

IN THE MATTER of the Resource Management
Act 1991

AND

IN THE MATTER of applications by Waka Kotahi
NZ Transport Agency to Manawatu Whanganui
Regional Council for resource consents
associated with the construction and operation of
Te Ahu a Turanga: Manawatū Tararua Highway.

**SECTION 87F REPORT OF JOHN ROBERT HUDSON - NATURAL CHARACTER
AND LANDSCAPE CHARACTER**

A. QUALIFICATIONS / EXPERIENCE

- 1 My full name is John Robert Hudson. I am currently a landscape architect and principal of my own practice, Hudson Associates. I have been in that position since 1988.
- 2 My practice consults on projects for the private and public sectors throughout New Zealand. I have considerable experience assessing the landscape, natural character, and visual effects of activities for the public and private sector, including with respect to infrastructure and utility projects within a range of landscapes. I also assist local authorities with strategic and policy plan provisions, including the identification and assessment of outstanding natural features and landscapes.
- 3 I hold a diploma in landscape architecture from Lincoln University and I am a registered member of the New Zealand Institute of Landscape Architects (“**NZILA**”). I am also a fellow and past president of NZILA, and have been a member of the NZILA biennial awards committee and member and chairman of the Associate examination committee for 10 years.
- 4 I have been an accredited MfE “Making Good Decisions” RMA decision maker, with some of those years with a Chair endorsement. I have been engaged as an independent commissioner for several large resource consent applications, the largest being an appointment by the Minister for the Environment to a Board of Inquiry for a project of national significance. I also regularly appear as an expert witness at Council hearings and on appeal to the Environment Court.
- 5 I have been engaged by Manawatū-Whanganui Regional Council (“**Horizons**”) to provide expertise on natural and landscape character on resource consent applications by Waka Kotahi NZ Transport Agency (the “**Transport Agency**”/the “**Applicant**”) for resource consents associated with the construction and operation of Te Ahu a Turanga: Manawatū Tararua Highway (the “**Project**”).
- 6 I am familiar with the Project area, having visited the site on 6 July 2018 with the Transport Agency team and on 23 November 2018 with the s42A reporting team and NZTA representatives (both as part of the Notice of Requirement (“**NoR**”) process). I also attended three stakeholder workshops run by the Transport Agency in Palmerston North between July and November 2018. I am familiar with the surrounding environment, having undertaken policy and resource consenting work for

Manawatū District Council and Palmerston North City Council in the area for many years.

B. CODE OF CONDUCT

- 7 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this report is within my area of expertise.

C. SCOPE OF REPORT

- 8 My report focuses only on issues related to natural character and landscape character and covers the following topics:

- (a) Background to Objective 6-2 and Policy 6-6 (One Plan) in the context of landscape character;
- (b) A review of the natural character evidence provided by the Applicant;
- (c) Review of the management plans;
- (d) Submissions as they relate to issues concerning natural and landscape character; and
- (e) Consideration of conditions applicable to landscape and natural character.

- 9 In addition to my own observations, I rely on the evidence presented by other s 87F reporters, particularly Mr Lambie and Mr Brown.

- 10 While I have had particular regard to Technical Assessment I: Natural Character, I have also reviewed and relied on information provided by the Applicant including:

- (a) Assessment of Effects on the Environment (“**AEE**”);
- (b) Design and Construction Report (“**DCR**”) and drawing set;
- (c) Construction Environmental Management Plan (“**CEMP**”);
- (d) Ecology Management Plan (“**EMP**”);
- (e) Technical Assessment F: Terrestrial Ecology;

- (f) Technical Assessment G: Terrestrial Ecology Offset and Compensation;
- (g) Technical Assessment H: Freshwater Ecology;
- (h) Section 92 response letter dated 29 April 2020; and
- (i) Notice of Requirement Technical Assessment 4: Landscape, Natural Character and Visual Effects, NoR Appendix 4.A: Natural Character Assessment (26 October 2018), and the final Designation conditions.

D. EXECUTIVE SUMMARY

11. The key conclusions of my evidence are:

- (a) There are areas recognised as Outstanding Natural Features and Landscapes (“ONFLs”) in the One Plan that will be affected by the Project. While the Applicant did not undertake a landscape character assessment as part of the current application, this was subsequently provided in the Section 92 Response. This is appropriate, and I accept the conclusions provided by the Applicant regarding effects on ONFLs.
- (b) Several areas of Technical Assessment I would have benefited from more transparency and detail, particularly regarding the existing natural character ratings for catchment 6 and 7, the influence of context within the catchment scale approach, reliance on mitigation and the assessment of cumulative effects. Additional information provided in the Section 92 Response and discussions with Mr Brown and Mr Lambie have assisted in resolving some of these issues. Overall, while I have some residual questions over the changes in experiential values for catchment 6 and 7 (which will look to be resolved with the Applicant through further information) and the weighting of mitigation in assessing a post construction natural character state, I am satisfied that the conclusions of the Applicant are acceptable when considering natural character.
- (c) A more detailed description of proposed mitigation measures is required for some areas, including what mitigation is proposed to address the significant impacts of crossing points 5A, 7A and raupō wetland. Clarity around when mitigation was (and was not) included in the assessment of effects for various

attributes would also be beneficial, with this lack of clarity potentially overstating some effects in the current assessment.

- (d) While it is indicated that landscape and ecological planting will be undertaken within the Project area, the Applicant has not currently secured all planting sites. Further, it is not clear that the Applicant has gained agreement from Meridian to undertake key planting around the wind farm. It is essential that mitigation measures to address natural character effects are implemented within the same catchment as where effects occur. Planting in another catchment may address offsetting or compensation requirements, but it cannot address natural character effects as such effects are catchment specific.

