

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

Notices of requirement for designations under section 168 of the Act, in relation to Te Ahu a Turanga; Manawatū Tararua Highway Project

BY

NEW ZEALAND TRANSPORT AGENCY

Requiring Authority

**STATEMENT OF EVIDENCE OF CHRISTOPHER RICHARD BENTLEY
(CULTURAL AND ENVIRONMENTAL DESIGN FRAMEWORK)
ON BEHALF OF THE NEW ZEALAND TRANSPORT AGENCY**

8 March 2019

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INTRODUCTION

1. My full name is **Christopher Richard Bentley**. I am a landscape architect and urban designer and Partner of Boffa Miskell Limited, a national firm of consulting planners, ecologists and landscape architects. I have been employed by Boffa Miskell since 1988 and a Partner since 2005.
2. I hold a New Zealand Certificate of Survey Draughting and a post-graduate Diploma in Landscape Architecture (1983). I am a Fellow and Registered Member of the New Zealand Institute of Landscape Architects and have practiced as a landscape architect and urban designer for over 30 years. I am an approved New Zealand Transport Agency ("**Transport Agency**") urban design advisor, a member of the New Zealand Urban Design Forum and a member of the Auckland Urban Design Panel.
3. I have worked in the field of landscape architecture for more than 34 years. In my career I have worked on a wide range of projects within New Zealand, the Pacific Islands and Asia. My work has involved a range of assessments (landscape, visual and urban design) and design and construction supervision roles for state highway and infrastructure projects throughout New Zealand.
4. My relevant experience includes:
 - (a) urban design lead for the design and consenting of the Auckland Eastern Busway (EB2 & EB3);
 - (b) landscape and visual assessments and urban design including the development of an Urban and Landscape Design Framework ("**ULDF**") to secure a designation for the SH1 extension from Warkworth to Wellsford;
 - (c) landscape and visual assessments and urban design (including the development of an ULDF) to secure a designation for the SH18-SH1 Northern Corridor Improvements. This project is a good example of how the development of the ULDF has facilitated engagement with mana whenua to develop cultural narratives and provide input to the design. The process resulted in an iwi artist working with the project architect and myself to design the Tirohanga Whanui bridge which recently opened and was applauded by tangata whenua and local politicians;

- (d) landscape and visual assessment and urban design input for the East Taupō Bypass; and
 - (e) landscape, visual and urban design input to the consenting of the replacement of the Newmarket Viaduct; Manukau Harbour crossing; Victoria Park Tunnel and the Northern Toll Road (ALPURT B2) where I was also the Environment Manager within the Northern Gateway Alliance and spent three years on site designing and supervising environmental design and mitigation aspects during construction.
5. I was responsible for the preparation of the Cultural and Environmental Design Framework ("**Design Framework**", previously the Environmental and Cultural Design Framework) lodged in respect of Te Ahu a Turanga; Manawatū Tararua Highway Project ("**the Project**"). The Design Framework as first lodged was prepared by my colleague Ensiyeh Ghavampour, then reviewed and approved by me.
6. The Design Framework was included as Appendix 2 to the Assessment of Environmental Effects ("**AEE**"), which in turn formed Volume 2 of the Notices of Requirement ("**NoRs**") for the Project. An updated version of the Design Framework is attached to my evidence as **Appendix 1**.
7. In preparing the Design Framework and my evidence I have:
- (a) attended site inspections on 6 and 20 July 2018;
 - (b) attended an initial visioning workshop on 5 July 2018 with all technical specialists including representatives from Palmerston North City Council, Manawatū District Council, Tararua District Council (the "**Councils**"), Horizons Regional Council ("**Horizons**") and iwi representatives;
 - (c) attended two mitigation workshops, on 26 July and 14 August 2018, with all specialists engaged by the Transport Agency and stakeholders, including technical specialists from the Councils and Horizons, and iwi representatives; and
 - (d) attended a number of hui with Ngāti Kahungunu ki Wairarapa Tāmaki Nui-a-Rua, Rangitāne o Manawatū and Rangitāne o Tamaki Nui-ā-rua, and Ngāti Raukawa, as follows:

- (i) 7 August 2018 (Ngāti Kahungunu ki Wairarapa Tāmaki Nui-a-Rua in Dannevirke);
- (ii) 8 August 2018 (Rangitāne at TMI in Palmerston North);
- (iii) 13 September 2018 (Rangitāne at Te Ahu a Turanga Marae in Woodville);
- (iv) 18 February 2019 (Rangitāne in Palmerston North);
- (v) 25 February 2019 (Rangitāne o Tamaki Nui-ā-rua in Palmerston North); and
- (vi) 25 February with Ngāti Raukawa and Ngāti Kahungunu ki Wairarapa Tāmaki Nui-a-Rua in Palmerston North.

8. I have reviewed the AEE, the recommended designation conditions, and the evidence of related experts.

Code of Conduct

9. I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2014. My evidence has been prepared in compliance with that Code, as if it were evidence being given in Environment Court proceedings. In particular, unless I state otherwise, this evidence is within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Purpose and scope of evidence

10. The purpose of my evidence is to explain the process of developing the Design Framework, the key elements of the Design Framework, and the role of the Design Framework in future design and consenting processes. I also respond to submissions and questions from the Hearing Panel as relevant to the Design Framework, and comment on the Council Reporting Officers' Section 42A Report.

EXECUTIVE SUMMARY

11. The Design Framework has been developed through a series of visioning and mitigation workshops, attended by the Councils' technical specialists and iwi, and via a number of hui with iwi groups. Since the NoR was lodged, the Design Framework has been amended to address relevant concerns of

submitters, and further hui were held in February 2018 to ensure additional tangata whenua comments were incorporated. Councils' S42A report includes a suggested updated version of the Design Framework, with additional principles set out in section 3 of the Design Framework. I have reviewed these and added those that are relevant to the scope of the Project into the updated Design Framework appended to my evidence.

12. The Design Framework will guide the design development by identifying the key elements and focus areas that need special attention. The Design Framework together with the conditions will ensure that design solutions are developed that minimise effects and that they are appropriately mitigated. The design responses will be incorporated in the various management plans outlined in the conditions and will support the outline plans and resource consents.

PROCESS OF DEVELOPING THE DESIGN FRAMEWORK

13. The Design Framework is intended to fulfil the role of a ULDF for this Project. ULDFs have been used successfully by the Transport Agency on previous major projects (including those mentioned in relation to my relevant experience above) to ensure that the design addresses relevant landscape and environmental design considerations. The ULDF process provides opportunities for stakeholders and consent authorities to be involved during design development. This process is also used to inform the Outline Plan of Works, which is to be signed off by consent authorities.
14. The structure of the Design Framework is based on previous ULDFs developed for State highway projects, and includes the content recommended to be included in ULDFs in Appendix 2: Urban and Landscape Design Framework Guideline within the Transport Agency's Urban Design Framework Guidelines "Bridging the Gap".
15. Early discussions with the Project team determined that the design framework for this Project would be better described as an "Environmental and Cultural Design Framework" rather than a ULDF. The change in title reflects the prominence of environmental and cultural values and the desire to develop an ongoing partnership with tangata whenua throughout the development of the Design Framework and ongoing design. At a recent hui with Rangitāne o Manawatū, it was decided to rename the document a "Cultural and Environmental Design Framework" to recognise the importance of cultural values.

16. The Design Framework has been developed with input from iwi groups and key stakeholders via a series of workshops, hui and engagement (as described in paragraph 7 above). Further details are as follows:
- (a) An initial structure of the Design Framework outlining the Introduction (role & purpose); Environmental & Cultural Context; Design Strategy (principles) and Design Outcomes Sought was presented for comment at a design workshop involving Transport Agency technical experts, Council representatives and technical experts, and iwi representatives, on 5 July 2018;
 - (b) Preliminary tangata whenua design principles (Te Aranga Principles) were discussed at a Rangitāne hui on 8 August 2018. Rangitāne supported this concept and proposed their own wording in the attributes and application columns of the table, which were incorporated into Section 2.1 of the ECDF;
 - (c) A draft of the Design Framework was presented at the second mitigation workshop held on 14 August 2018 with Transport Agency technical experts, Council representatives and technical experts, and iwi representatives. Refinements to the Project Vision and Project Constraints and Opportunities plan were made as a result of feedback received at this workshop, and the Environmental and Cultural Context section was shifted to Appendix A.
 - (d) A hui held with Ngāti Kahungunu on 7 August 2018 provided an insight into their cultural values and narratives, which was incorporated into the Cultural Values and Narratives section at A.2.
17. A first version of the Design Framework is set out at Appendix 2 of the AEE ("**AEE Design Framework**"). Since then, the relevant iwi groups (Rangitāne o Manawatū, Rangitāne o Tamaki Nui-ā-rua, Ngāti Kahungunu ki Wairarapa Tāmaki Nui-ā-Rua, and Ngāti Raukawa ki te Tonga) have been provided the opportunity to provide further comment on the Design Framework. The following feedback has been received:
- (a) At a hui held to discuss the Design Framework with Rangitāne o Manawatū on 18 February 2019, changes were requested, including:
 - (i) changing the name of the document to a Cultural and Environmental Design Framework (CEDF);

- (ii) changes and additions to the wording describing the application of the Te Aranga Design Principles; and
 - (iii) changes to the wording of the project-specific design principles in section 3.1.1. Bridge (Manawatū River Crossing).
 - (b) At a hui with Rangitāne o Tamaki Nui-ā-rua on 25 February, some further changes were discussed, including in relation to the description of Treaty of Waitangi settlements at section 1.5.1. Rangitāne o Tamaki nui-ā-rua also sought that an explanation of the origin of the name Te Ahu a Turanga be added to the Design Framework, which can certainly be done.
 - (c) At a hui with Ngāti Kahungunu and Ngāti Raukawa on 25 February, there were discussions around potential changes to the text of the Design Framework, in particular to reflect a broader meaning of Whakapapa. The Transport Agency is working with those iwi to obtain further input to the Design Framework.
18. I have therefore further updated the Design Framework to address this feedback received from iwi including further explanation of the concepts of Whakapapa and Whanaungatanga, as well as new issues raised through submissions and the Councils' Section 92 Request and Section 42A Report ("**Updated Design Framework**"). The Updated Design Framework is attached to my evidence as **Attachment 1**.

KEY ELEMENTS OF THE DESIGN FRAMEWORK

19. The key elements of the Design Framework are:
- (a) Corridor Design Principles, which include:
 - (i) Tangata Whenua Principles (Te Aranga Design Principles), which provide a Māori world view of the values, outcomes, attributes and Project-specific applications that should be considered during the design and delivery of the Project;
 - (ii) Project Specific Principles, which set out corridor-wide design principles to guide the design and development of the Project. The Project Specific Principles are grouped under the following headings:
 - (1) Reconnecting People and Places;

- (2) Respecting the Cultural Landscape;
 - (3) Landscape and Natural Features;
 - (4) Environmental Health; and
 - (5) Amenity.
- (iii) Project Vision, which sets out the key values for the Project as identified through workshops with key stakeholders;
 - (iv) Project Constraints and Opportunities, which outlines the key constraints, opportunities and issues for the Project as identified through a series of mitigation workshops.
- (b) Project Elements and Features (Emerging Design Outcomes), which identify the emerging design outcomes that should be sought in the detailed design of the Project. These have been developed in accordance with existing Transport Agency design guidelines such as the 'Urban Design Guidelines: Bridging the Gap', 'Landscape Guidelines' and 'Bridge Manual'. Specific design guidance is provided in relation to the design of:
- (i) Structures, including the Manawatū River Crossing Bridge and highway furniture;
 - (ii) Ecologically Sensitive Areas,
 - (iii) Earthworks / Spoil Disposal;
 - (iv) Waterbodies;
 - (v) Revegetation;
 - (vi) Urban Connections;
 - (vii) Stopping Places; and
 - (viii) Walking and Cycling.
- (c) Project Sectors and Focus Areas, which break the Project into six sectors and identify areas within those sectors requiring focussed design input in order to minimise adverse effects.
20. Further background environmental and cultural context is then appended to the Design Framework at Appendix A.

ROLE OF THE DESIGN FRAMEWORK IN FUTURE DESIGN PROCESSES

21. The Design Framework is an important mechanism to direct the design of the Project. However, it is not intended that all constraints and mitigation measures recommended in the technical assessments are addressed through the Design Framework. Rather, in some cases, recommended mitigation measures are achieved through other proposed conditions. For example, proposed conditions 13 and 17 address the recommendations in Technical Assessment 4 regarding revegetation and replanting.
22. The Design Framework is a 'living document' in that it will continue to be expanded and refined throughout the life of the Project. The 'living document' approach is set out in Section 1.2 of the Design Framework and has been further clarified through the Transport Agency's response to the Councils' Section 92 Request.
23. The intention is that the Design Framework will continue to be amended to:
 - (a) respond to the requirements of relevant designation and future resource consent conditions; and
 - (b) provide increasing detail in respect of the design of the Project, including as an outcome of ongoing consultation.
24. Proposed condition 11 provides that the "preliminary Design Framework" (that is, the version finalised through this hearing process) must be reviewed and updated prior to the commencement of construction, taking into account the outcomes of consultation with tangata whenua, the Department of Conservation, the Councils, Horizons, the QEII National Trust, Te Āpiti Governance Group and Meridian. The updated Design Framework must then be included in the outline plan/s prepared and submitted to the relevant Council in accordance with section 176A of the RMA and proposed condition 5.
25. It is not intended that the ability to review and update the Design Framework under condition 11 enables any departure from the 'Emerging Design Outcomes' set out in Section 3 of the Design Framework. Rather, the intention is for the Design Framework to be further developed with increasingly specific details as to how those Emerging Design Outcomes will be achieved.

26. In the Transport Agency's Section 92 Response, an alternative to the above was also suggested. This was for proposed condition 11 to be deleted, and proposed condition 12 to be amended to require the Landscape Management Plan to demonstrate how the Emerging Design Outcomes in Section 3 of the Design Framework are to be achieved.
27. The section 42A Reports provided by the Councils recommend that more detail be provided through the Landscape Management Plan proposed as condition 12. Further, the Reports recommend adding several specific principles to Section 3 of the Design Framework. The majority of the recommended principles have now been added to the updated Design Framework. The suggested principles that I have not added related to proposed works outside of the scope of the Project, and so could not be actioned through the Design Framework.

COMMENTS ON SUBMISSIONS

28. No submitters have made specific comments about the Design Framework other than the Manawatū River Source to Sea ("**Source to Sea**") submission, which is generally supportive of the Project and the design being based on the principles outlined in the Design Framework. There are three other submissions which mention landscape related issues relevant to the Design Framework - one from the Department of Conservation ("**DOC**"), one from Johannes Alternburg, and one from the Manawatū Gorge Governance Group.
29. I address each of these submissions below.

Source to Sea (submission 360)

30. The Source to Sea submission covers biodiversity, cycling and walking, and retention and enhancement of significant geological features.
31. In terms of retention and enhancement of significant geological features, the submission states that it has recently been proposed that the Manawatū Gorge be the centre of a new UNESCO Global Geopark. The submission goes on to seek that:
 - (a) significant geological features, faults, folds, profiles, fossils, and sedimentary successions which are uncovered during construction are noted and reported;

- (b) viewing points are incorporated into the Project design to enable viewing or access to landscape features and geo-sites; and
 - (c) any new information or features revealed in relation to the Wellington / Mohaka Fault are retained in their best profile to allow them to be displayed and visible.
32. The AEE version of the Design Framework noted the opportunity for the Project to provide safe stopping or rest areas combined with lookouts to appreciate the views towards Ashhurst, including the confluence of the Manawatū and Pohangina Rivers, windfarm and wider landscape generally.¹ It also contained design principles for earthworks, in particular that cut faces should be steep and left as exposed rock.²
33. The opportunity to reveal geological features and consider visual access to them in combination with safe stopping places and lookouts has now been added as a Project Element and Feature (Emerging Design Outcomes) in the Updated Design Framework attached to my evidence.³

Department of Conservation (submission 369)

34. The DOC submission addresses six matters. The matter that relates to my evidence is the Manawatū Gorge Scenic Reserve ("**Scenic Reserve**"). There are three specific areas of concern under this heading:
- (a) the Scenic Reserve carpark;
 - (b) maintaining operational access to the northern area of the Scenic Reserve; and
 - (c) an opportunity for the Project to provide public access to the northern area of the Scenic Reserve.

¹ See Section 2.4 (Project constraints and opportunities) and Section 3.7 (Stopping places).

² See Section 3.31 (Cut and Fill Batters).

³ See Section 3.3, 3.3.1.

Scenic Reserve carpark

35. The DOC submission states the Project has the potential to have adverse social, noise, landscape, natural character and amenity effects on users of the Scenic Reserve carpark. The submission seeks further detail to ensure that these adverse effects are avoided, remedied and mitigated including through, but not limited to, the following requirements:
- (a) providing at least the same number of car parks as are currently available;
 - (b) re-establishment of the carpark in a way that provides for similar natural character and amenity; and
 - (c) additional security measures e.g. lighting and cameras to deter any undesirable 'underbridge' behaviour from occurring in the carpark post construction phase.
36. The Scenic Reserve carpark will be redesigned and enhanced as part of the Project. In this respect, proposed condition PN2 requires a Manawatū Gorge Scenic Reserve Car Park Management and Reinstatement Plan ("**Car Park Management Plan**") to be prepared prior to the commencement of any construction works that affect access to or use of the Scenic Reserve car park and/or walking tracks in the Manawatū Gorge.
37. The condition requires the Car Park Management Plan to be prepared in consultation with DOC, Palmerston North City Council, tangata whenua and community representatives; and with reference to the Design Framework. In accordance with the proposed conditions as they stood at the time the NoRs were lodged, the Car Park Management Plan must also include, as a minimum:
- (a) details of how public access will be maintained; and
 - (b) details of reinstatement of land used for construction.
38. In addition, in response to DOC's submission I understand that **Ms McLeod's** evidence sets out amendments to proposed condition PN2 which require the Car Park Management Plan to also include:
- (a) the provision of at least the same number of car parks as the number that existed at 31 October 2018;

- (b) a Crime Protection Through Environmental Design (CPTED) Safety Site Assessment; and
 - (c) details of the consultation undertaken with stakeholders listed in condition PN2(b) (including DOC), including the comments made and any measures taken by the Requiring Authority in response.
39. The requirement to prepare a Car Park Management Plan in consultation with stakeholders (including DOC) will ensure that the matters raised in the DOC submission are given due consideration in finalising the plan for reinstatement of the Scenic Reserve car park.

Maintaining operational access to the northern area of the Scenic Reserve

40. The DOC submission seeks that adequate arrangements are put in place to ensure that it can continue to access the northern area of the Scenic Reserve for operational and maintenance purposes from adjacent land.
41. The requirement to maintain operational access for DOC to the northern areas of the Scenic Reserve has been added as a Project Element and Feature (Emerging Design Outcomes) to consider in the Updated Design Framework appended to my evidence.⁴

Opportunity for the Project to provide public access to the northern area of the Scenic Reserve

42. The DOC submission states the Project has the opportunity to have a positive effect in relation to the promotion of natural character and historic conservation benefits through the provision of:
- (a) public access to the northern area of the Scenic Reserve; and
 - (b) future walking and cycling paths that may be established in the Gorge area.
43. I have added a potential lookout/stopping place at the northern side of the Scenic Reserve in the Updated Design Framework as a Project Element and Feature (Emerging Design Outcomes) to consider as part of the detailed design process.⁵ Such a lookout/stopping place could connect with future walking trails in the area, if desired. Further, I understand that the Transport Agency is open to providing a dedicated walking facility, as well as shoulders

⁴ See Section 3.6.

⁵ See Section 3.7.

that can be used by cyclists, on the new bridge across the Manawatū River, which could in future connect to the Scenic Reserve if desired.

Johannes Altenburg (submission 3)

44. The submission from Johannes Altenburg requests *"more and better access to river beaches than currently exists"*.
45. The Project Constraints and Opportunities plan in the AEE version of the Design Framework⁶ identifies several opportunities to enhance open space and recreational opportunities at the Ashhurst Domain and Scenic Reserve carpark. It also identifies access to the river as an opportunity.⁷ This opportunity has been further highlighted in the Updated Design Framework in the section on 'landscape character area key issues'.⁸
46. Consideration of this potential opportunity will require discussions with iwi and other stakeholders, and may also require RMA approval.

