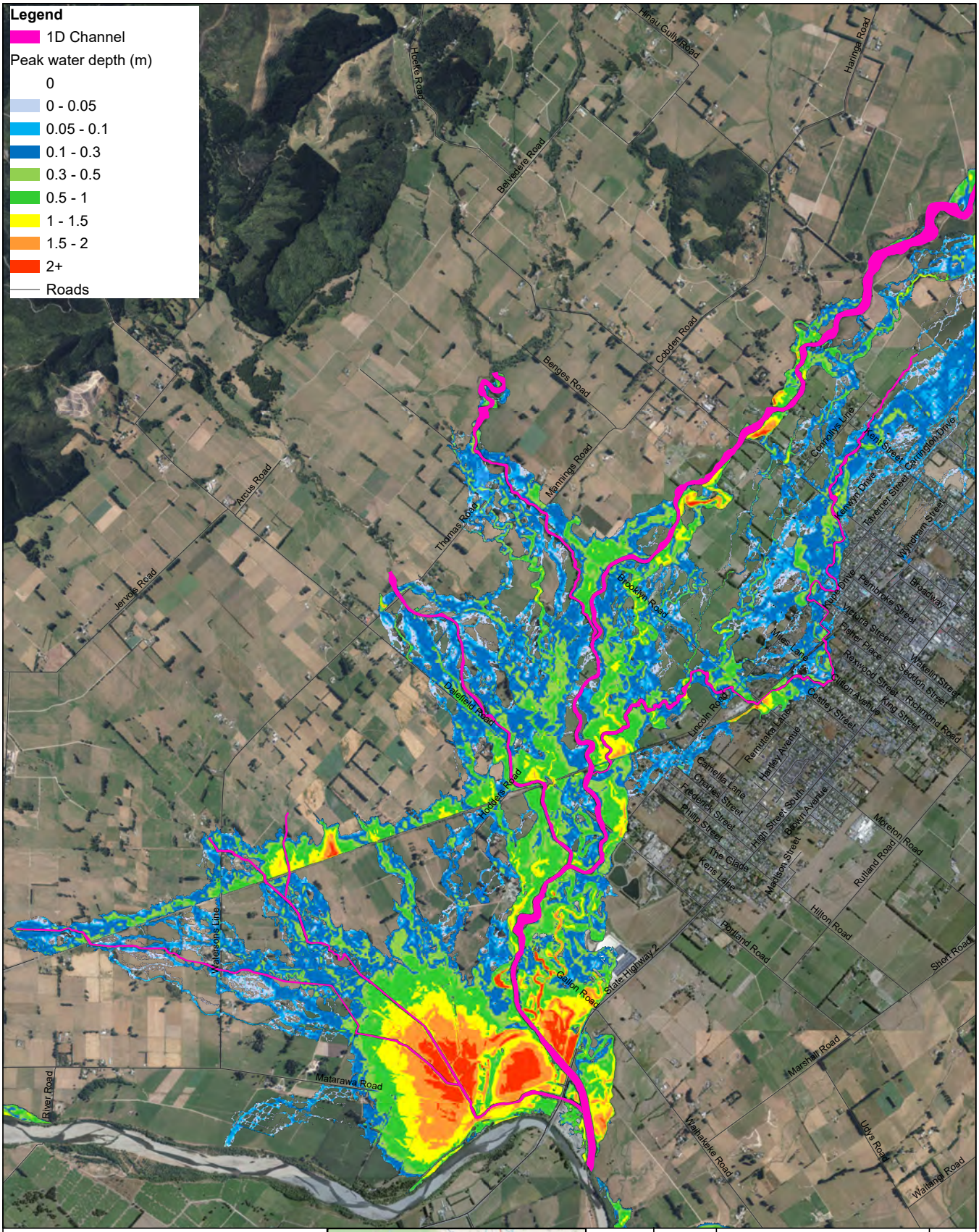
REVISION	01
DATE	6/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

PEAK DEPTH MAP

2% AEP Flow, Future Climate (RCP6)

REVISION	01
DATE	6/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

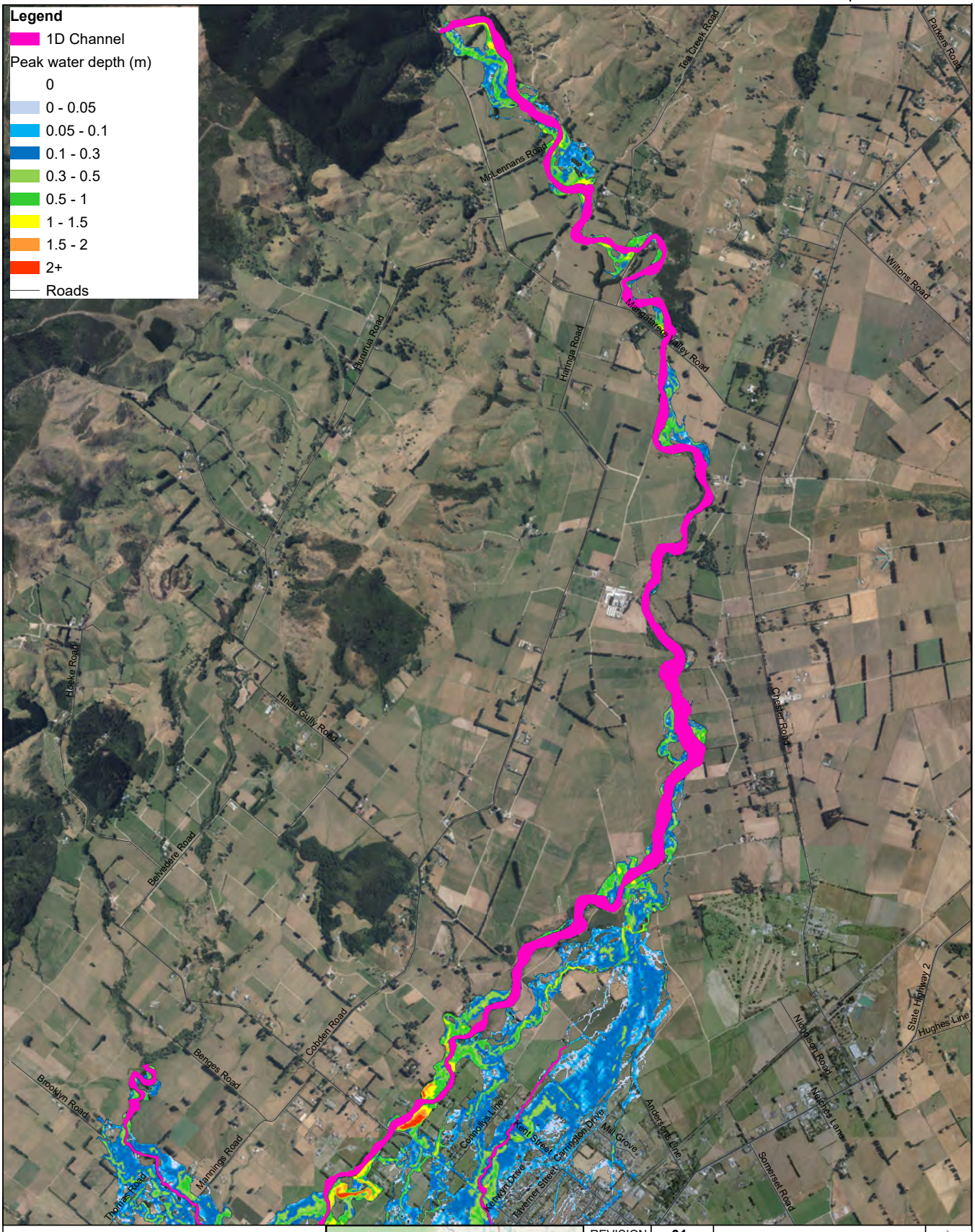
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (1 of 2)

PEAK DEPTH MAP

1% AEP Flow, Future Climate (RCP6)

REVISION	01
DATE	1/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

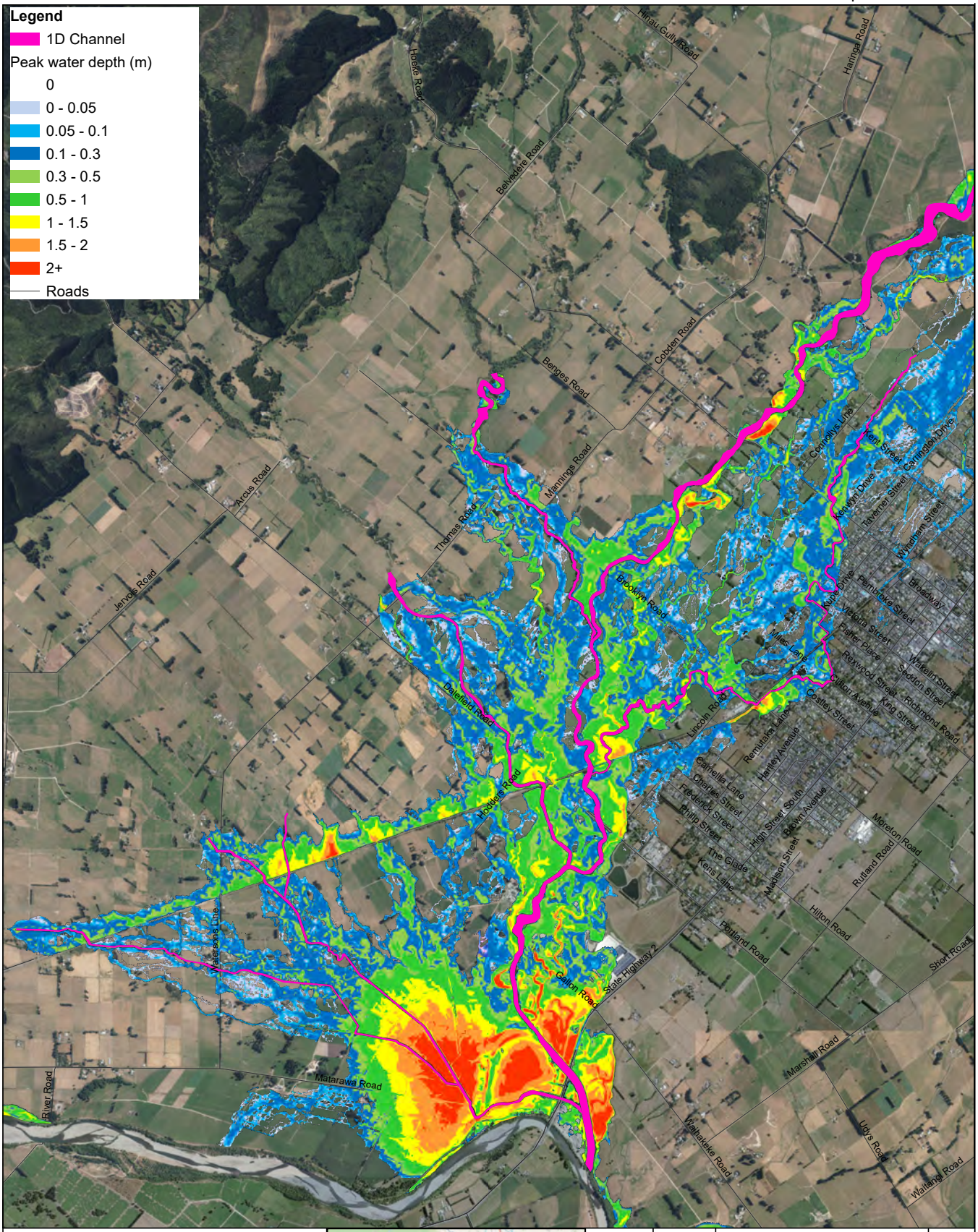
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

MAP (2 of 2)

PEAK DEPTH MAP

1% AEP Flow, Future Climate (RCP6)

REVISION	01
DATE	1/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

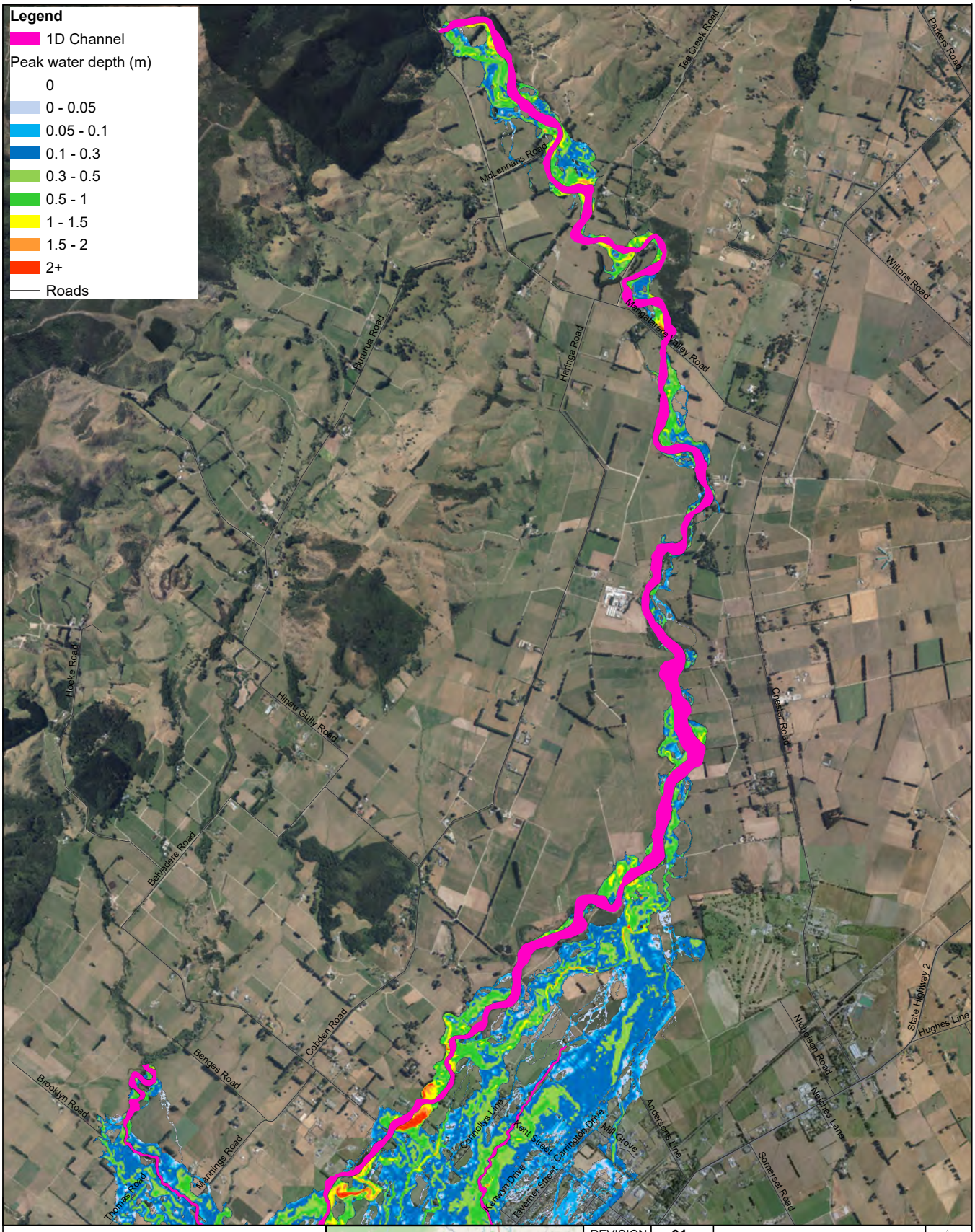
N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

AUTHOR
Matthew Gardner



PROJECT
Mangatarere Stream Flood Modelling

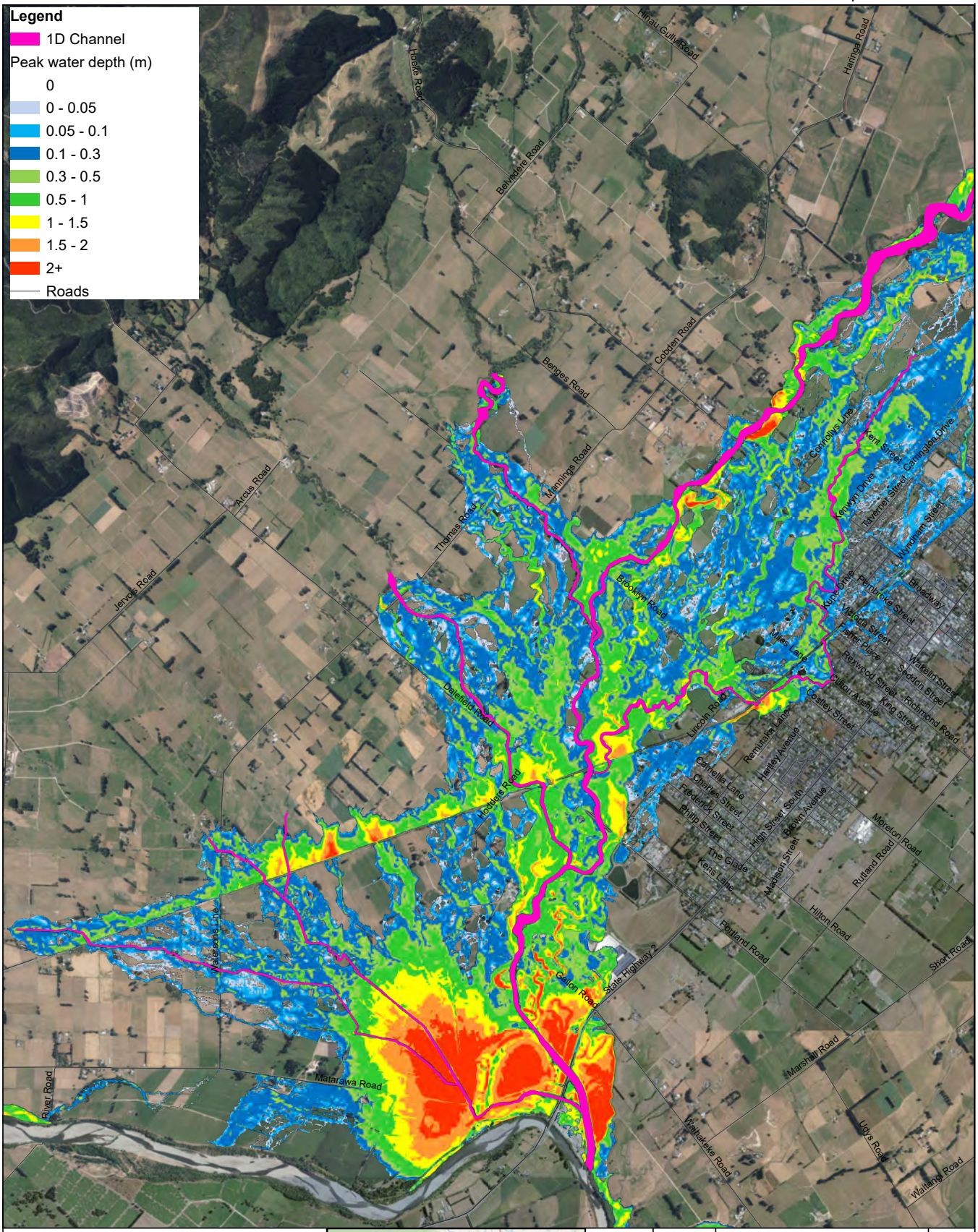
MAP (1 of 2)
PEAK DEPTH MAP

Combined Sensitivity Runs
1% AEP Flow, Future Climate (RCP6)

REVISION	01
DATE	1/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

AUTHOR
Matthew Gardner



PROJECT	**Mangatarere Stream Flood Modelling**
MAP (2 of 2)	**PEAK DEPTH MAP**
	Combined Sensitivity Runs 1% AEP Flow, Future Climate (RCP6)

REVISION	01
DATE	1/03/2023
A3 SCALE	1:25,000
CREATED BY	BS
REVISED BY	MG

0 300 600 1,200 Meters

N

Model Information:
Coordinate System: New Zealand Transverse Mercator
Vertical Datum: Wairarapa Local Datum
Model Completed: August 2022