E. OBJECTIVE 6-2 AND POLICY 6-6 IN THE CONTEXT OF LANDSCAPE CHARACTER

12. The One Plan provides for the need to protect ONFLs from inappropriate development (Objective 6-2) and to avoid significant cumulative effects on ONFLs (Policy 6-6).
13. The Project involves an alignment between the eastern and western sides of the Ruahine and Tararua Ranges, which in part traverses the ridgeline of the Ruahine Ranges. The alignment has been revised since the NoR process and is located further to the north (avoiding parts of the QEII covenanted areas), known as the “Northern Alignment”. Technical Assessment I included an assessment of natural character in support of the applications, but not landscape. I am of the view that an assessment of the effects on landscape is necessary under the One Plan. The Section 92 Response has since provided an assessment of landscape which considers the Ruahine Ranges ONFL and the Manawatū Gorge ONFL. I am satisfied with the additional information.
14. The Applicant has considered the landscape effects of the Project on the Ruahine Ranges ONFL alongside the potential cumulative effects with the existing wind turbines. It is stated that: *“The physical changes from the current design of the Project (i.e. the Northern Alignment) in the vicinity of the Ruahine Ranges ONFL, will be large cuts as part of the earthworks required... From the location of the main viewing audiences of Ashhurst and Woodville, these earthworks will not alter the visual profile of the skyline because of the particular location and their relatively small scale in relation to the overall topography.”*¹ Further, *“the Project does not encroach on any*

¹ Section 92 response letter, 29 April 2020 (page 26-27).

high value ecological areas within this ONFL” and “*the provision of pedestrian/cycle access along the proposed shared path will enable new access and new experiences to the community through the ONFL.*”² Overall, the Applicant concludes that for the Ruahine Ranges ONFL “*with the limited adverse effects of the Project within the ONFL, there will be no significant adverse cumulative effects on the characteristics and values of the ONFL.*”³ I accept these conclusions for the Ruahine Ranges ONFL.

15. The Applicant reiterates (consistent with the assessment in the NoR process) that landscape character effects on the Manawatū Gorge ONFL will be high within the immediate vicinity of the new bridge. However, the Applicant also states that: “*the effects of the Project will be confined to the lower part of the Gorge at the western mouth and the physical impacts will be low or negligible in most of the ONFL. Therefore, when considered in terms of the whole ONFL, the effects on the visual, scenic and ecological characteristics and values would be less than those at the immediate bridge crossing.*”⁴ Other points raised by the Applicant include, “*removal of road traffic from SH3 has already reduced the effects associated with road activity along the length of the ONFL*” and “*the Project will develop and enhance the recreational facilities and opportunities on both sides of the river and also on the bridge itself with pedestrian and cycle access and a viewing platform.*”⁵
16. Overall, the Applicant concludes for the Manawatū Gorge ONFL: “*given the effects of the Project are limited to a small portion of the ONFL, at a location where there is already considerable modification, the Project will not have significant adverse cumulative effects on the characteristics and values of the ONFL.*”⁶ I accept these conclusions for the Manawatū Gorge ONFL.
17. The Applicant also concludes that: “*the Project is consistent with the direction provided by Objective 6-2 and Policy 6-6 of the One Plan.*”⁷ When considering the impact of the Project on ONFLs, I agree with this conclusion.

² Section 92 response letter, 29 April 2020 (page 27).

³ Ibid.

⁴ Section 92 response letter, 29 April 2020 (page 29).

⁵ Ibid.

⁶ Ibid.

⁷ Section 92 response letter, 29 April 2020 (page 30).

F. REVIEW OF NATURAL CHARACTER ASSESSMENT AND EFFECTS OF PROPOSAL

18. The methodology used to inform the natural character assessment (as set out in Technical Assessment I) has been refined since the NoR process, and in my view is more appropriate. The methodology no longer applies weightings to the attributes, nor does it apply a median to attributes to determine the overall rating. A five point scale with the ability of ‘in between’ ratings has also been discarded, with a seven point scale used instead (following the best practice guidelines published by the NZILA).⁸ These are positive changes.
19. While there are some potential issues with the methodology in relation to context, the calibration diagram, and the consideration of mitigation measures (these are discussed further below), I otherwise agree with the outlined methodology.

Assessment of Existing Natural Character

20. The level of existing natural character of an area is important because the One Plan requires avoidance of adverse effects in areas with outstanding natural character or in areas with high natural character if it would “significantly diminish the attributes and qualities” of the area (as per the wording in Objective 6-2(b)(i) and (ii) of the One Plan).⁹ In all other areas effects must be avoided, remedied, or mitigated.
21. With respect to the current application, I observe:
 - (a) I agree that there are no areas with outstanding natural character.
 - (b) Only Catchment 9 has been given an overall High existing natural character rating in Technical Assessment I.
 - (c) Catchment 6 is rated as having a Moderate-High existing natural character. In the NoR natural character assessment, East QEII (whole stream), which relates to Catchment 6 in Technical Assessment I, had an overall rating of High.

⁸ Best Practice Note: Landscape Assessment and Sustainable Management 10.1. (https://nzila.co.nz/media/uploads/2017_01/nzila_ldas_v3.pdf).

⁹ “Adverse effects, including cumulative adverse effects, on the natural character of the coastal environment, wetlands, rivers and lakes and their margins, are:... avoided where they would significantly diminish the attributes and qualities of areas that have high natural character”.

- (d) Catchment 7 is rated as having Moderate-High existing natural character. In the NoR natural character assessment, QEII West Stream and lower stream/wetland (whole stream/whole catchment) had an overall rating of High. Both these areas relate to Catchment 7 in Technical Assessment I.
22. I have specifically referred to the changes in Catchment 6 and 7 because of the revised rating of existing (pre-construction state) natural character for those areas since the NoR process. They are rated as Moderate-High, whereas (as I note above) equivalent areas in the natural character assessment for the NoR (which include QEII East, QEII West and raupō wetland) were identified as having High existing natural character. For ease of reference, I have included the summary tables for these areas as set out in the NoR¹⁰ and current applications at **Attachment A** of this report.
23. The Section 92 Response sets out reasons for the changes¹¹ including: the natural character experts represented an almost completely new team from the NoR process; other specialists had inputs (including experts on stream morphology and flow regime);¹² alterations to the methodology (including consideration of context, calibration of ratings, catchment scale approach, use of a seven-point scale, no weightings applied to attributes, no use of a median, and using an iterative team process to determine overall ratings);¹³ and more field work and research completed since the NoR process. The Section 92 Response also highlights that there is no nationally recognised methodology for assessing natural character.¹⁴ Some examples of the extra field work and research that has been carried out are provided.
24. It is not entirely clear what new information has influenced the updated ratings of natural character in these areas (particularly in catchment 6 and 7 where there were limitations with the calibration exercise, as I discuss below). However, I accept that the changes are likely to have arisen as a result of the revised methodology, the addition of some new team members, and the further field work/research undertaken since the NoR process.