Manawatū Gorge Governance Group (submission 374)

47. The Manawatū Gorge Governance Group submission seeks measures to enhance the Gorge area as a recreational destination and to ensure that visitor experience is not negatively affected.
48. As mentioned in relation to the DOC submission, the Design Framework has been amended with the recommendation to ensure the Manawatū Gorge Scenic Reserve carpark and entrance to the Gorge is not adversely impacted by the Project.
49. In addition, as mentioned above, proposed condition PN2 requires a Car Park Management Plan to be prepared prior to any construction works commencing that affect access to or use of the Scenic Reserve car park, and/or access to the Manawatū Gorge walking tracks. The Plan must include details of how public access will be maintained, and details for the reinstatement of land. This condition will ensure that the visitor experience is given due consideration before any construction commences at the Scenic Reserve carpark.

⁶ See Section 2.4.

⁷ See Section 2.4.

⁸ Section 2.4.1.

RESPONSE TO QUESTIONS OF THE HEARING PANEL

"Whakapapa - Does this suitably reflect the matters raised by Raukawa in relation to ensuring cultural sensitivity across a range of it and tangata whenua?" (Volume 2, ECDF Page 9)

50. To the extent that this question is directed to Ngāti Raukawa, I understand that representatives of Ngāti Raukawa are intending to give evidence at the hearing, and may address this point directly.
51. For my part, I understand from the document "Te Manawaroatanga" filed on behalf of Ngāti Raukawa as part of the NoR that Ngāti Raukawa seeks *"to ensure any cultural symbolism is inclusive and ensures the history told is accurate and mana enhancing"*.⁹
52. The section of the Design Framework that this question refers to is intended to provide a broad ability for a range of culturally appropriate works to be enabled. However I note that, to the extent that this aim is not fully captured in the Design Framework, I encourage Ngāti Raukawa to continue to review the Design Framework and provide comments.
53. I note further that following my 25 February hui with Rangitāne o Tamaki Nui-ā-rua, representatives of the iwi provided me with a number of suggested changes to the Design Framework, including some further wording to be added to the explanation of Whakapapa within the section recording Cultural Values and Narratives.¹⁰ In addition, Rangitāne o Tamaki Nui-ā-rua provided a statement on Cultural Values prepared by Manahi Paewai, which has been added to the updated Design Framework as green text.¹¹
54. As has been explained to all relevant iwi, the Design Framework is a "living document" and can continue to be updated as further information becomes available, including after the hearing.

⁹ Te Manawaroatanga, Part Three.

¹⁰ See Section A.2.

¹¹ See Section A.2.

**"Do the design principles reflect strongly enough the ecological constraints and need for protection on the Western Slope and land identified by the Queen Elizabeth II National Trust? Please explain why greater specificity is not provided in relation to the assessed bridge outcomes in these areas."
(Volume 2, ECDF Page 13.)**

55. I accept that, in general, the AEE version of the Design Framework could be amended to better integrate with the requirements set out in the conditions relating to ecological constraints, protection of the Western Slope, and the QEII covenant land.

56. The Design Framework has now been updated on that basis, and more specific principles have been added to the Ecologically Sensitive Areas, North of the Manawatū River Crossing and Western QE11 Covenant. The Updated Design Framework contains the following:

Proposed Principles North of Manawatū River Crossing

- *Minimise the ecological and natural character impacts by bridging over sensitive habitats and through alignment refinement.*
- *Minimise impact on raupo seepage wetland and swamp maire*
- *Minimise impact on alluvial old growth forest*
- *Minimise impact on high value streams*
- *Replace/ restore indigenous vegetation and habitats disrupted by the construction process*
- *Attention to peer placement and treatment around peer and abutments and site rehabilitation*

Proposed Principles Western QEII Covenant

- *Design highway alignment to minimise impact on indigenous forests*
- *Bridge over gullies to reduce impacts on streams and maintain ecological habitat connectivity*
- *Keep bridges as high as possible to minimise impacts on the gully forests*
- *Minimise requirements to temporarily or permanently divert streams*

- *Replace/restore indigenous vegetation and habitats*
- *Remove grazing stock from the area around the open space covenant, within the designation and revegetate and protect indigenous forest cover in the upper catchments, above the indicative alignment, that are currently in pasture to improve the ecological values and water quality of the stream headwaters. Explore opportunities to extend outside of the designation with agreement landowners and Meridian.*
- *West Stream – from QEII West Crossing to Raupō Wetland: retire whole gully from grazing in legally protected area*
- *Mitigate effects on natural character of streams by protection and revegetation of the upper catchments currently in pasture whilst maintain the effective operation of the windfarm.*

"How does the ECDF address the issues raised by Meridian Energy in relation to future land form?" (Volume 2, ECDF Page 27)

57. The Design Framework provides for design across Meridian land, which is generally open, rural landscape and working farmland. Any design relating to this area will be developed to complement and respect the landscape character of the area including landform.
58. On that basis, I do not expect the design within the Meridian land to involve tall trees and vegetation, or other features that would detract from the landform.
59. In light of the submission from Meridian on this point, however, I understand that the Transport Agency has agreed not to carry out planting to offset or compensate for adverse effects on terrestrial ecology within the Te Apiti windfarm except where the planting is for restoration of areas within QEII covenants, and amended conditions to this effect are set out in the evidence of **Ms McLeod**. Further, the Transport Agency now proposes to restrict the height of landscape and amenity planting to 1.5m at maturity except where the planting is for restoration of areas within QEII covenants, or Meridian provides consent to such planting.
60. Finally, the evidence of **Mr Dalzell** refers to the compensation payable to Meridian under the Public Works Act 1981 for any impact the Project may have on the operation of the wind farm.

"The identification of sites of significance to tangata whenua only includes the elements around Ashhurst. Please explain how the more ephemeral aspects raised by the various iwi are addressed through the ECDF other than through consultation and management plans." (Volume 2, ECDF Page 27)

61. As noted above, the Design Framework has been developed in conjunction with tangata whenua. The sites of significance plan (Section A.3 of the Updated Design Framework) relies on input from tangata whenua, as they hold the necessary knowledge. I have been regularly seeking input to the draft plan, including most recently at hui held on 25 February 2019.

62. As I have stated, the CEDF is a "living document" and can be updated as further information becomes available, including after the hearing. That of course includes the sites of significance plan.

"Is there a reason why section 1.5 of the ECDF does not mention Raukawa?" (Volume 2.2, ECDF Page 3)

63. Section 1.5 includes details from Treaty of Waitangi settlements that have been finalised, or are in the process of being finalised, in the area within the Project corridor. This was included in the Design Framework because Treaty settlements, including the statutory acknowledgements and historical accounts that they record, provide important context for the area.

64. Currently, I understand that Ngāti Raukawa is not at a stage of the Treaty settlement process where the relevant details to be included in their Treaty settlement are publicly available / confirmed. I have, however, met with Ngāti Raukawa, and provided them with the opportunity to comment on the Design Framework as it is developed.

COMMENTS ON REPORTING OFFICERS' SECTION 42A REPORTS

65. The Section 42A reports that refer to the Design Framework are those provided by Gregor McLean (Erosion Control), John Hudson (Landscape and Natural Character) and Phillip Percy and Anita Copplestone (Planning). I respond to each of the relevant issues raised in those reports below.

Gregor McLean's s42A Construction and Erosion Control Measures report

Location of spoil sites

66. Mr McLean's report refers to the location of spoil sites within the designation, and states as follows:¹²

However, it is important that the spoil sites are located carefully as part of detailed design to ensure management of effects on stream systems, and specifically reclamation. In particular, the location of the spoil sites needs to be managed to ensure that additional streams are not reclaimed. I do not consider that the ECDF has sufficient robustness to solely rely on that document, and I have therefore recommended a change to the Construction Environmental Management Plan ("CEMP") condition. This condition now explicitly requires the location of spoil sites and the avoidance of reclamation to be addressed as part of the CEMP.

67. In my opinion, the updated Design Framework (in particular the principles in section 3), together with the future regional consenting process, is sufficient to ensure the effects on streams are appropriately managed; and this will apply equally to areas of fill for the main alignment or spoil disposal sites.

Geotechnical design

68. Mr McLean's report also states:¹³

In my experience during the detailed design and construction phase other disciplines, such as geotechnical design may override some of the ECDF design outcomes. For example, during construction unexpected ground conditions may be experienced and the design of the batter, including stabilisation would need to respond to these conditions. To ensure resilience of the road this may result in the least preferred stabilisation techniques such as shotcrete being used. As far as possible key environmental outcomes should be recorded in conditions.

69. I do not consider that the Design Framework can prescribe the design solution for every eventuality. Rather, the Design Framework contains several principles to guide earthworks design, and the desired effect of exposing geological features, maintaining landscape character, and integrating with adjacent landforms is clearly prescribed. The specific

¹² At paragraph 36.

¹³ At paragraph 57.

solutions to resolve each situation will have to be designed to demonstrate compliance with the principles of the Design Framework and the Landscape Management Plan requirements as outlined in condition 12. An example of this in respect of stabilisation of slopes is at 2.2.3 of the Design Framework, which states that shotcrete is the least preferred option for architectural finish. This would require innovative solutions to be developed, which would encourage (for example) the use of soil nails and vegetated retaining systems as an alternative.

John Hudson's s42A Landscape and Natural Character report and Phillip Percy and Anita Coplestone s42A Planning report

70. Both the Landscape and Natural Character and the Planning reports propose various amendments to the proposed designation conditions and to section 3 of the Design Framework as a means of minimising the effects of the Project.
71. I have reviewed the proposed changes to the Design Framework, and have incorporated the majority of the additional principles suggested into the updated Design Framework. The principles that have been added are written in red text.
72. The principles that have not been adopted into the Design Framework were left out because they either repeated issues covered by other principles already in the Design Framework, or they covered things that are not proposed as part of the Project, such as providing separated walking and cycling facilities along the route of the new road.
73. A table listing the proposed principles from the amended Design Framework provided in the s42A Planning Appendices is attached to my evidence as **Attachment 2**. It identifies each of the additional principles proposed in the section 42A reports, and states whether they have been added, deleted or amended. The table shows the amended text and, where a principle was not incorporated, it provides an explanation as to why.

Christopher Richard Bentley

8 March 2019

**ATTACHMENT 1 – UPDATED CULTURAL AND ENVIRONMENTAL DESIGN
FRAMEWORK**

Provided separately

**ATTACHMENT 2 – TABLE OF AMENDMENTS TO THE DESIGN FRAMEWORK
AS PROPOSED BY THE SECTION 42A REPORTING OFFICERS' REPORTS**

Provided separately

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TE AHU A TURANGA; MANAWATŪ TARARUA HIGHWAY PROJECT

Updated Preliminary Cultural & Environmental Design Framework

(Preliminary Urban and Landscape Design Framework)

March 2019

Document Quality Assurance

<p>Bibliographic reference for citation: TE AHU A TURANGA; MANAWATŪ TARARUA HIGHWAY PROJECT CULTURAL AND ENVIRONMENTAL DESIGN FRAMEWORK (Preliminary Urban and Landscape Design Framework). Prepared by Boffa Miskell Limited for New Zealand Transport Agency</p>		
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Status:	Revision / version: 07	Issue date: 06.03.2019

File ref: W18061_CEDF_Draft_Version_07

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1. Introduction



1.1 Introduction

A major slip in the Manawatū Gorge (the Gorge) in November 2011 and again in July 2017 resulted in the closure of SH3 between Ashhurst and Woodville. The extent of the closure negatively impacted people and communities in the Manawatū, Palmerston North and Tararua regions with a much wider impact across the regions, given the route's national strategic classification¹. The proposed new route runs near the western entry of the closed part of SH3, crossing the Ruahine Ranges north of the Gorge and reconnecting to SH3 at Woodville.

Te Ahu a Turanga (the Project) is to provide a new resilient, safe and efficient connection between the eastern and western sides of the Ruahine and Tararua Ranges. The proposed approximately 12km route is located on the southern foothills of the Ruahine Range, immediately north of the Gorge and south of Saddle Road (Figure1). This new route will be SH3, replacing the existing State Highway route, which ran through the Gorge. The new route was selected following a multi-criteria analysis of 18 route options. The process involved a consideration of the Project's investment objective, environmental and social impact, and implementability.

The Project incorporates an Cultural and Environmental Design Framework (CEDF) that has been developed following discussion with local iwi, councils and stakeholders through a series of consultation workshops. The CEDF sets out the overarching design principles and 'vision' that will be applied to the final design of the Project.

The CEDF is consistent with the form and content of the preliminary Urban and Landscape Design Guidelines and New Zealand Transport Agency (NZ Transport Agency) Landscape Guidelines.

1.2 Role And Purpose

The CEDF is a 'Living Document' in that it continues to be expanded and refined throughout the life of the Project. The preliminary CEDF provides a design framework within which the design of the proposed Project will be developed. It identifies design principle constraints and opportunities that form the framework that will guide design development.

There are three phases in the development of the CEDF as outlined in Figure 2. The first phase, the planning phase, involves the development of this Preliminary CEDF. It outlines the Project and its context, and identifies the key documents and principles that guide the design development. The Preliminary CEDF is to be lodged with the Assessment of Environmental Effects (AEE). It supports the environmental assessments by demonstrating that the design process will respond to the landscape, ecological and cultural issues identified as Project specific principles.

The second phase of the CEDF (the Draft CEDF), will incorporate the conditions of consent and show how the design is being developed to address the conditions. This will assist with regional consents and consultation with key stakeholders and iwi, by illustrating how effects are being minimised, how some are unavoidable and how they are being mitigated.

The third and final phase of the CEDF will contain developed design solutions in response to the issues (Manawatū Gorge Alternative Routes report)

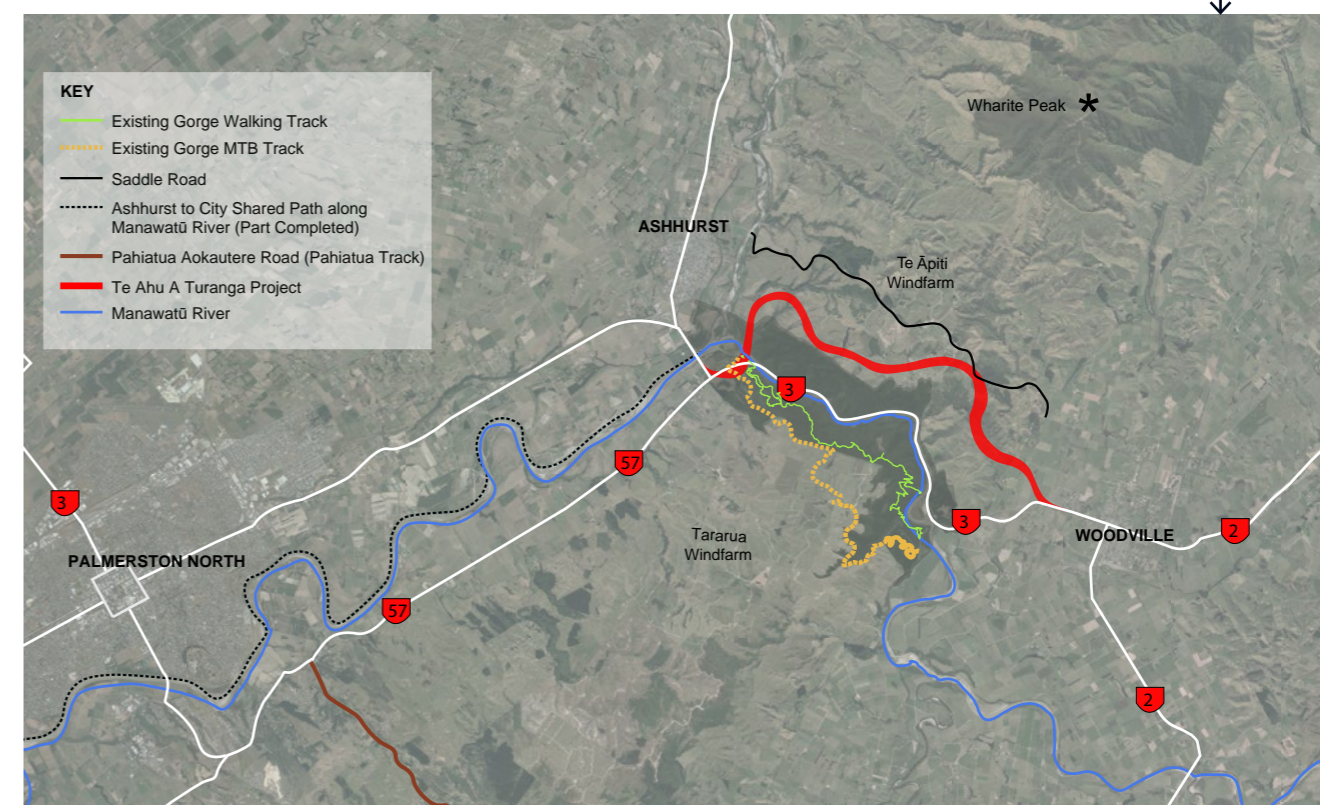
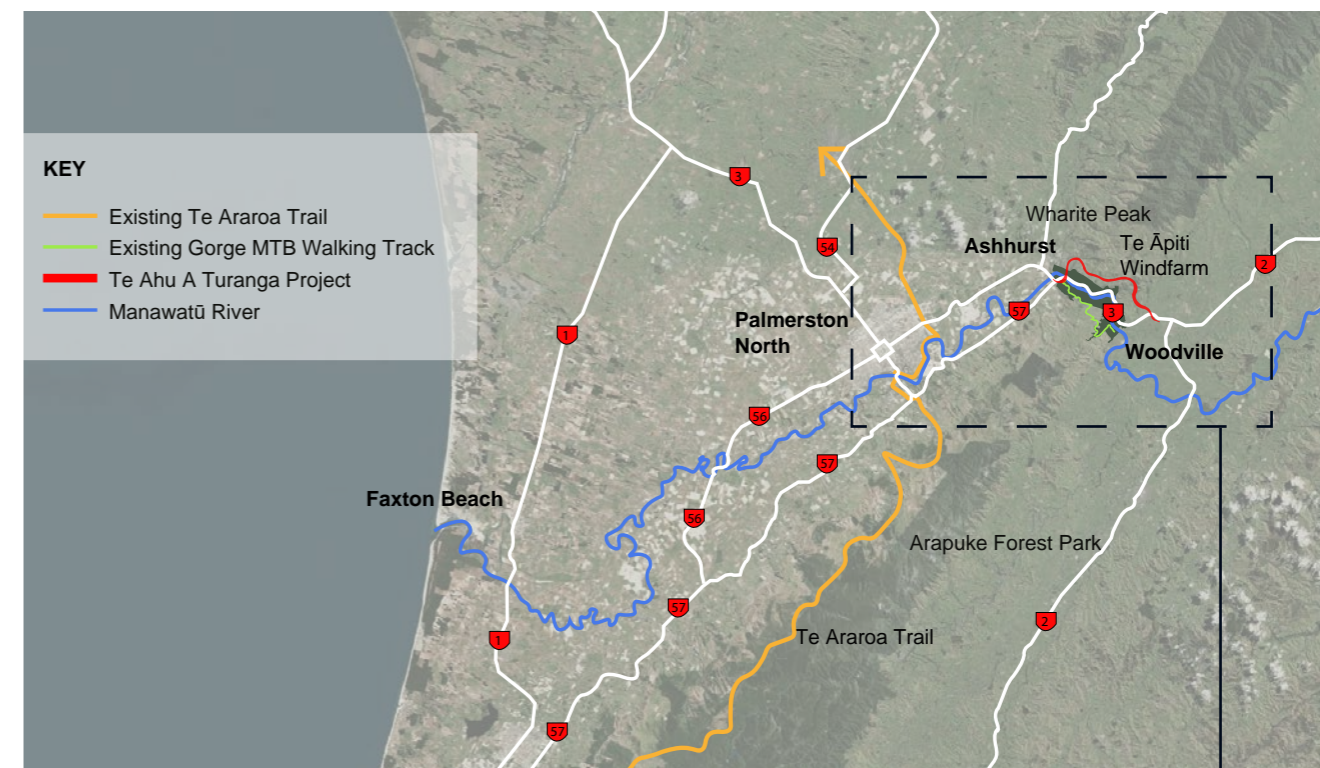


Figure 1: Location of Te Ahu A Turanga Project

identified. Detailed design and environmental and construction management plans will be linked to the CEDF. They will be approved by the NZ Transport Agency's Urban Design Advisor and by territorial authorities as part of the Outline Plan of Works. The CEDF will continue to be a reference document throughout the construction and operational phases of the Project.