LANDRIVERSEA CONSULTING

Greater Wellington Te Pane Matua Taiao

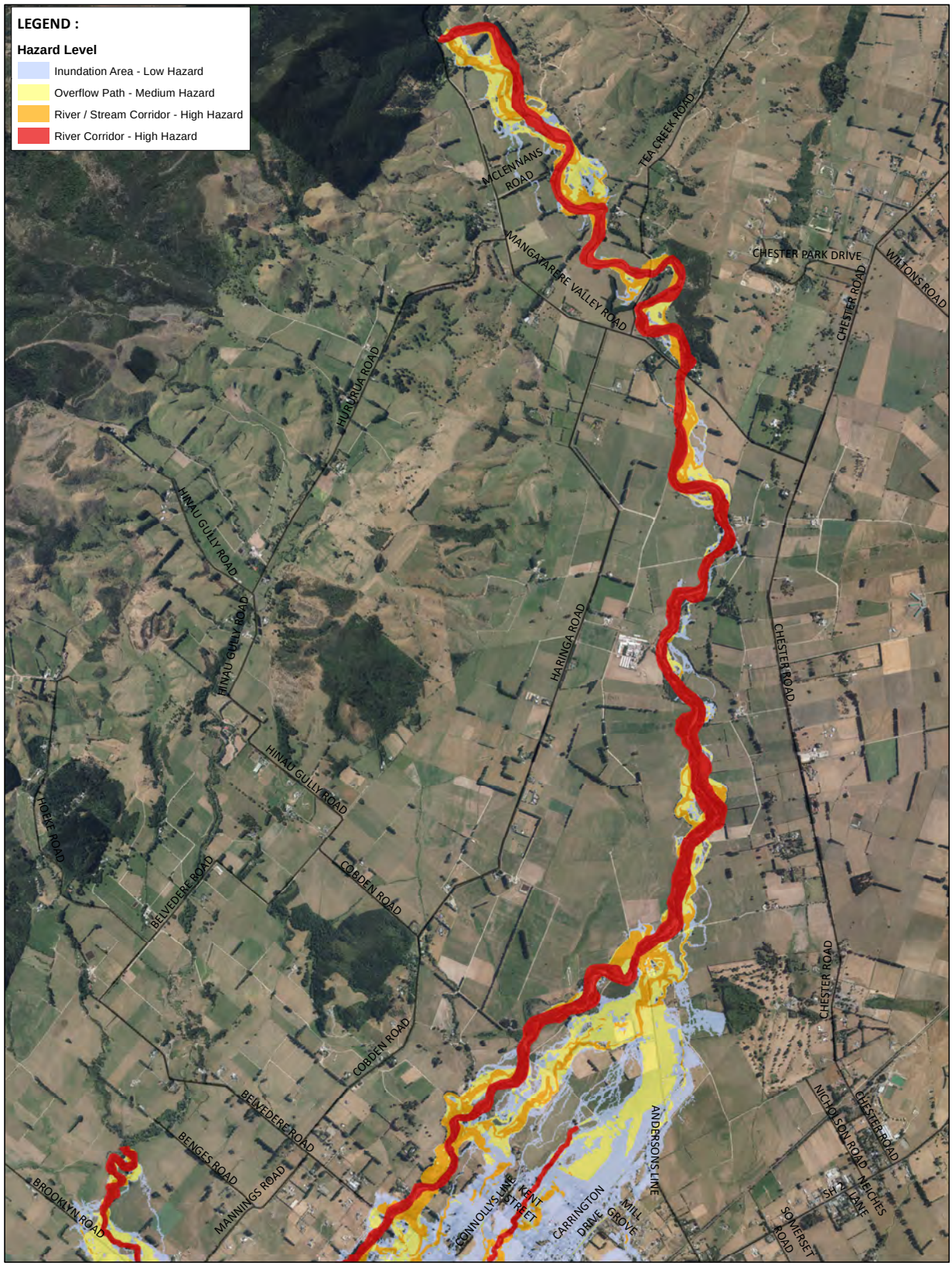
AUTHOR
Matthew Gardner

Attachment 7 to Report 25.248

Greater Wellington
Te Pane Matua Taiao

ATTACHMENT 7 - Flood hazard map for the Mangatārere Stream

Attachment 7 to Report 25.248



MANGATĀRERE STREAM HAZARD MAP
Combined Sensitivity Runs 1% AEP Flow, Future Climate (RCP6)
Map (1 of 2)

0 255 510 1,020 Metres

A3 Scale: 1:25,000

N

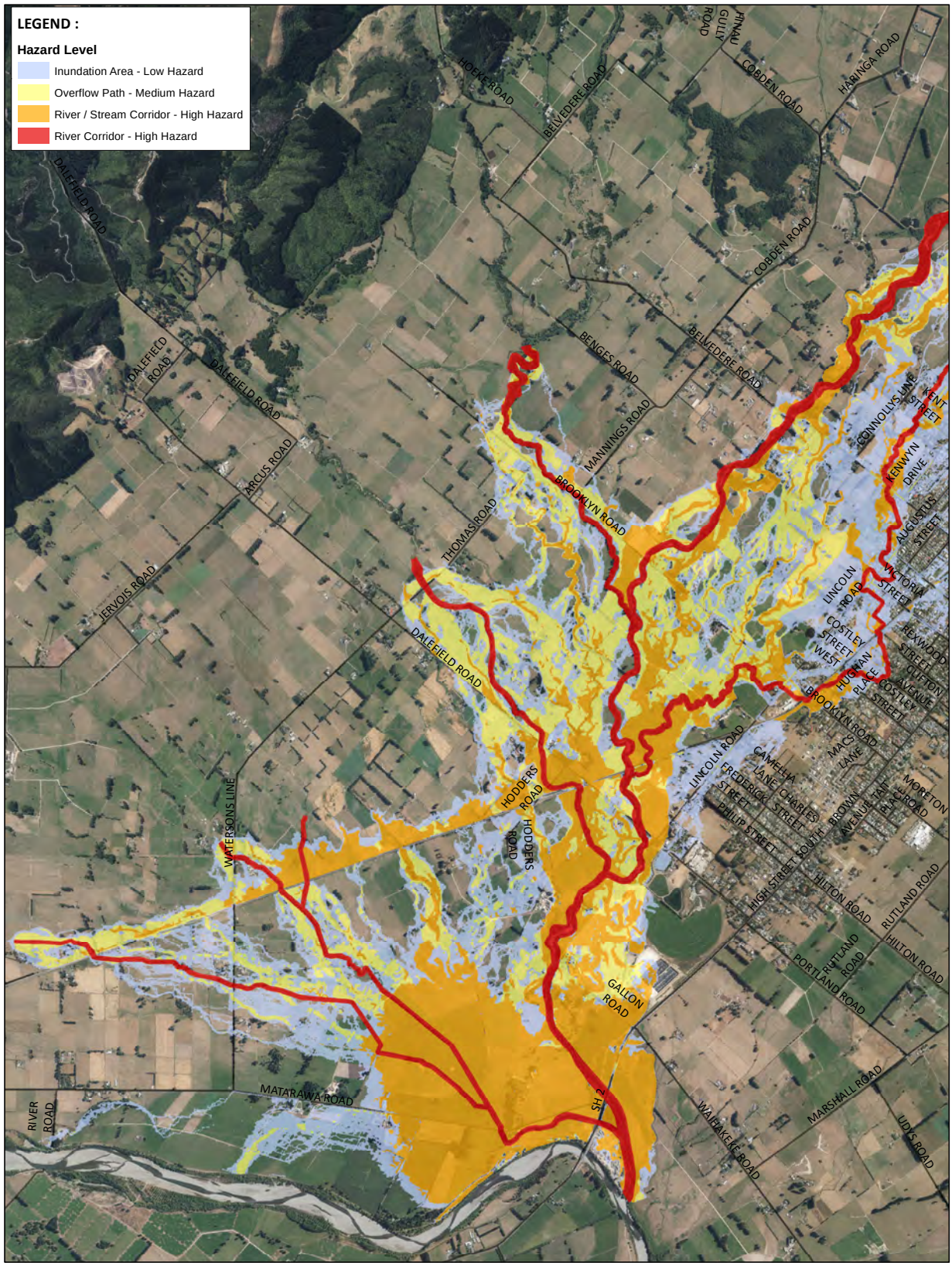
Greater Wellington
Te Pane Matua Taiao

DISCLAIMER:
The flood hazard information shown on this plan is based on the best available data at the time of preparation. Specific interpretation of flood risk in any areas shown to be affected by flooding should be obtained by written request from the Greater Wellington Regional Council. The GWRC and other agencies involved in the preparation of this plan assume no responsibility for any interpretation or action taken by any agency or individual in relation to information provided on the plan.

User Name: HeatherSG
Plotted 4:12:06 pm, 19/05/2025
SOURCE OF FLOOD LEVELS :
Database Connections\gwraster_nztm (Raster).sde\gwraster_nztm.SDEADMIN.FLOODPROT_MANGATARERE_1AEPCC_DEPTH_2018

Regional Orthophotography : 2017 GWRC

Attachment 7 to Report 25.248



MANGATĀRERE STREAM HAZARD MAP
Combined Sensitivity Runs 1% AEP Flow, Future Climate (RCP6)
Map (2 of 2)

N

Greater Wellington
Te Pane Matua Taiao

0 255 510 1,020 Metres

A3 Scale: 1:25,000

DISCLAIMER:
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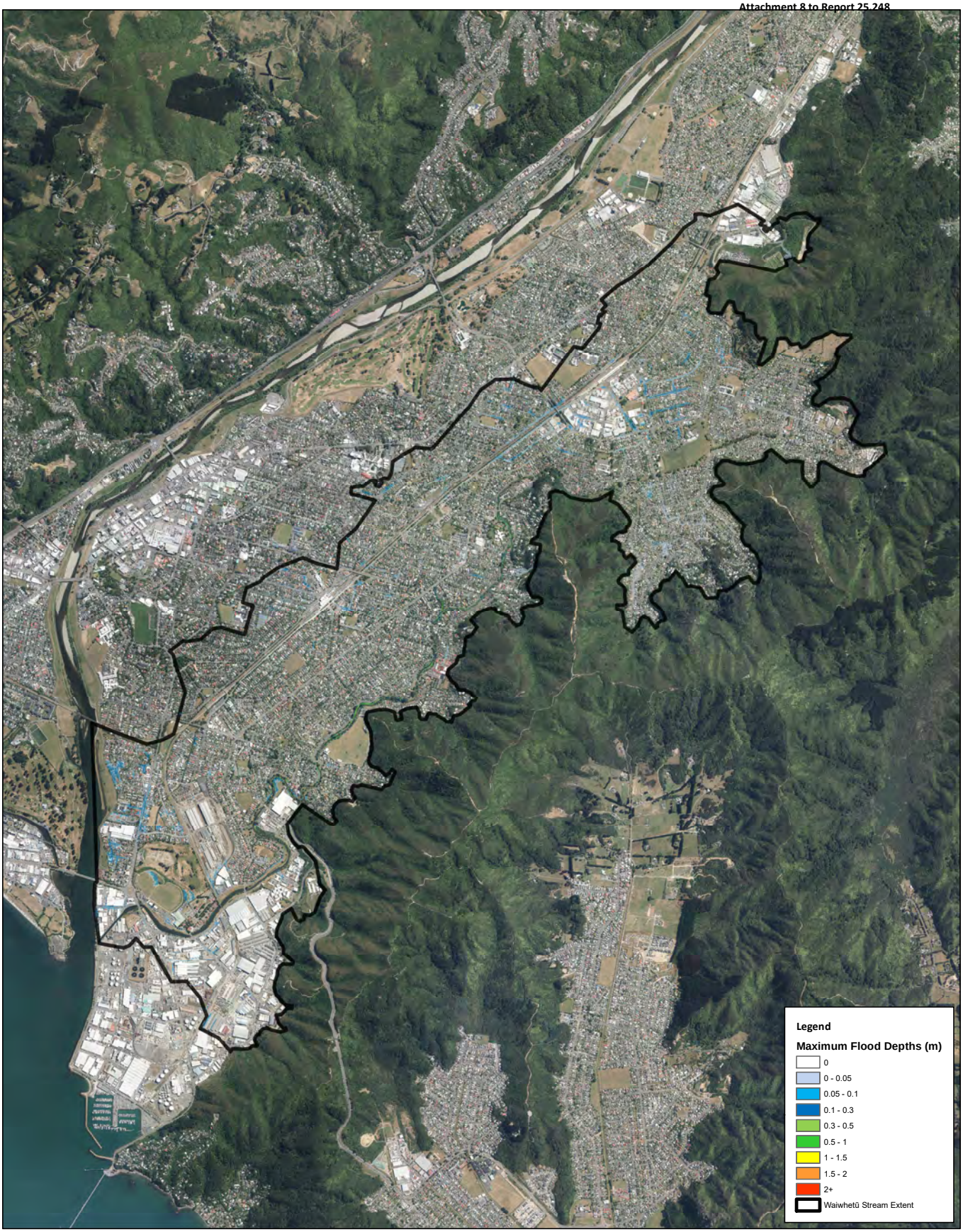
User Name: HeatherSG
Plotted 4:08:39 pm, 19/05/2025
SOURCE OF FLOOD LEVELS :
Database Connections\gwraster_nztm (Raster).sde\gwraster_nztm.SDEADMIN.FLOODPROT_MANGATARERE_1AEPCC_DEPTH_2018

Regional Orthophotography : 2017 GWRC

Greater Wellington
Te Pane Matua Taiao

ATTACHMENT 8 - Flood depth maps for the Waiwhetū Stream



Waiwhetū Stream

39% AEP (1 in 2-year ARI) flood depths for existing climate, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 2:34:53 pm, 30/05/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017
Topographic and Cadastral data is copyright LINZ

DISCLAIMER:
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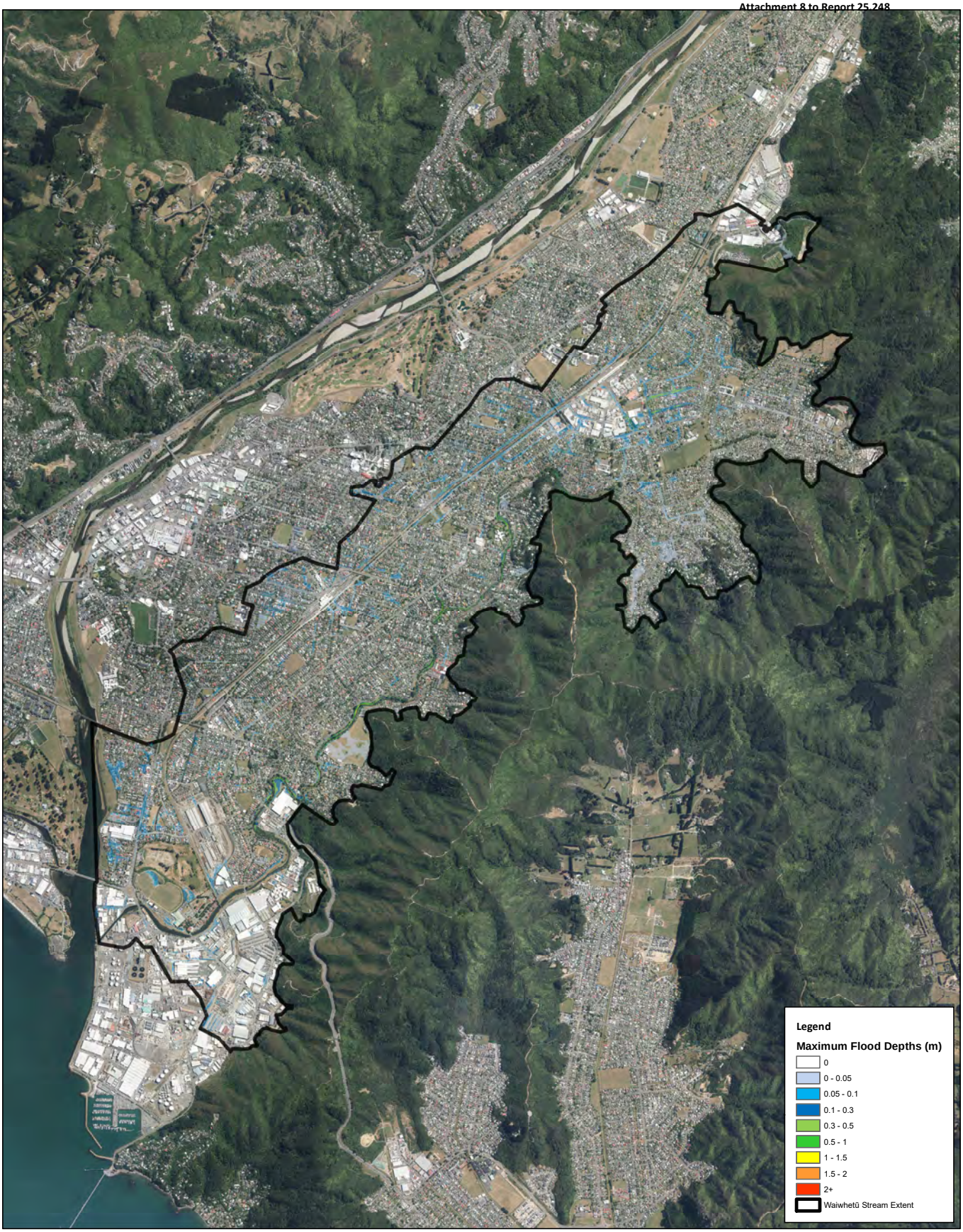


Waiwhetū Stream

20% AEP (1 in 5-year ARI) flood depths for existing climate, 6-hour storm

N

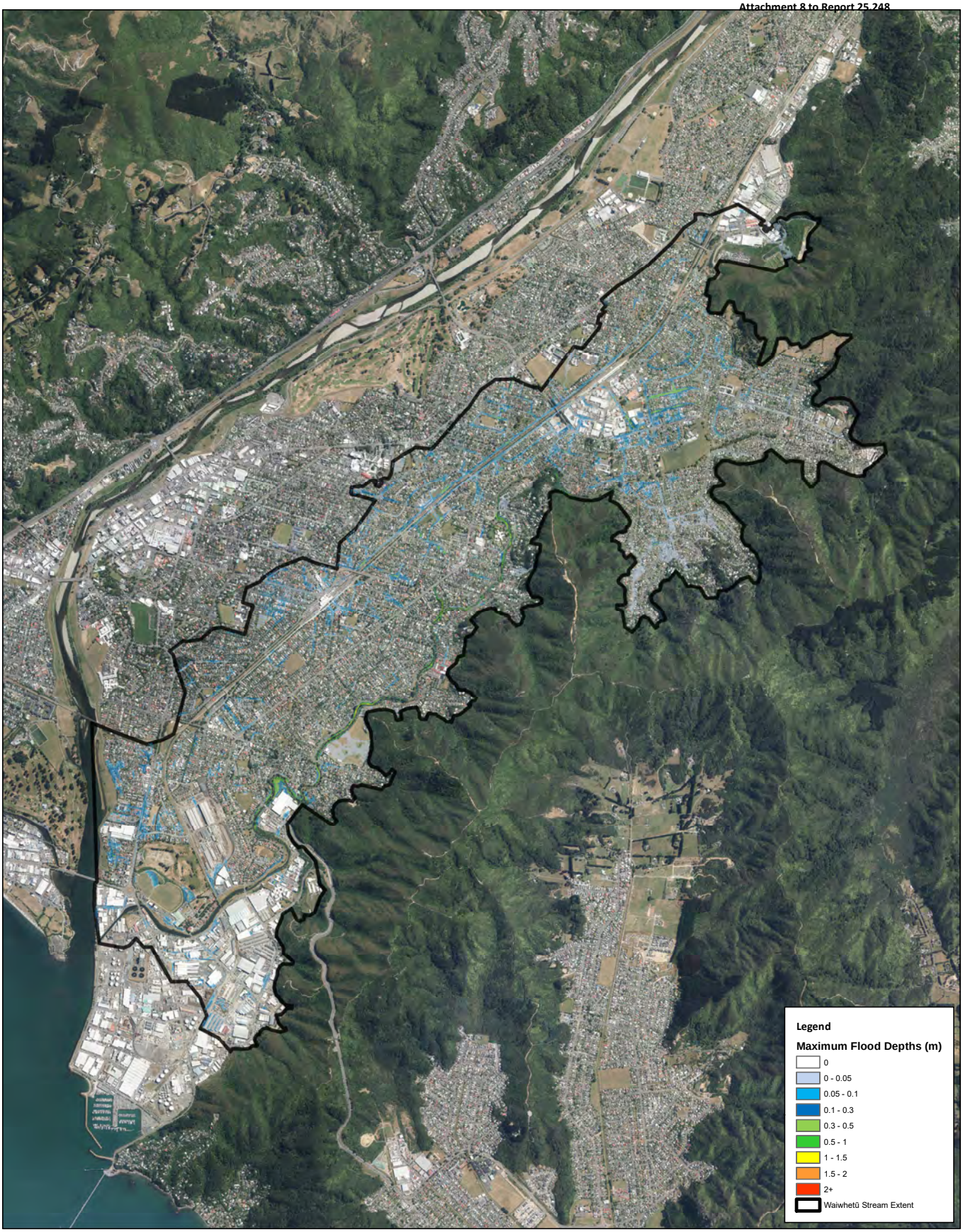
Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 2:21:31 pm, 30/05/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017



Waiwhetū Stream
10% AEP (1 in 10-year ARI) flood depths for existing climate, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 2:14:19 pm, 30/05/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017

DISCLAIMER:
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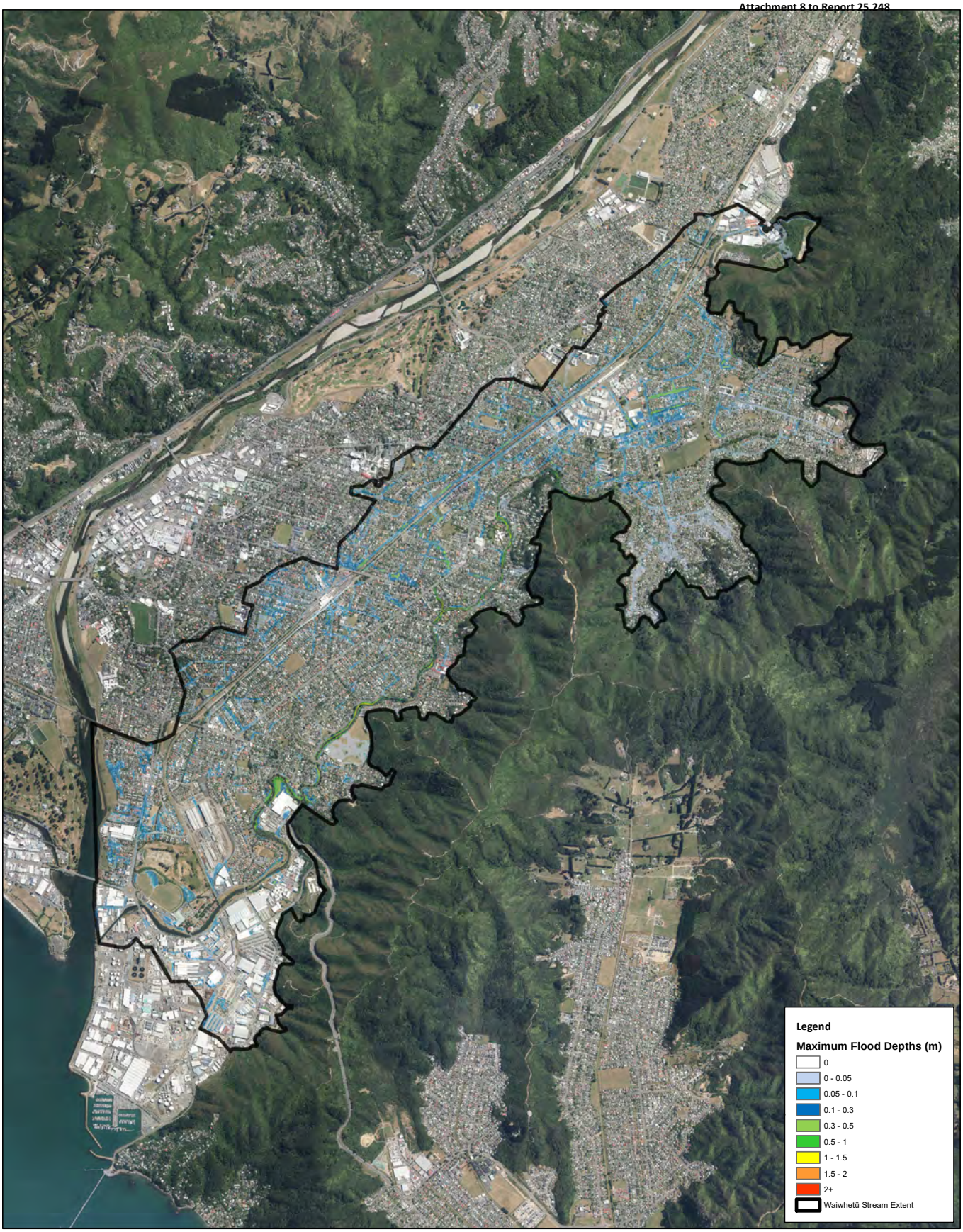