¹⁰ Tables 2, 9 and 11, Technical Assessment 4.A of the NoR documentation suite, lodged 2 November 2018, pages 4, 50, and 52.

¹¹ Section 92 response letter, 29 April 2020 (page 23).

¹² I note that flow regime and stream morphology (i.e. active bed/body shape) were still considered as part of the NoR natural character assessment.

¹³ As referred to paragraph 57 and 58 of Technical Assessment I – Natural Character.

¹⁴ Section 92 response letter, 29 April 2020 (page 23).

25. Both Mr Brown and Mr Lambie have confirmed that they are comfortable with the ratings for attributes related to freshwater and terrestrial ecology attributes (respectively), including when considering changes since the NoR assessment. Mr Brown has also confirmed that Technical Assessment H provides a transparent method on stream ecological valuation assessments.¹⁵ I rely on their conclusions.
26. I have further reviewed the NoR assessment in light of the Section 92 Response, and in particular the ratings for the experiential attributes of natural character. The existing rating for the experiential component of natural character for QEII east (whole stream) was High-Very High as part of the NoR process, while it was only High for the related area in this application (Catchment 6). Given the same expert contributed to both experiential assessments, there must be additional information which has led to the change in rating since the NoR process. It would be helpful if this information could be identified within the application or provided to Horizons. There are also significant reductions¹⁶ in the values associated with structures and human modifications, although I accept the revised alignment may have contributed to the change. The changes are seen in the tables below.

Key:			
Orange		Indicates a lower rating for the regional assessment compared to the NoR assessment.	
Green		Indicates a higher rating for the regional assessment compared to the NoR assessment.	
Blue		Indicates a decrease in rating for an attribute.	
Purple		Indicates a significant change for an attribute.	
Light orange		Indicates an increase in rating for an attribute.	
Comparison between NoR assessment¹⁷ and assessment for regional consent			
	NoR assessment	Regional consent assessment	
Attribute	QEII East (whole stream)	Catchment 6	Catchment 6 (post development)
Flow regime	H-VH	M	M
Morphology	H-VH	M	M
Water quality	H	MH	MH
Exotic aquatic flora and fauna	VH	H	H

¹⁵ Mr Brown's S87F Report (paragraph 61).

¹⁶ Significance here refers to a significant reduction as defined in Technical Assessment I: Natural Character (paragraph 58 (c)).

¹⁷ Table 11 in Appendix 4.A: Natural Character Assessment (26 October 2018).

Indigenous taxa assemblages	H-VH	H	H
Ecosystem functioning	H-VH	H	H
Structures and human modifications	VH*	M	ML
Terrestrial ecology	H-VH	H	H
Experiential	H-VH	H	M
Overall	H	MH	MH

*Equivalent to morphology/physical modification under margin

Comparison between NoR assessment ¹⁸ and assessment for regional consent			
	NoR assessment	Regional consent assessment	
Attribute	QEII West Crossing to Raupō Wetland (whole catchment)	Catchment 7	Catchment 7 (post development)
Flow regime	H	M	ML
Morphology	H	M	ML
Water quality	H	M	MH
Exotic aquatic flora and fauna	VH	H	MH
Indigenous taxa assemblages	M	H	MH
Ecosystem functioning	H	H	M
Structures and human modifications	H*	M	L
Terrestrial ecology	H	H	M
Experiential	H	H	L
Overall	H	MH	M

*Equivalent to morphology/physical modification under margin

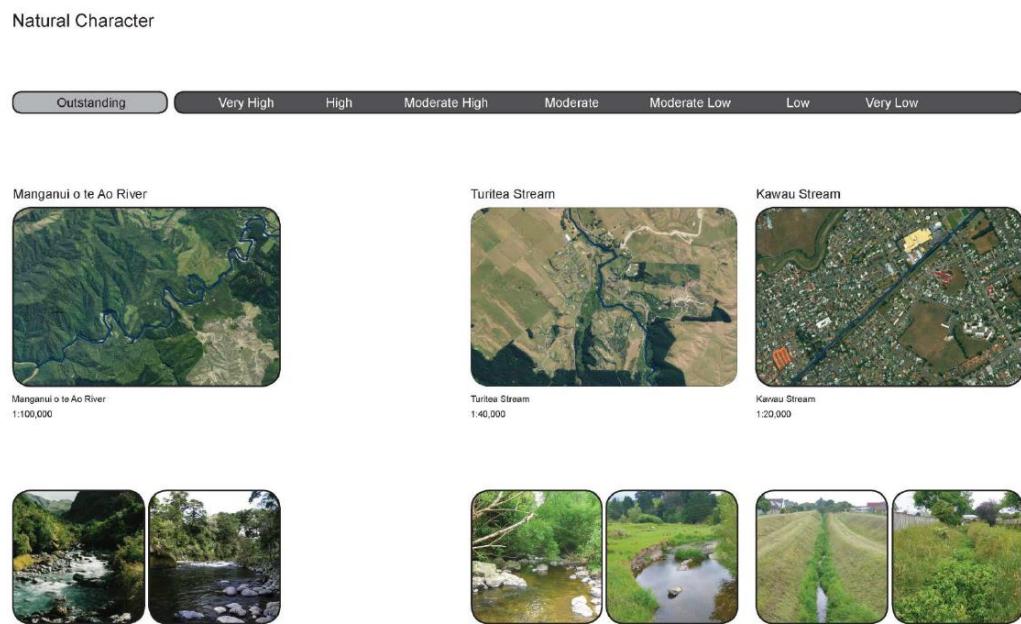
27. I acknowledge that the Applicant has relied on a calibration process, as illustrated in the Calibration Diagram provided in Technical Assessment I.¹⁹ The absence of any calibration was a shortcoming identified by experts for the territorial authorities at the NoR hearing, and it is positive that this work has been done. However, the Calibration

¹⁸ Table 9 in Appendix 4.A: Natural Character Assessment (26 October 2018).

¹⁹ Figure I.3, at page 30 Technical Assessment I: Natural Character.