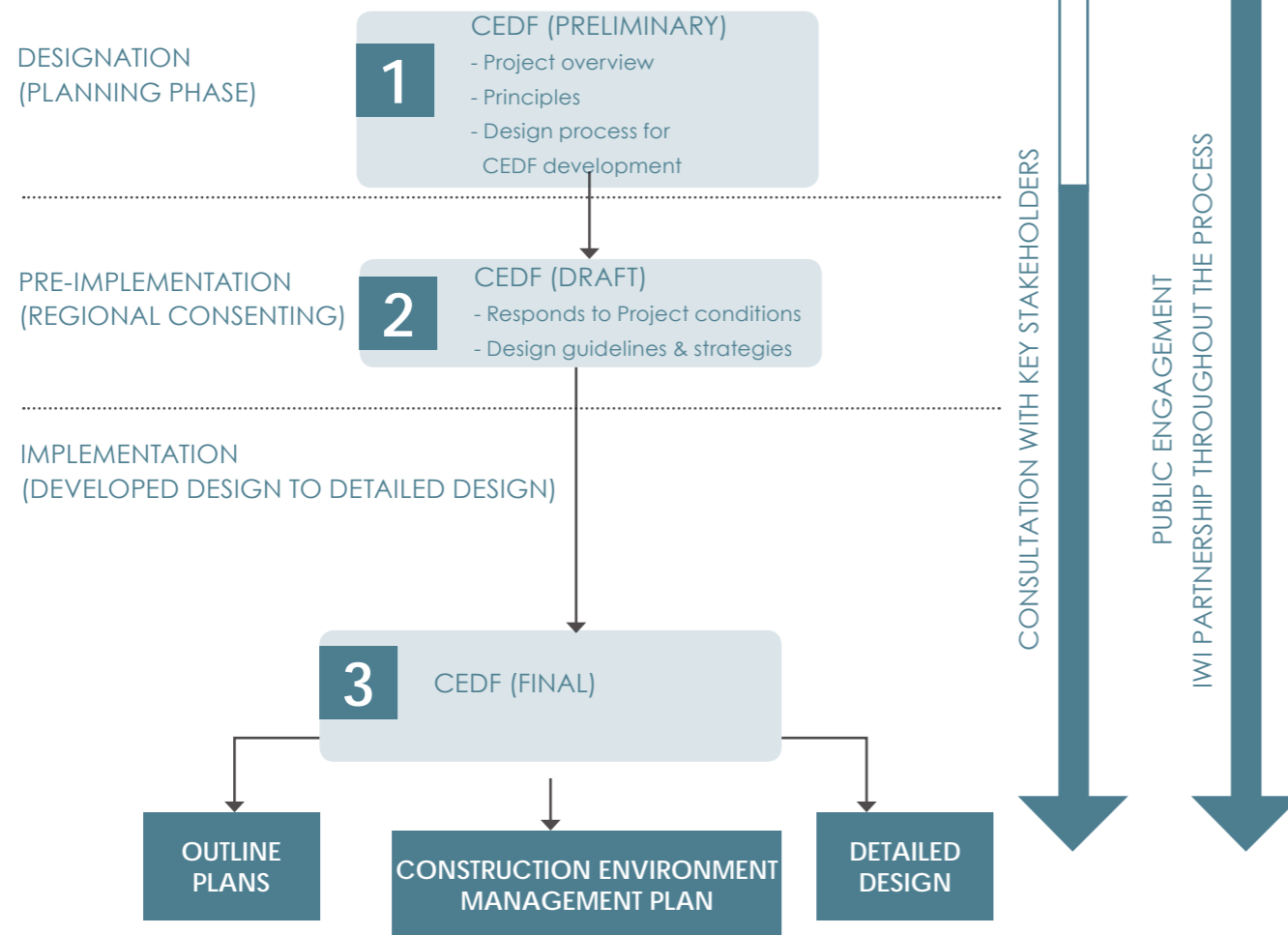


Figure 2: CEDF development process. Regional consents may be sought in a staged manner during stages 2 and 3 as shown. Staging would respond to the desirability to commence construction early and to get the road open as quickly as possible.

1.3 Structure Of The Document

The preliminary version of CEDF contains 4 chapters and Appendices. The first chapter contains the introduction, and Project description, and sets out the purpose and role of the CEDF, providing design guidelines that will be further developed throughout the consenting detailed design and construction phases of the Project.

The second chapter contains tangata whenua principles (Te Aranga design principles) as well as high level corridorwide design principles. Corridorwide environmental principles are based on connectivity, human landmarks, landscape and natural features, environmental health and amenity.

They will provide a reference for checking that the future design document is addressing the key cultural and environmental issues of the Project. The Project constraints, opportunities map and Project vision summarise the key issues and opportunities identified in the planning phases of the Project.

The third chapter lists specific design principles that are required to be addressed during the detailed design phase. These principles are based on the NZ Transport Agency's urban design and landscape documents 'Bridging the Gap' and 'Landscape Guidelines'.

The fourth chapter illustrates the Project sectors and also identifies focus areas where specific solutions need to be considered in the detailed design phase.

Appendix A contains the landscape and cultural and environmental context.

Appendix B contains a design review template to be used as a check that the future design responds to the corridorwide design principles.

1.4 Consultation

An intensive consultation process has been undertaken with the community and key stakeholders. This has involved communicating on a regular basis and seeking opportunities for dialogue and information sharing. To date, public open days have been held in Woodville, Ashhurst, Dannevirke, Pahiatua and Palmerston North. Other locations, in particular for regional connectivity consultation, can be considered as the Project continues to engage with key stakeholders and the public.

Meetings and workshops involving key stakeholders include three district councils and Horizons regional council as well as government departments such as Department of Conservation (DOC) and Land Information New Zealand (LINZ), the Te Āpiti Governance Group and the Accessing Central New Zealand strategy group.

The NZ Transport Agency recognises Māori as partners, and building lasting relationships with tangata whenua is a priority. We will support this through early, no surprises engagement, and by taking a long-term view. We will prioritise face-to-face communication and awareness having respect for kawa (protocols) and tikanga (customs).

This CEDF has been developed with input from iwi. This document contains Mātauranga Māori principles and cultural values, and has considered outcomes of engagement with iwi. The intention is to involve tangata whenua in the development of future versions of the CEDF and in design decisions as the Project is developed.

1.5 Iwi Crown Partnership and Treaty of Waitangi Settlements

The iwi and hapū groups identified as having interests in and around the area affected by the Project have each been involved in Treaty settlement negotiations, through which the Crown has or will acknowledge and apologise for various historical breaches of the Treaty of Waitangi and provide commercial and cultural redress. Based on information set out in the relevant publicly available

legislative and deed of settlement documents, the current status of these settlements is summarised briefly below.

1.5.1 Rangitāne o Manawatū

The Rangitāne o Manawatū Claims Settlement Act came into force in December 2016. This Act, and the Deed of Settlement and accompanying documents, describe the significant and abiding relationship between Rangitāne o Manawatū and the land that is identified in the relevant documents as their 'area of interest', which includes land over which the Project is proposed to be built.

This relationship is described at various stages throughout the legislation, including in the Summary of Historical Account and Acknowledgements (at sections 8 and 9), as well as through the background, Deeds of Recognition, and Statements of Association contained within the Deed of Settlement itself. These descriptions of the relationship between Rangitāne o Manawatū and its area of interest provide important context for the detailed design of the Project going forward.

In particular, it is important to note that the statements of association include the following potentially relevant areas:

- Manawatū Gorge Scenic Reserve (including Te Ahu a Turanga)
- Manawatū River and tributaries
- Pohangina River

1.5.2 Rangitāne Tū Mai Rā (Wairarapa Tamaki nui-ā-Rua)

The Rangitāne Tū Mai Rā (Wairarapa Tamaki nui-ā-Rua) Claims Settlement Act came into force in August 2017.

This Act, and the Deed of Settlement and accompanying documents, describe the significant and abiding relationship between Rangitāne Tū Mai Rā (Wairarapa Tamaki nui-ā-Rua) and the land that is identified in the relevant documents as their 'area of interest', which includes land over which the Project is proposed to be built.

This relationship is described at various stages throughout the legislation, including in the Summary of Historical Account and Acknowledgements (at sections 8 and 9), as well as through the background, Deeds of Recognition, and Statements of Association contained within the Deed of Settlement itself. These descriptions of the relationship between Rangitāne Tū Mai Rā (Wairarapa Tamaki nui-ā-Rua) and its area of interest provides important context for the detailed design of the Project going forward.

In particular, it is important to note that the statements of association include the following potentially relevant areas:

- Manawatū River and its tributaries within the Rangitāne Area of Interest.

1.5.3 Ngāti Kahungunu ki Wairarapa Tāmaki Nui-ā-Rua

The Crown and Ngāti Kahungunu ki Wairarapa Tāmaki Nui-ā-Rua initialled a Deed of Settlement on 22 March 2018. The Deed is now with the claimant group for ratification. The Deed of Settlement and accompanying documents describe the significant and abiding relationship between Ngāti Kahungunu ki Wairarapa Tāmaki Nui-ā-Rua and the land that is identified in the relevant documents as their 'area of interest', which includes land over which the Project is proposed to be built.

This relationship is described at various stages throughout the Deed of Settlement, including through the background Deeds of Recognition and Statements of Association contained within it. These descriptions of the relationship between Ngāti Kahungunu ki Wairarapa Tāmaki Nui-ā-Rua and its area of interest provide important context for the detailed design of the Project going forward.

1.6 Background Documents

The following documents and relevant legislation provide the background that supports the development of the CEDF:

New Zealand Urban Design Protocol (2005)²: Provides a conceptual platform of urban design values to create safe, well connected, accessible and inclusive places.

Resource Management Act (1991).

Land Transport Management Act (2003, reprint as October 2017): requires the NZ Transport Agency to "exhibit a sense of social and environmental responsibility" in meeting the statutory objective of operating a State highway network.

New Zealand Transport Agency Environmental Plan (2008): specifies how the NZ Transport Agency's staff and suppliers are expected to address key social and environmental effects. Relevant objectives include:

- Social responsibility: To enhance and contribute to community cohesion.
- Culture and heritage: To pro-actively limit the disturbance of significant cultural and heritage features along State highways. To show respect for historic buildings we own to maintain their integrity.
- Visual quality: To incorporate multi-purpose landscaping as an integral part of all new State highway construction projects. To improve the visual quality of the existing State highway network.
- Promote biodiversity on the State highway network.

1.6.1 NZ Transport Agency Environment and Urban Design Guidelines

New Zealand Transport Agency Environmental and Social Responsibility Standard (Z19) (2016)⁴: Requires consultants engaged on highway projects to consider social and environmental factors identified in legislation and the NZ Transport Agency's policies and guidelines.

Bridging the Gap: NZ Transport Agency Urban Design Guidelines (2013)⁵: The Guidelines set out 10 over-arching urban design principles, and guidance on specific elements of highways including bridges, retaining walls, earthworks, noise barriers, highway furniture, stormwater management devices, signalised junctions, roundabouts, tunnels, stopping places, landscape planting and public art.

- Context sensitive and place based approach
- Facilitate green infrastructure and landscape integration
- Understand the physical conditions
- The right plant in the right place
- Promote biodiversity and build in resilience
- Champion low impact design
- Deliver a quality user experience
- Low maintenance and whole of life value
- Safety in design
- Facilitate community engagement and a collaborative approach



Figure 3: Bridging the gap: NZ Transport Agency Urban Design Guidelines

New Zealand Transport Agency Landscape Guidelines (Final Draft) (2014)⁶: The Guidelines similarly set out 10 over-arching principles, and guidance on (1) design considerations (including safety and extent of landscaping), (2) landscape treatments (including topsoil, planting, and stormwater) and (3) maintenance requirements.

- Designing for the cultural and environmental context
- Integrating transport and land use
- Contributing to good urban form
- Integrating all modes of movement
- Supporting community cohesion
- Maintaining local connectivity
- Respecting cultural heritage values
- Design to reduce disruption to natural landscapes, vegetation and biodiversity
- Creating a positive road user experience
- Achieving a low maintenance design



Figure 4: NZ Transport Agency Landscape Guidelines

Bridge Manual, New Zealand Transport Agency (Third edition, 2016)⁵: Section 2.6 Urban Design refers to aesthetics / functions, urban design assessment for bridges and major retaining walls, appearance and an urban design bridge assessment matrix.

- 1 Manawatu Gorge Alternative Routes report, <https://www.nzta.govt.nz/assets/projects/sh3-manawatu-gorge-2017-closure/PSW-198-SH3-Manawatu-Gorge-Alternative-Route-report-2012-11.pdf>
- 2 www.mfe.govt.nz/sites/default/files/urban-design-protocol-colour.pdf
- 3 <https://www.nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines-environment-and-social-responsibility/national-standards-guidelines-and-specifications/esr-standard>
- 4 www.nzta.govt.nz/resources/bridging-the-gap/
- 5 www.nzta.govt.nz/resources/nzta-landscape-guidelines/
- 6 www.nzta.govt.nz/resources/bridge-manual/bridge-manual.html

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2. Corridor Design Principles



2.1 Tangata Whenua Principles



Figure 5: Te Ahu A Turanga

Hapū and Iwi have their own specific whakamarama and while there is general agreement with the Values and Principles expressed in this document, we should not be confined to these when expressing our tinorangatiratanga.

An objective of the Te Aranga Māori Design Values and Principles is to enhance the protection, reinstatement, development and articulation of mana whenua cultural landscapes and to enable all of us (mana whenua, mataawaka, tauiwi and manuhiri) to connect with and to deepen our collective appreciation and 'sense of place'. The following core Māori values have informed the development of the Te Aranga Māori design principles. The outcome-oriented principles are underpinned and guided by these values:

Rangatiratanga

Kaitiakitanga

Manaakitanga

Wairuatanga

Whanaungatanga

Mātauranga

	NGĀ HUA / outcomes	AHUATANGA / attributes (General)	HE TAUIRA / application (Project Specific)
MANA Rangatiratanga Authority	The status of iwi and hapū as mana whenua is recognised and respected	<ul style="list-style-type: none"> Provide a platform for working relationships where mana whenua values, world views, tikanga, cultural narratives and visual identity can be appropriately expressed in the design environment. High quality Treaty-based relationships are fundamental to the application of the other Te Aranga principles. 	<ul style="list-style-type: none"> Reference Treaty and partnership in CEDF. NZ Transport Agency to establish a partnership with tangata whenua. Involve tangata whenua in the design and delivery process. Ongoing input through the design and delivery phases.
Whakapapa Names and Naming	Māori names are celebrated	<ul style="list-style-type: none"> Recognise and celebrate the significance of mana whenua ancestral names. Recognise ancestral names as entry points for exploring and honouring tūpuna, historical narratives and customary practices associated with development sites and their ability to enhance sense of place connections. 	<ul style="list-style-type: none"> Reviving, recognising, recording and celebrating traditional and ancestral names through tangata whenua input to CEDF. The process of identifying appropriate names for the highway and features to be a partnership with tangata whenua.
Taiao The Natural Environment	The natural environment is protected, restored and/or enhanced	<ul style="list-style-type: none"> Sustain and enhance the natural environment. Local flora and fauna which are familiar and significant to mana whenua are key natural landscape elements. Natural environments are protected, restored or enhanced to levels where sustainable. 	<ul style="list-style-type: none"> Minimise the Project impact on the forests indigenous fauna, flora and streams. Where practicable bridge streams and minimise culvert lengths. Landscape and ecological mitigation shall enhance existing indigenous fauna and habitats, living forces and connect fragmented forest remnants. Where practicable reuse / recycle waste materials.
Mauri Tu Environmental Health	Environmental health is protected, maintained and/or enhanced	<ul style="list-style-type: none"> The wider development area and all elements and developments within the site are considered on the basis of protecting, maintaining or enhancing mauri. The quality of wai, whenua, ngāhere and air are actively monitored. Water, energy and material resources are conserved. Community wellbeing is enhanced 	<ul style="list-style-type: none"> Ensuring emphasis on maintaining and enhancing ecological habitats, including wetlands and the environmental quality of water and soil to enhance mauri. Careful stormwater management using vegetated swales and constructed wetlands to protect streams from silt during construction and to treat operational stormwater.
Mahi Toi Creative Expression	Iwi / hapū narratives are captured and expressed creatively and appropriately	<ul style="list-style-type: none"> Ancestral names, local tohu and iwi narratives are creatively re-inscribed into the design environment including: landscape; architecture and public art. Iwi / hapū mandated design professionals and artists are engaged where, practicable, in the design process. 	<ul style="list-style-type: none"> Include tangata whenua narratives in the design to enhance a sense of place, and ensure iwi appointed Māori designers are appropriately engaged in the process.
Tohu The Wider Cultural Landscape	Mana whenua significant sites and cultural landmarks are acknowledged	<ul style="list-style-type: none"> Acknowledge a Māori world view of the wider significance of tohu / landmarks and their ability to inform the design of specific development sites. Support a process whereby significant sites can be identified, managed, protected and enhanced. Celebrate local and wider unique cultural heritage and community characteristics that reinforce sense of place and identity. 	<ul style="list-style-type: none"> Tangata whenua values and sites of significance to be identified and incorporated in the CEDF to inform the design. Tangata whenua values and narratives to inform the design and assist with place making.
Ahi Kā The Living Presence	Iwi / hapū have a living and enduring presence and are secure and valued within their rohe	<ul style="list-style-type: none"> Mana whenua live, work and play within their own rohe. Acknowledge the post Treaty of Waitangi settlement environment where iwi presences can include customary, cultural and commercial dimensions. Living iwi/hapū presences and associated kaitiaki roles are resumed. 	<ul style="list-style-type: none"> Enable opportunities for tangata whenua to have meaningful roles and involvement in the Project such as fencing, species selection, seed collection, plant vegetation, propagation, environmental maintenance and all management plans associated with the Project. Laying of mauri stones associated with construction of road and bridges.

Further design items should be reviewed against the Te Aranga Principles. Refer to Appendix B: Te Aranga Design review Template

2.2 Project Specific Principles

The route passes through a diverse landscape with high ecological and tangata whenua values. There is an opportunity to create unique experiences that visitors and the local community can appreciate.

The Project involves the construction of a significant section of new highway and therefore a corridor approach is required that encapsulates system thinking. Refer to NZ Transport Agency Urban Design Guidelines, 'Bridging the Gap' page 18 and 19 for corridorwide design objectives and strategies.

The following corridorwide design principles have been developed to guide the design and development of the Project. The environmental and tangata whenua principles are to be used as a primary means of checking that future design development is addressing the key cultural and environmental issues of the Project.

2.2.1 Connectivity: Reconnecting People And Places

A primary purpose of the Project is to reconnect people and communities, as well as connecting people to the environment, heritage and cultural values of the area.

- **C1:** Reconnect local communities that were disconnected when the Manawatū Gorge was closed.
- **C2:** Connect people to the landscape.
- **C3:** Connect people to existing trails, greenways and recreational facilities.
- **C4:** Landscape and ecological mitigation should retain and connect patches of indigenous vegetation and stream vegetation to enhance habitat and ecological corridors.

2.2.2 Human Landmarks: Respecting The Cultural Landscape

Recognise, protect and (where appropriate) highlight human features in the vicinity of the highway as they are the unique elements that reflect the character of the area.

- **H1:** Sites of significance to tangata whenua.
- **H2:** The historic Manawatū Gorge.
- **H3:** Historic significance of Parahaki Island.
- **H4:** Other landmarks of interest and rural character such as Manawatū River, rural landscapes, Manawatū Gorge Scenic Reserve and remnant indigenous forests.
- **H5:** Celebrate tangata whenua values through Te Aranga Principles.
- **H6:** Māori values shall guide the design and construction process.

- **H7:** Enable cultural interpretation through early engagement with tangata whenua and stakeholders to develop a collaborative design that responds to cultural values, aspirations and contains stories of place.
- **H8:** Facilitate community engagement across the corridor and in association with developing township gateways.

2.2.3 Landscape and Natural Features: Integrating Infrastructure

Natural features enhance the road user experience as well as protecting the special qualities of the area. Where appropriate and practicable, recognise, protect and highlight natural features in the vicinity of the highway and reflect to adjoining landscape elements.

- **N1:** Minimise bridge piers in water bodies.
- **N2:** Minimise construction footprints where they impact on indigenous forest and streams.
- **N3:** Avoid change to drainage patterns where they affect indigenous ecosystems.
- **N4:** Restore planted buffers where practicable to address edge effects of fragmented or distributed bush areas.
- **N5:** Landscape and ecological mitigation should be a cohesive and integrated package of activities and outcomes to maximise the environmental benefits, including hydrology, habitat and ecological connectivity and rural character.
- **N6:** Architectural features of the Project such as bridges, large cut and fill batters and roundabouts should be designed to enhance the experience of the motorist and not compete with or detract from the landscape.
- **N7:** Provide a consistent suite of highway furniture.
- **N8:** Integrate spoil disposal fill sites and cut and fill batter slopes to fit in with surrounding landforms.
- **N9:** Use monoslopes in preference to benched cuts.
- **N10:** Shotcrete is a least preferred architectural finish.