Waiwhetū Stream
5% AEP (1 in 20-year ARI) flood depths for existing climate, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 12:12:02 pm, 30/05/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017

DISCLAIMER:
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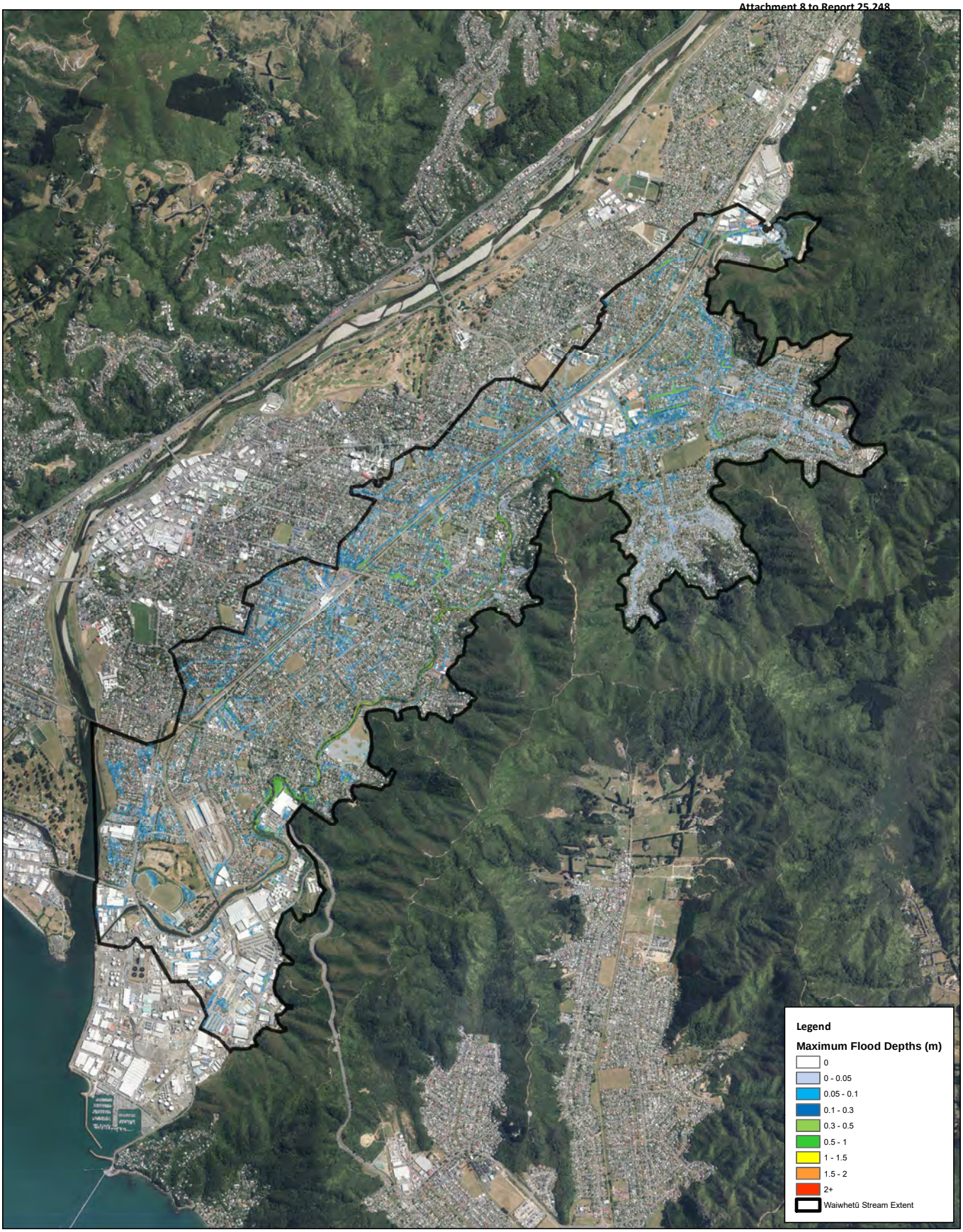

Waiwhetū Stream
2% AEP (1 in 50-year ARI) flood depths for existing climate, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 12:00:36 pm, 30/05/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017

DISCLAIMER:
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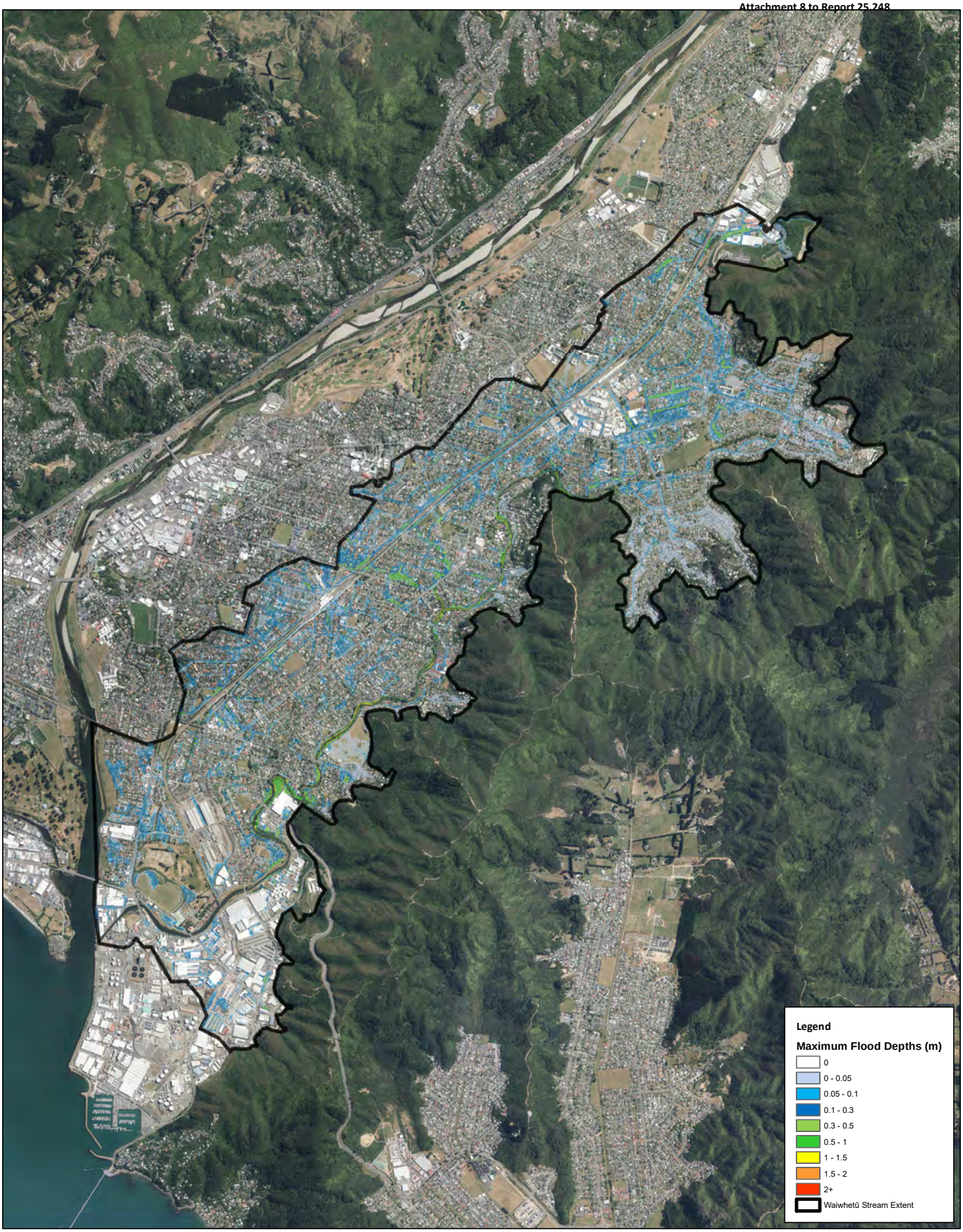

Waiwhetū Stream
1% AEP (1 in 100-year ARI) flood depths for existing climate, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 12:01:46 pm, 30/05/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017

DISCLAIMER:
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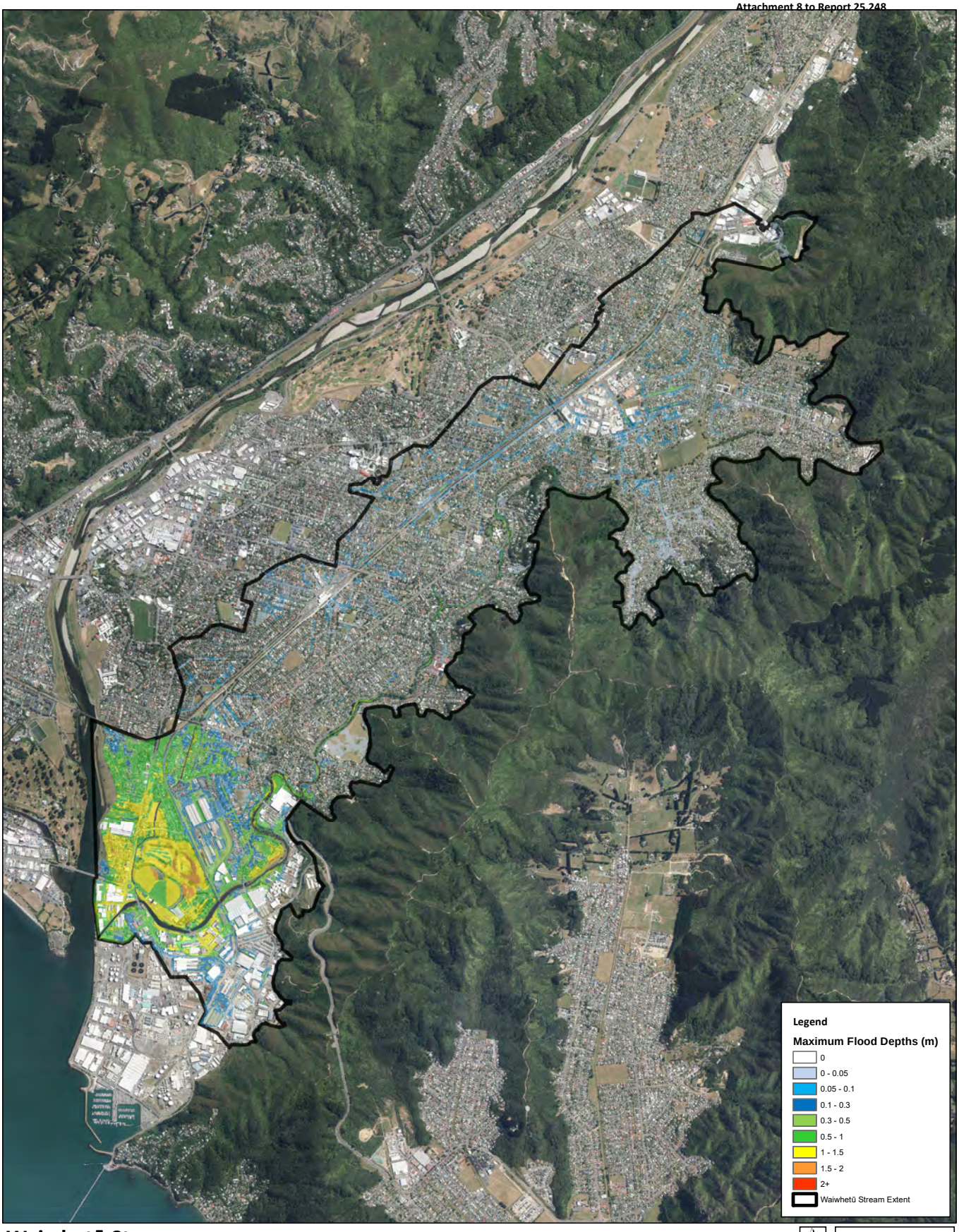

Waiwhetū Stream

39% AEP (1 in 2-year ARI) flood depths for RCP 8.5 2101-2120, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 2:50:01 pm, 4/06/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017
Topographic and Cadastral data is copyright LINZ

DISCLAIMER:
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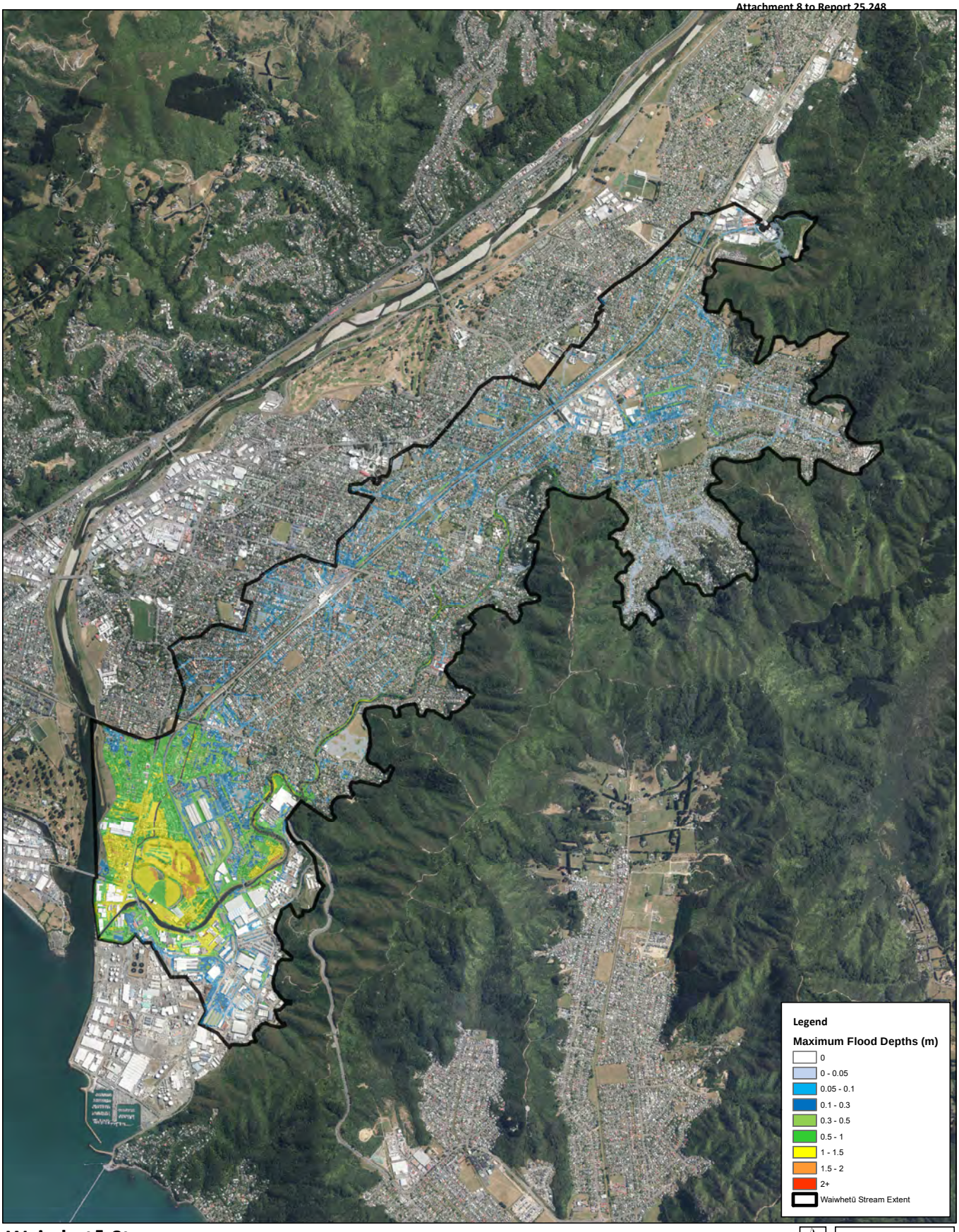

Waiwhetū Stream

20% AEP (1 in 5-year ARI) flood depths for RCP 8.5 2101-2120, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 385 770 1,540 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 3:14:05 pm, 4/06/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017
Topographic and Cadastral data is copyright LINZ

DISCLAIMER:
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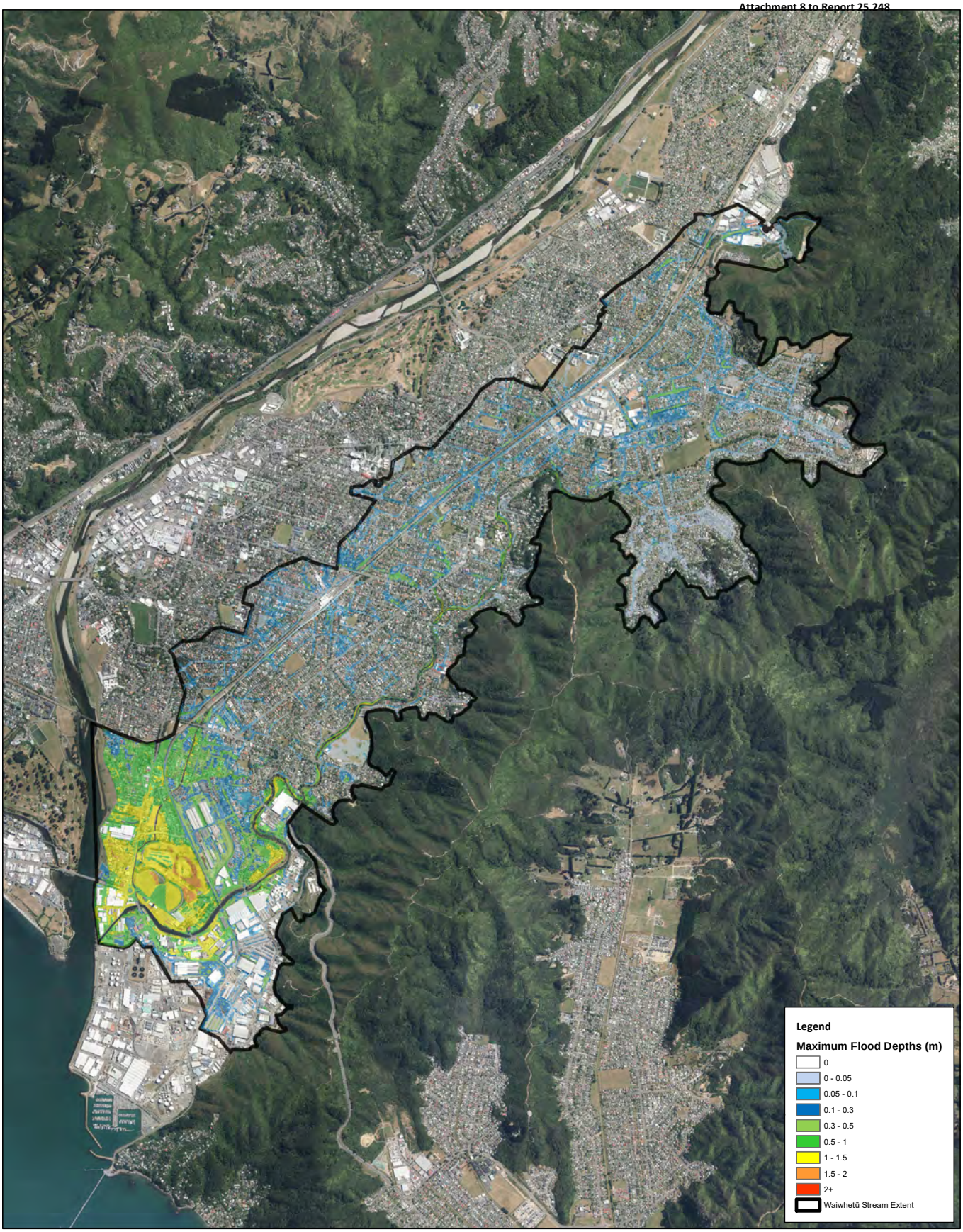

Waiwhetū Stream

10% AEP (1 in 10-year ARI) flood depths for RCP 8.5 2101-2120, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 2:30:08 pm, 4/06/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017
Topographic and Cadastral data is copyright LINZ