Diagram only provides examples of rivers and streams with existing natural character ratings of Very High/Outstanding, Moderate, Moderate/Low and Low/Very Low. There are no examples of High and Moderate-High rivers and streams (shown in Figure 1.3, below). As a result, the Calibration Diagram would have had limited value during the assessment process when determining the existing natural character rating of Catchment 6 and 7, which are rated as Moderate-High QEII East.²⁰ While the Section 92 Response²¹ states that it would not be useful to provide more examples in the Calibration Diagram at this time (post calibration), the overall findings for those catchments would have been more robust if calibrated against examples in the region.

Figure I.3: Calibration Diagram



28. Overall, while reasons for the change in existing ratings for Catchment 6 and 7 are not readily apparent in Technical Assessment I, and while noting the limitations with the Calibration Diagram, after discussions with Mr Brown and Mr Lambie and following review of their reports, I accept the ratings of natural character provided in the application.

Consideration of Context

²⁰ To (whole stream) and QEII West and raupō wetland (whole stream/whole catchment) which were identified as High in the NoR natural character assessment).

²¹ Section 92 response letter, 29 April 2020.

29. As a matter of good practice, assessment at multiple scales is appropriate. Best practice, as supported by case law, suggests that adopting too broad a spatial area can result in an inappropriate discounting of localised natural character or landscape values. This dilutes the effects of an activity on those values.²² I acknowledge that the reverse can also apply if too small an area is considered.
30. Technical Assessment I has adopted a catchment scale approach when considering “areas” of natural character under the One Plan.²³ An assessment of natural character at selected crossing points was also carried out in order to inform the “overall catchment rating of natural character”. While I agree that the catchment scale approach adopted in this assessment is appropriate, it is important for the assessment to be focused on the rivers and wetlands and their margins within each catchment in order for it to be relevant to natural character.²⁴
31. Technical Assessment I provides the total catchment area and length of stream within the Project footprint for each catchment but does not provide the total stream length in each catchment. This has made it difficult to ascertain the percentage or ratio of stream affected in comparison to its total length. The Section 92 Response has since provided a summary table based on information in the Freshwater Ecology – Technical Assessment H, which indicates the length of stream that is culverted, infilled or diverted (noting this does not take into account the contribution of stream diversions).²⁵ The table (as set out below) addresses this information gap to my satisfaction.

Stream Catchment	Stream length with contributing catchment > 3ha. (m)	Stream length impacted by works (m)	% of total stream length impacted
1	12850	923	7%
2	190190	2808	1%
3	5060	724	14%
4	18545*	3167	17%*
5	5745	3311	58%
6	4715	127	3%
7	5000	1195	24%
8	6340	1052	17%
9	10395	59	1%

²² *Clearwater Mussels v Marlborough District Council* [2018] NZEnvC 88, paragraph 156.

²³ Technical Assessment I, Natural Character (paragraph 19, page 7).

²⁴ Objective 6-2, Policy 6-8 and RMA Part 2, 6(a).

²⁵ Section 92 response letter, 29 April 20 (page 21).

32. While the Section 92 Response states that the focus of the natural character assessment has been on the rivers and streams and their margins,²⁶ this is not consistently reflected in Technical Assessment I (or the AEE) with some statements creating a degree of uncertainty in relation to context. In particular there appears to have been some focus in Technical Assessment I “*to the wider landscape context of the catchment*”.²⁷ Technical Assessment I does not, however, clearly state whether natural character attributes, other than experiential, are assessed within the entire area of the catchment or in relation to the entire stream length within the catchment. This is a pivotal point as natural character only relates to rivers and wetlands and their margins.²⁸ I have raised this concern with Mr Brown and Mr Lambie, both of whom confirm that ecological attributes are only focused on effects within, and immediately adjacent to waterbodies. I am satisfied with their responses.
33. The AEE adds to this confusion around context as it refers to “*overall stream scale*”²⁹ and the natural character assessment refers to “*catchment scale*”. Although, the Section 92 Response has since clarified that the AEE should have stated “*catchment scale*”, rather than “*overall stream scale*”.³⁰ There are also several instances in the report where the focus on natural character effects is unproportionally centred on context.³¹ For example, at page 142 of AEE where it states: “*cumulatively, the nine catchments comprise only a small portion (0.6%) of the overall Manawatū River catchment and at that broader scale, the overall effects on the natural character of the water bodies are expected to be relatively small*”. These sorts of statements overlook the fact that in all catchments the majority of streams are downstream of the Project (drawing TAT-3-DG-E-4100-A, below), and in several catchments the Project follows the length of the river or crosses it multiple times (including Catchment 4, 5, and 7). Therefore, while the Project may only cover 0.6% of the catchments, it is far more important to focus on the upstream location of the Project, and length of stream within the footprint of the works areas, than the percentage of total catchment area affected.

²⁶ Technical Assessment I, paragraph 57 (c) (page 17).