2.2.4 Environmental Health: Design With Nature

- **E1:** Maintain natural processes, landform, water courses, vegetative cover and land-uses.
- **E2:** Stormwater to be treated.
- **E3:** Strengthen natural vegetation patterns when replanting areas.
- **E4:** Mitigation measures should support the development of resilient ecosystems.
- **E5:** Mitigation planting should include weed and pest plant and animal management.

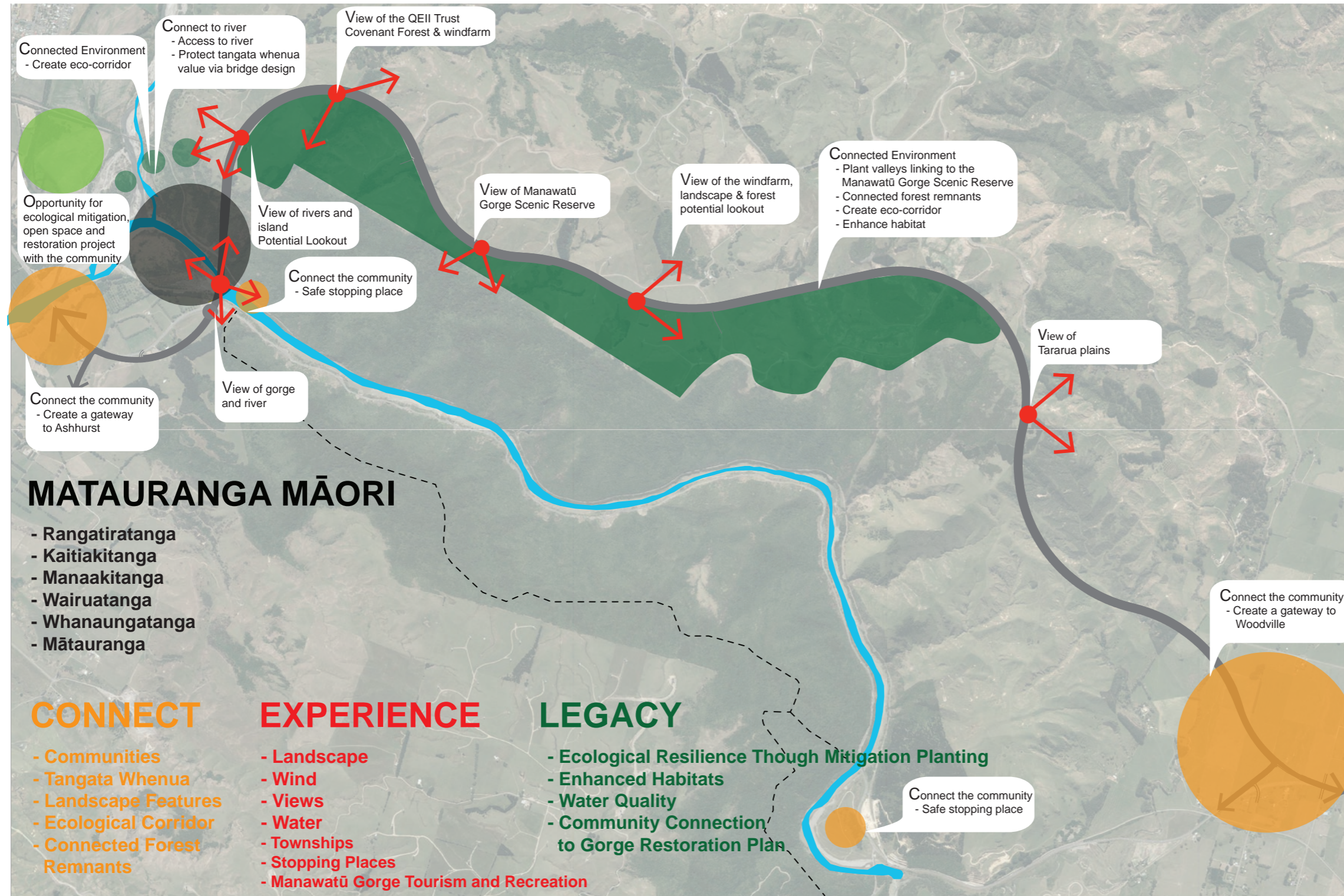
2.2.5 Amenity: Memorable Experience

The design of the highway should integrate with the landscape to enhance the road user experience and reinforce landscape character and sense of place.

- **A1:** Enable people to read the landscape by maintaining views of landscape features, exposing cuts into geology, and integrating batters with the adjacent landform.
- **A2:** Integrate tangata whenua narratives into the design of structures to reinforce the sense of place.
- **A3:** Walking, cycling and access for recreation should not be precluded.
- **A4:** Consider providing safe stopping places.
- **A5:** Traffic noise attenuation should be designed to mitigate effects on rural character.
- **A6:** Noise attenuation should have the minimum visual impacts on the landscape.

2.3 Project Vision

The following Project Vision Plan is a result of a series of visioning workshops involving key stakeholders, mana whenua and technical experts. The key values identified are summarised under the headings: Matauranga Māori, Connect, Experience and Legacy. Specific opportunities are noted on the plan.



2.4 Project Constraints and Opportunities

The following Constraints and Opportunities Plan is a result of technical expert assessment of the indicative alignment and a series of mitigation workshops. The plan identifies landscape and environmental opportunities and constraints across the Project and outside the Project area. Some of these opportunities are beyond the scope of the Project and will involve other partners. Some opportunities may be limited by construction practicability and extended issues such as land ownership. Five landscape character areas have been identified in the Assessment of Landscape Natural Character and Visual Effects and are described in Appendix A.

2.4.1 Landscape Character Areas Key Issues:

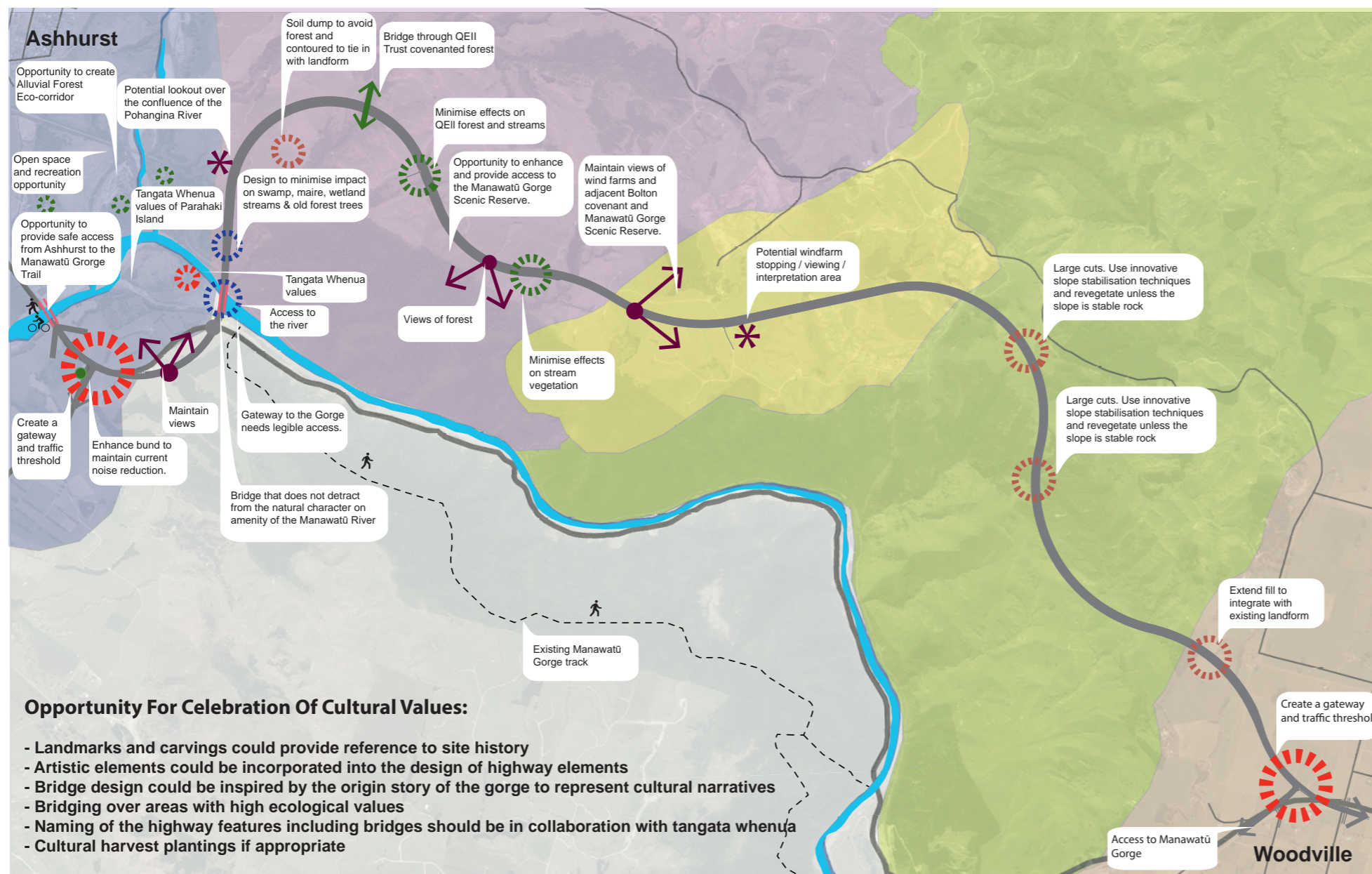
- Manawatū River and Pohangina River Terraces**
- Design to minimise effects on threatened ecosystem.
 - Opportunity to enhance and connect alluvial forest remnants.
 - Provision of public access to be mindful of cultural and ecological sensitivities.
 - Maintain the natural character and landscape values of the Manawatū Gorge.
 - Cultural values of the Manawatū River and Parahaki Island.
 - Ecological values of the rivers and forest.
 - Bridge over Manawatū River to be a feature and yet not detract from the natural character and amenity of the Manawatū River.
 - Opportunity to improve access to Manawatū River beaches.

- Western Hill Country**
- Design to minimise effects on streams, wetlands, and QEII covenanted forests.
 - Opportunity to gain views down the Manawatū and Pohangina River valleys.
 - Earthworks design to integrate cuts and fills into the landscape.

- Ruahine Ridge Crest**
- Design to minimise effects on streams and indigenous vegetation.
 - Earthworks design to integrate cuts and fills into the landscape.
 - Opportunity for views of windfarm, rural landscape and indigenous forest.
 - Opportunity for stopping/ viewing/ experiencing the wind and providing access to the Manawatū Gorge Scenic Reserve.

- Eastern Hill Country**
- Design to minimise effects on streams and indigenous vegetation.
 - Earthworks design to integrate cuts and fills into the landscape.
 - Opportunity to gain views across the Tararua plains.
 - Gateway and access to Woodville and Manawatū Gorge.

- Manawatū River Valley**
- Gateway and access to Manawatū Gorge Woodville and Tararua District.
 - Access to the Manawatū River.
 - Opportunity to improve access to Manawatū River beaches.



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3. Project Elements and Features: Emerging Design Outcomes



This part of the framework expands the principles and vision that will ensure the next phase (detailed design) of the Project achieves the outcomes sought. The outcomes listed as bullet points are based on the landscape and urban design guidelines in the NZ Transport Agency Bridging the Gap and Landscape Guidelines.

3.1 Structures

- Bridge design should utilise the NZ Transport Agency Bridging the Gap Urban Design Bridge Matrix on page 144 of the document to ensure design issues are considered.
- Architectural form of the bridge to minimise natural character and landscape effects.
- Reflect cultural narrative in the design of the bridge over the Manawatū Gorge.
- Safety in design.
- Develop a corridor-wide approach with similar structures used throughout.
- Compliance with NZ Transport Agency Bridge manual.
- Ecological connections to be achieved through use of structures and sensitive design during construction / implementation.

3.1.1 Bridge (Manawatū River Crossing)

The Project will consist of one major bridge across Manawatū River, a bridge over the QEII covenanted area and at least one that crosses gullies and an unnamed stream within the Te Āpiti windfarm. It is likely that there will be more bridges. Refer to the Bridge and Structure Philosophy Statement, Appendix 4 of the AEE. The bridge over Manawatū River has the potential to be a significant structure at the mouth of the gorge. Given its sensitive location on the Manawatū Gorge, any design for this bridge should consider the surrounding environment, cultural significance, effects of piers in the river bed and current land use. The bridges should become part of the landscape rather than dominate it.

- Bridges shall achieve a harmonious consistency with a logical and well defined overall architectural composition. They shall integrate efficiency, economy, and elegance of both structural and non-structural elements.
- The design of the Manawatū bridge should seek to respect the distinctive landscape setting at the mouth of the Gorge, and the fact that it crosses an ONL. This would involve attention to the bridge alignment and overall form, its detailed design and materials used in its construction.
- There is an opportunity for the bridge to be an 'elegant' structure that reflects its location at the confluence of two major rivers and avoids dominating the surrounding tall native vegetation on the north side.
- Bridge architecture shall be designed so the form, slope and proportions are compatible with the context of the site. The design quality and themes sought should be of a form, scale, and finish that can be appreciated by people walking, cycling and driving on the local roads and spaces leading up to and around the bridges and corridor, as much as the highway user experience.

URBAN DESIGN BRIDGE ASSESSMENT MATRIX				
COMMENT IN EACH COLUMN FOR EACH BRIDGE LOCATION (THERE MAY BE MORE THAN 2 LOCATIONS ON ANY SECTION OF ROADING PROJECT - ADD FURTHER COLUMNS AS REQUIRED) AS TO THE LEVEL OF IMPORTANCE AND A BRIEF EXPLANATORY COMMENT				
Assessment matter	Explanation as to importance for urban design attention	Measure types that may be used to gain an understanding of importance	Location A	Location B
Underlying natural environment	Does the context have underlying characteristics that will be affected by a bridge or suggest a certain form of bridge response? For example consider topography, natural features such as vegetation, ecology or landscape	Planning documents (district or regional plans) Landscape assessments Urban design contextual analysis Preliminary assessment undertaken as part of project		
Circulation	Is there an existing or likely future (eg from planned urban development) circulation pattern or network that will be affected by bridge or suggest a certain form of bridge response? For example consider what level of use occurs (or may be planned to occur) in the bridge location? Demographic profile also of interest as older people/children more vulnerable to level changes/safety and less likely to have access to a vehicle.	LAMS (Local Area Movement Surveys) Counts including school travel plans Network monitoring Demographic profile for area Urban growth plans		
Activities	Are the existing or likely future (eg from planned development) activities in the vicinity affected by bridge or suggest a certain form of bridge response? For example consider access to existing properties, accessibility to activities of local importance such as schools.	District Plan Urban growth plans, transport strategies Urban design contextual analysis Preliminary assessment undertaken as part of project		
Built form	Is the existing or likely future (eg from planned development) urban form affected by bridge or suggest a certain form of bridge response? For example consider whether the bridge at a key nodal point in the network (eg at an interchange, town centre, key turn off)? What is the fit with the scale of the built form in the area?	Network analysis (transportation plans) Urban growth plans Urban design contextual analysis		
Amenity	Is the location amenity affected by bridge or suggest a certain form of bridge response? For example consider how many people will view the bridge- ie live near the location or pass by frequently? What is the visibility of the bridge from the point of view of the highway user? What is affect on shading or tranquillity of the location?	Inter visibility assessment Landscape assessments Urban design contextual analysis Preliminary assessment undertaken as part of project		

Figure 6: Urban Design Bridge Assessment Matrix used to identify urban design factors which must inform the bridge design ('Bridging the Gap', P114)

- In the vicinity of the Manawatū bridge explore opportunities to provide viewing platform(s) which provides unobstructed views both upstream and downstream of the river. The viewing platform(s) should be physically separated from the carriageway for pedestrian safety reasons. The viewing platform(s) should also have direct access for pedestrians from the Manawatū Gorge Scenic Reserve carpark.
- The Manawatū bridge design should appropriately express the archaeological significance, cultural narrative and shared values of the Manawatū River and Parahaki Island.
- Incorporate required safety structures (such as safety barriers and guardrails), lighting and signage into the whole design of the bridges, rather than being additional clip-on structures.
- Design bridge edge barrier top rails to allow views of the Manawatū River, whilst complying with safety standards.
- Avoid hiding places to provide Crime Prevention Through Environmental Design (CPTED) outcomes, including in the Manawatū Gorge Scenic Reserve carpark.

- The carpark should aim to create a quality public space for visitors at the entrance to the Manawatū Gorge Scenic Reserve walking tracks, maintaining the natural character of the area.
- The carpark should be re-established after construction in a way that provides for a similar landscape character to its pre-construction state and retain at least the same number of carparks, same size, condition and access provision as existed prior to the works beginning. The replacement or reinstatement of works must include all weather surfacing, boundary fencing, landscaping, cultural interpretation elements and information/signage.
- A temporary carpark and safe walking access to the Manawatū Gorge walking track should be implemented to provide safe and continuous public access during the construction phase of the Project. The temporary facilities must be large enough to accommodate the current and expected number of visitors to the gorge track during the construction period. The temporary carpark must include all weather surfacing, fencing, signage and safety and security measures.
- Attention to the bridge alignment, overall form and materials is needed to mitigate the effects on landscape, cultural values, natural character and ecology.
- Incorporate cultural narratives and shared values of Te Āpiti including the Manawatū River and Parahaki Island.

3.1.2 Highway Furniture

- Select all highway furniture elements to form a coherent, corridorwide palette by limiting the number of different materials and finishes.
- Elements of highway furniture should fit in with the context of where they are located.
- Provide suitable transition between different types of elements, for example steel W-section or wire barrier and solid barrier on approaches to bridges.
- All elements of highway furniture should be simple in design and require minimum maintenance.



Figure 7: North of Manawatū River Crossing



Figure 8: Otanerua Eco Viaduct under construction. Northern Toll Road

- Colour should 'blend in' with the background.
- Consider vandalism and tagging when selecting and locating furniture.
- The location and design of gantries shall avoid obstructing notable views where practicable.

Barriers

- Comply with relevant engineering standards and designs in accordance with the 'Safe System Approach'.
- Maximise openness on the outside edge of the highway. Concrete barriers are least favoured on the outside edge except in special circumstances, such as bridges or at the top of steep banks.
- To maintain views of the landscape and rural character wire rope barriers are preferred.
- Medians and edge barriers are to be designed in conjunction with each other.

3.2 Ecologically Sensitive Areas and Natural Character of Streams

Manawatū River Crossing and North of the Crossing

- Replace/restore indigenous vegetation and habitats disrupted by the construction process.
- Attention to pier placement and treatment around pier and abutments and site rehabilitation.
- Minimise the ecological and natural character impact in this area by bridging over sensitive habitats and through realignment refinement.

- Minimise impact on raupo seepage wetland and swamp maire.
- Minimise impact on alluvial old growth forest.
- Minimise impact on high value streams.
- Replace/ restore indigenous vegetation and habitats disrupted by the construction process.

Western Slope and Western QEII Covenants

- Design highway alignment to minimise impact on indigenous vegetations and streams.
- Bridge over gullies to reduce impacts on streams and maintain ecological habitat connectivity.
- Keep bridges as high as possible to minimise impact on the indigenous vegetation.
- Minimise requirements to temporarily or permanently divert streams.
- Replace/restore indigenous vegetation and habitats.
- Remove grazing stock from the area around the open space covenant, within the designation and Revegetate and protect indigenous forest cover in the upper catchments, above the indicative alignment, that are currently in pasture to improve the ecological values and water quality of the stream headwaters. Explore opportunities to extend outside of the designation with agreement of landowners and Meridian.
- West Stream – from QEII West Crossing to Raupō Wetland: retire whole gully from grazing and legally protect the area.
- Mitigate effects on natural character of streams by protection and revegetation of the upper catchments, currently in pasture, with agreement of landowners and Meridian.

Te Āpiti Windfarm and Ridge, and Eastern QEII Covenant

- Revegetate with indigenous plants and protect the upper stream catchments in the QEII covenant. Explore opportunities with landowners to revegetate gullies that are outside of the designation and currently in pasture to improve the ecological values and water quality of the stream headwaters.
- In the QEII covenant avoid the most sensitive ecological areas and streams, and reduce the footprint in the QEII covenant area. To enable this the road should take a northern-most alignment.
- Refine highway and access road alignments to minimise impact on the landscape, visual and natural character effects, by reducing the scale of modification and earthworks footprint, taking into consideration the need for site and construction efficiency.
- Use retaining walls or reinforced slopes to steepen batters so the length of culverts can be reduced.
- Mitigation should include protection and revegetation of the upper catchment in the QEII covenant which are located above the alignment with agreement from landowners and Meridian.