DISCLAIMER:
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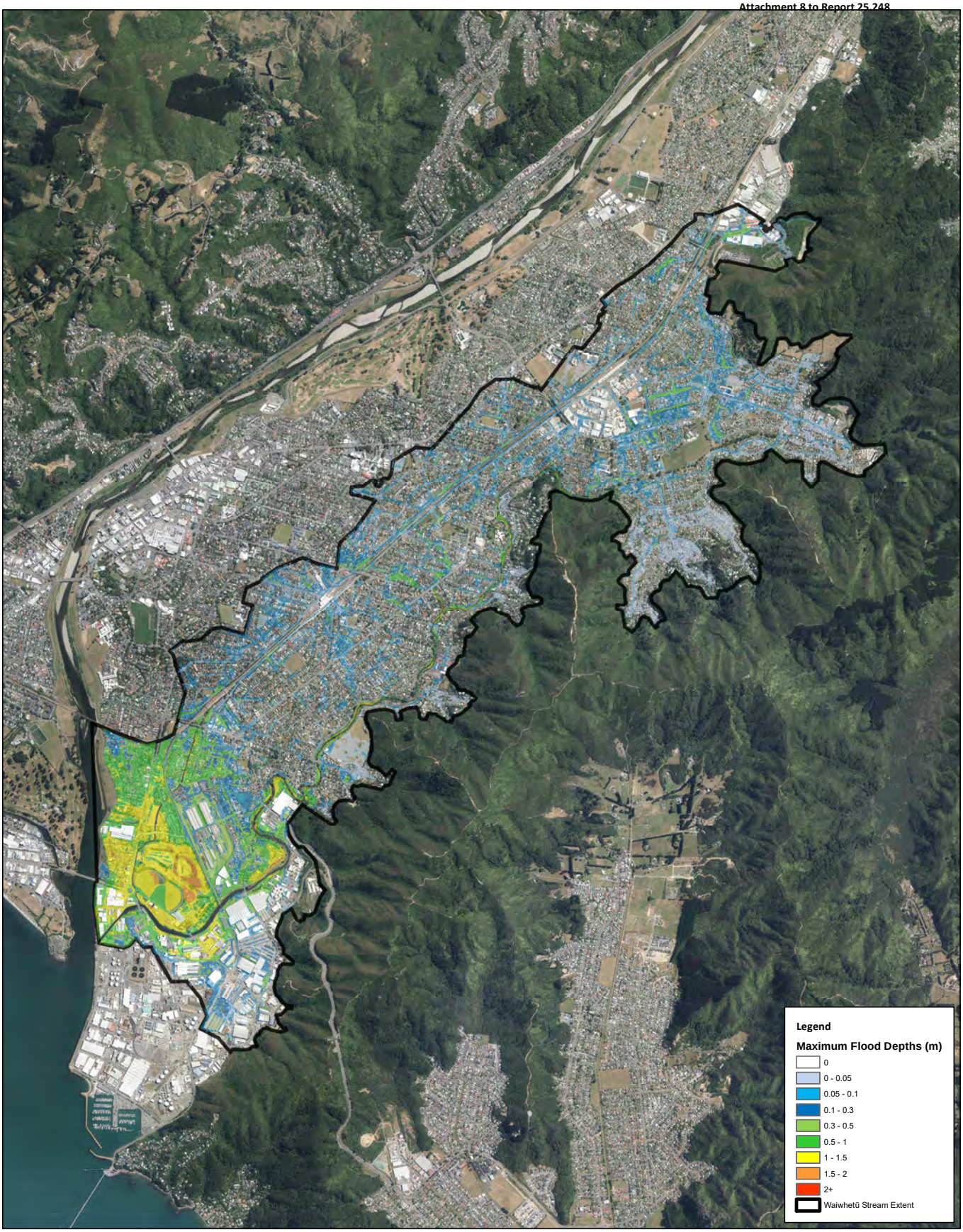

Waiwhetū Stream

5% AEP (1 in 20-year ARI) flood depths for RCP 8.5 2101-2120, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 1:14:25 pm, 4/06/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017
Topographic and Cadastral data is copyright LINZ

DISCLAIMER:
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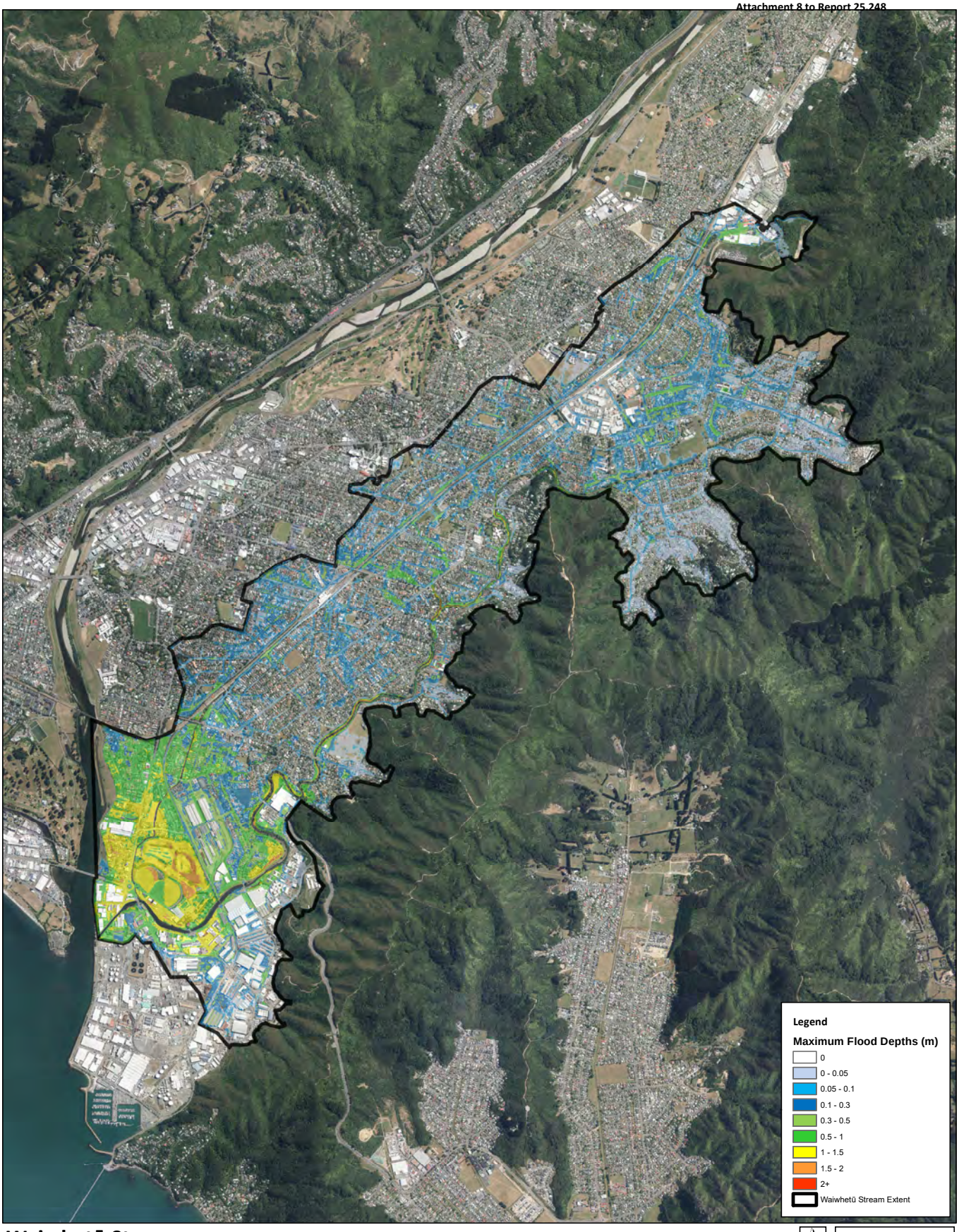

Waiwhetū Stream
2% AEP (1 in 50-year ARI) flood depths for RCP 8.5 2101-2120, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 1:03:51 pm, 4/06/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017
Topographic and Cadastral data is copyright LINZ

DISCLAIMER:
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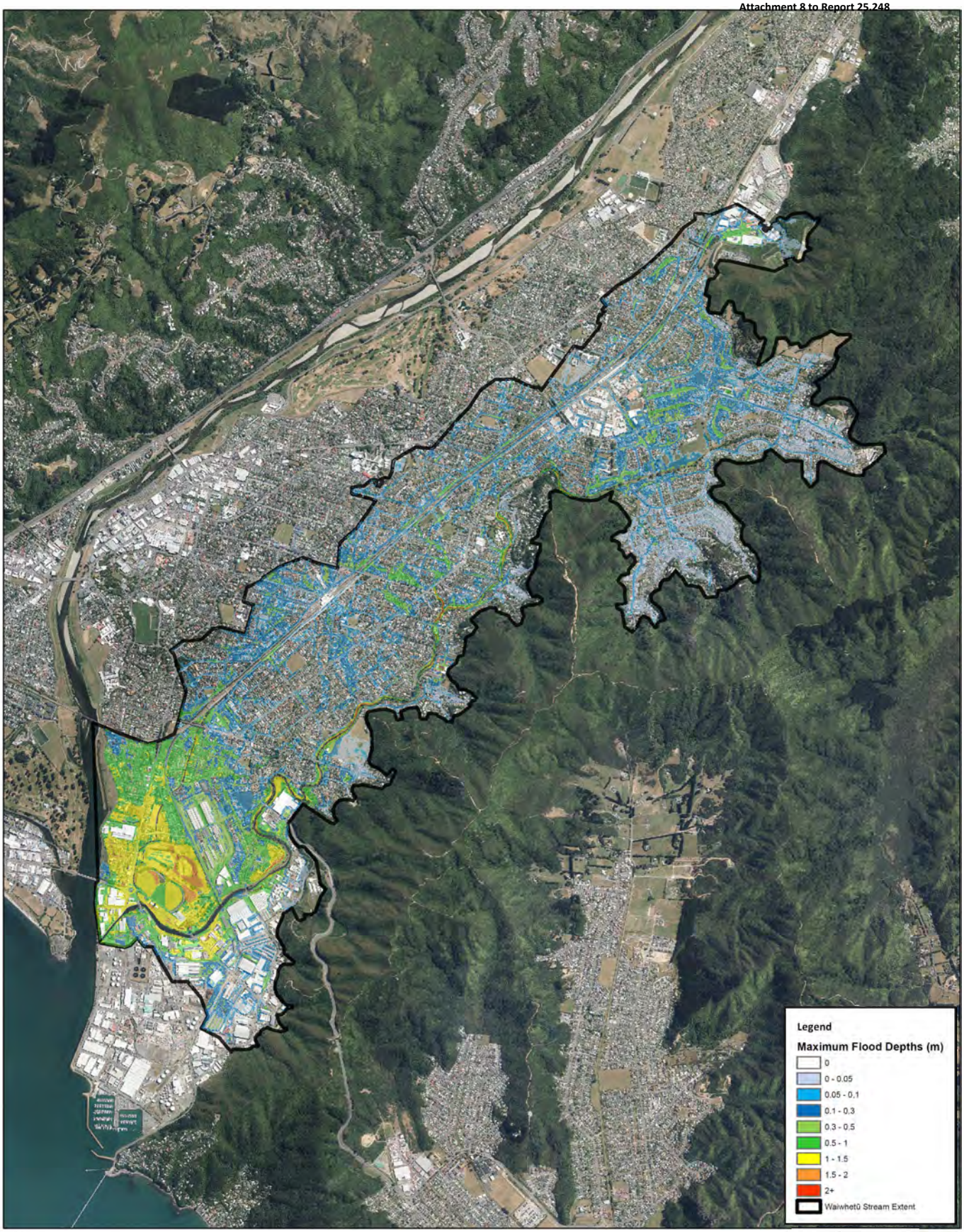


Waiwhetū Stream
1% AEP (1 in 100-year ARI) flood depths for RCP 8.5 2101-2120, 6-hour storm

N

Greater Wellington
Te Pane Matua Taiao

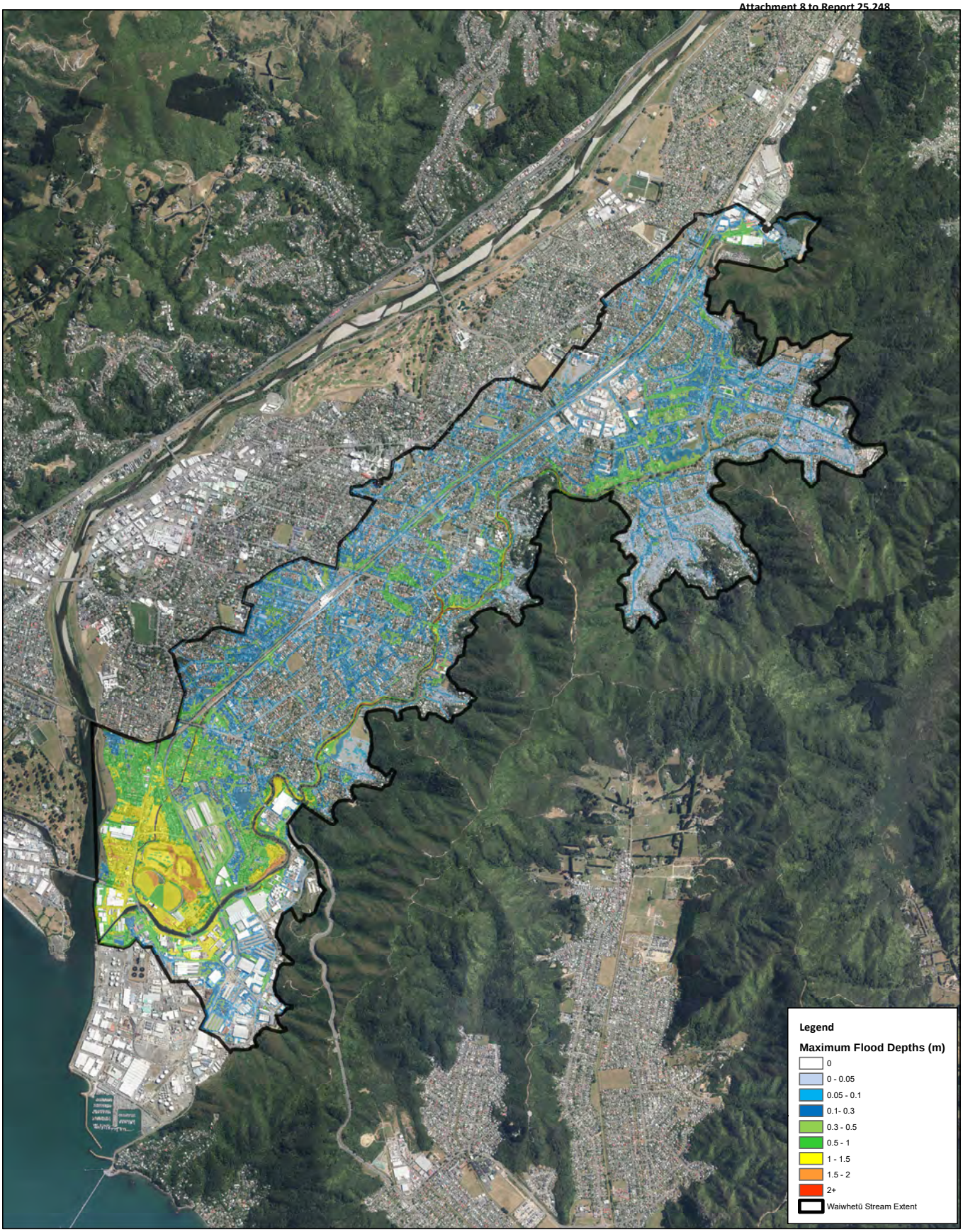
0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: BoamE"/>
Plotted 10:03 am, 5/06/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017
Topographic and Cadastral data is copyright LINZ

DISCLAIMER:
The Flood hazard information shown on this plan is based on the best available data at the time of preparation. Specific interpretation of flood risk in any areas shown to be affected by flooding should be obtained by written request from Greater Wellington the Regional Council. The GWRC and other agencies involved in the preparation of this plan assume no responsibility for any interpretation or action taken by any agency or individual in relation to information provided on the plan.



Waiwhetū Stream
1% AEP (1 in 100-year ARI) maximum uncertainty flood depths for RCP 8.5 2101-2120, 6-hour storm

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 3:32:53 pm, 4/06/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017
Topographic and Cadastral data is copyright LINZ

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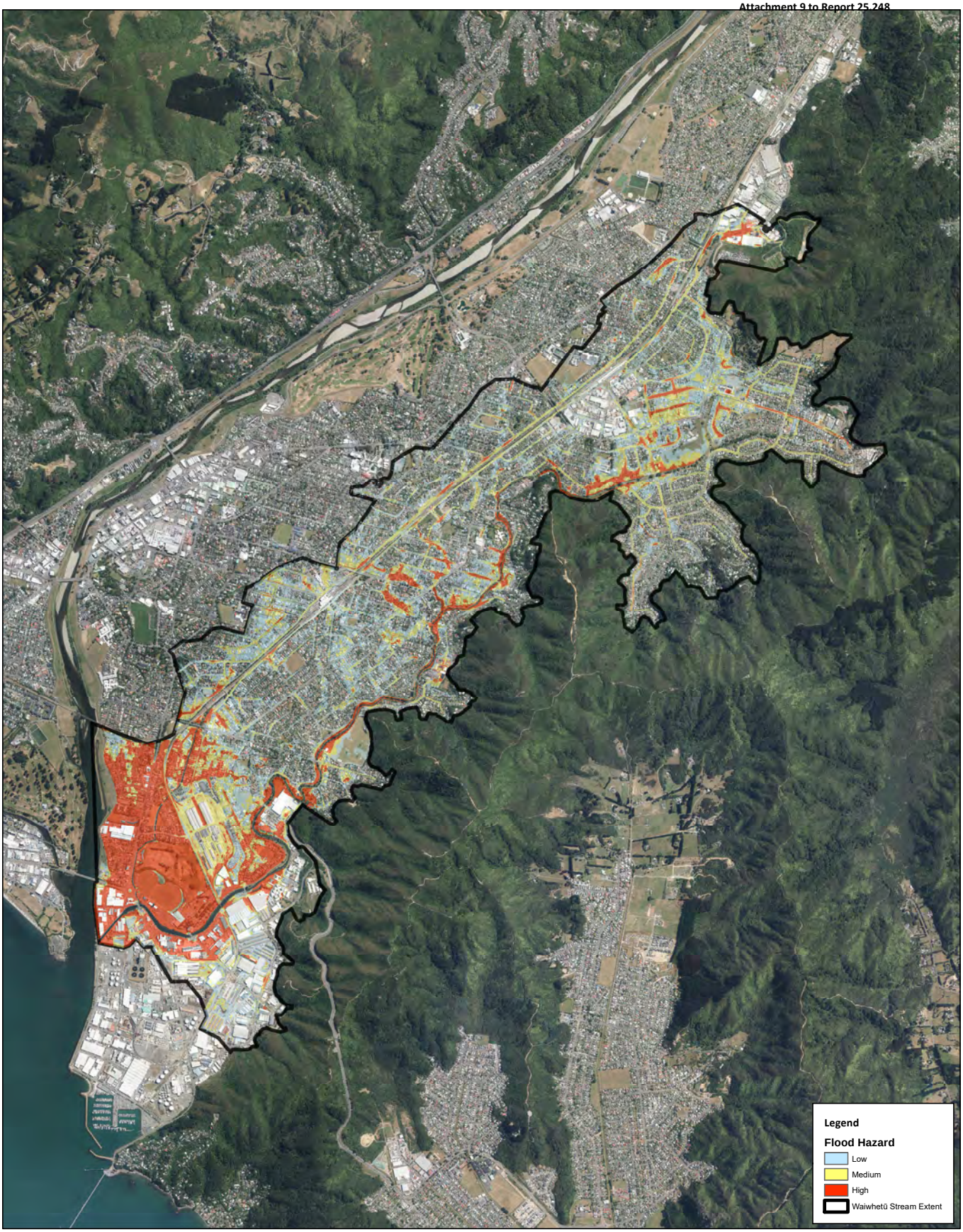
Greater Wellington
Te Pane Matua Taiao

ATTACHMENT 9 - Flood hazard map for the Waiwhetū Stream



Waiwhetū Stream
1% AEP (1 in 100-year ARI) maximum uncertainty flood hazard for RCP 8.5 2101-2120, 6-hour storm

0 387.5 775 1,550 Metres

A3 Scale: 1:25,000

User Name: HeatherSG"/>
Plotted 3:48:14 pm, 4/06/2025
SOURCE OF FLOOD LEVELS : :
gwraster_nztm.SDEADMIN.FLOODPROT_WAIWHETU_STM_Q100CC800FB_FLOODLEVEL

Regional Orthophotography : 2017

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Environment Committee
19 June 2025
Report 25.249

For Decision

WAIPOUA RIVER URBAN REACH - PREFERRED FLOOD RISK MANAGEMENT OPTION

Te take mō te pūrongo
Purpose

1. To advise the Environment Committee of the preferred flood risk management option for the urban reach of the Waipoua River.

He tūtohu
Recommendations

That the Committee:

1 **Endorses** the preferred flood risk management option for the urban reach of the Waipoua River, subject to further discussions between Greater Wellington and Masterton District Council regarding implementation and the desired level of service for key assets, including Mawley Park

Te horopaki
Context

2. Greater Wellington Regional Council (Greater Wellington) has been working with members of the community, Masterton District Council and mana whenua (known collectively as the Waipoua Project Team) to progress Stage 1 of the Major Project Response on the Waipoua Urban Reach from the Te Kāuru Upper Ruamāhanga Floodplain Management Plan (Te Kāuru).

3. The Waipoua Project Team have previously completed updating the flood hazard maps for the Waipoua River. These maps are also being presented to the Committee at this meeting as part of Report 25.248 - Waipoua River, Mangatārere Stream and Waiwhetū Stream Flood Hazard Maps.

4. To address the risk defined by the flood hazard maps, the Waipoua Project Team has recommended a preferred flood risk management option for the urban reach of the Waipoua River. The preferred option and the process to reach this recommendation is detailed in 'Preferred Option Report – Waipoua River Flood Risk Management', which can be accessed via this link: https://www.gw.govt.nz/your-region/emergency-and-hazard-management/flood-protection/our-work/rivers-and-streams/upper-ruamahanga-river/waipoua-river-flood-risk-management/

Process to determine preferred option

5. To determine a preferred flood risk management option the Waipoua Project Team have undergone an optioneering process which includes the following stages:
    - Develop a long list of options (brainstorming all possibilities)
    - Reduce list of options (high-level assessment to discard options which do not meet project needs)
    - Refine and combine options to develop a short list (more detailed assessment)
    - Engage with community on short list of options
    - Develop the preferred option (using a multi-criteria analysis and the outcomes of the engagement).