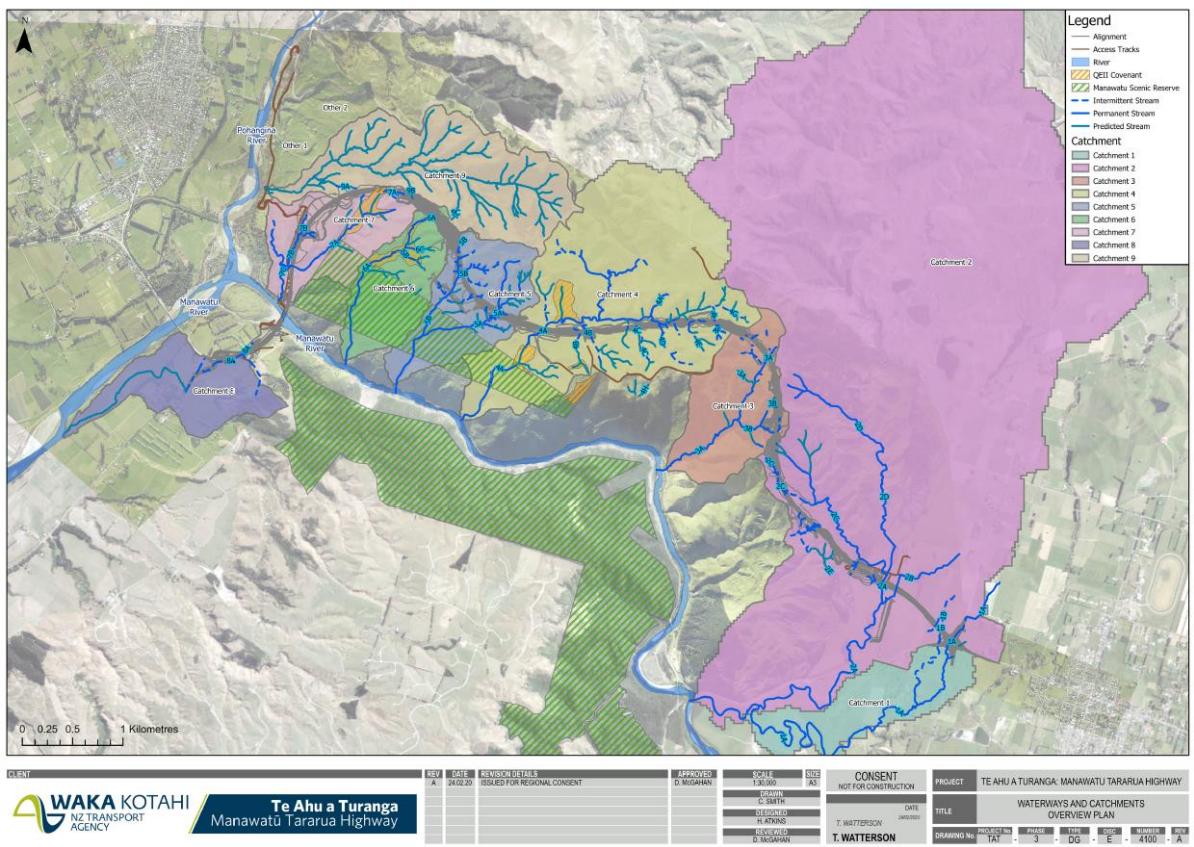
²⁷ Technical Assessment I, paragraph 47 (page 13). A catchment is defined in turn as “*an area of land over which rainfall is collected by the land and directed towards a particular river or stream.*”

²⁸ Objective 6-2, Policy 6-8 and RMA Part 2, 6(a).

²⁹ AEE, page 37.

³⁰ Section 92 response letter, 29 April 2020 (page 22).

³¹ See for example, paragraph 153 and 154.



34. Despite the potential misdescription of (or at least uncertainty around) context as referred to in Technical Assessment I, based on my discussions with Mr Brown and Mr Lambie, I am comfortable that context has been considered correctly in the relevant technical assessments and a potential dilution of effects has been avoided.

Catchment Scale Approach

35. In assessing the crossings and raupō wetland at a catchment scale the effects on three of the highly rated crossing points (5A, 7A and the raupō wetland) have been down-scaled. For instance, Technical Assessment I states that “*Therefore, while there will be significant changes to some attributes at a crossing point scale, these need to be considered in context. Given that streams are interconnected ecosystems and effects need to be considered in a catchment context, the team considered the significance of these changes at a catchment scale.*”³² This has led to high localised effects being considered less significant when viewed within a wider catchment.
36. Technical Assessment I acknowledges that the localised (site) effects on natural character of the stream crossings (including the wetland) are High, with the change in

³² Technical Assessment I, paragraph 141 (page 37).

natural character at the crossings assessed as moving from High to Low and High to Moderate depending on the crossing (Table I.12 and Table I.14). This is a significant effect (significant diminishment in attributes contributing to natural character) according to the Transport Agency's own assessment scale. However, when considered in the wider catchment context, the natural character ranking is not affected, or only reduces slightly. Technical Assessment I refers to this as being the result of the reduction in natural character (for the stream crossings) being attenuated, "*as much of the catchment above and below the crossing point will be unaffected by the Project*".³³

37. Due to the scale of effects at these crossings it is important that Technical Assessment I clearly illustrates how these effects are mitigated, which it has not. This is discussed further under 'Mitigation of Effects' and 'Submissions' (Forest and Bird).

Mitigation of Effects

38. Technical Assessment I states that the rating of effects has not considered mitigation measures, referring to the post development ratings being "pre-mitigation".³⁴ However in some instances the assessment of natural character infers that mitigation measures have influenced the assessed level of effects of the Project. For instance:
 - (a) In the table for Catchment 7: "*On balance, given the extent of stock exclusion compared to the current situation, the Project could lead to the improvement of overall water quality and hence increase the rating of this parameter to moderate high*".³⁵ It appears that the mitigation measure of stock exclusion has been considered in the assessment.
 - (b) In the table for Catchment 8: "*May see small improvement in the riparian margins as diversions are planted*".³⁶ The mitigation measure of riparian planting appears to have been incorporated as part of the assessment.
 - (c) In the table for crossing point 7B: "*Crossing involves near-complete loss of existing channel in the sub-catchment and replacement with permanent diversion. Provided this results in complete removal of stock from the catchment with revegetation/retirement of former pasture in the sub-catchment*

³³ Technical Assessment I, Natural Character (paragraph 234(f), page 68-69).

³⁴ Technical Assessment I, Natural Character (paragraph 15, page 6).

³⁵ Technical Assessment I, Natural Character (page 110).

³⁶ Technical Assessment I, Natural Character (page 117).

then an increase in rating may result").³⁷ It appears that mitigation involving stock exclusion and revegetation has been assessed as changing the existing natural character of water quality from Low to Moderate-Low.

39. The question of mitigation was raised with the Applicant in the request for further information. The Section 92 Response confirmed that the assessment took into consideration proposed measures in the DCR (including proposed stormwater treatment; culvert design, including provision of fish passage where practicable; and diversion of streams), the implementation of the CEMP and Erosion and Sediment Control Plan ("ESCP"), and fencing of the new highway (which will also result in excluding stock from certain waterways). It further explains that some experts within the natural character team took into account the contribution of riparian planting of constructed stream channels in assigning their attribute ratings, while others did not.
40. This approach risks creating uncertainty regarding the overall effects of the Project on natural character. Notably, the Section 92 Response states that those experts that did not take into account the effects of mitigation (for example constructed stream channel riparian planting) have confirmed that consideration of this mitigation would be unlikely to affect their individual attribute ratings.³⁸ Therefore, it is unclear what benefit this mitigation measure will provide if it will not affect individual ratings. It is also unclear on a Project wide basis to what extent mitigation measures have or have not been considered. I am also reassured by the fact that if anything, where mitigation has not been accounted for, the effects ratings would have been conservative, with natural character ratings likely to improve after consideration of mitigation. I have therefore reached the view that (while not ideal) this issue with the methodology is not fatal to the assessment of natural character.