Eastern Rise

- Refine highway alignment to minimise impact on stream network resilience and riparian vegetation.
- Use bridges instead of culverts where practicable, to reduce the construction and permanent footprints over streams.
- Minimise the length of culverts where possible.
- Where possible plant new buffers of indigenous vegetation along the edges of vegetation fragmented by the corridor.
- Plant for slope stability and undertake landscape amenity planting in strategic locations to assist in integrating the Project into the landscape.
- Planting indigenous vegetation along the areas of secondary broad leaf vegetation fragmented by the corridor.

3.3 Earthworks / Spoil Disposal

The Project involves extensive earthworks through a variety of rural landscapes. The form and extent of cut and fill batters and spoil disposal areas play crucial roles in mitigating the adverse landscape visual and landowner effects. Slope grades need to be considered to ensure batters are integrated with adjacent landforms, landuse and ownership. Gradients also need to be considered in context of the geotechnical issues, appropriate landscape treatment, erosion and sediment control and stormwater treatments.

Slope systems need to be considered with geotechnical solutions to ensure topsoil medium is stable and suitable for plant growth.

- Refer to the NZ Transport Agency Landscape Guidelines Section 4.13 Slope Management.
- Where the ground is stable, the cut face should be steep and left as rock, exposing any geological features.
- Feather the top edge of cut batters to visually soften the edge profile.
- Design batter slopes to maintain landscape character, integrate with adjacent landform and avoid benched cuts.
- Shotcrete is the least preferred method of slope stabilisation. All rock faces should appear as natural rock.
- Stabilise and revegetate slopes using hydromulching or other innovative solutions.
- Avoid shifting the alignment, steepening slopes or using retaining walls and fill batters encroaching into water bodies or indigenous vegetation.
- Replant or hydroseed all fill batters as appropriate, integrating with the adjacent landcover.
- Consult with mana whenua with respect to earth transported across catchments.

- Spoil disposal sites are to be designed to minimise impacts on water bodies or indigenous vegetation.
- Contour the soil to merge with natural landforms.
- Re-use forest material that has been removed, ensuring tangata whenua requirements are met.

3.3.1 Cut and Fill Batters:

Cut Batters

- **In the Bridge to Bridge sector the alignment should avoid the need for large cuts into the slopes to the east.**
- Where the ground is stable and competent 'formation' rock, the cut face should be steep and left as exposed rock. Geological features should be visible and opportunities to provide pedestrian access to special features should be considered.
- Rock fall protection (e.g. wire mesh and rock bolts) should be designed to be less visually obtrusive.
- Where the rock is unstable the batter slope should be graded, topsoiled and revegetated by scarifying and planting.
- Vertical and horizontal highway alignments that seek to actively minimise earthworks, and result in cut / fill balances by logical mass haul sector, are encouraged.
- Plant appropriate native species at the top of the cut slope to colonise the cut slopes.

Fill Batters

- **Where the Eastern Ranges meet the Plains, integrate the elevated corridor with the flat plains and eastern slope through landform, hydroseeding and strategic planting.**
- Utilise wide flatter batters to integrate fill embankment with the surrounding landscape, except where it would involve extending stream culverts.
- Avoid encroachment into rivers, floodplains, other water bodies and indigenous vegetation by making batter slopes as steep as practicable.
- Replant all fill batters with indigenous vegetation that coincide with stream courses (i.e. at culverts).
- Replant or hydroseed other fill batters to match adjacent land use where appropriate.

3.3.2 Top Soil

- Topsoil is a key component of achieving successful landscape and ecological outcomes. The protection of soil stormwater and fertility needs to be considered prior to earthworks commencing. Refer to NZ Transport Agency Landscape Guidelines, Section 4, Project Specific Topsoil , 4.12 Topsoil Outcomes.
- Consult tangata whenua with respect to earth transported away from an area (e.g. moving earth between catchments).

- Maximise disposal opportunities of each spoil disposal site to limit the overall footprint and the number of disposal sites.
- Select spoil disposal sites to minimise disruption of natural watercourses and areas of indigenous vegetation. Place soil preferably in broad spurs and natural terraces.
- Contour the soil so that it merges with or replicates natural landforms.
- Utilise spoil disposal opportunities to flatten fill batters so the elevated fill areas blend into the adjacent landscape. Use fill to reduce the height and impact of structures and as earth bunds for noise attenuation (if required).
- Revegetation of spoil disposal sites will be defined by the context of the site including adjacent land cover. In grazed landscapes grassing will be appropriate, whereas in forest areas or adjacent to remnant indigenous vegetation, planting would be appropriate.

Topsoil Stripping

- A cross-disciplinary approach is required to ensure topsoil is maintained as a healthy viable growing medium.
- Ensure soil testing is undertaken on any imported topsoil and topsoil harvested from within the designation. Confirm topsoil is fit for landscape purposes.
- Ensure the topsoil horizon is separated from subsoil.
- Remove entire topsoil depth at one time, if practicable.
- If woody vegetation is present (excluding weed species), this can be mulched and included in the topsoil.

Stockpile Management

Generally, for major highway projects, the majority of topsoil is not able to be stripped and placed immediately in its final location. Where a topsoil stockpile is required, the following practices will help maintain the quality of the topsoil for later use across landscape areas:

- Prepare stockpile areas by ensuring surface water is intercepted and diverted around the stockpile. Construct sediment control features to capture and treat runoff from stockpiles if required. Ensure the base is relatively even and sloped or well drained to minimise anaerobic conditions developing at the base of the stockpile. Under-drainage may be beneficial.
- Ensure soil condition testing is undertaken to confirm topsoil is fit for landscape purposes.
- Stabilise the stockpile (such as with mulch or hydroseeding) to reduce erosion, sediment generation and weed ingress.
- Where anaerobic soils have developed at the base of stockpiles, there will typically be elevated iron and reduced pH (as low as 4 to 5). These soils will require amelioration before placement in landscape areas.

Topsoil Placement

- Place topsoil with care to avoid compaction.
- Soil depth, refer to NZ Transport Agency P39 Standard Specification for Highway Landscape Treatment. Minimum depth, 100mm for lawn areas, 300mm for planted areas, 1,000mm for tree pits.
- Light compaction of the surface is required.
- Consider inoculating soil with Mycorrhiza fungi to assist with plant growth.

Degraded Soil Enhancement

- If topsoil structure is degraded, investigate utilising additives to ensure it facilitates good plant growth and establishment, with input from a soil scientist.

Construction Yard

- Where possible, select sites for construction yards in low sensitivity areas e.g. within plantation forest, within construction zones and away from residential dwellings.
- Remove all construction areas and rehabilitate the ground so that it merges with the adjacent land. Construction areas left over adjacent to bridges and roads usually create a neglected appearance. Rehabilitation works may entail removing any hardstand, ripping, re-topsoiling and replanting.

3.4 Waterbodies

The preservation of natural character of wetlands, rivers, streams and their margins is a matter of national importance. (RMA section 6a). Physical disturbance or removal of vegetation in and around the waterbodies have the potential to reduce their level of natural character. The detailed design process should seek to minimise the construction footprint in waterbodies and their margins and include mitigation measures to restore natural character of disturbed areas.

Stormwater management within the Project shall be in general accordance with the following guidelines (including subsequent amendments): The NZ Transport Agency Stormwater Treatment for Road Infrastructure (published May 2010); and the NZ Transport Agency Landscape Guidelines (September 2014). The Project is interconnected with hydrology, ecological values, landscape and tangata whenua values.

- The most effective form of mitigation is to avoid and reduce the scale of the impact on waterbodies and their margins through design of the alignment.
- Where practicable seek to minimise the Project footprint in waterbodies through use of structures, such as bridges and retaining walls, in preference to earth embankments and culverts.
- Minimise disturbance of all wetlands.
- Revegetate waterbody margins and stream headwaters to restore natural character.
- Minimise need to divert streams.

- Minimise effects on the natural character of rivers and streams.
- Enhance the natural character of the stream catchments within the designation through measures such as stock-proof fencing and permanent retirement from grazing, restoration planting, and permanent legal protection of these catchments. Explore opportunities to extend outside of the designation with agreement of landowners and Meridian.
- Integrate riparian planting into the overall landscape.
- Re-vegetate stream margins either side of the highway to visually accentuate the stream as a landscape feature.
- Minimise culvert lengths and provide fish passage through culverts.
- Configure stormwater wetlands to a natural appearance.
- Incorporate stormwater treatment requirements into wetland mitigation and habitat creation.
- Use low impact stormwater treatment technology such as vegetated swale and wetlands.
- Retirement from grazing, of land adjacent to waterbodies, will encourage natural revegetation.

Overall Design Principles for Stormwater Management:

- Refer to The NZ Transport Agency Urban Design Guidelines Bridging the Gap, section 4.17 Stormwater Management Devices and Landscape Guidelines Section 4.17 Stormwater Management.
- Rationalise the number of stormwater treatment ponds. Use vegetated and rock lined swales to assist with treatment, conveyance and collection of stormwater.
- Locate ponds beside streams and design them to follow landscape contour and pattern so they are integrated into the landscape.

3.4.1 Culverts

The following outcomes apply where culverts are to be used:

- Minimise culvert length to reduce the loss of habitat and effects on natural character.
- Where appropriate construct culverts to incorporate fish passage across the highway in accordance with Horizons Regional Council guidance and NZ Transport Agency Fish passage guidance for state highways, August 2013.
- Extend riparian planting onto the fill embankments at culvert crossings. Use low species near the top of fill embankments where views are to be maintained from the highway, grading to taller species toward the base of the embankment.
- Replant stream margins upstream and downstream of culverts for biophysical natural character and visual reasons (see above).

3.4.2 Stormwater Treatment Wetlands

Outcomes sought for stormwater treatment features are:

- Avoid locating stormwater treatment devices in indigenous forest and streams.
- Wetlands are preferred to ponds.
- Natural appearance, conforming to landform setting.
- Optimisation of the natural appearance with careful definition of the edge profile to include riparian and margin vegetation.
- Shallow and vegetated wetland edges generally appear more natural, and can obviate the need for fences to prevent accidental access. Wetlands are also usually safer and provide better treatment than deep ponds.
- Design to minimise maintenance requirements and avoid the need for fencing.

3.5 Revegetation

Main Project specific revegetation outcomes:

- Topsoil to be carefully harvested, stockpiled and reinstated to ensure the maintenance of the soil and its function as a growing medium
- Ecosourced indigenous species are to be used for mitigation and revegetation
- Planting to respond to local conditions, hydrology, climate and localised vegetation matrixes
- Revegetation to build on and connect to existing forest remnants and expand existing habitats
- Reuse of plant material, logs and seed source forest duff
- Planting to reflect adjoining rural character
- Restore natural character of waterbodies

3.6 Planting Design

- **Planting in strategic locations along the designation corridor to achieve landscape and ecological outcomes appropriate to the landscape setting and context, including allowing for specific requirements of Te Āpiti windfarm.**
- **Seek to provide visual opportunities the Project will offer, such as expansive views whether travelling east or west, views to the Manawatū Gorge Scenic Reserve and to the turbines of the Te Āpiti and Tararua Wind Farms.**
- **Planting to mitigate visual impacts for private residences within and adjacent to the NOR.**

3.7 Gateways and Local Connections

There is a roundabout proposed at the intersection of SH57 and the old SH3. The intersection / roundabout will act as a threshold for speed reduction. This will require careful consideration of landscape treatment to clearly identify and signal the exit of SH57, and the beginning of the new constructed road, and reduce conflict points. There is also a roundabout proposed at the connection with the Woodville community at Troup and Woodland Roads.

- **Include road design principles to encourage vehicles to make gradual speed changes when approaching and departing from the two roundabouts.**
- Gateways and thresholds should be designed as part of the roundabout to assist with speed transitions and reinforce the sense of place and landscape character of each area.
- Gateways to the Gorge need to be legible to visitors. They should add to the wider Manawatū Gorge experience.
- **Bold landscape treatments should be implemented as part of the design for the roundabouts.**
- The design and location of roundabouts should minimise adverse effects on residential properties.

Generally peri-urban gateways and speed thresholds align with a change in speed environment. Landscaping can assist the legibility of this change through visual cues e.g. planting and a narrowing of carriageway. Landscape treatments that provide environmental cues to alert drivers to the change in speed environment and setting are encouraged by the NZ Transport Agency. Landscape design opportunities can include:

- Utilising scale (e.g. canopy trees, boulevards and avenues)
- Utilising density of planting, seasonality and composition to focus driver attentions
- Building on natural boundaries and views (topography, waterways, natural vegetation)
- Changing the road width and berms (consider the treatment of the road berm as it transitions from an open rural setting to a more urban setting)
- Landmark features / artworks and opportunities to express cultural narratives.
- Maintain local connections for the operation of farms, access for the Te Āpiti wind farm and DOC access to the northern Manawatū Gorge Scenic Reserve.

3.8 Stopping Places

There are several stopping places located within the wider context of this Project. They include local towns main rest areas and potential lookouts at tourism destinations such as the Manawatū Gorge, Te Āpiti wind farm and northern Manawatū Gorge Scenic Reserve.

Some safe stopping facilities could be created as part of this Project and where proposed will be created in partnership with stakeholders

Refer to NZ Transport Agency Urban Design Guidelines Bridging The Gap Part 3, Section 4, 4.21 Stopping Places and NZ Transport Agency Landscape Guidelines Section 4, Part 2, 4.10 Further Consideration.

Key Considerations:

- Safe easy access, including signage, sight lines and minimising conflict points.
- CPTED issues
- Retention and enhancement of views
- The opportunity for interpretation of the cultural and network heritage
- Integration of street furniture
- Integration of parking and access with the context of the immediate environment
- Ensure the Manawatu Gorge Scenic Reserve carpark and entrance to the Gorge is not adversely impacted by the Project.

3.9 Walking and Cycling

The Pahiatua Track, 12 km south of the Gorge, is an identified national cycling route and will function as the main connection between west and east Manawatū Gorge for cyclists. It is also expected that Saddle Road will be a suitable route for cyclists once the new road is constructed. The new road is close to the Manawatū Walking Track which will remain as the main walking route between both ends of the Gorge.

A masterplan is being developed by the Te Āpiti Governance Group that:

- Seeks to enhance biodiversity
- Provides for tourism and ecological education
- Looks to expand the existing network of walking and cycling tracks, including a loop walk
- Is cognisant of the Te Ahu a Turanga Project

The Te Āpiti Masterplan will inform the design development of the Project, including the location of rest areas, ecological mitigation and long-term maintenance tracks.

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4. Project Sectors



4.1 Project Sectors and Focus Areas

The next phase of the Project will involve design development guided by the principles outlined in the CEDF. Design outcomes for each of the following focus areas will be addressed in future versions of the CEDF. Landscape Character Areas have been identified in the Landscape and Visual Assessment as a means of illustrating areas with distinctive character based on landform, elevation, landcover and landscape. They are similar to the sectors defined by the Project.

Further development of the CEDF should illustrate design solutions based on the sectors but consider the wide landscape character areas and full environment issues in the AEE. Design development should be reviewed against the NZ Transport Agency Urban Design Guidelines Bridging the Gap Appendix 4: Generic Urban Design Specification and Appendix 6: Urban Design and Landscaping Review Template.

Sector 1: Bridge to Bridge

- S1a: Gateway and speed threshold
- S1b: Gateway / access to Manawatū Gorge recreation area

Sector 2: Manawatū River Crossing

- S2a: Manawatū River
- S2b: River terraces sensitive ecosystem

Sector 3: Western Rise

- S3a: River terraces sensitive ecosystem
- S3b: QEII covenanted gully

Sector 4: Te Āpiti Windfarm and Ridge

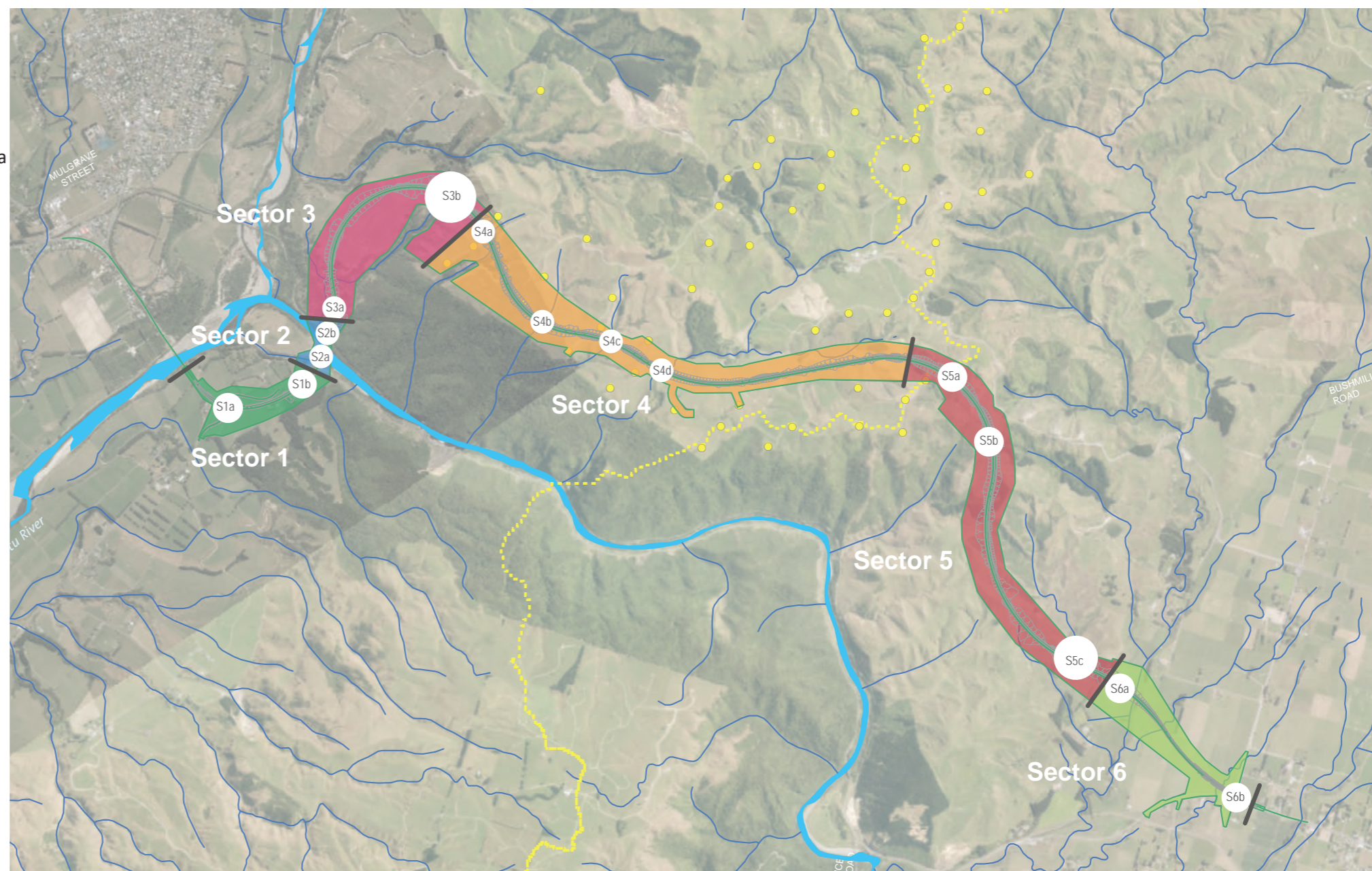
- S4a: QEII covenanted gully
- S4b: Stream and regenerating indigenous forest crossing
- S4c: Stream and regenerating indigenous forest crossing
- S4d: Stream and regenerating indigenous forest crossing

Sector 5: Eastern Rise

- S5a: Stream and regenerating forest
- S5b: Stream and regenerating forest
- S5c: Stream and regenerating forest

Sector 6: Tararua Plains

- S6a: Landform integration
- S6b: Gateway and speed threshold



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Appendix A: Cultural & Environmental Context



A.1 Heritage

A.1.1 Māori Settlement

Manawatū Gorge (Te Āpiti, 'the passageway' in Māori) is situated between two mountain ranges of the Ruahine and Tararua, Te Hononga Maunga joining of the mountains, and was situated in the heart of a vast forest. The Āpiti- Manawatū Gorge itself was often referred to as 'Te Au Rere-a-te-Tonga' (the flowing current of the south). The formation of the Tararua and Ruahine ranges began about 1.5 million years ago. The rising of the greywacke ranges combined with erosion by the river has formed the steep gorges which exist today¹. It is the only place in New Zealand where a river begins its journey on the opposite side of the main dividing mountain range to where it joins the sea².

Manawatū district was first settled by Rangitāne who still exercise mana whenua over part of the Manawatū and Tararua districts, and is recognised as tangata whenua prior to European settlement. Based on J. McEwen¹ (1986), the ancestor of Rangitāne arrived in New Zealand by the Kurahaupo waka. Whatonga, a captain of the waka, settled in the Heretaunga area and then explored the North Island and Manawatū area. Rangitāne tribe established settlements in Wairapapa, Wellington, Wairua, Tamaki nui-a-Rua, Horowhenua and Manawatū.