Long list of flood risk management options

6. The Waipoua Project Team first considered a long list of options. This included structural measures, river management responses, options for the upper catchment, emergency management and planning controls.
7. To aid in assessing options on the long list, specialist inputs were provided which included:
    - Geomorphology assessment;
    - Flood damages assessment;
    - Geotechnical assessment of existing stopbanks; and
    - Hydraulic modelling of selected long list options.
8. The reports associated with these inputs are appended to the preferred option report.
9. Through this assessment, many of the long list options were discounted from consideration on the basis that there were more concerns or drawbacks than benefits.

Short list of flood risk management options

10. A process of combining and rationalising the remaining options into realistic combinations then took place. This was supported by Tonkin + Taylor and further expert inputs, such as additional hydraulic modelling. This resulted in four short list options.
11. There were measures common across the four options, which were assessed as providing effective flood or erosion protection for certain areas. These were:
    - Mahunga Drive bund;
    - Akura Road swale and floodwall/bund;
    - Cameron Cresent bund; and
    - Channel widening and berm lowering around the bridges.

12. The four short list options provided variations of stopbank upgrades, river management works, and upper catchment considerations. A summary of the four options is provided below.

Option 1: Improving and extending existing stopbanks

13. Stopbanks and bunds raised in their existing locations and some areas extended.

Option 2: Improving stopbanks and undertaking extensive channel work

14. Berm lowering and widening of the river channel, in addition to stopbanks and bunds raised in their existing locations.

Option 3: Retreated stopbanks on true left bank

15. Stopbanks raised in their existing locations on the true right bank and in retreated locations (where possible) on the true left bank.

Option 4: A reduction in flows of 5% to be achieved by upstream catchment processes, upgrades to stopbanks still required

16. Implementing nature-based solutions in the upstream catchment to reduce flood peaks by 5%. Stopbanks and bunds were assumed to be upgraded in their existing locations but could be lower than other concepts due to reduced flows.

Community engagement on short list of flood risk management options

17. The short list options were presented to the community through an engagement process that ran from 17 February to 16 March 2025.

18. For community engagement the four short list options were communicated as ‘concepts’ to better reflect the high-level of design and the flexibility to mix and combine them. This change was to enable feedback to be gathered from the community about specific aspects of each concept rather than the community having to select an option in its entirety.

19. During the engagement, it was communicated that the final preferred option would likely be a combination of several of the concepts.

20. The following engagement activities were undertaken:

- Email briefing to Greater Wellington Councillor Adrienne Staples (31 January 2025)
- Masterton District Council elected members briefing (26 February 2025)
- Engagement with targeted affected parties including:
  - Two visits to talk with Mawley Park management
  - Akura Road landowner meeting
  - Oxford Street residents letter drop
- Engagement events:
  - Train station brochure handouts at Masterton, Solway and Renell Street stations on the mornings of 25, 26 and 27 February, respectively
  - Masterton Library drop-in sessions on 26 February and 4 March 2025

    - Presentation and drop-in at Lakeview School on 27 February 2025
    - Stall in Charlie's Lane on 1 March 2025
    - Wairarapa Farmers Market stall on 8 March 2025
    - Stall at Queen Elizabeth Park on 9 March 2025
- Flyers distributed to all letterboxes in the Masterton urban area
- Three sponsored social media posts
- Newspaper advertisements in two editions of the Wairarapa Times Age
- Information on the Greater Wellington website
- Have Your Say online form as well as physical feedback forms

21. Masterton District Council prepared a written submission on the flood risk management options. Key points raised in the submission were:
    - Key priorities: risk to life, the potential impacts to assets, the environment and possible impacts on insurance.
    - Recognition of the need to protect the town, community assets and private property as well as the importance of the community being able to identify and connect with the river. An outcome that results in a fair balance between these benefits was encouraged.
    - Indicated that a combination of attributes in the final recommended option would be preferred.
22. Greater Wellington provided a written response to the feedback and identified that Masterton District Council are a key stakeholder in this work, and it is hoped that they will actively contribute to the future detailed design phase and inform the desired level of service for key assets.
23. An engagement summary report was prepared. This is appended to the preferred option report.

Te tātaritanga
Analysis

Multi criteria analysis

24. A multi-criteria analysis (MCA) was undertaken to aid in determining the preferred flood risk management option. The method for the MCA process was recommended by an independent planner from Tonkin + Taylor and it was determined and agreed by the Waipoua Project Team that the criteria would not be weighted.
25. The MCA included input from Masterton District Council officers, Greater Wellington officers, mana whenua, community members, as well as subject matter experts. The process was facilitated by the group's independent community facilitator.

26. The criteria used in the MCA were: Te Mana o te Wai, feasibility, consentability, cultural, environmental, social, flooding behaviour, and economic. These criteria align with the aims of the Te Kāuru Upper Ruamāhanga Floodplain Management Plan.

27. The scores for each option were not summed because of concerns that some criteria or scorers would unfairly influence the results. Instead, the results were visualised and compared using spider/radar plots.

28. Masterton District Council officers provided their own scoring for the MCA analysis, which was compared to the results of the Waipoua Project Team. It was agreed the scoring was largely consistent.

29. Inputs from Masterton District Council officers was limited to commentary on the technical aspects of the four options. Separate to their input, they were supporting their councillors to make a submission, which would represent Masterton District Council's official position. This is described above in paragraph 21. Masterton District Council officers did not participate in any decision-making regarding the preferred option.

The preferred option

30. The preferred option was determined using the results of the MCA process, as well as feedback from the community and Masterton District Council.

31. The preferred option combines structural flood protection upgrades in the urban reach, nature-based solutions upstream of Masterton and non-structural responses within the wider catchment. It is a combination of the four short list options.

32. The preferred option is presented in detail in the preferred option report. The link to this report is provided in paragraph 4. A summary is provided in the points below and a concept map of the preferred option is provided in **Attachment 1**.

    - **Structural measures:** (new/upgraded stopbanks, flood walls and bunds) in the urban reach of the river, to provide an immediate reduction in the flood risk and provide continuous defences to the urban area once implemented.
        - The majority of the stopbanks are recommended to be upgraded in their existing positions. However, there are two areas where further investigations are recommended with the potential to retreat the stopbanks.
        - It is recommended that an investigation is undertaken to determine the alignment of the true left stopbank between the rail and SH2 bridges. Options to retreat the stopbank should be considered wherever possible, including behind, through or in front of Mawley Park. This could affect the future land use of Mawley Park. The exact alignment is to be determined by Greater Wellington and Masterton District Council.
        - Downstream of the sports bowl on the true left bank, it is proposed that the existing stopbank will remain on its current alignment, but it will not be upgraded. This means the level of service will be lower than the other sections of stopbank in the urban reach and flood flows could

preferentially spill on the left bank. It is proposed that in the medium term, the level of service of this section of stopbank should be further investigated and consideration should be given to actively lowering the level of service. This could result in lowering the stopbank and/or engineering a spill location.

- **Increased channel capacity:** Targeted lowering of the river berms and widening of the channel in the urban reach to increase flood conveyance.
- **Nature-based solutions:** In the catchment upstream of Masterton, use of nature-based solutions is proposed to help manage the flood risk in the long-term and also provide wider benefits for the environment and the community.
    - The extent and type of nature-based solutions has not yet been determined but Greater Wellington is overseeing a Ministry for the Environment funded feasibility study for the Waipoua catchment.
    - It is recommended that the results of the feasibility study are reviewed and that opportunities to implement nature-based solutions in the upper catchment are prioritised.
- **Planning controls**: Use of planning controls to prevent inappropriate development in risky areas (which would lead to the flood risk continuing to increase over time).
- **Emergency management and flood warning improvements**: These will both improve safety in areas that are not protected by new/upgraded defences, and help to manage the residual risk, i.e. what happens if the defences fail, or when a larger flood comes than the one that was designed for.

Ngā hua ahumoni
Financial implications

33. There will be financial implications for implementing the preferred flood risk management option for the Waipoua River. At this stage, high level cost estimates have been completed for each of the short list flood risk management options and suggest that the cost to implement these will be similar and are in the order of $30 million. However, this does not include the costs for implementing nature-based solutions in the upper catchment.
34. This report is seeking recommendation that the Environment Committee endorse the preferred flood risk management option. The endorsement relates to progressing the preferred option to the next phase of work: detailed design. The endorsement does not relate to a financial commitment to implement the preferred option. It is anticipated that implementation of the final detailed design will be funded through the Long Term Plan.
35. Cost optimisation of the preferred flood risk management option will be undertaken during detailed design.

36. The costs to implement the preferred flood risk management option would be split 50/50 across existing local and regional funding rating bases. The local share would be collected from the Te Kāuru scheme rating base and the regional share would be collected across all ratepayers across the Wellington region. Both of these are Greater Wellington rates, not local authority rates.

37. Based on current rating classification this equates to an average total rate increase of approximately $10 per $100,000 Capital Value (CV) for 25 years for rate payers within the Te Kāuru scheme. For rate payers across the Wellington region (outside of the Te Kāuru scheme) the increase in rates would be approximately $0.50 per $100,000 CV for 25 years. For example:

38. For a property worth $500,000 within the Te Kāuru scheme (for example in Masterton), Greater Wellington rates would be increased by approximately $50 for a period of 25-years. For a property worth $5,000,000, rates would be increased by approximately $500 for 25-years.

39. For a property worth $500,000 outside of the Te Kāuru scheme (for example in Waikanae), Greater Wellington rates would be increased by $2.50 for a period of 25-years. For a property worth $5,000,000, rates would be increased by approximately $25 for 25-years.

40. The rating implications could be less if funding from central government is available.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

41. Greater Wellington is required to manage land and water within a range of statutory requirements, including giving effect to Te Mana o Te Wai and considering Te Tiriti o Waitangi in the development and implementation of the Council's strategies, plans, programmes and initiatives.

42. Implementation with mana whenua partners is guided by Te Whāriki – the new Māori Outcomes Framework as part of Council's Long Term Plan 2024–34.

43. The Waipoua Project Team includes members of local iwi and mana whenua. The multi-criteria analysis process incorporated criteria for Te Mana o te Wai as well as cultural, environmental and social values.

Te huritao ki te huringa o te āhuarangi
Consideration of climate change

44. The Waipoua flood risk management options project supports the 2015 Climate Change strategy, which states 'we will help the region adapt to climate change'. The project increases climate change resilience to flooding within the Masterton district.

45. Greater Wellington currently assesses options to address flood risk based on the predicted impacts of climate change over the next 100 years. The flood hazard mapping incorporates a predicted climate change to 2100 for rainfall using the Representative Concentration Pathway (RCP) 6.0 scenario.

46. The preferred option will require rock supply. Greenhouse gas emissions from rock supply will be considered during implementation.

Ngā tikanga whakatau
Decision-making process

47. The matters requiring decision in this report were considered by officers against the decision-making requirements of Part 6 of the Local Government Act 2002.

Te hiranga
Significance

48. Officers considered the significance (as defined by Part 6 of the Local Government Act 2002) of the matters for decision, taking into consideration Council's *Significance and Engagement Policy* and Greater Wellington's *Decision-making Guidelines*. Officers consider that the matter is of low significance. This is due to the improved level of service and consequent decrease in risk provided by the preferred option, as well as the financial implications, for the community within the Te Kāuru scheme.

Te whakatūtakitaki
Engagement

49. In February and March 2025, a four-week engagement process was undertaken to present the four short list flood risk management options/concepts to the community. Feedback from Masterton District Council was also received. A summary of this engagement is noted in paragraphs 17 to 22 of this report.

50. The preferred option was presented to the Upper Ruamāhanga River Management Advisory Committee on 5 May 2025.

    - The first motion was to seek agreement that the preferred option is consistent with Te Kāuru. The motion was carried.
    - The second motion was to seek a recommendation to present the preferred option to the Wairarapa Committee. This motion was carried.

51. A report for information was presented to Masterton District Councillors by their officers on 14 May 2025. Greater Wellington officers were invited to the meeting to answer questions.

    - The report was to inform the elected members of Greater Wellington's response to Masterton District Council's submission and to share the preferred option.
    - The Masterton District Council elected members supported ongoing discussions between Masterton District Council and Greater Wellington.

52. The preferred option was presented to the Wairarapa Committee on 3 June 2025.

    - The motion was to seek a recommendation that the Environment Committee endorse the preferred flood risk management option.

- Mayor Caffell (Masterton District Council) proposed an amendment to the motion, which was to include the wording *'subject to further discussions between Greater Wellington and Masterton District Council re implementation and the desired level of service for key assets, including Mawley park'*.
- The amended motion was therefore to recommend that the Environment Committee endorse the preferred flood risk management option, subject to further discussions between Greater Wellington and Masterton District Council regarding implementation and the desired level of service for key assets, including Mawley Park. This motion was carried.

53. Should the preferred option be endorsed by the Environment Committee, further engagement is proposed to present the preferred option to the community. Additional consultation with Masterton District Council, landowners and other stakeholders will also be undertaken in future phases of work to implement the preferred option.

Ngā tūāoma e whai ake nei
Next steps

54. It is intended that Masterton District Council will be a key stakeholder and actively contribute to future stages of the project (implementation) and confirm the desired level of service for key assets, including Mawley Park.

55. The nature-based solutions project is due for completion in July 2025.

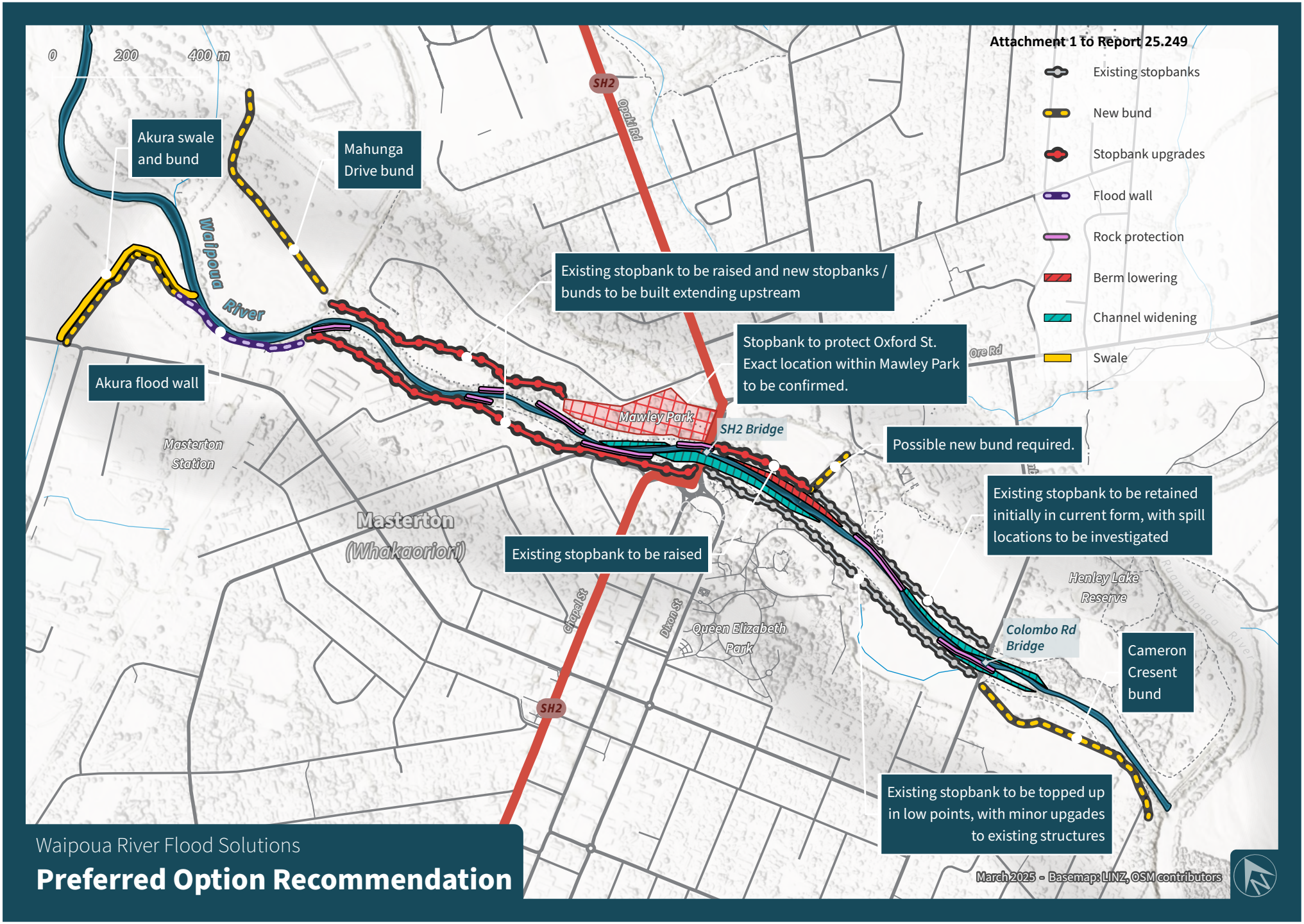
Ngā āpitihanga
Attachments

Number	Title
1	Preferred option concept map

Ngā kaiwaitohu
Signatories

Writers	Ella Boam – Senior Project Manager, Investigations – Water Resilience Francie Morrow - Team Leader Knowledge – Water Resilience
Approvers	Evan Harrison – Manager, Knowledge David Hipkins – Director, Knowledge and Insights Lian Butcher – Group Manager, Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference The Environment Committee has responsibility to consider all matters across the development and implementation of the work programmes of Greater Wellington's Environment Group.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies The project contained within this report delivers on Greater Wellington's strategic priority area of te tū pakari a te rohe/regional resilience, and support delivery of Greater Wellington's strategic priority area of te oranga o te wai māori me te rerenga rauropi/freshwater quality and biodiversity.
Internal consultation Specific projects consult with groups and departments across Greater Wellington where relevant to the project. This includes Flood Operations – Delivery Function, Environment Restoration – Delivery Function, Catchment Function, various teams across Knowledge and Insights Function, and Finance.
Risks and impacts - legal / health and safety etc. The purpose of implementation floodplain management plans in implementing asset management procedures is to reduce the risk to communities and improve the region's resilience. Greater Wellington has adopted procedures and processes to minimise risks. Working with community committees enables a wider understanding of the risks before adoption of work programmes.


Attachment 1 to Report 25.249
0
200
400 m
Existing stopbanks
New bund
Stopbank upgrades
Flood wall
Rock protection
Berm lowering
Channel widening
Swale
Akura swale and bund
Mahunga Drive bund
Waipoua River
Akura flood wall
Existing stopbank to be raised and new stopbanks / bunds to be built extending upstream
Stopbank to protect Oxford St. Exact location within Mawley Park to be confirmed.
Mawley Park
SH2 Bridge
Possible new bund required.
Existing stopbank to be retained initially in current form, with spill locations to be investigated
Existing stopbank to be raised
Masterton Station
Masterton (Whakaoriori)
SH2
Opaki Rd
Ore Rd
Chapel St
Dixon St
Queen Elizabeth Park
Henley Lake Reserve
Colombo Rd Bridge
Cameron Cresent bund
Existing stopbank to be topped up in low points, with minor upgades to existing structures
Waipoua River Flood Solutions
Preferred Option Recommendation
March 2025 - Basemap: LINZ, OSM contributors

Environment Committee
19 June 2025
Report 25.285

For Information

FARMING REFERENCE GROUP CHAIR'S REPORT

Te take mō te pūrongo
Purpose

1. To update the Environment Committee on the items discussed at the Farming Reference Group meeting held on 28 May 2025 in Masterton.

Te horopaki
Context

2. The Terms of Reference for the Environment Committee and the Farming Reference Group state that a written report will be provided to the Environment Committee after each Farming Reference Group meeting. The Chair of the Farming Reference Group is a member of the Environment Committee and will speak to the written report (**Attachment 1**).

Ngā āpitihanga
Attachment

Number	Title
1	Farming Reference Group Chair's Report

Ngā kaiwaitohu
Signatories

Writer	Barbie Barton – Chair Farming Reference Group
Approvers	Fathima Iftikar – Director Strategy, Policy & Regulation Lian Butcher – Kaiwhakahaere Matua Taiao Group Manager Environment

He whakarāpopoto i ngā huritaonga Summary of considerations
Fit with Council's roles or with Committee's terms of reference
The Environment Committee's terms of reference state that they will review, after each Farming Reference Group meeting, a written report of the business conducted at that meeting.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies
The Farming sector is a key demographic withing the Greater Wellington Region with a focus on environmental matters.
Internal consultation
There was no internal consultation.
Risks and impacts - legal / health and safety etc.
There are no known risks and impacts related to this report.

Greater Wellington Farming Reference Group (FRG) Report

Farming Reference Group meeting on 28 May 2025

To the Greater Wellington Environment Committee

The Greater Wellington farming season to date has been one of the better with the threat of drought in December to plenty of moisture through the summer autumn period and so far, a mild start to winter—albeit a growing firewood pile with the strong winds the region has experienced.

Whilst there is a lot of talk about buoyancy in the industry with good prices across the board, the challenge is to realise these prices. Due to the kind season the dairy industry has been able to milk right through and capitalise on the payout. For the sheep and beef farmers these good prices come off the back of record losses in the 2023/24 farming year. Realising the good prices are only for those lucky enough to buy low and able to fatten stock and sell on the new market. Due to the dry leading up to Christmas, many farms opted to sell down lambs they would normally finish leaving them with below average numbers of lambs to sell at the higher price. Basically, don't believe the media as many balance sheets will not reflect what is really happening.