Inconsistency in Assessment of Post Development Natural Character

41. Paragraph 24(d) and 234(d) of Technical Assessment I concludes that "*Post-development, there is a reduced level of overall natural character in catchments 2, 3, 4, 5 and 7; in catchments 1, 6, 8 and 9 there is no change.*" In paragraph 134, it is stated that: "*Given the scale of the works associated with construction and operation of the Project, the natural character of the waterbodies it interacts with will be affected in some way*". There appears to be an inconsistency between these paragraphs. It is

³⁷ Technical Assessment I, Natural Character (page 145).

³⁸ Section 92 response letter, 29 April 2020 (page 20).

not clear how Catchments 1, 6, 8 and 9 will experience no change despite the Project affecting the natural character of the waterbodies in these catchments in some way.

42. The Section 92 Response clarifies this by explaining that “*in catchments 1, 6, 8 and 9 there is no change in overall natural character*”, with individual attributes undergoing change. However, the length of stream impacted in Catchments 1, 6 and 9 is low, while Catchment 8 is already highly modified.³⁹ I am satisfied that this explanation has addressed the inconsistency between the identified paragraphs.

Cumulative effects

43. Paragraphs 237 to 240 form the basis of the cumulative effects assessment in Technical Assessment I. Overall, at paragraph 238: “*In assessing the effects on natural character at a catchment level, this assessment inherently considers the cumulative natural character effects of the Project on the affected catchments*”. In turn, the report identifies a number of modifications within the Project area (pasture, farms, the Te Āpiti Wind Farm, Saddle Road, the railway line, and the former Gorge Road).
44. There is no clear assessment of the potential cumulative effects from these modifications on rivers and wetlands and their margins when viewed in conjunction with the anticipated natural character effects from the Project. While the Applicant states that they have considered both existing and post development levels of natural character, Technical Assessment 1 goes on to note that “*only a small portion of the overall Manawatū River catchment is affected by the Project*”.⁴⁰ In support of this view the Applicant provides a total length and area of stream across the nine catchments affected by the Project. This sparse level of detail does not provide sufficient explanation or transparency around how conclusions on cumulative effects have been reached for the Project.
45. The Section 92 Response also states that: “*While an assessment of natural character has been carried out for each individual catchment, the summary tables include all the catchments together so the results can be seen collectively and in relation to each other*”. A cumulative effects assessment involves: “*The process of (a) analyzing the potential impacts and risks of proposed developments in the context of the potential*

³⁹ Section 92 response letter, 29 April 2020 (page 24).

⁴⁰ Technical Assessment I: Natural Character (paragraph 239, page 70).

effects of **other human activities...**⁴¹ (my emphasis in bold). The value in an assessment lies largely in the analysis. By presenting the overall effects for each catchment in a table, no analysis has occurred between the different ratings, and there is no assessment of the cumulative effects of the Project with other activities.

46. In my view, there has been insufficient analysis (at least documented analysis) of the cumulative effects assessment required under the One Plan. While I accept that cumulative effects are unlikely to be significant, the Applicant should have provided further detail in support of this conclusion to enable better understanding of the nature and scope of those effects, and therefore the objectives within the One Plan.
47. A similar problem emerges with a lack of detail over how the Project meets Policy 6-9. The Section 92 Response asserts that: “*the Project meets Policy 6-9 which provides that use or development is generally appropriate where, amongst other factors, it will not, by itself or in combination with effects of other activities, significantly disrupt natural processes or existing ecosystems.*⁴² However, it is not readily apparent what assessment of the cumulative effect of the Project has occurred (and with what result) against existing developments and modifications in the vicinity of the Project.
48. The Section 92 Response also confirms that the Applicant considers that Objective 6-2 (b) has been met. However, this conclusion is based only on significant effects to areas with High natural character. Objective 6-2 indicates that cumulative adverse effects on the natural character of rivers and wetlands must be considered.⁴³ This assessment is required in all areas with natural character under 6-2(a) through (c), regardless of the overall value or rating of the area (Outstanding, High, Medium etc).
49. In my opinion, while the Applicant has turned its mind to the need to consider cumulative effects, any “assessment” has occurred in a cursory manner without sufficient detail or transparency around how the cumulative effects conclusions have been drawn. Despite this, I am of the opinion that cumulative effects are likely to be significant.

⁴¹ International Association for Impact Assessment, Cumulative Effects Assessment fast tips publication:

https://www.iaia.org/uploads/pdf/Fastips_16%20Cumulative%20Effects%20Assessment_1.pdf

⁴² Section 92 response letter, 29 April 2020 (page 25).

⁴³ “Adverse effects, including cumulative adverse effects, on the natural character of the coastal environment, wetlands, rivers and lakes and their margins, are: ii avoided where they would significantly diminish the attributes and qualities of areas that have high natural character, and iii. avoided, remedied or mitigated in other areas.”

G. REVIEW OF THE LANDSCAPE MANAGEMENT PLAN

50. The Landscape Management Plan (“LMP”) forms part of the CEMP, which states that the LMP will be prepared in accordance with Condition 17 of the Designation. The CEMP provides a list of what the LMP should include, however, the LMP itself does not form part of the current application. The Applicant has confirmed that the LMP is underway as part of the detailed design but is not complete.⁴⁴
51. Without the completed LMP it is not possible to ascertain definitively how the adverse effects of the Project on natural and landscape character will be addressed. Furthermore, there are no proposed conditions specifically for natural character or landscape character within the application. I discuss conditions further below.
52. The Application includes a Planting Management Plan, which sets out the management requirements in respect of planting measures required to offset and compensate for residual effects on terrestrial, wetland and freshwater ecological values. This plan is also required by Condition 19 of the Designation conditions for the Project. It is unclear whether the plan has been prepared in consultation with the Project Iwi Partners or DOC (as required under the Designation), although it recognises that the proposed management actions “shall take into account the outcomes of consultation with ...” those parties. While predominantly a matter for Mr Lambie, I have made a number of recommendations as to further information which should form part of this plan to ensure effects on natural character are managed, and to also better align the plan with the proposed CMP still to come.