Although Rangitāne had mana whenua over a wide area, settlements were constrained to the margin of the river. The river and dense forest were an abundant source of food and allowed for seasonal Māori occupation around the Gorge area. The Gorge was the only route to provide opportunity for early Māori to cross from one side of the North Island to the other. Ngāti Mamoe or Waitaha are believed to be pre- Rangitāne moa hunters that resisted against Rangitāne settlements. From 1500AD, to secure the natural resources needed to sustain increasing population, Rangitāne began to construct pā at strategic locations and close to valuable natural resources (like the entrance of the Gorge, now part of Ashhurst Domain) and across Manawatū to defend themselves. In addition, they also had small settlements for seasonal food collection, like at the Raukawa pā near Ashhurst. From the 1820s, Rangitāne faced significant threats from northern tribes which led to several conflicts and revenge attacks. Following the arrival of European colonists, Rangitāne chief Te Peeti Te Awe Awe (leader of the Ngāti Hineaute and Ngāi Tamawahine hapū, who controlled large tracts of the lower Manawatū) sought alliances with the Crown by assisting with land purchases and lending support during the New Zealand Wars. Significant blocks of Rangitāne land were acquired by the Crown on either side of the Manawatū Gorge during the 1860s and 1870s, and by 1880s Rangitāne's remaining land was largely situated to the east of the Manawatū Gorge.

** Note: While based on reliable documentary source, this information (A.1.1) should not be viewed as complete or without other context.*

A.1.2 European Settlement

Ashhurst

Ashhurst is situated to the west of the Manawatū Gorge, and was acquired by the Crown with the purchase of the Ahuaturangi Block, or the upper Manawatū Block, in 1864. In early 1870, Colonel William Feilding bought a portion of the block, named Manchester Block, on behalf of the Emigrants and Colonists Aid Corporation to assist immigration of British working class to New Zealand. Ashhurst

was one of the settlements within the block, and was named after Henry George Ashhurst, a director of the Emigrant and Colonists Aid Corporation. By 1879 the township had increased significantly due to its strategic location near the Manawatū Gorge Road from Palmerston to Napier, and near the railway line between Whanganui and Napier. Bartholomew's sawmill on Pohangina Road was producing 20,000 feet of timber (mainly totara and matai) each week. In 1879 the Otangaki Hotel was built to accommodate an influx of visitors and workers. Schools and a post office were constructed and various businesses started to form on the main street of the township.



Figure 9: Plan of the Manchester Block, dated 1878, with the township of Ashhurst arrowed in red. (source: MDC 00486 1-2, Archives Central, www.archivescentral.org.nz).

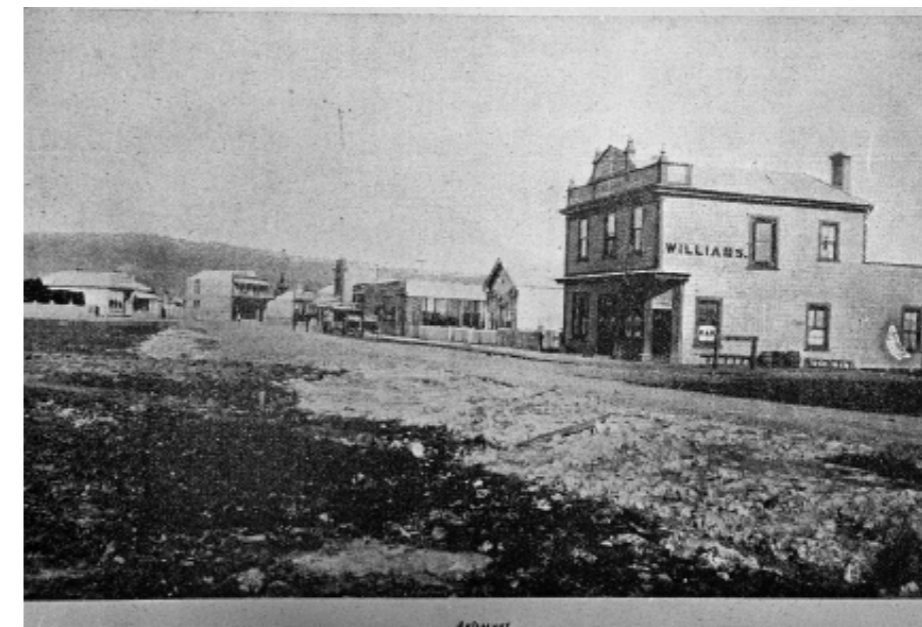


Figure 10: Undated photograph, showing businesses along one of Ashhurst's main roads. (source: PHOTO ASH:1, Feilding Library, Manawatū District Council).

Woodville

Woodville is situated to the east of Manawatū Gorge, at the junction of road and railway between Wairapapa, Hawke's Bay and Manawatū regions, which was an ideal place for a settlement. Napier Lands Office offered the land in this area for sale, which continued through the 1870s. Establishment of dairy farms supported the growth even more, and by 1883 Woodville included several houses, a hotel, a butcher, bakery, bootmaker, general store, schoolroom and a branch of Bank of New Zealand. By 1908 Woodville had a population of 1,100 residents.



Figure 11: Photograph, dated 1878-1879, showing the Woodville Hotel on the corner of McLean and Vogel Streets. (source: 2007P_Wo1_RTL_0918, Palmerston North Libraries and Community Services).



Figure 12: Photograph, dated 18 August 1904, showing the main street in Woodville. (source: Sir George Grey Special Collections, Auckland Libraries, AWNS-19040818- 10-1)

During the 19th century, Māori had several small occupation sites along Manawatū and Pohangina Rivers, such as Raparuhe, Te Ponga, Te Wharau, and Parahaki. The Parahaki kainga (village) was established at the confluence of the Manawatū and Pohangina Rivers. The village was the site for burial ceremonies. The site is one of mahinga kai sites that were used to service the many kainga clustered around Otangaki and the lower Pohangina valley.⁴

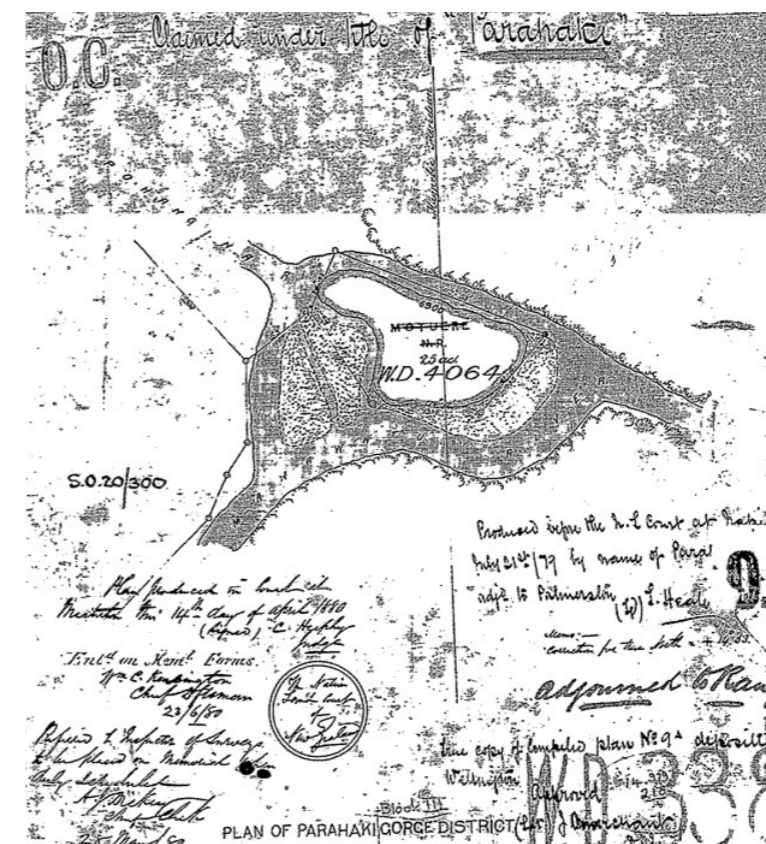


Figure 13: ML 338, dated ca.1879-1880, showing the island known to Māori as Parahaki at the confluence of the Manawatū and Pohangina Rivers. This plan was presented during the Māori Land Court hearings to determine the title to the land. (source: Quickmap)

Transportation along the Gorge

Māori guided the first European, Jack Duff, to travel through the Gorge in 1830. The early walking track along the river was formed by Māori who needed to carry their canoes overland when the river was low. By 1870 a more substantial bridle track had been developed for foot and horse traffic on the Tararua side of the river. In the same year the construction of the railway started, but it was not fully completed until 1891. Before completion of the bridge over the river in 1875, coach passengers crossed the river in an aerial cage and then continued their journey with another coach. However, in 1895 a heavy flood washed away the bridge, and during construction of the new bridge, a punt was used to ferry passengers.⁵

Beside regular flooding, the road and railway track had been temporarily closed several times due to large slips, before it was permanently closed in 2017.

A.2 Cultural Values and Narratives

Cultural values are the foundation on which tikanga Māori is based and from where Mātauranga Māori emerges. Cultural values define the framework for behaviour, actions, and interaction with the natural world. Rangitāne o Manawatū arrived in the area in the 1500s. Understanding their value and belief system is essential for providing a design framework to avoid adverse impact on Rangitāne o Manawatū.

For this framework the following **shared** values have been identified:

Mauri: the interconnection of all things, which means the well-being of any part of the environment will have a direct impact on the well-being of people.

Wairuatanga: a central value to all existence, and effects how tangata whenua interact with the natural environment, manuhiri and other communities.

Whakapapa: the Māori system of relationship. "The Whakapapa of the Manawatū Awa includes the many streams and groundwater systems that contributes to the awa, which creates its mauri and energy, and then enable the species to thrive"⁶. Indigenous species require access to the sea during their life cycle and whakapapa connects maunga with the ocean. **Whakapapa also connects hapū with their natural environment. It gives tangata whenua their sense of belonging and an awareness of their obligations.**

Whanaungatanga: Kinship, a sense of connection either through whakapapa or kaupapa. An acknowledgement of inter-hapū relationships that support the whakapapa of the awa.

Kaitiakitanga: the act of guardianship and protection. The obligation to protect and enhance the mauri of the natural environment, for the benefit of ourself and others.

The belief system of Rangitāne o Manawatū have has developed over the last 600 years of settlement. Their belief also formed their spiritual practice that occurred at different times and locations. There are several cultural narratives related to the Manawatū River which relate to the origin and name of the River.

According to Māori tradition, the Gorge was created when a giant totara tree, located on the slopes of the Puketoi mountain range, became possessed by the spirit Okatia and then pushed through the Ruahine and Tararua ranges, forming the Gorge from its path.

Away upon the slopes of the Puketoi Ranges there grew in the days of old a giant Totara tree, into which the spirit of a God called Okatia suddenly entered and endowed it with the power of motion, whereupon it gradually wormed its way over the land, gouging out a deep bed as it went, until it came to the mountain chain which separates the east from the west coast. Then it drove a course for itself through this huge barrier, which the mighty Okatia split as easily as a child would break a twig, and on passed the inspired tree, ploughing its irresistible way with many serpentine wanderings towards the sea, leaving the turbulent waters and still reaches of the Manawatū River flowing in its wake⁷.

The naming of the river can be traced through Rangitāne tribal history; The Manawatū River received its name from a tohunga (priest) named Haunui- a -Nanaia. Haunui travelled down the coast from Taranaki chasing his wife, Wairaka and her lover. As he crossed the river-mouth he named the rivers. 'Whanganui' was named because of the width of the river-mouth, 'Whangaehu', 'Turakina', 'Rangitīkei' were all named by Haunui. The next river he crossed was the 'Manawatū' which was so wide, deep and cold that it made his breath stand still. This is the origin of the name 'Manawatū still breath'⁸.

Cultural Values Statement by Manahi Paewai

Like many indigenous peoples around the globe, over time the Māori world had determined a values system (**cultural values**) that has become integral to its societal structure with all its complexities and simplicities within which its people are born, lived and died.

Some examples of items that are valued:

- Place - marae
- Area – where some special event or tragedy has occurred.
- Gathering - Tangihanga
- Knowledge – Tribal & whānau genealogies.
- Practice-Pōwhiri
- Commodity – the harakeke (flax) bush
- Person – our elders

Whatever we culturally value, has become surrounded by 'best practice', – our equivalent for this term is '**tikanga**', sometimes 'tikanga māori' or even 'kawa'. The greater the value of a particular place, area, gathering, knowledge, practice, commodity or even person, the more that item attracted 'tikanga' that is, procedure, protocol and processes to preserve the value of that item. Any non compliance or disrespect of 'tikanga' therefore, assigned to preserve and protect the value of a particular 'item', could cause offence, even attract consequences.

Mātauranga māori is the intimate understanding of all of this. That is, its origins, its purpose, its implementation and its management.

A commodity of the utmost interest to Rangitāne indeed no doubt to us all today and that is, 'wai Māori'

Question: Why is it of value?

Tikanga/Best practice is:

- leave as is
- do not contaminate with human activities
- take real care of the environs of the waterways, whatever nature had provided as this was its filter system.

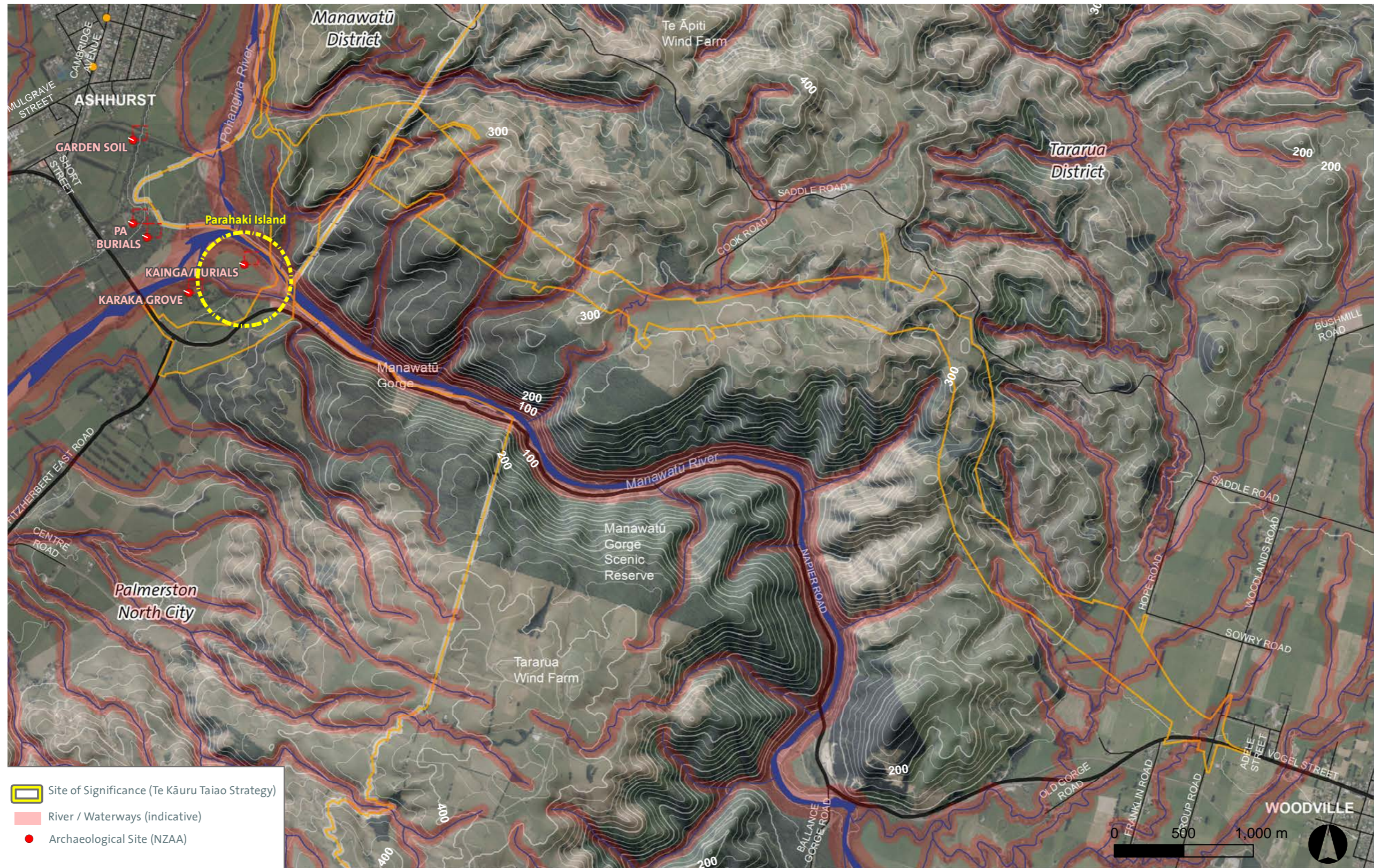
The above acknowledged and maintained several other essentials:-

- **'Mauri'** – a hidden principle that protects vitality and the continued fruitfulness of water, land, forests and all life that dwells within these realms including people.
- **Tapu & Noa** – essentially a system of social restriction and latitude.
- **Kaitiakitanga** – acknowledges the well-known principle that Māori regarded themselves as guardians of their territories and resources rather than owners of them which meant that Māori were essentially long term succession planners.
- **Tino Rangatiratanga** – The sovereign responsibility to protect and guard your people, your territories and your resources.

- 1 <https://www.doc.govt.nz/parks-and-recreation/places-to-go/Manawatū-whanganui/places/Manawatū-gorge-scenic-reserve/>
- 2 <https://www.manawatunz.co.nz/te-apiti-manawatu-gorge/>
- 3 McEwen, J. M. (1986) *Rangit ne: a tribal history*, Auckland, Reed Books
- 4 *Manawatū River Framework*, Palmerston North City Council
- 5 <http://jamesfaganhistoryblog.blogspot.com/2013/05/a-spectacular-gorge.html>
- 6 Black M. W., Kendrick J. L., McArthur K. J. (May 2018), *Eketahuna and Pahiatua cultural values*
- 7 Buick T.L. (1903) *The Wild Days of the West*, Buick and Young Palmerston North
- 8 *Te Kāuru Taiao Strategy*, November 2016 ,page 6

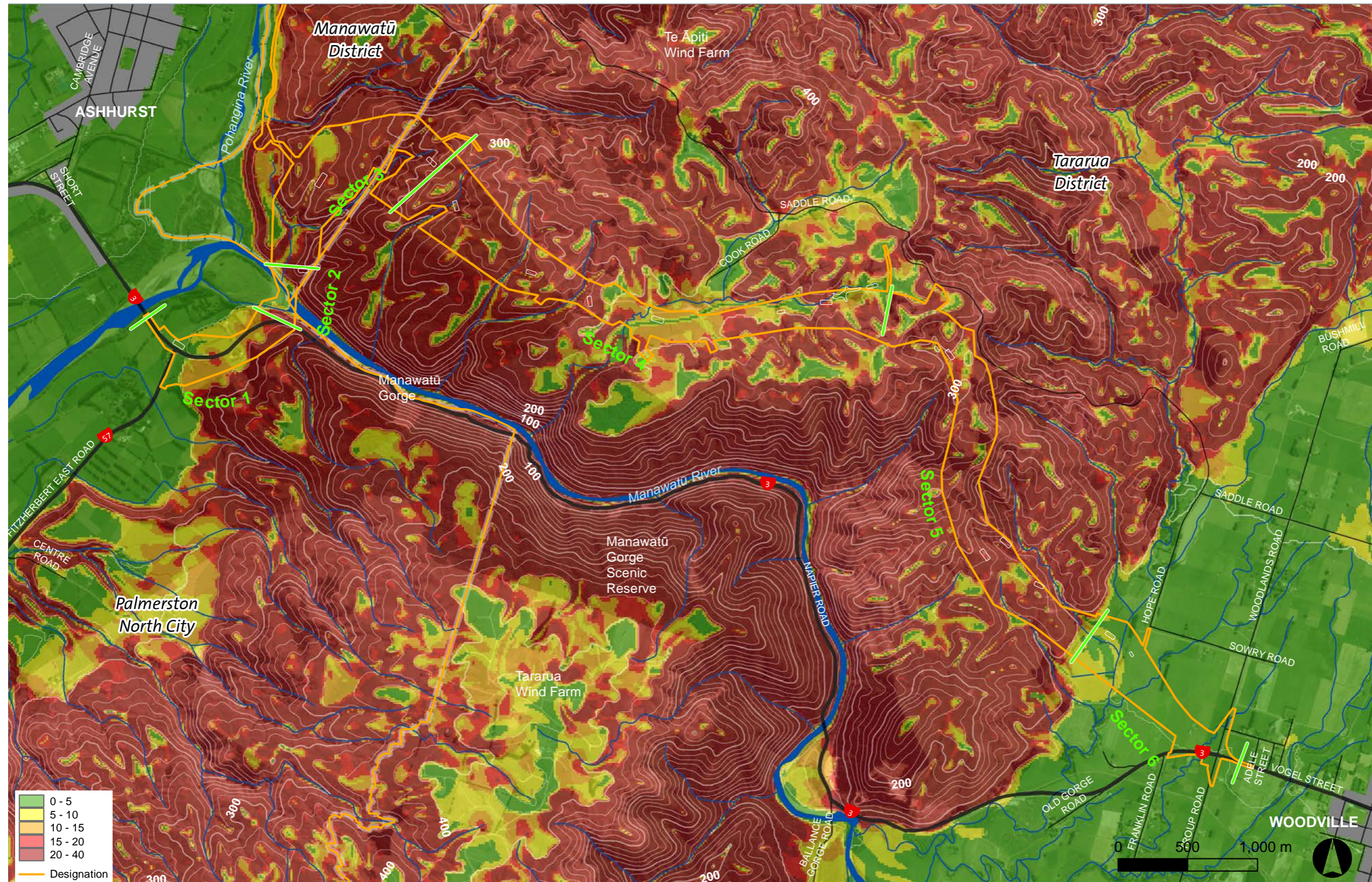
A.3 Sites of Significance to Tangata Whenua

Based on NZAA overlay, Tangata whenua identified sites to be added.