The good news is that these prices are forecast to continue despite Trump and tariff disruptions with NZ positioning itself to try and pass on the tariffs to the consumer and not back at the producer—there is still strong demand for grass fed protein with beef prices up and now competitive with lamb giving good consumer choice at the same price point.

Pests and pest management is discussed at every meeting and continues to be seen as a growing problem both in the size of pest populations and the growing number of pests being identified.

This is a huge problem for the whole of New Zealand and we need a coordinated and concerted approach to finding solutions. This will need landowner investment alongside new technologies and good direction from Regional Councils as pests are a very problematic part to their land management mandate.

GWRC Ballance Farm Environment Awards

GWRC BFEA Awards hosted a great field day at Glen Eden, Ponatahi with the Guscotts. So many great take-home messages around land management alongside some great hands-on looks at regenerative farming practices. Wishing Mark and Susannah all the best for the Supreme Award at the National Showcase in Wellington next week.

Canada Geese

Good robust discussion on the scale of the problem of Canada geese was held, with great input from the committee and Henk Louw, Principal Advisor Ecosystems. They are a growing problem, especially in the South Wairarapa, but also starting to encroach on urban reserves as well. The overall health of the birds is in decline due to overpopulation, meaning they make more mess alongside being more vulnerable to disease.

After consultation with local farmers, the FRG has recommended we begin the process of declaring Canada geese a pest, hopefully leading to better outcomes in the methods of control.

- **Resolution**: The Farming Reference Group recommends a resolution to the Environment Committee that a letter from the Chair of the Environment Committee is written to MPI. This letter should outline the challenges Canada geese are causing locally including economic

challenges, with an acknowledgement that these challenges extend nationally. Ultimately, the letter seeks that MPI classifies Canada geese as a national pest animal.

The Resolution was moved by Barbie Barton and Aidan Bichan and voted by the FRG.

David Hipkins noted that he will table the paper at the next Te Uru Kahika Bio-managers meeting which is to be held in Christchurch on 26 June 2025. This is to allow the Regional Managers to have visibility of GWRC's approach to Canada Geese.

RMA Reform

We had a good presentation updating the members on the proposed changes to the RMA and it was very comforting to see that the staff are all across the changes as they are happening and hopefully pitching GWRC staff to be proactive in understanding, educating and implementing the changes. At the time of the meeting, the government announcement was still to happen.

Grazing Emissions Abatement Options for Flood Protection Managed Lands

This paper had gone to the Climate Committee and created some ill will from the existing licence holders. It was pointed out that this document should have been discussed with the FRG members before that step was taken.

Feedback from the FRG members ranged from why does GWRC want more land to manage through to a strong anti-livestock farming message from Council if they continue to eliminate livestock from any of their land to supposedly off set urban emissions. It was noted with a paper presented to the meeting that the fall-back position to livestock has historically been to manage pasture and make baleage—this is a very confused look at where carbon emissions fall along with the long-term inability to continue to make quality/saleable baleage without the option of grazing animals to create quality pasture.

Strategic approach to considering erosion control

FRG were introduced to Nic Dalton, Senior Advisor, Strategy, Policy & Regulation, who is charged with a strategy refresh on erosion control. It was noted that the GWRC has been a lead in land management on our vulnerable East Coast hill country and stressed that the current system has worked well.

It is important for GWRC staff to continue to build and maintain good landowner relationships and to try their hardest not to have too much staff turnover to allow those relationships to grow.

Nic was also made aware that, historically, this work has been in our eastern regions and some consideration needs to be given to the western Wairarapa hill country as well.

Thank you

Barbie Barton
Chair, GWRC Farmer Reference Group
RogBar@xtra.co.nz
0274 418 187

Environment Committee
19 June 2025
Report 25.172

For Information

WIP IMPLEMENTATION REPORTING

Te take mō te pūrongo
Purpose

1. To update the Environment Committee on the progress to date in implementing received Whaitua Implementation Programmes and mana whenua statements (collectively referred to as WIPs) developed as part of Greater Wellington Regional Council's (Greater Wellington) Whaitua Programme giving effect to the National Policy Statement for Freshwater Management.

Te tāhū kōrero
Background

2. WIPs for four whaitua have been received by Council to support giving effect to the National Policy Statement for Freshwater Management (NPS-FM):
    i Ruamāhanga WIP, in August 2018 (Completion of the Ruamāhanga Whaitua Implementation Programme – Report 18.289)
    ii Te Awarua-o-Porirua WIP and Ngāti Toa Rangatira Statement, in April 2019 (Completion of Te Awarua-o-Porirua Whaitua Implementation Programme – Report 19.121)
    iii Te Whaitua te Whanganui-a-Tara WIP and Te Mahere Wai o Te Kāhui Taiao, in September 2021 (Te Whanganui-a-Tara Whaitua Implementation Programme and Te Mahere Wai o Te Kāhui Taiao – Report 21.422).
    iv Te Whaitua o Kāpiti WIP, in September 2024 (Te Whaitua o Kāpiti Implementation Programme – Report 24.458)
3. This report is part of a six-monthly reporting schedule, collating information on key work being led by Greater Wellington and partners to implement WIPs. The end of year report is a full assessment of progress on WIP implementation, while this mid-year report provides an update highlighting new work.

Te tātaritanga
Analysis

4. While providing updates against individual recommendations has value, particularly to former members of Whaitua committees actively following progress, Greater Wellington is moving towards a more integrated approach to reporting. This

report includes updates and some examples to illustrate how WIPs are being implemented.

WIP implementation update

Plan Change 1 to the Natural Resources Plan for the Wellington Region

5. Changes to the Natural Resources Plan (NRP) to shore up regulatory gaps is the most significant WIP deliverable that Greater Wellington can lead in urban areas. Greater Wellington's river management and restoration planting programmes directly influence water quality improvements in peri-urban and rural areas, but in the heavily urbanised and industrial parts of our cities, there is less opportunity for this work. The opportunities for improving waterway health in these areas are primarily through improvements to three waters management and infrastructure led by Wellington Water Ltd on behalf of territorial authorities. Greater Wellington's role in urban areas is primarily to set and enforce the standards that this infrastructure must meet. This is why the Plan Change 1 (PC1) hearings underway in Wellington at the moment that will set targets and timeframes are seeing a focus from territorial authorities on the increased infrastructure investment requirements that may arise from these new targets once confirmed.

6. Hearing Stream 2 for PC1 was completed in April 2025 and included recommendations for changes to the objectives and ecosystem health policies. While many of these provisions are recommended to remain closely aligned with the recommendations from the Te Awarua-o-Porirua (TAoP) and Te Whanganui-a-Tara (TWT) WIPs, some were recommended to be changed based on submitter evidence and further technical evidence.

7. Hearing Stream 3 was completed in May 2025 where Greater Wellington submitted recommended changes to the earthworks, forestry, vegetation clearance and rural land use provisions. Greater Wellington's recommended changes for these activities align with the recommendations from both the TAoP and TWT WIPs.

8. Hearing Stream 4 is scheduled for August 2025 and will cover water allocation in TAoP, stormwater and general discharges to water policies, wastewater, and freshwater action plans. This will then be followed by Hearing Stream 5 in October 2025, a final limited hearing stream for integration and to wrap up questions and submitter evidence on the final revision of recommended changes to the PC1 provisions. The Hearings Panel will then issue their reports and recommendations on PC1 by mid-December 2025 for Council decision in early 2026.

Ruamāhanga

Wairarapa Moana Wetlands

9. Restoring the health of Lake Wairarapa and Lake Onoke is a direction set out in the WIP. There are multiple recommendations that work toward restoring the health of Wairarapa Moana.

10. Ministry for the Environment (MfE) funding for the Wairarapa Moana Wetlands Project will conclude at the end of June 2025. The final *Jobs for Nature* report will be submitted to MfE on 31 July.

11. Greater Wellington continues to work alongside the appointing agencies of the Wairarapa Moana Statutory Board and is actively supporting the transition from the Crown-funded work.

12. Throughout this transition period, key operational work and community engagement initiatives, (e.g. the annual kākahi count) will continue. This is to ensure ecological and relationship gains are maintained. A milestone in this transition was the successful first wānanga between members of the Wairarapa Moana Wetlands Coordination Group, appointing agency staff, and members of the Statutory Board held on 27 May 2025. The next meeting, focussed on collaborative goal setting, will take place in July 2025.

Figure 1: The annual Kākahi Count at Wairarapa Moana went ahead in January 2025 with a large community turnout.

13. In late 2024/early 2025, Greater Wellington undertook a stocktake of all Greater Wellington work and investment in the Wairarapa Moana area, including reserves administered by the Statutory Board and surrounding private land. The findings were presented to the Wairarapa Moana Statutory Board in March 2025 and have informed ongoing discussions on the development of an Annual Operation Management Programme. Preparation of this programme is a requirement of the Statutory Board under s119 of the *Te Rohe o Rongokako Joint Redress Act 2022*.

Lower Wairarapa Valley Development Scheme

14. Greater Wellington is advancing a review of the Lower Wairarapa Valley Development Scheme (LWVDS). This multi-year programme will play an important role in supporting the achievement of WIP objectives for Wairarapa Moana, particularly by addressing Recommendations 32 and 33.

15. Greater Wellington has prepared a draft investigations programme as part of the review of the LWVDS. A hydrological study has been put out to tender. This foundational study will underpin future investigations into water quality, hydraulic modelling and groundwater. It will support efforts to explore alternative

management options through the LWDVS that could contribute to restoring the health of Wairarapa Moana.

Wairarapa Water Resilience Strategy

16. Most water supply reliability and water allocation WIP recommendations fall under the broad Wairarapa Water Resilience Strategy (WWRS) umbrella, which includes five workstreams (natural attenuation, water allocation, water capture, water use efficiency and land use change). Greater Wellington is responsible for delivering on projects under the natural attenuation and water allocation workstreams.

17. The proposed 2025/26 work programme is currently under consideration by the WWRS internal governance group. Greater Wellington will be advocating for and progressing projects that advance multiple WIP objectives.

SkyTEM

18. A key initiative under the WWRS water allocation workstream is the SkyTEM model, which will play a critical role in shaping future water allocation policy. The model will identify areas of groundwater potential, which will be the foundation for groundwater flow models that will inform sustainable allocation decisions.

19. In December 2024, Greater Wellington presented an early preview of the SkyTEM model to mana whenua and key stakeholders through a "sneak peek" event and smaller meetings.

Figure 2: Rob Van Der Raaij presents on SkyTEM at a Wairarapa Water Users Summer Series event in March 2025.

20. Greater Wellington is currently preparing for public release of the final SkyTEM model in late June 2025. Following its release, Greater Wellington will engage with the community to better understand priorities and identify areas where SkyTEM will be the basis for further investigation, particularly those aligned with WIP priority areas. These investigations will inform regulatory change that give effect to WIP recommendations (see "Regulatory Change" below).

Regulatory Change

21. Several of the WIP recommendations depend on amendments to the Natural Resource Plan through a formal Plan Change process. While a comprehensive water allocation plan change for the Ruamāhanga Catchment has yet to begin, progress will be affected by the Government's resource management reform programme and overhaul of national direction.

22. Central government, through the Resource Management Amendment Act 2025 (RM), has directed that any plan changes that give effect to the NPS-FM may not proceed at this time. As a result, Greater Wellington will not be undertaking a comprehensive Ruamāhanga plan change to implement WIP recommendations in 2025. Once there is greater clarity around the revised NPS-FM and the future of RM legislation, Greater Wellington will be better positioned to determine how and when a Ruamāhanga plan change can progress.

23. In the meantime, background work to support any future policy development is continuing. This includes technical investigations such as the SkyTEM project. Greater Wellington is also exploring whether this delay in progressing with a full Ruamāhanga Plan Change creates any immediate issues for resource users, and how these could be addressed.

Wairarapa Catchment Collective

24. Greater Wellington works alongside the Wairarapa Catchment Collective. Catchment Groups are a key way of delivering on WIP recommendations that relate to support for landowners and improving freshwater outcomes at a sub-catchment scale (for example recommendations 6 and 11). There are nine existing Catchment Groups in the Ruamāhanga. In addition, two emerging groups, Pirinoa and Waihinga, are in the process of drafting and agreeing on action plans.

25. Unlike in the cities, there are more direct opportunities in Ruamāhanga for Greater Wellington to improve the health of waterways through its own work programmes supporting farmers and managing watercourses. Although regulatory interventions will also be needed, the Ruamāhanga Whaitua Committee leant heavily on non-regulatory methods to achieve the outcomes sought, and these have been the focus for implementation to date.

Te Awarua-o-Porirua

Signing of Te Wai o Parirua (The Harbour Accord)

26. Te Wai o Parirua (The Harbour Accord) was signed on Waitangi Day 2025 by Te Rūnanga o Toa Rangitira Inc (TRoTR), Greater Wellington, Porirua City Council (PCC), Wellington City Council (WCC) and Wellington Water Limited (WWL). The vision of the Accord is:

    "The health and mauri of Te Awarua o Porirua is restored, its waters are healthy and sustainable for future generations and for those who live, work, play or connect with the harbour"

27. The signing of the Porirua Harbour Accord represents a significant milestone in working towards restoring the mauri of the harbour and catchments in Porirua.

Figure 3: Signing of the Harbour Accord at Takapuwahia Marae

28. The Partners consider the Accord as the primary vehicle through which the TAoP WIP will be delivered and is a way of giving effect to the broader direction set by the TRoTR Statement. The vision and objectives of the Accord encompass those of the WIP and Statement, and the Accord Action Plan will identify steps to meet these. We will explore how to practically map across the WIP recommendations to transparently show the connections, which will also reduce the risk of double-reporting.

Porirua Harbour Summit (March 2025)

29. Following on from the signing of the Accord, TRoTR organised and led a Harbour Summit at Takapuwahia Marae. The aim of the summit was to bring together a broad range of interested parties and community representatives to establish a common idea of what success looks like for a healthy harbour.

30. These conversations will feed into the action planning workstreams through the later part of 2025 and into the action plan for the harbour.

Figure 4,5: Harbour Summit workshopping

Harbour Accord Action Planning

31. The development of an action plan is a key deliverable under the Harbour Accord. It will build on the considerable good work already underway in the catchment. The plan will be created within a Te Wai Ora o Parirua (Mauri Ora) framework, designed by TRoTR, putting the health of the harbour at the centre.

32. Work continues with all partners to identify catchment mahi looking at opportunities for partnership, prioritisation and contribution to outcomes. This core work is key moving into the action planning phase over the next 12 months.

33. Planning workshops have been held and have identified three key focus areas: reducing sedimentation, minimising pollutants/contaminants and ecological restoration and harbour access.

34. A key part of action planning will include considering WIP recommendations in relation to the above focus areas.

Te Rūnanga o Toa Rangitira Inc and ESR monitoring

35. The Te Wai Māori o Porirua monitoring programme partnership continues between TRoTR, ESR (Crown research institute), PCC, Mountains to Sea Wellington and Greater Wellington. This collaboration includes monitoring seven streams in the catchment (Porirua, Kenepuru Iti, Mahinawa, Kahotea, Wai o Hata/Duck Creek, Takapūwāhia and Hongoeka.

36. This kaupapa has shown the value of weaving together cultural insight and scientific rigour to better understand and care for our freshwater systems. The alignment of Cultural Health Assessments (CHA), *E. coli*, and faecal source tracking has helped confirm contamination sources and identify priority areas for action, particularly in Porirua, Kahotea and Kenepuru Iti.

37. Where CHA and scientific results diverged, this provided meaningful insight into the lived relationships kaitiaki hold with these streams. Such differences reflect the human and historical context of place – how loss, memory, or optimism shape

perceptions of stream health – and reinforce the need to hold space for both analytical and relational data in freshwater planning.

38. Going forward, actions will centre on known infrastructure risks, expanded monitoring through passive samplers and probes, and joint reporting tools that keep iwi and community partners informed. Combining technical evidence with cultural memory and care will be key to restoring the mauri of these waterways and guiding enduring, locally driven solutions.

39. This work in the monitoring space addresses several recommendations in the Porirua WIP particularly those focused on investigations and monitoring methodologies and identifying point source issues in the wastewater network.

Sediment reduction

40. Greater Wellington Catchment and Delivery teams have been working closely with PCC's riparian programme team to see how we better coordinate and engage with rural landowners in the catchment. An agreement has been made to combine some Greater Wellington and PCC programmes for 2025/26 for private landowners, giving priority to sites with the highest impact on reducing sediment loss and offering landowners a higher subsidy rate. With support from this programme, we currently have five landowners committed to carrying out retirement fencing and native planting in winter 2025.

Porirua City Council

Wastewater upgrades and monitoring

41. More than 3km of ageing wastewater pipes in Bothamley Park have been replaced with larger, more resilient pipes in a project that started in December 2022. These pipes will help to prevent around 40,000 cubic metres of raw sewage from entering the Kenepuru Stream and Te Awarua-o-Porirua Harbour each year.

42. Works are tracking well on construction of the Porirua central wastewater storage tank. The project is on track for completion in 2026. Once finished, it will help manage peak wastewater flows, reducing overflows into Porirua Stream and Te Awarua o Porirua.

43. A real-time water quality monitoring sensor is to be installed in the harbour to record a range of water quality parameters. This monitoring data will help demonstrate pre and post tank installation water quality. It will also measure faecal contamination in real time to help us understand and communicate what's going on in the harbour in a timely way.

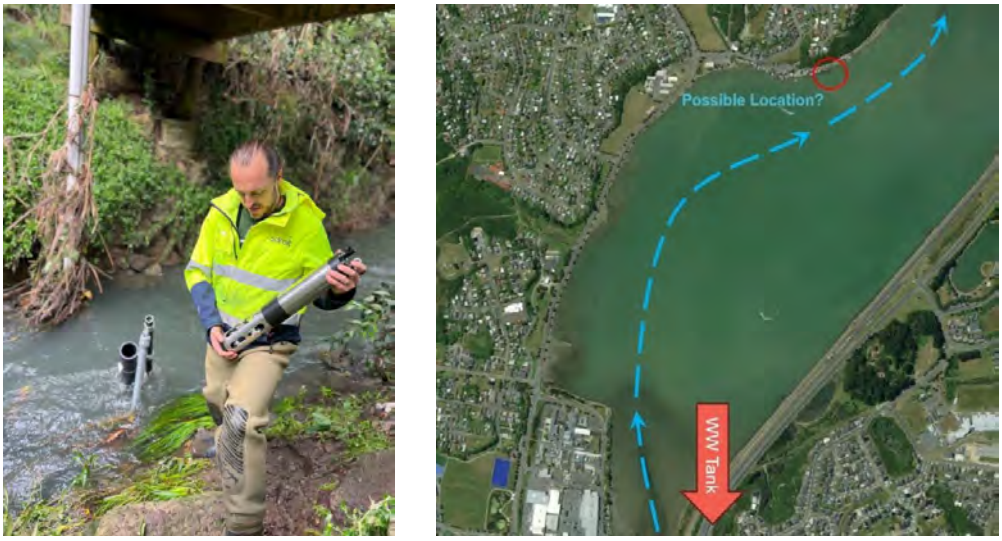


Figure 6,7: An example of the "proteus" probe. The location for the probe in the harbour is yet to be confirmed.

Te Rūnanga o Toa Rangatira Inc

44. TRoTR are leading the development of the Te Wai Ora o Parirua (Mauri Ora) framework for the Accord action plan.

45. TRoTR provided a comprehensive report on Whaitua implementation and the TRoTR Statement in last Novembers update (Whaitua Implementation Updated – Report 24.518).

Te Whanganui-a-Tara

46. As noted in paragraphs 5-8, Greater Wellington is implementing many of the Te Whanganui-a-Tara WIP recommendations that require regulatory intervention through PC1. Territorial authorities are also implementing the WIPs through regulatory and strategic documents and investment, particularly into three waters infrastructure, with all three city councils significantly increasing funding in their 2024-2034 LTPs.

47. In 2025, the Community Environment Fund (CEF) was extended to Te Awa Kairangi for the first time. We were delighted to be able to fund all 16 applicants that qualified for funding to some extent. Projects included native replanting and pest plant and animal control in a variety of important places including some of our regional parks and along rivers we manage.

Waiwhetū Integrated Catchment Project

48. WIP and Te Mahere Wai implementation is being supported through kaupapa investment agreements, with an initial focus on Waiwhetū as reported in November 2024 (Whaitua Implementation Update – Report 24.518). The focus on Waiwhetū was a result of discussions on priority areas in Te Whanganui-a-Tara with Taranaki Whānui.

49. Since the November report, staff have taken steps to coordinate its work programmes, particularly with respect to responsibilities for flooding resilience and improving water quality through a Freshwater Action Plan. A project team of Greater Wellington, Hutt City Council (HCC) and WWL staff have collated information on current and planned work programmes in Waiwhetū in an attempt to bring them under one umbrella project.

50. Taranaki Whānui have expressed a strong interest to lead this work through an initial wānanga to establish kawa and tikanga. Greater Wellington staff are meeting with HCC's Te Tira Māori team in May to discuss this collaboration.

51. In March 2025, Greater Wellington undertook their regular fish survey in the Waiwhetū Stream at Whites Line East. Seven species were found (with counts in brackets): common bully (74), common smelt (109), giant bully (12), grey mullet (1), inanga (2,280), longfin eel (3) and shortfin eel (60). With recent records of redfin bully, giant kōkopu, banded kōkopu and koaro caught further upstream, the awa is on a significantly improving trend when it comes to its fish community.

Figure 8: Fish monitoring Waiwhetū March 2025

Korokoro and Kaiwharawhara Catchments

52. Recommendations in Te Mahere Wai prioritise the Korokoro and Kaiwharawhara catchments for protection and restoration.

53. Over the past 18 months, staff have been onsite with the Korokoro Environment Group (KEG), who are extending knowledge from freshwater monitoring with a focus on eDNA and night surveys of fish populations. KEG have taken this advice into a three-year action plan of restoration projects and are currently applying for grant support. The CEF is supporting KEG with just under $10,000 in total for pest plant and animal control, native plants and working bee support.