H. SUBMISSIONS

53. I have reviewed the submissions received on the publicly notified application. Many of the submissions cover topics outside of my area of expertise, however, the submissions that raise issues within my area of expertise are discussed below.

Submission	Subject
Submission 2 – Dr S Hill.	Opposes the impacts to Te Ahu a Turanga peak. Opposes the Projects as it destroys forest and wetland.

⁴⁴ Section 92 response letter, 29 April 2020 (page 30).

Submission 6 – Mr K C Barnett.	Supports the proposal in full, with conditions.
Submission 9 – DaSS Trust (Mr G D Speedy).	Supports the positive effects on the environment and conclusions for Section 6 of the RMA.
Submission 13 – Meridian Energy Ltd (Meridian).	Concerns over bird strike as a result of wetland and riparian planting on the Te Āpiti wind farm.
Submission 15 – Royal Forest and Bird Protection Society Inc (Forest and Bird).	Opposes offsetting approach. Considers the assessment of natural character as inadequate.
Submission 19 – Department of Conservation (DOC).	Opposes the application and seeks further conditions.

54. Dr S Hill (Submission #2) raises concerns in relation to the Project destroying areas of old-growth native forest and wetlands, as well as tapu 3 and wāhi areas, such as Te Ahu a Turanga peak. I defer to Mr Lambie to comment on the ecological effects of the loss of old-growth forest and wetlands but refer to my earlier comments regarding the existing natural character of the area including the raupō wetland in Catchment 7. Mr Lambie has confirmed that he is comfortable with the rating of natural character for Catchment 7 including the raupō wetland. Mr Lambie also confirms⁴⁵ that the terrestrial ecological natural character attributes for this part of Catchment 7 are likely to be as high post development as pre-development. Notably, however, measures to mitigate effects on the wetland must occur within the same catchment for them to address natural character, and sites are yet to be secured by the Applicant.
55. Two of the submissions (Submissions #6 and #9) support the positive effects that the application will have on the environment, including resultant positive landscape enhancements.⁴⁶ I accept the landscape assessment outcome as provided in the Section 92 Response. The submissions also support the conclusions under section 9.3.2 of the AEE regarding Section 6 of the RMA, including that the Project provides for the preservation of natural character of streams and margins. The AEE goes on to

⁴⁵ Mr James Lambie's S87 Report (paragraph 35-38).

⁴⁶ Page 99 of the AEE.

state that: “*The extensive offset and compensation planting proposed... may result in some enhancement of natural character in some areas.*”⁴⁷ Effects on natural character generally cannot be offset as natural character is the expression of natural elements, patterns and processes in a landscape,⁴⁸ and is therefore tied to a specific place (for instance it is not possible to offset the experiential attributes of natural character). I accept that it can be possible to offset biophysical aspects, which may contribute to reducing the overall level of effect on natural character. If offsetting occurs within the same catchment as the effects it is addressing, then the offset may act to mitigate natural character effects. This is discussed further in respect to Meridian’s submission.

56. The submission by Meridian (Submission #13) indicates a preference for “*no landscape planting on earthworks associated with the Te Apiti works*” (page 6). It further highlights that there are a number of existing stormwater wetlands and wetland swales in the Project within Te Āpiti, Meridian’s 55 turbine wind farm. Conveyance channel planting, as well as areas of landscape and stream diversion planting are also proposed on the Te Āpiti wind farm as part of the Project’s ecological offset/compensation package. Meridian are concerned that these new wetland and riparian areas will create enhanced habitat for wetland birds and could increase the risk of bird strike of such species with wind turbines. Mr Lambie will address concerns regarding bird strike. However, if the proposed planting and wetland development did not occur, the mitigation these works could provide in managing the effects on natural character in Catchment 5 would be reduced. This would also be the case even if offsetting for effects within Catchment 5 was to occur outside of the catchment. As I note above, effects on natural character are location specific. The reduction of planting/new habitat on the Meridian land could increase adverse natural character effects, depending on whether the respective experts have considered this mitigation in their assessment of natural character.
57. Forest and Bird’s submission (Submission #13) highlights that there is “*some uncertainty to the approach set out whereby adverse effects identified as low or negligible adverse effects that have been identified as not warranting offsetting of [sic] compensation. This appears inconsistent with the consideration of cumulative effects which needs to be considered in combination with other effects and in relation to natural character are avoided, remedied or mitigated in achieving Objective 6-2.*” The submission also considers the assessment of natural character and potential adverse

⁴⁷ Page 205 of the AEE.

⁴⁸ NZILA Best Practice Note, 2010.

effects as inadequate, noting that it does not identify any specific mitigation measures where natural character values will be diminished.

58. As noted previously, natural character effects cannot be offset. If offsetting occurs in the same catchment as the biophysical effects they are addressing, offsets can act in the manner of mitigation for particular attributes that contribute to the natural character of an area. I have already set out my concerns regarding the cumulative effects assessment in Technical Assessment I. Presently, there are three crossing points (5A, 7A and raupō wetland) which will experience a significant reduction in natural character. It is not clear what specific mitigation measures have been proposed (or accounted for) for these areas. This should be clarified by the Applicant.
59. The submission also considers that the application fails to consider Objective 6-2 of the One Plan in full and queries whether the application requires reference back to Part 2 of the Act to ensure the proposal will preserve natural character. As I have noted, the cumulative effects assessment lacks detail, however, the cumulative effects are unlikely to be significant. Mitigation of effects should, however, be considered.
60. The Forest and Bird submission also raises questions over condition EC12 and the requirements of the following plans (in combination): Residual Effects Management Plan, Planting Establishment Management Plan, and the Site Specific Ecology Offset and Compensation Plans. I have set out a number of matters below that, in my view, need to be better accounted for in the relevant plans. These additions will also provide for better consistency with the LMP proposed for the outline plan process for the designation (where further detail is to be provided around planting programmes) to manage landscape effects.
61. The submission by DOC (Submission #19) considers that details in the application remain outstanding, including "*a robust set of consent conditions that provides baseline standards or controls (i.e. does not leave fundamental matters to management plans that may be changed from time-to-time).*" To date the LMP is incomplete and there are no conditions directly addressing landscape or natural character. However, I agree that bottom lines (standards) should be in conditions, not management plans which can be the subject of change over time.

I. CONCLUSION

62. Having reviewed the AEE, the various supporting technical assessments and the Section 92 Response, I have reached the following conclusions:
- (a) The landscape effects have been adequately addressed through the Section 92 Response, and I am in agreement with the conclusions of the Applicant.
 - (b) While the natural character assessment methodology has improved since the NoR hearing process, some areas of Technical Assessment 1 lack transparency and detail. The Section 92 Response, as well as the reporting of Mr Brown and Mr Lambie, has assisted in resolving several of my questions regarding the natural character assessment. While I have some residual questions over the changes in experiential values for catchment 6 and 7 (which will look to be resolved with the Applicant through further information), I am satisfied the conclusions of the Applicant on natural character are acceptable when considering natural character.
 - (c) There is a lack of detail in the cumulative effects assessment, however, in my view it is unlikely that any cumulative effects on natural character of the Project will be significant.
 - (d) There is insufficient detail or description of mitigation measures for crossing points 5A, 7A and raupō wetland, where there are significant localised effects, and this should be addressed by the Applicant.
 - (e) While DRAWING TAT-3-DG-E-4151-A indicates landscape, offset and compensation planting, there is uncertainty over where these plantings will be located because the Applicant is still in the process of securing all required sites. Greater certainty is required particularly in circumstances where natural character cannot be readily offset and to be effective, the management of effects needs to occur in the same catchment as where the effects occur.

J. RECOMMENDATIONS/CONDITIONS

63. The Application currently contains no specific landscape or natural character conditions. Rather, more generally, there are matters relevant to landscape and natural character contained within other consent conditions and management plans.

64. Condition GA1 a) specifies that:

“...the Project must be undertaken in general accordance with the ‘Te Ahu a Turanga; Manawatū Tararua Highway – Application for Resource Consents’ and in particular the following supporting documents:

iv. ‘Volume 7: Management Plans’ as follows:...”

65. I note that the CEMP has not been listed as one of these management plans under condition GA1a). Furthermore, there is no requirement under condition CM4 c) (which provides that “*The CEMP must include, but not be limited to, the following...*”) for the LMP to be included as a management plan. While CM4 c) stipulates that the condition is not limited to the documents listed, I am of the view that the LMP should be explicitly referenced, especially given the lack of specific landscape and natural character conditions and also the absence of the LMP within the proposed conditions to date.
66. I also recommend that the below matters are captured within the resource consent conditions. I am not concerned where these are addressed in the conditions. Some may already be in the Ecology Conditions or in the Planting Establishment Management Plan (although given managements plans can be altered, any ‘bottom lines’ should be in conditions), so long as they are provided for somewhere.
67. Specific matters to be included are:
- (a) A description of how vegetation that is to be retained is identified and protected and retired from grazing, including by physical protection through stock exclusion and fencing;
 - (b) With reference to the ‘Landscape Sectors and Focus Areas’ set out in Chapter 4 of the CEDF, describe proposed planting including:
 - (i) Plant species, plant/grass mixes, seed/plant sources and sizes (at time of planting);
 - (ii) Plant layout, spacing and densities;
 - (iii) Planting methods, including ground preparation, mulching and any trials;
 - (iv) Plant and animal pest management strategies;

- (v) A planting programme that is staged with reference to the construction programme and requires planting to be completed within the three planting seasons of the completion of construction in any given Landscape Sector;
- (vi) Measures to monitor and manage all planting so that plants establish and those that fail to establish are replaced over a 5 year period or in the case of mass plantings, until 80% canopy cover is achieved;
- (vii) The nature and location of planting to stream/riparian and wetland margins to restore natural character values; and
- (viii) Any measures to mitigate effects on natural character must deliver benefit to the stream or wetland and its margins within the catchment where effects have occurred.

JOHN ROBERT HUDSON

25 May 2020

ATTACHMENT A

Table 2: Summary of changes to areas of high natural character (whole streams)

Location	Current Condition	Post Construction Condition
Chainage 4000-6000 QE II West & Lower stream/wetland	High	Moderate/High
QEII East (chainage 6100-6400)	High	High
Stream Crossing construction access to Saddle Road	High	High

Table 9: QEII West Stream – Change to Natural Character

West Stream (chainage 4000-6000) Stream from QEII West Crossing to Raupō Wetland, old growth forest							
Current state			Future state at site/reach scale			Future state at stream catchment scale	
River Component	Existing (whole catchment)		Site Embankment	Site Viaduct	Site QEII crossing (culvert & bridge)	Whole Stream embankment and QEII west crossing	Whole Stream viaduct and QEII west crossing
Active bed	Morphology/modification	H	L	MH	M	M	MH
	Flow regime	H	M	H	MH	H	H
	Water quality	H	M	M	M	M	M
	Aquatic (indigenous taxa assemblages)	M	L	M	M	ML	M
	Ecosystem functioning	H	L	H	M	M	MH
	Exotic aquatic flora and fauna (absence)	VH	M	VH	VH	H	VH
Margin	Morphology/physical modification	H	VL	H	M	ML	MH
	Terrestrial ecology	H	VL	M	M	L	M
Context	Land use /modification	MH	M	M	M	M	M
All	Experiential	H	M	M	M	MH	MH
OVERALL LEVEL OF NATURAL CHARACTER <i>* Significantly Reduced</i>		H	ML*	MH	M*	M*	MH

Table 11: QEII East – Change to Natural Character

East QEII Crossing Final alignment assessments 28.8.18		Crossing Site only		Whole Stream	
		Existing	Future crossing	Existing	Future with crossing
Active Bed	Active bed morphology/modification	H	ML	H-VH	MH
	Flow regime	H	MH	H-VH	H
	Water quality	H	M	H	M
	Aquatic (Indigenous taxa assemblages)	H	M	H-VH	H
	Ecosystem Functioning	H	M	H-VH	H
	Exotic aquatic Flora and Fauna (absence)	VH	VH	VH	VH
Margin	Morphology/Physical modification	H	L	VH	MH
	Terrestrial Ecology	H	L	H-VH	MH
Context	Land use /modification	MH	M	H-VH	H
All	Experiential	H	ML	H-VH	H
Overall Level of Natural Character <i>* Significantly Reduced</i>		H	M*	H	H

CATCHMENT 7 (including Raupō Wetland)	
OVERALL RATING	MODERATE HIGH

CATCHMENT 6	
OVERALL RATING	MODERATE HIGH