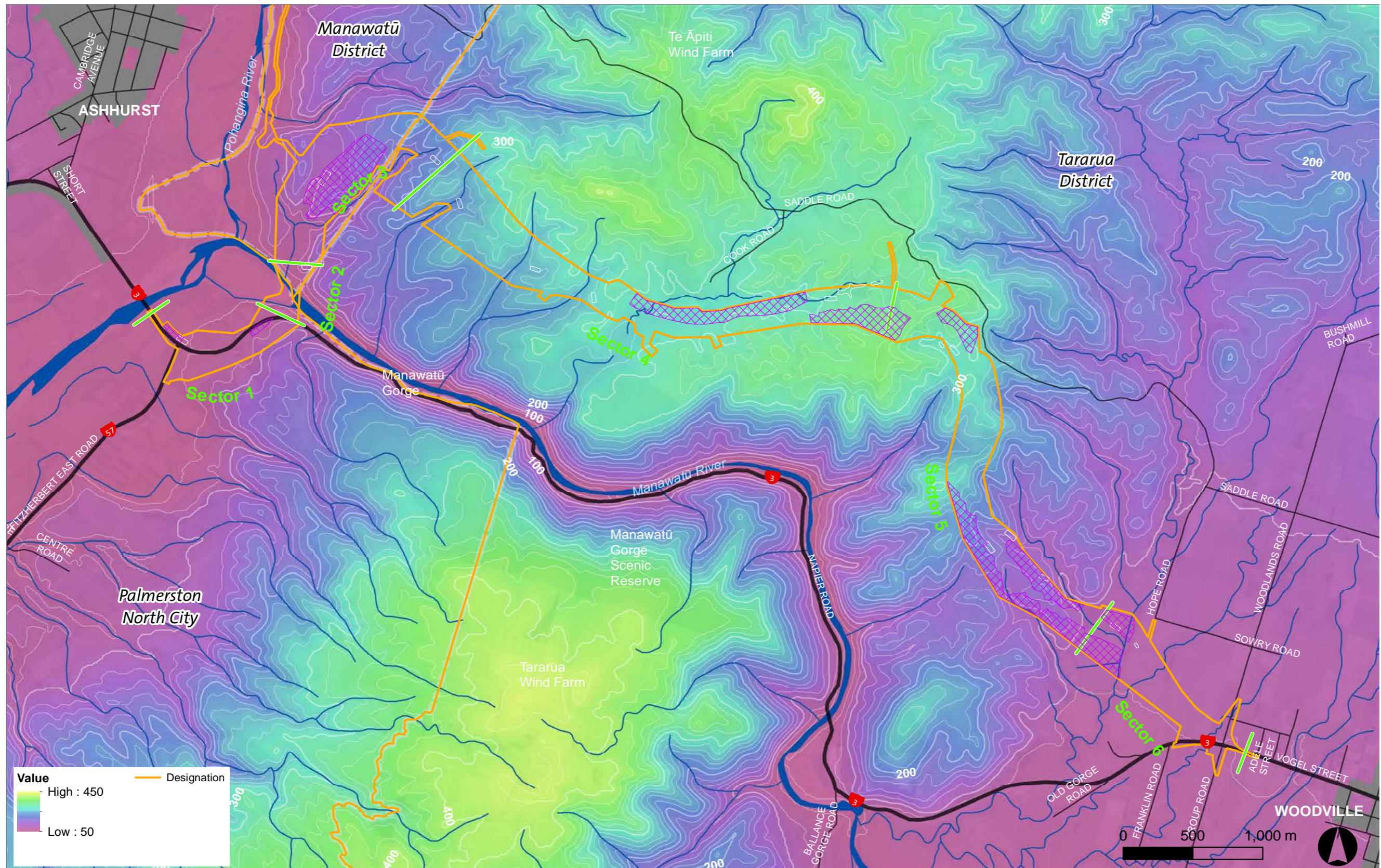


A.4 Landscape (Slope, Topography, Landcover, Landuse)