54. Staff continue to collaborate with Zealandia, WCC, Victoria University, business and community groups in the Kia Mouriora te Kaiwharawhara/Sanctuary to Sea initiative as a strategy group member and through linking our skills and services to community projects in this catchment.

55. This year the Kaiwharawhara initiative has been restructured to focus resources and collaboration around three working groups for the remaining five years of the 10-year strategic plan. These are technical, community engagement and communications/storytelling working groups. The goal is to utilise the parallel initiatives to collectively address priority catchment and enhance community connection.

56. Recommendation 11 in Te Mahere Wai acknowledges the Kaiwharawhara, Wainuiomata and Korokoro awa as taonga deserving of legal personhood status. One of the projects, led by mana whenua, in the Kia Mouriora te Kaiwharawhara initiative has been exploring legal pathways to make this possible.

Partner agencies

57. HCC and WCC provided comprehensive feedback on WIP implementation in previous reports (Whaitua Implementation Update – Report 23.569 and Whaitua Implementation Update – Report 24.518). Minor updates are included this time.

Wellington City Council

58. A range of recommendations have been completed or progressed, including through updates to the District Plan, particularly in the Three Waters, Natural Hazards, and Subdivision chapters. For other recommendations, further work is required to assess the budget, resource and work programme implications of implementation. Decisions related to the Government's Local Water Done Well programme may impact the Council's response to some recommendations.

59. In February 2025, the WCC signed Te Wai Ora o Parirua – the Porirua Harbour Accord alongside key partners.

60. In recent years, WCC has significantly increased funding for water infrastructure and pipes. "Fix our water infrastructure and improve the health of waterways" is articulated as a strategic priority in the Council's Long-term Plan.

Hutt City Council

61. HCC recently engaged on the Rautaki Whakatipu Sustainable Growth Strategy 2025-2055 for Lower Hutt. The Strategy (similar to a spatial plan) includes references to Te Mahere Wai and the WIP as key guiding documents on the city's management of waterways and water infrastructure and includes initiative such as adopting sponge city approaches.

2. Implement the Whaitua (freshwater catchment management) Implementation Programme for Te Awa Kairangi and other Lower Hutt waterways[7]	Implementation of the Whaitua Programme for the Te Awa Kairangi / Hutt catchment (including Waiwhetū, Black Creek, Wainuiomata and other streams) will bring a new way of approaching water management which integrates water quality and environmental outcomes with water improvement and urban redevelopment investments.	**Underway**	**HCC**	**GWRC and Mana Whenua**

Figure 9: Snip from Rautaki Whakatipu Sustainable Growth Strategy 2025-2055

Upper Hutt City Council

62. For Upper Hutt City Council (UHCC), many of the WIP recommendations require upgrades to three waters infrastructure. In the 2024-2034 LTP, 47% of UHCC's total expenditure is into three waters, including $173 million for wastewater treatment renewals.

Wellington Water Ltd

63. In its planning for new water storage at Pākuratahi, a key driver highlighted by WWL is aligning with Te Mahere Wai and the WIP water allocation recommendations. WWL is planning for low flow limits to increase in line with the WIPs and recognises that confirmation of the scale and timing of increases is fundamental to its business case. Greater Wellington and WWL are collaborating on this and other aspects of the water storage scheme.

Kāpiti

Developing plan to implement recommendations

64. The Kāpiti Whaitua Partnership Group met on 26 May 2025. The purpose to the meeting was to discuss the governance and operational framework for progressing the implementation of the WIP recommendations.

65. The attendees included:

    i Kāpiti Coast District Council: Kris Pervan, Hara Adams, Brendan Owens, Sean Mallon and Darren Edwards

    ii Greater Wellington: Nigel Corry, Lian Butcher, Tania Smith-Parata, Nora Moore, Kara Kearney, Nicola Patrick and Whāia Caton

    iii Te Rūnanga o Toa Rangitira Inc: Rāwiri Faulkner

    iv Ngā Hapū o Ōtaki: Kim Tahiwi, Denise Hapeta

    v Ātiawa ki Whakarongotai Charitable Trust: Richard Evans, David Tawhai-Bodsworth

66. The outcome of the meeting was an establishment of a Tūhono Kāpiti Steering group and a Kaimahi working group with representation from the above organisations. The first task for the kaimahi working group will be to progress prioritisation of the recommendations. Agreement that the initial focus should be progressing non-regulation recommendations given Government direction on the NPS-FM constraining a focus on regulatory change at this time.

Summer monitoring programme

67. While developing the Kāpiti WIP, it became evident that there were numerous monitoring data gaps. The Mana Whenua Whare identified that there was an opportunity for mana whenua to undertake monitoring efforts. They noted that if monitoring began immediately, it would be possible to collect the three years of data needed to establish a baseline. As a result, the summer monitoring programme was initiated.

68. The objectives of the monitoring programme include:

    i Fill data gaps for the compulsory National Objectives Framework (NOF) attributes in Kāpiti management units, particularly Dissolved Oxygen (DO).

    ii Fill data gaps for Kāpiti management units that have no monitoring undertaken in them.

    iii Provide information that will be useful for or can feed into the modelling work being done by Dr Russell Death for the Kāpiti Whaitua (macrophyte density, riparian width of streams[1] and health of the mahinga kai, e.g., number of eels, if they show obvious signs of disease or emaciation).

    iv Gather data that will be useful for defining mahinga kai attributes and setting baselines/target attribute states.

69. Monitoring undertaken in the summer of 2023/24 focused on the first three objectives outlined above.

Figure 10: Team at planning event early 2025

70. A summary of the results from the 2023/24 follows:

a NPS-FM attribute scores were generally good at all sites or poor at all sites. The most consistently poor scoring attribute was *E. coli*, scoring 'D' at one site and 'E' at all other sites. Dissolved oxygen and dissolved reactive phosphorous scores were also generally low.

b Campylobacter results varied significantly and appear to have been affected by sample contamination or unreliable analysis. Physical habitat scores for Whareroa and Wainui stream were 'good', all other sites scored 'fair'. The Waimeha, Mangaone and Waitohu Streams all surpassed the guidelines for nuisance macrophytes. The only pest fish detection by eDNA was Gambusia in the Whareroa stream.

71. Monitoring in the summer of 2024/25 focussed on redeploying dissolved oxygen loggers at all sites to gather a second season of data. This is a primary focus for this project as it is a compulsory NOF attribute, and Greater Wellington does not have the resources to collect this data. Further, it takes three years of monitoring to determine a baseline state (crucial for setting target attribute states).

72. The project team also turned their focus to the fourth objective – gathering data that will be useful for defining mahinga kai attributes and setting baselines/target attribute states, particularly tuna/eel abundance and condition.

73. Overall, the 2024/25 monitoring went successfully and the data is currently being collated and analysed.

Figure 11: Knowledge and Insights team members show Tiana and Beau from Nga Hapu how to install a DO logger in the Waitohu Stream

Whaitua Wairarapa Coast

74. This Whaitua is in the development stage and an update provided in Whaitua Update – Wairarapa Coast - Report 25.180.

Ngā hua ahumoni
Financial implications

75. There are no direct financial implications from this report.

76. Regulatory components of the WIPs will continue to enter into the existing Regional Policy Statement/Natural Resources Plan Change programme, as funded. Non-regulatory elements will continue to be prioritised and resourced through the Long Term Plan and Annual Plan processes and internal change control management considerations as part of wider funding and prioritisation requirements.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

77. Greater Wellington recognises the need for Tiriti analysis and broader outcomes on matters affecting mana whenua partnerships including Māori rights and interests. Report writers are working with Te Hunga Whiriwhiri to apply these considerations in a pragmatic way while providing robust analysis on priorities for mana whenua.

78. This report records the ways in which Greater Wellington is giving effect to the direction for freshwater management that has been given by mana whenua though the WIPs, including the Te Rūnanga o Toa Rangitira Inc Statement and Te Mahere Wai o te Kahui Taiao.

79. Greater Wellington will require an integrated catchment approach within planning and prioritisation for those WIP recommendations that may deliver the best outcomes for all partners, either through existing or new kaupapa activities.

80. Partnership opportunities across multi-year implementation exist with mana whenua which also supports our strategic focus for effective partnership.

81. When Greater Wellington considers and includes mana whenua/Māori perspectives either through iwi led innovation, partnerships and collaboration, we create opportunities to add further value to the outcomes that we seek.

Ngā tūāoma e whai ake nei
Next steps

82. The Catchment function will continue to coordinate WIP reporting across Rōpū Taiao Environment Group through internal business planning and prioritisation processes, as well as through partnership externally.

83. This progress report will be published on the Greater Wellington website.

84. The next progress report will be produced in December 2025, subject to direction from a new Council.

Ngā kaiwaitohu
Signatories

Writers	Tim Sharp – Catchment Manager – Te Whanganui-a-Tara Mikaila Ceelen – Advisor Catchment – Te Whanganui-a-Tara Toby Barach – Senior Catchment Advisor – Te Awarua-o-Porirua Sasha Smith – Senior Catchment Advisor – Ruamāhanga Michele Frank – Catchment Manager – Kāpiti
Approvers	Nicola Patrick – Director Catchment Lian Butcher – Group Manager Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference The Environment Committee has a responsibility to review periodically the effectiveness of implementing and delivering Council's environmental strategies, policies, plans, programmes, initiatives and indicators. The Whaitua Programme is Council's approach to implementing the NPSFM.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies Implementing WIPs is a core activity in the Long Term Plan for Rōpū Taiao Environment Group.
Internal consultation This report has been led by Catchment, supported by all other functions, and reviewed by Te Hunga Whiriwhiri.
Risks and impacts - legal / health and safety etc. There is environmental, human health, reputational and legal risk if WIPs are not implemented. Environmental and human health risks include that water quality and biodiversity continue to decline. Reputational risk includes that our partners, stakeholders and communities consider that implementation has not been given sufficient priority. There is a legal risk if the statutory obligations of the NPS-FM 2020 are not met.

Environment Committee
19 June 2025
Report 25.180

For Information

WHAITUA UPDATE – WAIRARAPA COAST

Te take mō te pūrongo
Purpose

1. To inform the Environment Committee on the development of the Wairarapa Coast Whaitua

Te tāhū kōrero
Background

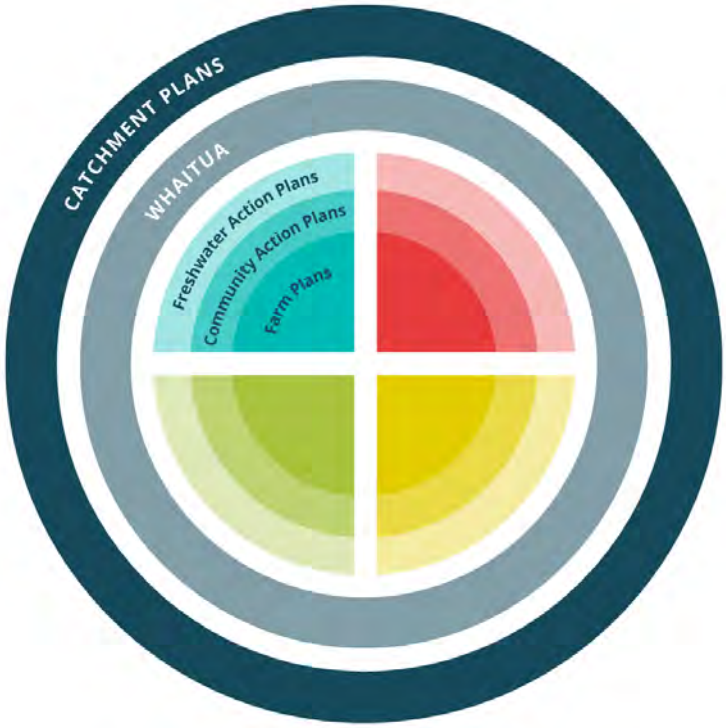
2. The Whaitua process was established by Greater Wellington Regional Council (Greater Wellington) and the community in order to implement national direction under the National Policy Statement for Freshwater Management 2020 (NPS-FM).
3. The process considers freshwater management in the context of a catchment, working with mana whenua and the relevant communities to establish vision, values and recommended actions to meet environmental outcomes.
4. The Coalition Government extended the deadline for meeting the NPS-FM to 31 December 2027. The Government also announced replacing the NPS-FM indicating that the replacement will take between 18 to 20 months. The extension of the deadline is helpful, however, the visibility of what will actually change, and the direction of the new NPS-FM is uncertain.
5. This report was taken to the Wairarapa Committee on the 3 June 2025.

Te tātaritanga
Analysis

6. A different approach to the previous Whaitua processes is proposed. This draft approach is designed to take a whole of the catchment perspective with the intent to develop an implementation-led catchment plan that is broader in focus. It would bring together hapū and iwi values with the rural catchment community visions and outcomes to inform decisions based on sub-catchment priorities.
7. The Catchment Plan would be broader than only Freshwater outcomes and centre around a holistic plan for multiple outcomes at place.
8. This Catchment plan would encompass other related activities eg, farm plans, freshwater action plans, community catchment action plans. Work is underway on how these examples could be woven together in an integrated plan and connected

process or processes, which can then be tested against NPS-FM requirements as well as lessons from Kāpiti and other Whaitua processes.

9. This diagram below is a visual representation of the Wairarapa Coast whaitua model. The purpose is to show the connection between the different plans and the importance of scale. Each coloured segment represents a sub-catchment. At this scale it is important to connect farm plans with the Community action plan (Catchment Action Plans) and Freshwater Action plan. The key message being that these plans should all be sub-sets of each other not separate plans.



10. Catchment Action Plans are being completed with the Catchment Groups. There are currently four action plans under development across the Wairarapa coast catchment. These cover 127,744 hectares out of 247,000 total hectares (50%).

11. These plans are iterative. These include community values, vision, objectives, and outcomes. They also have an action plan that outline key projects and actions needed to reach the outcomes detailed in the plan. These action plans can be connected across the Wairarapa Coast and use to identify gaps and opportunities for future funding and targeted effort from GW and other partners to ensure works is carried out to be outcome focused at the most appropriate scale.

12. Partnering with mana whenua of the Wairarapa is essential to the success of developing Whaitua programmes, we recognise the need to have mana whenua involvement from the outset. We continue to strengthen our relationships with mana whenua of Wairarapa, and early discussions have been had with Rangitāne

to explore the design of the whaitua. It had been indicated from both iwi that Hapū involvement will be a key focus of this whaitua. These conversations are in progress. Greater Wellington is also looking forward to progressing this important kaupapa with Kahungunu ki Wairarapa for rangatiratanga outcomes.

Ngā hua ahumoni
Financial implications

13. Current budgets are resourced to support the Catchment Action plans and Iwi involvement. The financial and wider resourcing implications are still to be determined once the new NPS-FM comes out.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

14. As mentioned above, the approach for the Wairarapa Coast Whaitua will be determined with mana whenua.

Ngā tūāoma e whai ake nei
Next steps

15. Engagement with the Wairarapa Coast Catchment groups will continue with the development of Catchment Action plans.

Ngā kaiwaitohu
Signatories

Writers	Tash Styles – Catchment Manager – Wairarapa Coast
Approvers	Nicola Patrick – Director Catchment Lian Butcher – Group Manager Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference The Environment Committee has responsibility to consider all matters across the development and implementation of the work programmes of Greater Wellington's Environment Group
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies The Whaitua Programme contributes to Council's obligations to give effect to the National Policy Statement – Freshwater Management (NPS-FM) through engagement with mana whenua and the community.
Internal consultation This report has been prepared by Catchment and reviewed by Te Hunga Whiriwhiri.
Risks and impacts - legal / health and safety etc. There are no known specific risks and impacts related to this report beyond the constrained circumstances as outlined.

Environment Committee
19 June 2025
Report 25.256

For Information

TE RŌPŪ TAIAO | ENVIRONMENT UPDATE - JUNE 2025

Te take mō te pūrongo
Purpose

1. To update the Environment Committee (the Committee) on the strategic direction and priorities of the Environment Group, including the work underway across the Wellington Region and within each catchment.

Te tāhū kōrero
Background

2. Progress on action items from previous Committee meetings is outlined in **Attachment 1**.

Strategic Direction

Linking our work to our strategic direction

3. In response to Councillors' requests to see how our strategic direction leads to tangible results, we are starting work on options to test in the next few months and apply in the new triennium. In the meantime, as with the previous report, we have identified how the items covered in this report link to the 10-year outcomes of the Rōpū Taiao Strategic Framework. The icons represent each of the overarching 10-year statements, which are provided in more detail at **Attachment 2**. Briefly, they are:

Safeguarding and restoring ecosystems and natural environments across our rohe

Fostering connection to nature, recreation and safe harbour navigation

Strengthening regional resilience and supporting our communities

Regional Overview

Flood Resilience Tranche 1 (formerly known as Before the Deluge)

4. On 11 September 2024 a contract was signed with the Crown to co-fund $26.8 million towards flood resilience infrastructure projects. The Crown contribution is 60% or $16.1 million.

5. A total of 16 individual sites (see table below) are included in the programme of work with 15 located in the Wairarapa and the remaining site is in Kāpiti.

	Whakatakanga	Whaitua	Awa	Type of Works
1	River Rd - Stage 2 150m rock revetment	Ruamāhanga	Ruamāhanga River	Revetment
2	River Rd - Stage 3 remaining groynes	Ruamāhanga	Ruamāhanga River	Groynes
3	Waipoua SH2 Left Bank	Ruamāhanga	Waipoua River	Revetment
4	Waipoua Industrial Site - Akura Road	Ruamāhanga	Waipoua River	Groynes
5	Fullers Bend	Ruamāhanga	Waiōhine River	Groynes
6	Awaroa Sill	Ruamāhanga	Ruamāhanga River	Groynes
7	Masterton Raw Water Supply	Ruamāhanga	Waingawa River	Groynes
8	Hood Aerodrome	Ruamāhanga	Waingawa River	Revetment
9	Ōtaki Cliffs	Kāpiti	Ōtaki River	Groynes
10	Tawaha Sill	Ruamāhanga	Ruamāhanga River	Sill vegetation
11	Pukio East Stopbank	Ruamāhanga	Ruamāhanga River	Stopbank plantings
12	Flood Gates - Fish Passage	Ruamāhanga	Misc.	Fish Gates
13	South Masterton Stopbank	Ruamāhanga	Waingawa River	Stopbank Reconfiguring
14	Homebush Wastewater Treatment Plant resilience works	Ruamāhanga	Ruamāhanga River	Bund Wall
15	Upper Ruamāhanga Buffer Establishment	Ruamāhanga	Misc.	20km Plantings
16	Whakawhiriwhiri stream - project rescope	Ruamāhanga	Whakawhiriwhiri Stream	Culverts and drainage

6. The Flood Resilience Tranche 1 Programme has now completed five out of the sixteen projects.

7. The Flood Resilience Tranche 1 programme of work provides opportunity for mana whenua to be actively involved in the design of native planting at applicable project sites. Mana whenua in collaboration with hapū are leading our design on project sites and initial conversations are starting on the 20km of native planting as part of Site 15.

8. This event was marked by Regional Development Minister, Hon Shane Jones, visiting Site 5: Fullers Bend within the Waiōhine River close to Greytown. “I announced the first tranche of projects about this time last year. We wanted projects that would be ready to start as soon as they got the green light – what we have here is delivery on our promises,” Minister Jones said.

Figure 1: Minister and councillors - From left, South Wairarapa councillor Aaron Woodcock, Greater Wellington chair Daran Ponter, Regional Development Minister Shane Jones, Greater Wellington deputy chair Adrienne Staples, South Wairarapa mayor Martin Connelly (Location – Site 5: Fullers Bend (Waiōhine River)

9. A funding bid for Flood Resilience Tranche 2 has been submitted and we await an announcement of the approval. It is expected this will be announced in June/July 2025.

Natural Resource Plan Change 1

10. Plan Change 1 to the Natural Resources Plan (PC1), notified on 30 October 2023, is in the hearings stage, with recommendations from Greater Wellington Regional Council (Greater Wellington) officers and submitters being heard by the independent Hearings Panel.

11. Hearing Stream 3 (HS3) was completed in May 2025. This covered the provisions for earthworks, rural land uses and forestry activities. These are significant

provisions in the plan change and they have attracted a lot of attention from submitters, with 21 speaking in person throughout the hearing.

12. Hearing Stream 4 (HS4) is scheduled to take place between 12 and 16 August 2025 and will cover the stormwater, wastewater and freshwater action plan provisions. This is likely to attract the most attention from submitters across all the hearing stream topics. We are currently discussing with Council the implications of the national direction package on the PC1 process.

Regional Policy Statement Change 1 

13. Regional Policy Statement Change 1 (RPS Change 1) is now in the appeals phase and mediation has begun, with mediation on indigenous ecosystems from 20 May to 30 May 2025. Several issues are likely to be resolved through mediation and those issues that cannot be resolved will be discussed with parties through ongoing meetings, with the goal of getting agreement and avoiding the need for an Environment Court hearing.

14. The remaining topics have all had mediations scheduled, for the following dates:

    a. Mediation on natural hazards from 9 June 2025 to 13 June 2025.

    b. Climate change mediation from 16 to 20 June 2025.

    c. Mediation for transport and urban development from 28 July to 8 August 2025.

15. Officers are preparing guidance on the newly operative parts of RPS Change 1 for internal users, territorial authorities, and mana whenua, and are continuing to connect with internal teams around implementation processes and priorities. Officers have held workshops with planning teams and Hutt City Council and Porirua City Council so far, to cover what new policy direction is now fully operative and how it could be implemented through consenting.

Pest Animals 

16. The annual fly trapping programme has resulted in samples being collected from 48 sites across the region. This work is to detect the presence of Rabbit Hemorrhagic Disease (RHDV) in the environment. Annual rabbit night counts are currently being conducted alongside rabbit population density monitoring via the modified McLean scale.