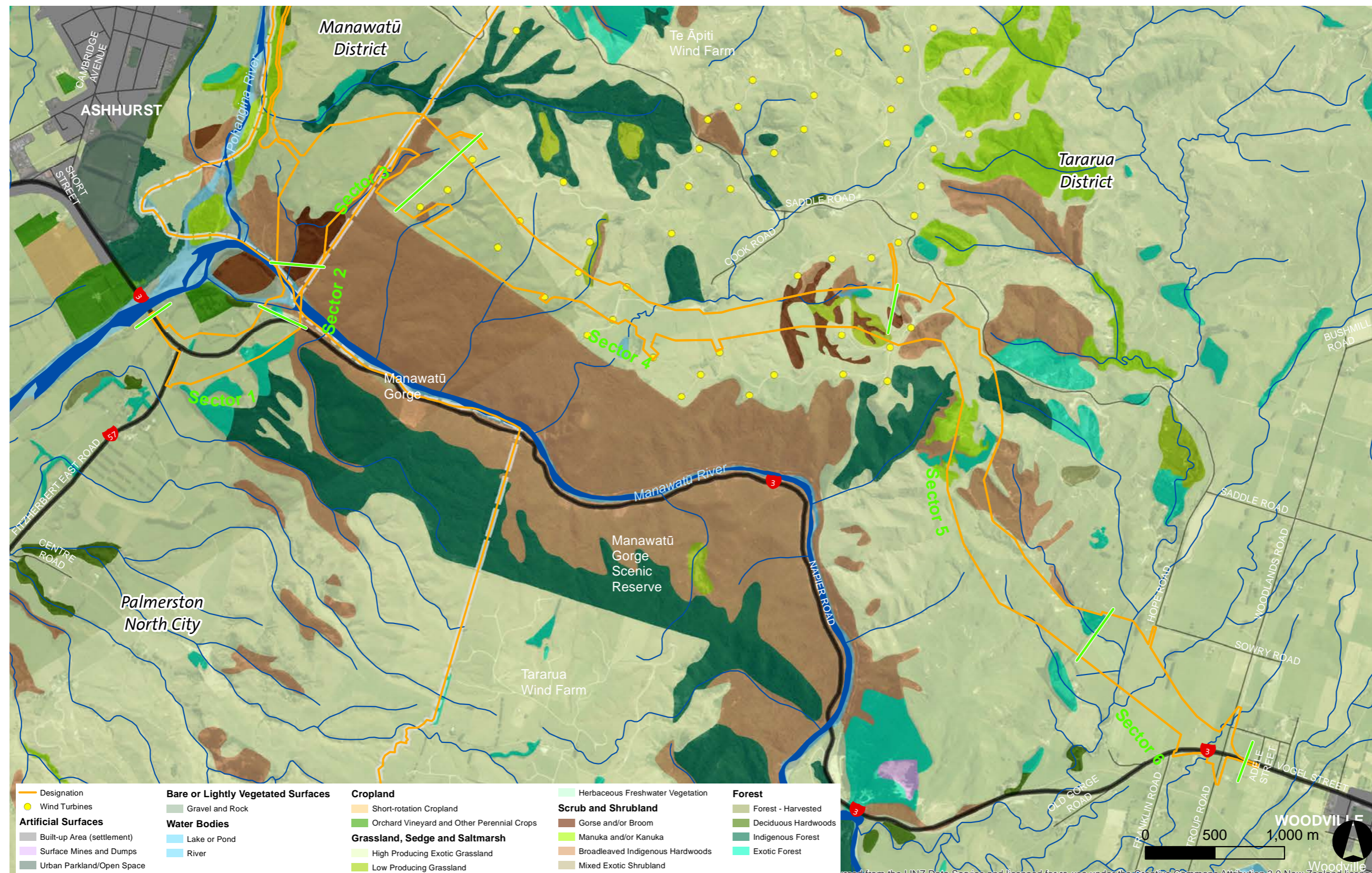
A.4.1 Slope



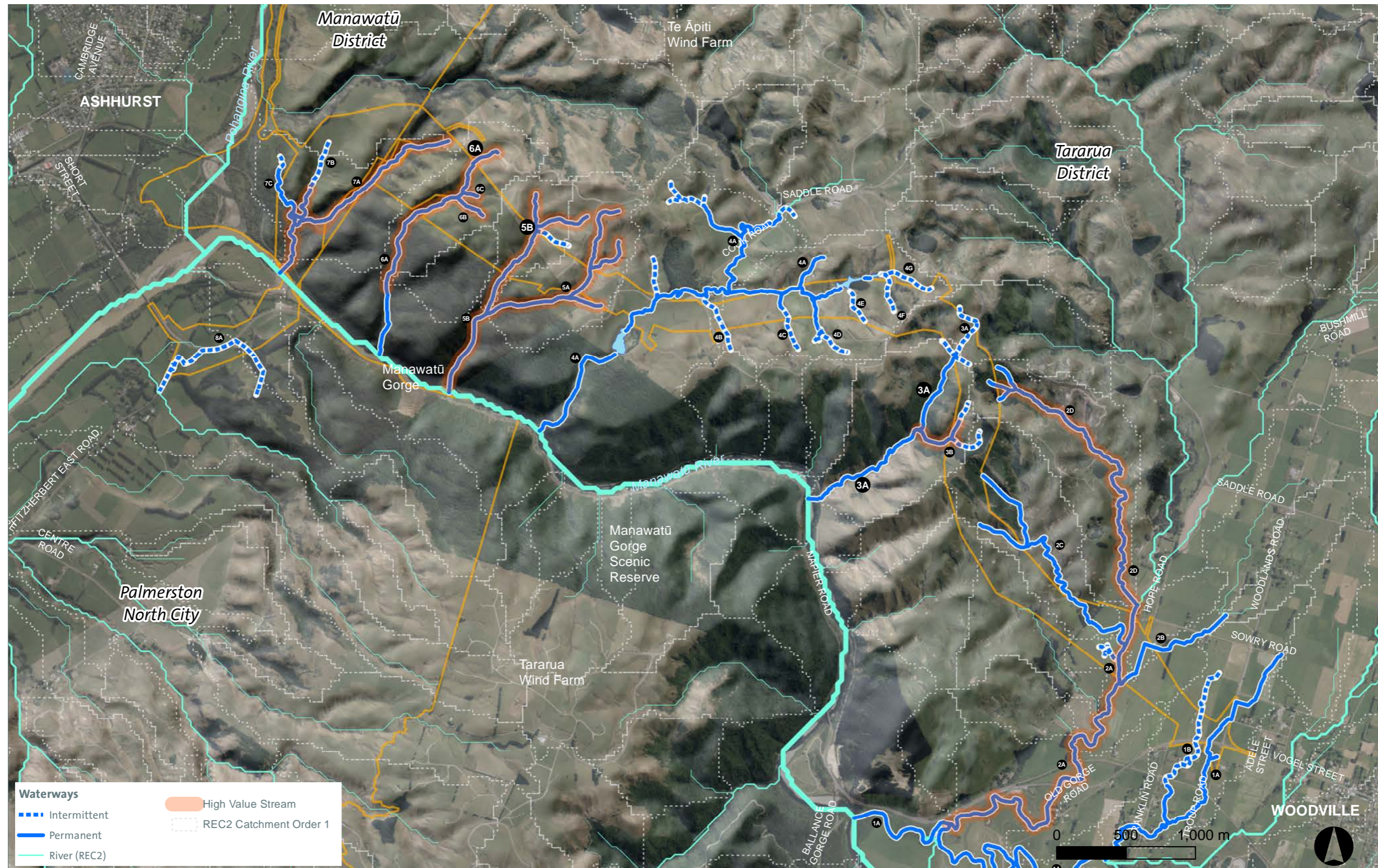
A.4.2 Elevation



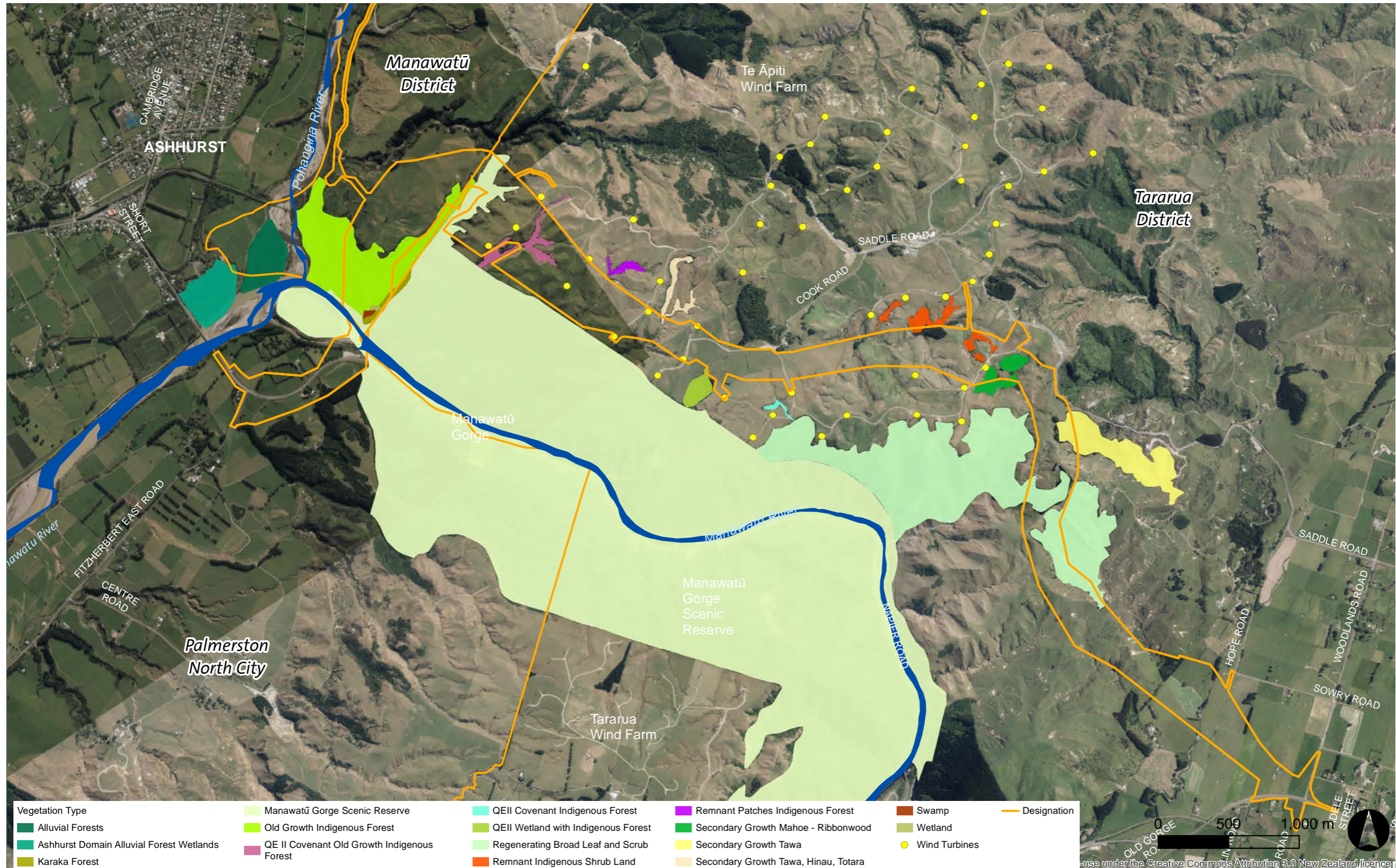
A.4.3 Landcover & Landuse



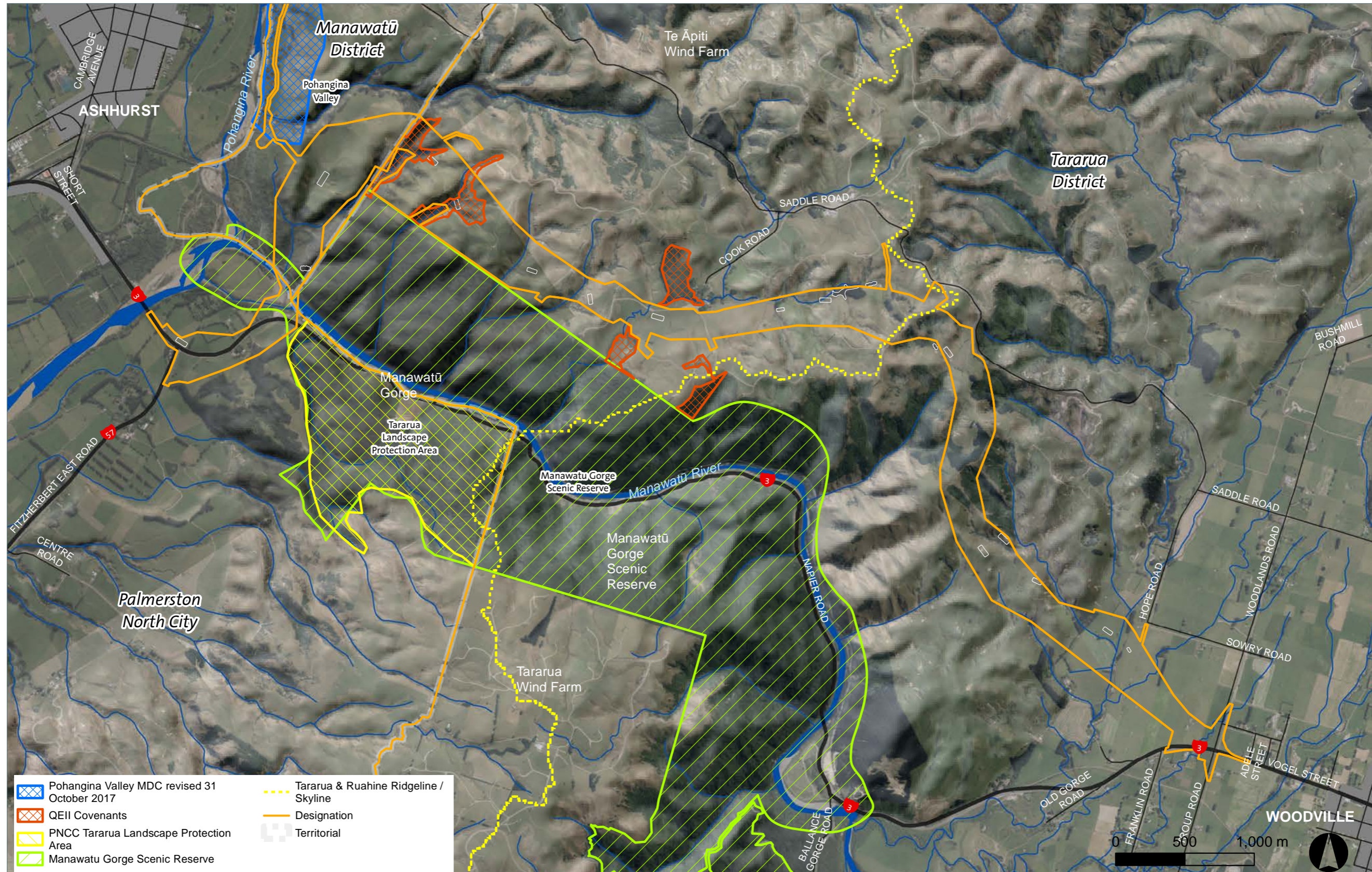
A.5 Hydrology



A.6 Ecology



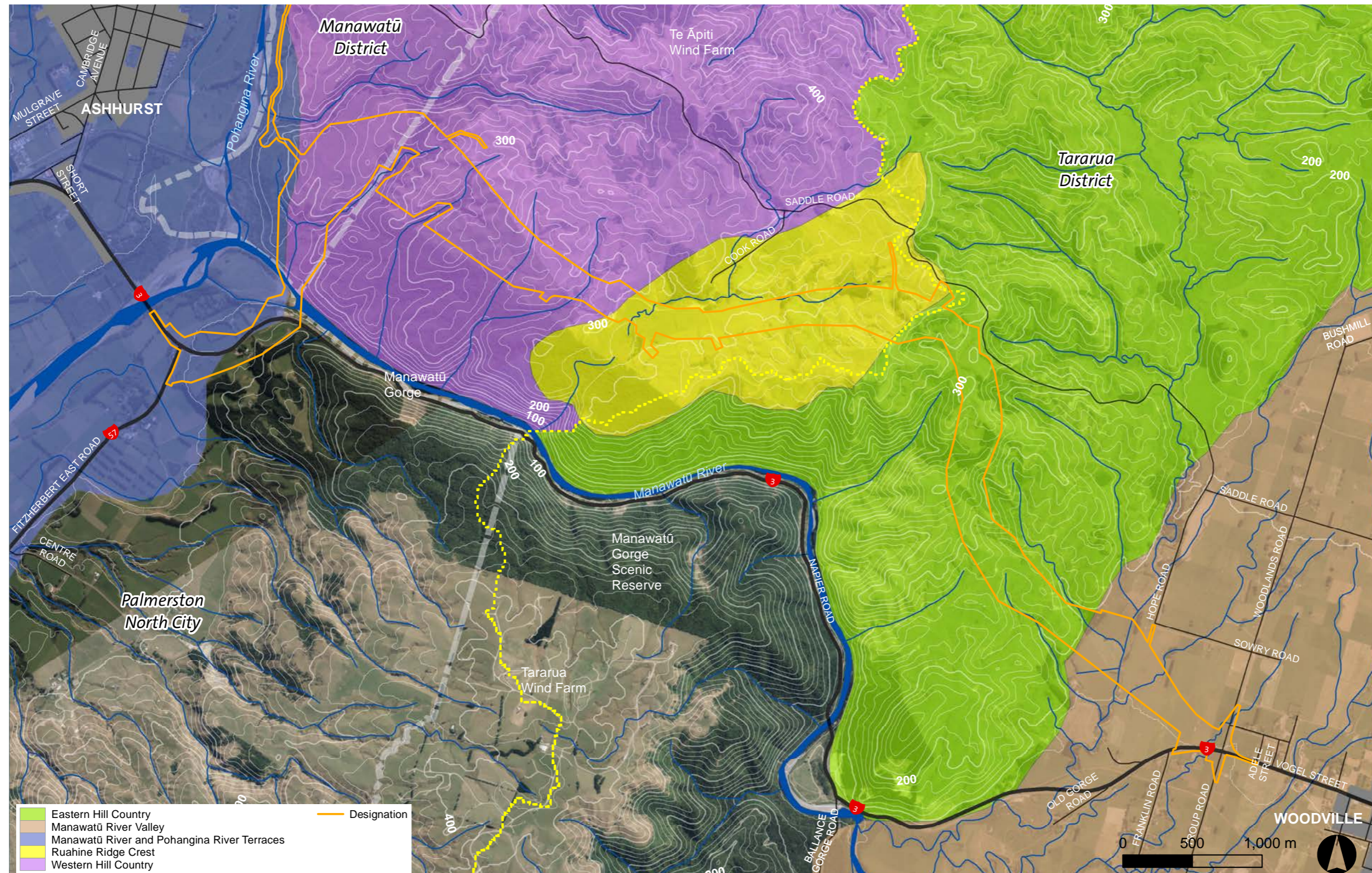
A.7 Protected Areas



A.8 Landscape Character Areas

The corridor traverses five landscape character areas based on differences in land form, land cover and land use; these landscape character areas are listed and described below:

1. Manawatū River and Pohangina River terraces
2. Western Hill Country
3. Ruahine Ridge Crest
4. Eastern Hill Country
5. Manawatū River Valley



A.8.1 Manawatū River and Pohangina River Terraces

The Pohangina and Manawatū Rivers run along the eastern edge of the expansive Manawatū Plain that extends westward to the coastal dunes. The river terraces form an abruptly defined edge to the eastern hill country. The river terrace faces along the eastern Pohangina River valley are well vegetated, dominated by native species. Native vegetation extends from the terrace face on to the terrace itself in the vicinity of the corridor. There are also open areas of pasture on this terrace and stock have browsed and trampled the areas of unfenced native vegetation.

In contrast, the Manawatū River terraces south of the Gorge are all grazed with exotic woodlots, shelterbelts and groups of amenity trees. Willows have been planted along the edges of both the Manawatū and Pohangina Rivers and these contrast with the well-established native vegetation growing on the terraces.

Parahaki Island, consists of elevated gravel beaches with rough pasture and willows along the edge. It is located at the mouth of the Gorge and at the confluence of the Manawatū and Pohangina Rivers. Parahaki Island, together with the adjoining Manawatū Gorge Scenic Reserve (which extends on both sides of the Gorge) is recognised as a Regionally Outstanding Natural Feature in the Horizons One Plan.

The Manawatū District Plan identifies the Pohangina River and river valley as one of the District's outstanding landscapes. The boundaries of this outstanding landscape are being reviewed by the Council.

A.8.2 Western Hill Country

The western hill country rises steeply from the river terraces and is broken by deeply incised gullies and streams, many of which are well vegetated, with stands of mature native forest in the gully bottoms and on the sides, together with areas of young regenerating native vegetation and exotic scrub. The hill country is extensively grazed.

Saddle Road is located to the north and well separated from the corridor by a deep, well vegetated gully. Two areas of mature native forest extending over an adjoining gully system are protected by Queen Elizabeth The Second (QEII) National Trust open space covenants.

Turbines of the Te Āpiti Wind Farm are located on both sides of the corridor and sited on the flatter spurs and connected by well-formed access tracks.



Figure 14: Car park and location of the proposed south bridge abutment.



Figure 15: Parahaki Island at the lower end of the Gorge.



Figure 16: View west with the existing SH3 bridge in distance.



Figure 17: Car park on south bank of the Manawatū River (New bridge location).



Figure 18: View looking down the western rise toward the Manawatū River, with a QEII Covenant in foreground.

A.8.3 Ruahine Ridge Crest

At the crest of the Ruahine Range, a wide rolling area of grazed farmland separates the western hill slopes from the generally steeper eastern hill slopes. The Te Āpiti Wind Farm extends over this area with the eastern-most turbine located on the edge of the adjoining steep hill slopes. Te Āpiti is one of several wind farms that have been built along the Tararua – Ruahine Ranges. The Tararua Wind Farm is located on a plateau immediately south of the Gorge.

The series of highest ridges and hilltops along the Ruahine (and Tararua) Ranges are recognised as a Regionally Outstanding Natural Feature; the Manawatū District Plan identifies the ridgeline of the Ruahine Range as an outstanding landscape and the Tararua District Plan identifies the “skyline of the Ruahine Ranges” in its schedule of natural features and landscapes.

The substation and Te Āpiti Wind Farm operational area are located on the ridge crest as are groups of farm buildings and yards; Cook Road is also located on the crest and extends south off Saddle Road towards the corridor. There are small stands of remnant native forest, several of which are protected by QEII National Trust open space covenants.

A.8.4 Eastern Hill Country

The eastern hill country is generally steeper and more broken than on the western slopes and is characterised by short narrow spurs and deep gullies, many of which have streams and areas of native and exotic scrub. Scrub has been sprayed and recently cleared off many of the hill faces and there are small slips on many of the hill faces. Exotic pine woodlots are well established and poplar poles have been planted on erosion-prone slopes.

The streams draining this area drain directly into the Gorge or on to the Manawatū River plain to the east and then into a series of smaller streams and drains, eventually ending up in the Manawatū River.

A.8.5 Manawatū River Valley

The headwaters of the Manawatū River are located in the Ruahine Range northwest of Norsewood. The Manawatū River is unique among New Zealand rivers in that it starts east of the axial ranges and has its outflow on the west. Unlike the river terraces along the Pohangina and Manawatū Rivers on western side of the Ruahine Range, the eastern side has an abrupt transition between the river flats and the steep hill country. There are patches of remnant podocarp forest at the bottom of the toe slopes where it is wet and poorly drained and there are many small tributaries, and farm drains, which eventually discharge into the Manawatū River.

Where the corridor joins the existing road network south of Woodville, the land is well subdivided and intensively farmed. There is also a cluster of rural lifestyle properties in this area.

Moving away from the edge of the hill country the underlying river gravels ensure the area is well-drained. The area is intensely farmed with shelterbelts along the edges of paddocks and along watercourses, together with groups of amenity trees around dwellings.



Figure 19: View from the ridge tops to the east.



Figure 20: The ridge top farm land is dissected by steep vegetated gully systems.



Figure 21: Towards the bottom of the eastern rise the terrain becomes more broken and confused.



Figure 22: View north where the eastern rise (left) meets the plains.



Figure 23: View across the plains to the steep hill country of the eastern rise and windfarm beyond.

An aerial photograph of a rural landscape. The scene is dominated by rolling green hills and agricultural fields. A winding river or stream flows through the center of the image, bordered by a line of trees. The fields are divided into various sections, some appearing to be planted with crops like corn. In the background, there are more hills and a few wind turbines visible on the horizon. The overall atmosphere is bright and sunny, with long shadows cast across the terrain.

Appendix B: Design Review Template

B.1 Design Review Template

DESIGN REVIEW TEMPLATE					
Design Issues	Design Opportunities	Project Vision Supported	Corridor Wide Environmental Principles Supported	Tangata Whenua Principles Supported	Design Response

ATTACHMENT 2

Feedback	Response	Comments
Section 3.1.1. Bridge (Manawatū River Crossing)		
The design of the Manawatū bridge should seek to respect the distinctive landscape setting at the mouth of the Gorge, and the fact that it crosses an ONL. This would involve attention to the bridge alignment and overall form, its detailed design and materials used in its construction.	Accepted	
There is an opportunity for the bridge to be an 'elegant' structure that reflects its location at the confluence of two major rivers and avoids dominating the surrounding tall native vegetation on the north side.	Accepted	
The Manawatū bridge should include a pedestrian viewing platform(s) which provides unobstructed views both upstream and downstream of the river. The viewing platform(s) should be physically separated from the carriageway for pedestrian safety reasons. The viewing platform(s) should also have direct access for pedestrians from the Manawatū Gorge Scenic Reserve carpark.	Changed because, while the Transport Agency intends to provide a walking facility across the proposed bridge, the details are to be worked through so there is some uncertainty about appropriate design outcomes	In the vicinity of the Manawatū bridge explore opportunities to provide viewing platform(s) which provides unobstructed views both upstream and downstream of the river. The viewing platform(s) should be physically separated from the carriageway for pedestrian safety reasons. The viewing platform(s) should also have direct access for pedestrians from the Manawatū Gorge Scenic Reserve carpark.
The Manawatū bridge design should appropriately express the archaeological significance, cultural narrative and shared values of the Manawatū River and Parahaki Island.	Accepted	

<p>Design and height of the bridge edge barriers to allow views of the Manawatū River.</p>	<p>Changed because bridge barriers have to be standard to meet safety requirements</p>	<p>Design bridge edge barrier top rails to allow views of the Manawatū River, whilst complying with safety standards.</p>
<p>Avoid hiding places to provide Crime Prevention Through Environmental Design (CPTED) outcomes, including in the Manawatū Gorge Scenic Reserve carpark. The carpark should include lighting and electronic monitoring of the area beneath the Manawatū bridge, as well as opportunities for public art.</p>	<p>Changed</p>	<p>Avoid hiding places to provide Crime Prevention Through Environmental Design (CPTED) outcomes, including in the Manawatū Gorge Scenic Reserve carpark.</p>
<p>Locate the south abutment of the Manawatū bridge south of the existing SH3 to provide a more open area underneath the bridge on the river margin for visitor parking. The environment under the bridge on the south side should aim to create a quality public space for visitors at the entrance to the Manawatū Gorge Scenic Reserve walking tracks.</p>	<p>Changed</p>	<p>The carpark should aim to create a quality public space for visitors at the entrance to the Manawatū Gorge Scenic Reserve walking tracks, maintaining the natural character of the area.</p>
<p>The carpark should be re-established after construction in a way that provides for a similar landscape character to its pre-construction state and retain at least the same number of carparks, same size, condition and access provision as existed prior to the works beginning. The replacement or reinstatement of works must include all weather surfacing, boundary fencing, landscaping, cultural interpretation elements and information/signage.</p>	<p>Accepted</p>	
<p>The carpark should also provide access to the Manawatū Gorge walking tracks, and this should be maintained throughout the entire construction period. If a temporary closure of the carpark is required during construction, this should occur during weekdays.</p>	<p>Deleted as it is repeated in the next principle</p>	
<p>A temporary carpark and safe walking access to the Manawatū Gorge walking track should be implemented to provide safe and continuous public access during the construction phase of the Project. The temporary facilities must be large enough to accommodate the current and expected number of visitors to the gorge track during the construction period. The temporary</p>	<p>Accepted</p>	

carpark must include all weather surfacing, fencing, signage and safety and security measures.		
3.2 Ecologically Sensitive Areas		
Manawatū River Crossing and North of the Crossing	Accepted	
Replace/restore indigenous vegetation and habitats disrupted by the construction process.	Accepted	
Attention to pier placement and treatment around pier and abutments and site rehabilitation.	Accepted	
Western Slope and Western QEII Covenant	Accepted	
Use bridges instead of embankments and culverts to potentially reduce construction impacts and permanent footprints through sensitive areas, or otherwise situate any embankment so that vegetation clearance is avoided or minimised within the specified 'effects envelope' (if this approach is applied).	Deleted as this was already covered by the third bullet point/principle	
Minimise requirements to temporarily or permanently divert streams.	Accepted	
Replace/restore indigenous vegetation and habitats.	Accepted	
Remove grazing stock from the area around the open space covenant.	Accepted and merged with the next point	Remove grazing stock from the area around the open space covenant, within the designation and Revegetate and protect indigenous forest cover in the upper catchments, above the indicative alignment, that are currently in pasture to improve the ecological values and water quality of the stream headwaters. Explore opportunities to extend outside of the designation with agreement of landowners and Meridian.
Revegetate and protect indigenous forest cover in the upper catchments, above the indicative alignment, that are currently in pasture to improve the ecological values and water quality of the stream headwaters.	Accepted	
West Stream – from QEII West Crossing to Raupō Wetland: retire whole gully from grazing and protect as QEII covenant or amalgamate with the Manawatū Gorge Scenic Reserve	Changed because NZTA can't use QEII covenants to	West Stream – from QEII West Crossing to Raupō Wetland: retire whole gully from grazing and legally protect the area.

	protect areas of vegetation	
Te Āpiti Windfarm and Ridge, and Eastern QEII Covenant	Accepted	
Revegetate with indigenous plants and protect the upper stream catchments in the QEII covenant which are located above the alignment and currently in pasture to improve the ecological values and water quality of the stream headwaters. Extend QEII covenant to the Manawatū Gorge Scenic Reserve.	Changed as need landowner agreement to plant outside of the designation	Revegetate with indigenous plants and protect the upper stream catchments in the QEII covenant. Explore opportunities with landowners to revegetate gullies that are outside of the designation and currently in pasture to improve the ecological values and water quality of the stream headwaters.
In the QEII covenant avoid the most sensitive ecological areas and streams, and reduce the footprint in the QEII covenant area. To enable this the road should take a northern-most alignment.	Accepted	
Use bridges instead of culverts, where possible, to reduce the construction and permanent footprints over streams.	Changed	Use bridges instead of culverts where practicable, to reduce the construction and permanent footprints over streams.
Plant new buffers of indigenous vegetation along the edges of secondary broadleaf vegetation fragmented by the corridor.	Changed. Where possible added as it may not be possible to do this everywhere due to landowner agreements	Where possible plant new buffers of indigenous vegetation along the edges of vegetation fragmented by the corridor.
Plant for slope stability and undertake landscape amenity planting in strategic locations to assist in integrating the Project into the landscape.	Accepted	
3.3.1 Bridge to Bridge: The alignment avoids the need for large cuts into the slopes to the east.	Changed because the heading and location was out of place. Added to	In the Bridge to Bridge sector the alignment should avoid the need for large cuts into the slopes to the east.

	3.3.3 Cut Batters:	
3.3.2 Woodville Gateway Integrate the elevated corridor with the flat plains and eastern slope through shaping, hydroseeding and strategic planting.	Changed because the heading and location was out of place. Added to 3.3.3 Fill Batters:	Where the Eastern Ranges meet the Plains, integrate the elevated corridor with the flat plains and eastern slope through landform, hydroseeding and strategic planting.
3.4 Water Bodies		
The most effective form of mitigation is to avoid and reduce the scale of the impact on waterbodies and their margins through design of the alignment.	Accepted	
Seek to minimise the Project footprint in waterbodies through use of structures, such as bridges and retaining walls, in preference to earth embankments and culverts.	Changed. Where practicable added as it may not be possible to achieve everywhere	Where practicable seek to minimise the Project footprint in waterbodies through use of structures, such as bridges and retaining walls, in preference to earth embankments and culverts.
Enhance the natural character of the stream catchments through measures such as stock-proof fencing and permanent retirement from grazing, restoration planting, and permanent legal protection of these catchments.	Accepted	
Develop and adopt low impact construction methodologies.	Changed to be more specific	Use low impact stormwater treatment technology such as vegetated swale and wetlands.
3.5. Planting Design		
Planting in strategic locations along the designation corridor to achieve landscape and ecological outcomes appropriate to the landscape setting and context.	Changed by adding, allowing for specific requirements of Windfarm	Planting in strategic locations along the designation corridor to achieve landscape and ecological outcomes appropriate to the landscape setting and context, including allowing for specific requirements of Te Āpiti windfarm

Ensuring the retention of visual opportunities the Project will offer, such as expansive views whether travelling east or west, views to the Manawatū Gorge Scenic Reserve and to the turbines of the Te Āpiti and Tararua Wind Farms.	Changed	Seek to provide visual opportunities the Project will offer, such as expansive views whether travelling east or west, views to the Manawatū Gorge Scenic Reserve and to the turbines of the Te Āpiti and Tararua Wind Farms.
Erosion planting using a proven range of tree species should be included as part of site rehabilitation for long-term site stability and visual benefits.	Deleted	May not be appropriate in the pastoral landscape of the windfarm.
Planting to mitigate visual impacts for private residences within and adjacent to the NOR.	Accepted	
3.6 Gateways and Local Connection		
Include road design principles to encourage vehicles to make gradual speed changes when approaching and departing from the two roundabouts.	Accepted	
Bold landscape treatments should be implemented as part of the design for the roundabouts.	Accepted	
Noise bunding to be installed within the designation at the corner of SH57 and SH3 to provide noise mitigation for 1213 Fitzherbert East Road.	Deleted	Covered by condition 12.
3.8 Walking and Cycling		
Walking and cycling facilities which are physically separated from the main carriageway must also be incorporated over the existing Ashhurst Bridge and the new bridge over the Manawatū River.	Deleted	Either to be delivered (ie the Ashhurst Bridge improvement and separated pedestrian facility on the new bridge) or not part of the Project (as cyclists will be able to use the shoulders on the new bridge).
Principles to be applied to the design of a shared walking and cycling path include: <ul style="list-style-type: none"> • The shared path route should take opportunities to provide views of the new road, bridge structures, the Manawatū Gorge Scenic Reserve, new areas of planting, the Te Āpiti windfarm, the wider region and any exposed geo-sites. • Seating at suitable locations (ideally in locations that showcase views mentioned above). • Wayfinding signage and provision for interpretation signage at either end of the path, as well at points of interest along the path. 	Deleted	Not part of the Project.

<ul style="list-style-type: none"> • Must be physically separated from the new road by, at a minimum, a wire barrier. • Must be at least 3m wide, with at least 0.2m additional clearances to any barriers (as per Austroads Guide to Road Design Part 6A, Appendix A, Figure A1: Bicycle Path Operation Scenario C) and sealed to provide for a wider user audience. 		
<p>The Project has the opportunity to have a positive effect in relation to the promotion of natural and historic conservation benefits through the provision of public access to the northern area of the Manawatū Gorge Scenic Reserve and future pedestrian and cycle tracks in the wider Manawatū Gorge. It is important that the designation provides for these access provisions.</p>	Deleted	While the bridge will enhance connectivity in this regard, specific outcomes are premature to incorporate at this stage of the Project.