Fast track Consenting 

17. To date, no referral or substantive fast-track applications under the Fast-track Approvals Act 2024 have been lodged in the Wellington region. Five applicants are undertaking pre-application consultation with Greater Wellington, as set out in the table below:

Pre-application consultation on fast-track projects in the Wellington region		
Project	**Type**	**Update**
Belmont Quarry Development, Lower Hutt –	Quarry	• Winstone Aggregates are consulting with the Department of Conservation (DOC) on the land exchange component of the application and have

Pre-application consultation on fast-track projects in the Wellington region		
Project	**Type**	**Update**
Winstone Aggregates		advised that they plan to consult with Greater Wellington as both a local authority and a party with an interest in the land in mid to late July. • Winstone Aggregates have advised that they are planning to lodge an application by the end of the year.
Mount Welcome, Pukerua Bay, Porirua – Pukerua Property Group Limited Partnership	Housing and urban development	• Consultants for the Pukerua Property Group contacted Greater Wellington in mid-May to arrange pre-application consultation and to inform their work programme through to lodgement. • They anticipate lodging their substantive application between July and September 2025.
Wellington International Airport Southern Seawall Renewal – Wellington International Airport Limited	Infrastructure	• Wellington International Airport Limited (WIAL) briefed Greater Wellington on the scope of the project in early May. Substantive pre-application consultation is progressing. • WIAL anticipate lodging their substantive application in late June or early July 2025.
New Central Park (77 to 109 Kapiti Road, Paraparaumu) – The Wellington Company Limited	Housing and urban development	• Consultants for The Wellington Company contacted Greater Wellington in mid-May to arrange pre-application consultation. • They anticipate lodging their substantive application in July 2025.
Waikanae North Development (169-171 Peka Peka Road, Kāpiti) – Waikanae North Developments Limited	Housing and urban development	• Waikanae North Developments Limited contacted Greater Wellington in mid-May to arrange pre-application consultation. • They anticipate lodging their substantive application in July 2025.

Te Awarua-o-Porirua

Catchment

18. Te Wai Ora o Parirua - Porirua Harbour Accord coordination group continues to meet fortnightly and are currently preparing for three workshops (over July-September) on Sedimentation, Contaminants and Pollutants and Restoring Habitats that will form the basis of a Catchment Action Plan.

Wairarapa Coast

Government Funding – Department of Prime Minister and Cabinet – Cyclone Recovery Unit

Crack Willow Blockage Removal Project

19. As stated in the June 2024 meeting report, we were successful in obtaining $3.5 million from the Department of Prime Minister and Cabinet (DPMC) for the Recovery and Flooding Resilience fund for the crack willow blockage removal in the eastern rivers in the Wairarapa. This decision was publicly announced on 6 October 2023. Our contribution for the crack willow blockage removal project is $250,000 worth of project management time.

20. Greater Wellington is also funding the replanting and bank stabilisation of the areas where crack willow has been removed. This project is being managed separately to the crack willow blockage removal project.

21. This work includes sub-catchments in the Wairarapa Coast and Ruamāhanga.

22. Phase 1 of the project has been completed with a focus on the Kopuaranga and the Whareama Rivers.

23. Phase 2 of the project continues. Up until 1 May 2025 we have removed a total of 946 blockages and cleared approximately 128km of river channel. To date we have spent a total of $3.4 million.

    Below are some images of blockages and removals.

Figure 2: Whangaehu River – Large blockage area within the upper reach (during blockage removals)

Figure 3: Whangaehu River – Large blockage area within the upper reach (post blockage removal)

24. The funding for the project ceases at the end of the financial year 2024/25. We are currently tracking to complete the project on-time, utilising all central government funding for the project.

Eastern Hills Flood Warning Network Upgrade

25. The project is still advancing to deliver the agreed outcomes by the 30 June 2025 deadline. Timelines are tight and the following initiatives are still progressing towards completion:

    a. Construction of a gauging cableway at Waiteko Bridge is nearing completion. All hardware has been received, and customisation of towers is nearly done. Foundation design has been finalised and construction onsite is underway. Greater Wellington's legal team is working to formalise an access licence and easement with Masterton District Council (MDC) and private landowner respectively.

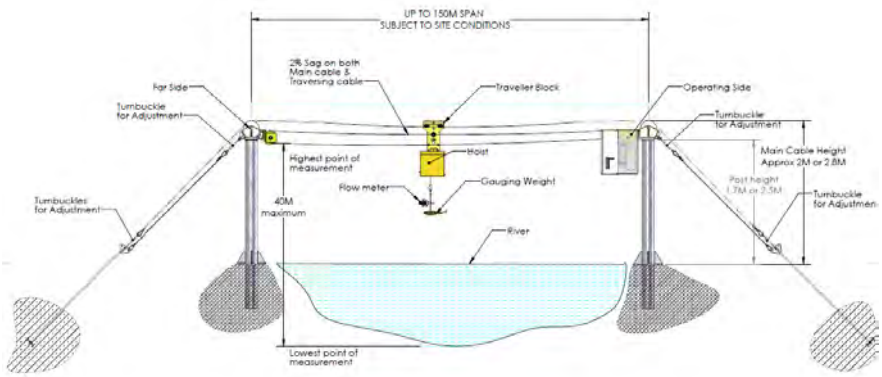


Figure 4: Design schematic for Whareama Cableway. Traveller block, Hoist, and Flow meter traverse the main cable with assistance from an electric motor that is remotely controlled by the onsite operator.

    b. One of the two new flood forecast models for the Whareama catchment is operational, the second is in the at final calibration and review stage before being delivered.

    c. Satellite redundancy has been established at the Eringa radio/telemetry repeater. Additional satellite hardware has been procured to provide a backup internet connection to the Hydrotel servers for hydrology staff in the Masterton office. This is now in the test phase.

    d. Smart Signage to provide real-time flood data to motorists is still progressing, hardware design is nearly finalised, and discussions are continuing with MDC to obtain the appropriate permissions.

Pest Animals

26. The Regional Predator Control Programme (RPCP) Langdale possum operation has been completed and work is ongoing in the Tinui area.

27. New predator control networks are being installed in Key Native Ecosystems (KNEs) such as Te Kawa Kawa, Owahanga, Mataikona and an extension to the Homewood network is currently underway. The regular servicing of these new networks will start in the new financial year.

Ruamāhanga

Publicly notified consent application

28. South Wairarapa District Council's resource consent application (WAR230290) to continue the discharge of treated wastewater into Donalds Creek and the discharge of contaminants to air from the Featherston Wastewater Treatment Plant (WWTP) is progressing. Greater Wellington's s42A recommendation report was released on 6 June 2025. The recommendation is to grant resource consent subject to conditions and the hearing is scheduled for 21 to 23 July this year. Taumata Arowai's wastewater standards as currently proposed would not apply to this WWTP due to the low dilution ratio.

Wairarapa Moana  

29. Oversight of the Wairarapa Moana Wetlands Project has been formally accepted by the Wairarapa Moana Statutory Board. The Board has approved a combined annual operational work programme for 2025/6 which includes activities funded and led by Greater Wellington, DOC and other partner agencies.

30. Staff from partner agencies took part in a recent wānanga under the theme of Ka Mua, Ka Muri - Looking backwards into the future. Several Statutory Board members were also present. The rōpū reflected on the work of the project, its values and vision as the project transitions to the Statutory Board for governance.

31. There was widespread agreement that the vision of 'Whakaora te repo, ka ora te Wai' still helped guide the partnership and that the scope of work should stay the same, but that the coordination group would benefit from a new tikanga, with membership increased to include hāpu.

32. A further wānanga will be held in July to build on this framework and set a clear direction for the future. The Ministry for the Environment (MfE) funding supporting the work comes to end on 30 June 2025, so this is a fortuitous time for reflection, transition and a new direction.

Review of the Lower Wairarapa Valley Development Scheme  

33. Environment Group is making progress on a review of the Lower Wairarapa Valley Development Scheme (LWVDS). This work is occurring in response to recommendations in the Ruamāhanga Whaitua Implementation Programme, climate predictions and as required by the existing resource consent. Greater Wellington is establishing an investigation programme to support new consent applications and provide a basis for the review of the LWVDS.

34. The first phase of the review will establish the current level of flood protection, review the current operation and maintenance regime, assess and monitor the level of effect on the surrounding environment, and provide options and recommendations to improve environmental and cultural outcomes.

35. Greater Wellington's resource consents to undertake river management activities in the and to operate the Barrage Gates expire on 30 September 2027. A draft consenting strategy has been prepared for the reconsenting process and is under review by the Consents Management Team before being finalised. The strategy

outlines the milestones and decisions that need to be made between now and lodgement of the new consent applications which are due in March 2027.

Whaitua Implementation including the Wairarapa Water Resilience Strategy

36. A separate report is provided on implementation of the Ruamāhanga Whaitua.

Ruamāhanga SkyTEM

37. The SkyTEM project has used airborne electromagnetic survey technology to map the underground geology of the Ruamāhanga Valley and develop a model of 'aquifer potential.'

38. The model is in the final stages of development, led by GNS, and will be published on the Greater Wellington website on 30 June 2025. The public-facing release will include an interactive tool, allowing users to explore groundwater data and understand how the model can be applied. A range of communications materials are being prepared to support the release of data, including a media release, webpage text explaining how to use the data, and FAQs for key stakeholders.

39. The model enhances understanding of potential groundwater availability and recharge areas but does not indicate the presence of water. Over coming months, Greater Wellington will use the information provided by the model and consult with mana whenua and key stakeholders to plan where to prioritise further investigations. This could lead to development of a detailed groundwater model and in time will inform overall water resource management.

Waipoua River and Mangatārere Stream flood hazard maps

40. Flood risk modelling has been completed for the Waipoua River and Mangatārere Streams. The modelling is key for understanding the probability and likely extent of flooding for the current and predicted future climate.

41. The flood hazard modelling has been carried out in accordance with Greater Wellington's Flood Hazard Modelling Standard (FHMS). The protocols in the FHMS were developed to ensure that flood hazard modelling projects are undertaken in a robust and consistent way that is in line with accepted industry practice.

42. Finalised flood hazard overlays have been provided to inform the Wairarapa Combined District Plan. Flood hazard overlays have also been provided for other rivers in the Upper Ruamāhanga catchment.

43. Further detail regarding the flood hazard maps is provided in Waipoua River, Mangatārere Stream and Waiwhetū Stream Flood Hazard Maps – Report 25.248.

Preferred flood risk management option for the urban reach of the Waipoua River

44. Greater Wellington has been working with members of the community, MDC and mana whenua (known collectively as the Waipoua Project Team) to progress Stage 1 of the Major Project Response on the Waipoua Urban Reach from the Te Kāuru Upper Ruamāhanga Floodplain Management Plan (Te Kāuru).

45. The Waipoua Project Team have undergone an optioneering process to develop a preferred flood risk management option which included the following stages:

    - Develop a long list of options (brainstorming all possibilities)

- Reduce list of options (high-level assessment to discard options which do not meet project needs)
- Refine and combine options to develop a short list (more detailed assessment)
- Engage with community on short list of options
- Develop the preferred option (using a multi-criteria analysis and the outcomes of the engagement).

46. The preferred option combines structural flood protection upgrades in the urban reach, nature-based solutions upstream of Masterton and non-structural responses within the wider catchment.

47. Further detail regarding the preferred option is provided in Waipoua River Urban Reach – Preferred Flood Risk Management Option - Report 25.249.

District Planning

48. Greater Wellington officers attended hearing stream 13 on rezoning for the Proposed Wairarapa Combined District Plan (WCDP) on 13 May 2025. Officers supported the S42A reporting authors' recommended amendments to reduce the Carterton Future Urban Zone (FUZ) to protect highly productive land and to rezone Stoney Creek, Rough Hill Forest and Tauanui Forest. Greater Wellington officers continued to seek an increase to zoning density proposed for some urban areas to achieve consistency with both the RPS and RPS Change 1.

49. The reporting authors for WCDP did not respond to Greater Wellington's evidence in their right of reply. This means the s42A author did not consider that further comment was required to assist the panel on determining a response to Greater Wellington's respective submission point.

50. The hearing panel's recommendation report is expected in July 2025. Once the decision on the combined plan is released Greater Wellington officers will review this to determine further involvement in the process.

Pest Animals

51. Possum control in the Pūkaha buffer will now be part of the Regional Predator Control Programme (RPCP). This will be regularly serviced to minimise possums moving through into Pūkaha and disrupts a major travel pathway from the Tararua Ranges along the Ruamahanga River margin. The RPCP Tararua Foothills operation is currently underway with the field team making great progress through the area and the RPCP Homebush – Te Ore Ore operation will be completed by the end of June 2025.

Kāpiti

Publicly notified consent application

52. Kāpiti City District Council's (KCDC) resource consent application (WGN220191) to continue the discharge of treated wastewater into the Mazengarb Stream and the discharge of contaminants to air from the Paraparaumu Wastewater Treatment Plant (WWTP) is progressing. The applicant is currently engaging with submitters to

clarify their concerns. A hearing date is yet to be confirmed. Taumata Arowai's wastewater standards as currently proposed would not apply to this WWTP due to the low dilution ratio.

Pest Animals

53. Rabbit control is underway at Waikanae Sand Quarry and further work is planned for the Kāpiti Coast District Council within Pharazyn Reserve before the end of June 2025.

Waikanae River instream works

54. Greater Wellington has lodged an application with DOC for a concession to undertake one-off gravel recontouring within the Waikanae Estuary. DOC is processing this application. Since the application was lodged, Greater Wellington has engaged with Te Atiawa ki Whakarongotai (TAKW) to discuss the application as well as longer term aspirations for river management activities in the Waikanae River and wider catchment, including how we do this in partnership. TAKW have expressed strong support for the proposed one-off gravel recontouring within the estuary. Once the concession is approved, works are likely to be undertaken in June or July 2025.

Kāpiti flood hazard modelling (Ōtaki, Waitohu, Mangapouri, Mangaone, Waikanae) Stage 3 engagement

55. Stage 3 engagement for the Kāpiti water courses has now been completed. The engagement period was 7 to 31 May 2025 and the purpose was to seek input from the community about their recollection of various flood events relating to each river or stream to help calibrate the flood hazard models.

56. Greater Wellington attended joint drop-in sessions with KCDC's engagement events including a webinar and three drop-in sessions across Kāpiti on three Saturday mornings in May.

57. There was very good engagement from the wider community at the drop-in sessions, with approximately 20 to 40 people speaking to Greater Wellington officers at each event. Additionally, we received 11 emails, seven 'Have Your Say' forms and a couple of paper forms which provided valuable information for calibrating the flood hazard models.

Te Whanganui-a-Tara

Pinehaven Floodplain Management Plan Structural Works

58. A paper regarding the Pinehaven Stream project was tabled at Te Awa Kairangi / Hutt River Valley Subcommittee on 13 May 2025. This paper provided an update on the structural works implementation and recommended that construction of Stages 3-5 remain on hold. The Subcommittee endorsed the recommendations made in the paper, and this recommendation is being tabled at this Environment Committee for consideration and recommendation to Council.

59. This paper also recommended that alternative options for stages 3-5 are developed over the next 12 months which include analysis of 3 options:

- Option 1 – Proceed with works as currently proposed

- Option 2 – More naturalised channel enlargement with minimal structures
- Option 3 – Do no further structural works but enhance maintenance and emergency management provisions to manage flood risk

60. To enable these options to be evaluated, modelling and design work is required to develop realistic cost estimates. This would then be used as the basis for a cost benefit analysis to help inform which option provides the best overall outcome.

Pest Animals 

61. Large rabbit control operations are underway at Silverstream Reserve and more control is planned for parts of the Skyline Walkway and Mākara Cemetery. Ungulate control (both ground based and aerial) is continuing in various sites under multi programmes.

62. Night shooting of rabbits and hares is currently being undertaken to support planting at Recloaking Papatūānuku sites. Belmont is particularly busy with new areas being planted and hares travelling large distances.

63. The draft plan for Wainuiomata/Orongorongo Zero Ungulate Project is ready for review before operations commence in 2025/26. A second lot of camera network footage has been collected which shows goats roaming over multiple cameras. The Wainuiomata/Orongorongo aerial 1080 operation is expected to commence from 16 June 2025, with prefeed ready to start from 9 June 2025 (weather dependent).

64. Possum control on Mākara properties has been completed under the RPCP Makara/Ohariu operation. Te Kopahou traps have been serviced and are operating well, larger gaps in the network will be filled next financial year.

65. Trap and bait station numbers across the KNE network have been increased, including predator traps for Wainuiomata Mainland island, possum control at Parangarahu Lakes, Kaitoke Regional Park and Western Wellington Forests.

Predator Free Wellington 

66. The project has moved into Newtown. A workplan has been agreed with Wellington Zoo, monitoring of pest animal presence is complete, and the next step is installation of predator control devices. Infrastructure has been installed in a buffer area around the Zoo and community members are being trained to service these areas.

67. Predator Free Wellington (PFW) hosted Catherine Wedd (Chair of Environment Select Committee and MP for Tukituki).

68. Work is still ongoing around a trial for a rat-specific toxin. PFW is working closely with Boffa Miskell to trial the toxin and licences to use it are pending. PFW is also working with a student from Massey in developing a more effective bait station.

69. Greater Wellington and PFW Ltd are coordinating a response to the DOC Predator Free 2050 discussion document.

Waiwhetū Stream flood hazard maps

70. Flood risk modelling has been completed for the Waiwhetū Stream. The modelling is key for understanding the probability and likely extent of flooding for the current and predicted future climate.

71. The flood hazard modelling has been carried out in accordance with Greater Wellington's FHMS. The protocols in the FHMS were developed to ensure that flood hazard modelling projects are undertaken in a robust and consistent way that is in line with accepted industry practice.

72. Finalised flood hazard overlays have been provided to inform the City of Lower Hutt District Plan, which at the time of writing is at the 'proposed' stage.

73. Further detail regarding the preferred option is provided in Whaitua Implementation Update – Report 25.248.

Waiwhetū Integrated Catchment Project

74. An update on this project is provided in the WIP Implementation Reporting – Report 25.172. An overview of the project was provided to the Te Awa Kairangi / Hutt River Valley Subcommittee at its meeting on 13 May 2025 where direction was given to formalise the project with Terms of Reference (see Waiwhetū Stream Flood Hazard Maps – Report 25.183). This will be done in collaboration with Taranaki Whānui and Hutt City Council.

Seaview Wastewater Treatment Plant Rōpū

75. At its most recent meeting, mana whenua Rōpū members advised their preference to participate more in the role of providing strategic direction, rather than being directly involved in the nuts and bolts of delivering the project activities. This resulted in a revised Terms of Reference to be confirmed at the next meeting on 12 June 2025. Greater Wellington remains an observer.

Ngā āpitihanga
Attachments

Number	Title
1	Action items from previous Environment Committee meetings
2	Rōpū Taiao | Environment Group 10 Year Outcome Statements

Ngā kaiwaitohu
Signatories

Approver	Lian Butcher – Kaiwhakahaere Matua Taiao | Group Manager Environment

He whakarāpopoto i ngā huritaonga **Summary of considerations**
Fit with Council's roles or with Committee's terms of reference The Environment Committee has responsibility to consider all matters across the development and implementation of the work programmes of Greater Wellington's Environment Group
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies Development and implementation of related work programmes fall under the core activities of the 2024-34 Long Term Plan
Internal consultation Internal consultation was limited to officers of Greater Wellington's Environment Group
Risks and impacts - legal / health and safety etc. This report covers the full breadth of work programmes, and equally a broad range of environmental, reputational, legal, financial and health, safety and wellbeing risks and associated implications.

Attachment 1 to Report 25.256

Action items from previous Environment Committee meetings

Date	Action item	Status and comment
8 August 2024	**Te Rōpū Taiao | Environment Group Update – August 2024 – Report 24.375** [For Information] **Noted:** Officers to include more graphs and diagrams in future update reports, particularly showing trends over time in environmental regulation.	**Status:** Ongoing **Comment:** Regarding trends in Regulation, we are currently looking into a format and product to supply this information, linking in with the timing we are required to provide such information through national monitoring systems and internal reporting. In the meantime, it would be helpful to understand from the Committee if there are any particular regulation related trends that they want to be regularly informed on.
15 May 2025	**Regional Predator Control Programme Change – Report 25.204** [For Information] **Noted:** The Committee requested an analysis of trends in predator numbers and the associated effects on trends in biodiversity.	**Status:** In progress **Comment:** *This information is being compiled and will be included in the upcoming biodiversity series of papers, which will be presented to the Environment Committee in the next triennium*
15 May 2025	**Community Environment Funding Update – Report 25.167** [For Information] **Noted:** The Committee requested a schedule of funding grants made and the outcomes.	**Status: complete** **Comment:** Info emailed to Crs on 4 June 2025 from David Boone.

Attachment 1 to Report 25.256

Action items from previous Environment Committee meetings

15 May 2025	**Te Rōpū Taiao | Environment Update – May 2025 – Report 25.205** [For Information] **Noted:** The Committee requested an update on the development and mana whenua endorsement of place names and storytelling within our Regional Parks. Names and stories should support mana whenua partners in revealing their stories and connections to whenua as per Toitū te Whenua.	**Status:** Ongoing **Comment:** The process for Park name, and place names within Parks, hasn't changed since it was outlined to Cr Connelly in July 2023. See FW Te Reo and GW signs.msg. In Q4 2024/25 officers agreed with Taranaki Whānui on the appointment of a translator to advise on signage and place-name changes for places/areas with known Te Reō names. GW is working with both Taranaki Whānui and Ngāti Toa to tell their stories at Parangarahu lakes, Belmont, Akatarawa, Battle hill and Wainuiomata, which will involve some place-name changes. Officers will report on future name change progress with Toitu te Whenua implementation updates to Council.

Attachment 2. Rōpū Taiao 10-year outcome statements

Further detail on the Rōpū Taiao outcomes can be found in the Strategic Framework that was referenced in the previous report. The summarised 10-year outcome statements are: