



Te Kaunihera-ā-Rohe o Ngāmotu

NEW PLYMOUTH DISTRICT COUNCIL

newplymouthnz.com

When replying please quote document no: 7675055
Application ID: DSN17/44711

22 March 2018

NZ TRANSPORT AGENCY

Level 5, Majestic Centre

100 Willis Street

WELLINGTON 6011

Attention: Peter Roan and Caroline Horrox

Dear Peter and Caroline

MOUNT MESSENGER BYPASS (SH3) BETWEEN URUTI AND AHITITI - REQUEST FOR FURTHER INFORMATION

We need further information for the New Zealand Transport Agency's Notice of Requirement (NoR) to alter the existing State Highway 3 (SH3) designation (District Plan reference N36), to undertake roading improvements between Uruti and Ahititi in North Taranaki.

With regard to the joint processing between Taranaki Regional Council ("TRC") and New Plymouth District Council ("NPDC") for this project, I can advise that I have discussed this letter with Colin McLellan at TRC and he has indicated that TRC will not send a separate request for further information under Section 92 of the Resource Management Act 1991 ("RMA") at this time. Some of the matters raised in this letter relate to TRC's specific functions under Section 30 of the RMA, however the effects on streams and other TRC matters are inextricably linked to the land use activities which are subject to NPDC's functions under Section 31 of the RMA and which are within the scope of the designation. Both Councils have responsibilities in relation to natural hazards, biodiversity, tangata whenua and control of effects of activities in relation to rivers. NPDC and TRC acknowledge that there is a strong interrelationship between the designation and resource consent processes and seek to address the information requirements in an integrated manner to avoid duplication.

Under Section 92(1) of the RMA, we request the following information to help us to better understand your proposed activity, its effect on the environment, and how you can limit any negative effects on the environment.

Designation details

1. It is understood that the proposed new designation boundaries would include the existing Mt Messenger rest area, and the Requiring Authority would seek the proposed tunnel emergency water supply intended to be located within the rest area to be within the designated area. However access to this rest area would not be secured within the designation. Considering that the status of existing state highway to be revoked has not yet been determined, what consideration has been given to ensuring legal access continues, regardless of the future legal status of the existing road?
2. Please indicate which areas are anticipated to be removed from the designation once the construction is completed and the new route is operative. (This request is linked to the matter

above regarding accessing properties and the state highway revocation, as well as consideration of effects on the Pascoe farm and buildings).

3. The AEE explains that ongoing work continues and the “final design” is not yet completely developed. Please clarify when you think the design will be completed, and if not by the Hearing, to what extent can the drawings provided be relied upon?

Noise

4. A detailed assessment of the construction noise impacts on 2397 Mokau Road resulting from the use of the spoil area is requested. Please identify the possible location of haul road(s) and predict construction noise resulting from the use of the haul road(s) and the spoil area including earthworks activities, and identify what mitigation measures are appropriate and where these should be located. Include the separation distances between the dwelling and the haul roads and the spoil area. Identify the permitted hours of operation for the spoil area as night-time activity is of particular concern.

Pascoe property

5. The noise report suggests that the dwelling at 3072 Mokau Rd (Pascoe) will be used for residential purposes following construction. This dwelling is located where the main construction yard is proposed to be located. Please outline the plan (or options for) how the dwelling would be used for living purposes again, given that the plans show the area to have provisional fill, potential permanent disposal area, mitigation planting and preferred yard site at this location.
6. Section 5 of the Social Impact Assessment (SIA) considers construction dust from earthworks in relation to 3072 Mokau Rd (Pascoe) as if they would be living there during the construction period. Section 8 of the Social Impact Assessment considers local social impacts in terms of wellbeing and three other factors. It states that contractor’s yards and other construction features will be located away from residences and fails to acknowledge that the preferred yard site and offices are proposed at the location of the existing Pascoe dwelling. Section 9 of the SIA rates the significance of social impacts and considers them to be minor or medium without mitigation, and reduced to minor with mitigation. Page 51 does identify the loss of social cohesion from land acquisition; rating this is a medium impact reduced to minor due to the compensation provided through the Public Works Act process. On page 47 of the SIA it states “Concern and anxiety cannot be fully avoided or mitigated as individuals have different reactions. However, the accelerated nature of the project has the potential to provide certainty to people that the project will go ahead as opposed to a long drawn out process.” Whilst this may apply to the wider neighbourhood, I consider the SIA is deficient in its assessment of the social impact on the Pascoe’s amenity, way of life and wellbeing. Please further assess the social impact on the Pascoes, who during the construction period will have a severely reduced ability to live on and farm their land. Please confirm you consider the impact on the Pascoes resulting from the land acquisition to be minor, and provide detail and justification for the medium/minor rating of the social impact.
7. Concerns regarding the effects of the proposal on the Pascoes have been raised in submissions. Please comment on whether you consider the social impact and amenity effects on the Pascoes to be relevant to the decision on the Notice of Requirement. Please explain why this is not acknowledged in the application documentation or direct me to where in the application this is addressed.

Consultation

8. The majority of public consultation carried out by NZTA related to alignments west of the existing state highway and along the existing state highway. Did consultation results help inform the decision to choose Option E (described as Option C in June 2017)? Please detail what feedback, if any, was received in relation to Option E.

Alternatives assessment

9. With heavy commercial vehicles constituting approximately 20% of the vehicles on SH3 across Mt Messenger, has consideration been given to reducing road freight through increasing use of rail or shipping as an alternative method to alleviate identified problems with SH3 at Mt Messenger? I understand this may be outside this RMA process, but seek to understand the higher level transportation alternatives to undertaking the project.

The Requiring Authority has taken significant steps to consider alternative routes, including rounds of consultation and the MCA process. However, I seek clarification and further detail on a number of matters to better understand the selection of Option E, and therefore be in a position to assess whether the designation and work are reasonably necessary for achieving the objectives of the Requiring Authority for which the designation is sought.

10. With reference to Sections 6 and 7, and Appendix N, of the Longlist Report, why was Option C1 not progressed to the shortlist investigations?
11. In Appendix M of the Shortlist Report (final MCA scoring results), Option Z is ranked 1st equal in the raw scores, 1st with the 'RMA' weighting, 1st with 'Environment' weighting, and 3rd with the 'Transport' weighting. Having read the Longlist and Shortlist Reports, there are questions regarding why Option Z scored lower with the Transport weighting, and it is unclear why Option Z was not selected (although section 6 of the AEE concludes by explaining that cost was a determining factor). More significant adverse effects are associated with Option E, there is a lack of an existing interest in the land required, and some submitters have stated that Option Z would be preferred. Z options scored extremely well through both stages of the MCA process (where it is understood cost was not a factor). Table 6.3 of the AEE presents Option Z as the most expensive option. Please explain:
 - a. Why is Option Z so much more expensive than Option E?
 - b. Was the costing of Option Z on the same basis as Option E as shown in Table 6.3 of the AEE, in terms of no passing lanes and other design standards such as shoulder widths?
 - c. Why does Figure 6.3 of the Longlist Report show options Z2 and Z4 costing at or below \$250 million, but Table 6.3 of the AEE presents Option Z following the MCA2 as costing over \$360 million?
 - d. Did the costings include the costs associated with land acquisition?
12. Please provide the following details for Options Z and E, to clearly show a comparison of the following factors:
 - a. Land area required to be acquired – land that the Requiring Authority does not own
 - b. Area of native vegetation clearance
 - c. Number of significant trees to be felled
 - d. Stream length affected
 - e. Volume of earthworks
 - f. Area of temporary works footprint
13. Please advise whether a tunnel beneath Mt Messenger was considered, and explain why this was not one of the options considered in the MCA process.
14. "Online options" is a term used in the AEE which implies that a route option exists which is wholly within the existing designation. Please confirm, in relation to shortlist Option Z:
 - a. Would Option Z be wholly within the existing designation boundaries?
 - b. If not, what area of land would be required beyond the designation boundaries?

15. Appendix A (Option Footprint Calculations (Ecology)) of the Longlist Report shows no affected stream length for Options Z2 and Z4. Please confirm whether adverse effects on streams would be avoided with Option Z?
16. Is it correct to deduce that Option E was favoured over Option Z largely due to additional constructability challenges including it being very complex to construct while maintaining network capacity? Some difficulty in constructing offline Option E while maintaining network capacity would also be anticipated. Please provide an explanation of the constructability challenges of Option Z compared to E.
17. I note (from Appendix A Option Footprint Calculations (Ecology) of Appendix L of the Longlist Report) that Z options would have the largest temporary works footprint. In investigating Z options:
 - a. Where was it envisaged that temporary work areas would be located?
 - b. Why would Z options have a larger temporary works footprint than other options?
18. Table 5.1 of the Longlist Report includes nine assessment criteria. Section 5.2.3 states that the options were not assessed against the project objectives as these were captured through the nine criteria. However the transport criterion contains three of the project objectives.
 - a. Does this skew the scoring of the MCA in favour of transport over other criteria?
 - b. In relation to Table 5.1, please explain the rationale for having one criterion (transport) for three project objectives (safety, journey time reliability and reduced journey times) and a number of criteria for one project objective (managing the cultural, social, land use and other environmental effects).
 - c. Why were the route options not assessed against individual project objectives, which could then be further subdivided into multiple criteria (as occurred in respect of Objective 4 with its wide range of environmental effects)? This is also relevant to Section 3.4 of the Shortlist Report.
19. Within Appendix F (transport) of the Longlist MCA Report, percentage weightings were assigned to the transport sub-criteria (40% for road safety, 10% for operational efficiency and travel time savings and 40% for operational resilience). These three criteria effectively align to three of the project objectives, which do not appear to be weighted.
 - a. Please advise why and how these have been weighted?
 - b. Why was a consistent shoulder width not adopted, thereby having equal scoring in terms of safety for all options?
 - c. Are you confident in the road safety criteria for the options, when some options had narrower shoulders than others?
 - d. Why were no passing lanes considered for the Z options, when section 3.1 of Appendix F states that vertical grades greater than 8% would have passing lanes, and Z options included grades exceeding 8%?
 - e. To what extent would the inclusion of a passing lane alter the scoring of operational efficiency for the Z options?
 - f. With reference to Section 3.1, page 6 of Appendix F, why was option Z4 given a +1 rating when it has a design speed of 100 km/hr?
 - g. Has the scoring of the options been calculated correctly when correlating their 'length' as reported in Section 4.4 of the Longlist Report to the scoring criteria in Section 3.1, page 6 of Appendix F?
 - h. Option L was the only option considered in the Longlist stage of the MCA to rejoin the existing SH3 as far north as Tongaporutu. All other options in the Longlist, and the Shortlist, are located between Uruti and Ahititi. Why then, in Table 2.1 of the Shortlist Report, is the route length considered between Uruti and Tongaporutu?
20. Section 3.1 (operational resilience) of Appendix F (transport) of the Longlist MCA Report states "Off-line options would have greater ability to be established to a higher standard than the online

options (which are restricted to the existing designation, which in some sections are relatively constrained).”

- a. How was the scoring of the sub-criteria for operational resilience determined and why are online options different from earthworks options?
 - b. How were ‘structures options’ with high positive scores determined over ‘earthworks options’ with a moderate score?
 - c. How were the sub-criteria associated with online, earthworks and structures options derived and why are there significant differences in the range of scores (0 to positive 3) between options for ‘operational efficiency’, ‘travel time’, and ‘operational resilience’? Please explain and clarify this scoring, and provide the justification for the wide range of scores.
21. Regarding constructability, raw scores for the Z options are negative 4 overall, which appears to result primarily from interactions with the existing state highway. One would assume that best endeavours would be applied to manage these conflicts and I question:
- a. Are adverse traffic effects able to be mitigated to result in a lesser score?
 - b. What ‘best endeavours’ were considered to manage the conflicts between the existing state highway and construction areas?
 - c. It is noted from Table 4.1 of the Longlist Report that Option Z has relatively small areas of land affected by construction activities. Given potential mitigation measures, and when correlated to the quantum of land area affected by construction activities overall, is the negative 4 rating justified?
 - d. Please clarify why Z options were scored negative 4.
22. It is noted that the option put forward in the application (Option E) is different (in plan) to the E options in the longlist and short list reports. When comparing the alignment as presented in Volume 2 of the application documents with Appendix A of Appendix C in the longlist report and 3D views of options in Appendix B of Appendix B in the shortlist report, differences are noted, particularly on the north side of Mt Messenger.
- a. Is this the reason for the difference in overall plan area of 44.4 hectares in the application as opposed to the approximately 30 hectares considered in the Longlist and Shortlist reports?
 - b. As the option in the application is quite different from the options that were part of the assessment of alternate routes, please analyse whether the scoring of constructability and other criteria in the MCA process would be different if Option E, being 44.4 hectares, was scored.
23. Section 3.2 of Appendix D of the Shortlist Report, notes that travel time savings less than 200 seconds represent a minor benefit. UK evaluation procedures (WebTAG Unit A3.1 (DfT 2014) identifies the following bands when appraising options: 0-2 minutes; 2-5 minutes; and greater than 5 minutes. Option Z would have a time saving of almost three minutes (179 seconds), which could be considered to represent a moderate benefit and accorded a rating of positive 4.
- a. Please present documentation that supports the criteria used that 200 seconds is the point at which travel time savings move from a minor to moderate benefit.
 - b. Has this rationale been used for other state highway projects in New Zealand?
 - c. How significant is the minor/moderate scoring of this factor to the overall transport weighted ranking?

Traffic and Transport Assessment

24. Section 3.1 of Technical Report 2 specifies 1.2m wide shoulders within the tunnel. Please confirm that this width is sufficient for safety purposes, given the correlation to near side shy line requirements adjacent to the barrier protection within the tunnel and the 100 km/hr design speed.
25. Is the width of the access point into the escape tunnel, and the width of the escape tunnel, wide enough to provide mobility impaired access and egress?

26. Please provide a haulage diagram to understand where earthwork activities will interface with the existing state highway. I note Appendix B of the Draft Construction Management Plan but seek greater detail in this with respect to locations of vehicle access points.

Geotechnical

The project alignment is within two separate river catchments, in topographically complex hill country, and the geology of the area includes soft sandstone and mudstone, volcanic ash, and alluvial deposits, resulting in geotechnical challenges for road construction and maintenance. Submitter concerns include ongoing issues with road slumping and erosion in this terrain. To address concerns about land stability, please provide the following information in respect of the Geotechnical Appraisal Report (“GAR”):

27. Please provide the results of the site specific seismic hazard study undertaken by GNS Science (Section 3.3.1 of the GAR).
28. In Section 3.2.2 of the GAR, it states that principal stress in the rock mass will be vertical in Wai-iti which has implications for cut slope and tunnel stability/support analyses. Please validate this assumption.
29. Please provide an assessment of the bridge in terms of meeting the performance requirement under the major earthquake (return period factor = $1.5 * R_u$) in accordance with NZTA Bridge Manual (BM) Table 5.1.
30. With reference to Section 4.2.1 of the GAR:
 - a. Have the effects of rock dip on the design of proposed cut slopes, for example, slope batters, been considered and assessed?
 - b. As the interbedded sandstones, siltstones and mudstones are expected within the project limits, a build-up of pore water pressure between the interface of sandstones and siltstones/mudstones should be anticipated. Have these been assessed in the design of rock slopes?
 - c. Has the feasibility evaluation of soil nail walls in consideration of the prevailing ground conditions and the disadvantages of soil nail walls been assessed?
 - d. Has the rockfall assessment including the percentage of rockfall retained been undertaken for the proposed rock catchment?
 - e. We note that for the rock slopes higher than 20m are likely to experience lateral movement on bedding – has this been considered?
 - f. We note that typical slope batters within the catchment should be between 1V:4H and flat.
 - g. What is the design life of the drapery netting and how has its replacement been addressed in Safety in Design?
31. For the culvert at Ch4400 in the proximity of the proposed bridge (Section 4.3.4 GAR), please advise:
 - a. Is upstream ponding expected in major floods?
 - b. Are there alternative overland flow paths that could affect the bridge and culvert?
 - c. What assessment of scour (internal and external) has been undertaken? Have any measures been adopted to prevent scour?
 - d. Have the potential seepage paths under the bridge or culvert been considered? How would it be controlled?
32. Please clarify, with respect to Table 4.3 GAR, are there four individual culverts ($\square \square = 1350\text{mm}$) proposed at Ch 1850 (culvert ID No. 9)?
33. Please clarify whether the dipping defects will have unfavourable effects on the design slope angle that is the key factor to the designation. Please show the extents and the locations where this effect might be anticipated (Section 4.4.2 GAR).

34. Is it possible that the excavated materials to be a source of fill may not be viable depending on the nature of materials and construction programme? Please advise whether allowance has been made for the use of imported fill materials.

Cultural effects

35. The AEE states that Cultural Protocols are to be developed with Te Runanga o Ngati Tama. To avoid conditions relying on agreement from a third party it is imperative that these details are agreed prior to the Hearing. Please advise any progress on the development of these protocols.
36. In the submission from Poutama Kaitiaki Charitable Trust, it states that the mitigation and biodiversity offset package does not provide for outcomes to Poutama. It also outlines consultation undertaken and states Poutama are now in a position to complete a cultural assessment. Please provide an assessment of the cultural effects of the proposal on Poutama.
37. The submission from Te Korowai Tiaki o te Hauauru Inc, an incorporated society including members that whakapapa to Ngati Tama, considers that remedies to address adverse cultural effects should apply at the iwi and hapu level. Relief sought includes entering into cultural mitigation and offsetting agreements with relevant hapu including members of Te Korowai as representatives of affected hapu. I note the Ngati Tama submission seeks to protect the tribal interests of all members of Ngati Tama. Please detail what, if any, consultation has taken place at the hapu level and whether this outcome sought in the Te Korowai submission is being considered by the Requiring Authority.
38. There is a lack of clarity as to the nature of cultural mitigation or offsetting, or whether it is adequate to address relevant matters under Part 2 of the RMA (Sections 6(e), 7(a), and 8). Please provide details of any agreed measures and an update on what cultural mitigation or offsetting is being considered and what is likely.

Historic Heritage

39. The Historic Heritage Assessment prepared by Clough and Associates (HHA) does not include reporting on visual inspection of the northern (Pascoe) property. The Pascoe property is an area of interest archaeologically due to the landscape being more suitable for early occupation than the surrounding rugged terrain. Please clarify whether an archaeological survey for the selected route been carried out, which may validate assumptions made in the HHA, and provide further information in this regard. If not, is it likely to be carried out prior to the Hearing?
40. The HHA suggests that the area was primarily a source of raw materials, and if this was the case then one would expect associated archaeological sites in the vicinity of the resource locations. Please provide examples of archaeological features that could be present in the project area, and greater detail on the archaeological potential, or "significance" of these features.
41. The project area is in proximity to the confiscation line created by the 1863 New Zealand Settlements Act, which resulted in land seizure having a devastating effect on iwi settlement patterns in the area. Please provide a discussion of this to help inform the archaeological potential of the area.
42. The existing Mt Messenger road is a piece of pre-1900 infrastructure and there are archaeological and historic heritage values associated with this section of the road. Please identify the historic heritage values and outline how these may be affected during the development of the bypass in terms of service and lay-down areas and possible modifications outside the main corridor identified in the HHA.
43. Please address the possibility of encountering and disturbing remnants of papa kilns, original burnt papa roading surface or papa quarry sites within the wider project area, and your proposed response.

44. Please advise whether the proposed works will impact on the Mount Messenger Tunnel, which has been identified as having a high contextual, historic and social value, moderate cultural and aesthetic value.
45. The HHA historical background considers the historic formation of the road. Please provide an assessment of the heritage values and significance of the existing road, bearing in mind that infrastructure sites such as the papa kilns, tunnel, historic road and resource gathering locations have a relatively low representation in the archaeological record.
46. Presently, it is uncertain what will happen to the existing SH3 after development of the bypass. How might threats to existing historic heritage values be addressed into the future, should the existing corridor be revoked? What are the implications for heritage management, if any?
47. During the site visit on 19 September 2017, Geometria Archaeologist Daniel McCurdy noted an area of possible archaeological interest along the historic pack track from the rest area at the top of Mount Messenger, where the ridgeline above the modern access road (originally the pack track and possibly a Maori ara (pathway) before that) shows some evidence of anthropogenic modification - the ridgeline exhibits signs of terracing and two possible transverse defensive ditches. This location is one of the highest points east of Mount Messenger, providing an exceptional viewshed down the Mangapepeke valley to the north and the Mimi valley to the south, across to Mount Taranaki, and is above (approximately) where the proposed tunnel would be constructed. The location would have been suitable for either a small pa or defended sentry post, with exceptional natural defences and sight lines. Please advise whether this area was examined during the HHA. If not, please carry out further investigation and advise on the findings. It is likely that this location is well enough removed from any works related to the proposed bypass route, but we request any potential implications for this potential site be addressed.
48. Please assess the archaeological effects with reference to the detailed plans of the proposed works, so that specific details such as the location of access roads and vehicle access points, storage areas, electrical and/or water infrastructure installation, fencing and vegetation removal can be considered in relation to historic heritage.
49. Please describe how earthworks should be managed to best mitigate damage to any previously unrecorded archaeological sites.

ECOLOGY

We note that at the time you were finalising the AEE and technical reports for lodgement, there remained information gaps due to seasonal constraints to survey work and the northern part of the Mangapepeke Valley being inaccessible due to access permissions. Between 22 February and 9 March 2018 supplementary reports for the vegetation, terrestrial invertebrates, avifauna, freshwater ecology, bats, ecological mitigation and offset, and biodiversity reports were received at the Council. These reports are currently under review and further information may be requested in the future. Unless the supplementary reports are referred to in relation to any particular question, the questions raised in this letter are based on the information contained in the 'as lodged' resource consent application and Notice of Requirement documents only.

50. On Page 79 of the AEE, it states "*(A work programme of ecological monitoring and management will include) the salvage, recovery and translocation of high value flora and fauna from within the construction footprint, where practicable.*" Please provide maps showing where the salvage, recovery and translocation of high value flora and fauna from within the construction footprint will be considered impracticable.

Vegetation

51. Please provide an assessment of the ecological values of the project area against all of the Significance Criteria listed in Appendix 21.1 of the New Plymouth District Plan. We wish to check there are not significant differences in assessments under the District Plan criteria to the

assessment based on Davis *et al.* (2016) criteria that were relied upon in the application documents.

52. With regard to the provision of quantitative vegetation information, please advise the rationale for using unbounded recce plots instead of other methods such as measurement of tree stem diameters in fixed size vegetation plots, which would provide good quality data for the biodiversity offsetting model.
53. The application documents refer to five metres wide edge effects, but other evidence considers edge effects as encroaching 50-100m into an area of vegetation (or more). The DOC submission states that five metres is insufficient. Please provide evidence to support your assertion that five metres is an appropriate measure for edge effects within each of the habitat types to be affected.
54. The application omits many species from its list of significant tree species (e.g. tawa), and does not acknowledge that significant trees would also be lost in the future, due to ongoing windthrow and other edge effects. We would like to see additional plantings compensating for all significant trees within the project footprint regardless of species, and also include those within at least 50 metres of the maximum extent of clearance. If this is accepted by the Requiring Authority, please revise the calculations for mitigation plantings to include these.
55. Tawa, rewarewa and kamahi are not included as significant trees, irrespective of size. We are concerned this will create a shortcoming for mitigation planting and consider these species should be included with other significant trees. Please justify why such trees have not been identified as significant in your mitigation planting assessment. Alternatively, please revise the assessment to include these species.
56. Manuka has been ranked as 'low' ecological value in Table 3.1 of Technical Report 7a (Vegetation). Please advise whether this ranking reflects the value of Manuka as habitat for other species such as At Risk gecko species. Given the value of Manuka as habitat, please confirm whether you maintain the 'low' ranking.
57. Please explain why Kahikatea-swamp forest, given its rarity and representativeness, is not ranked as one of the highest value forest types.
58. Has the ranking of 'moderate' for dry-cliff taken into account that it could be habitat for uncommon species?
59. Kahikatea trees shown in photographs in Section 3.4.1 of Technical Report 7a (Vegetation) show large and older specimens, but the text describes them as 'poles'. Diameters and heights are given that are estimates for 'most' of the trees present. Please advise what the diameters are of the largest individuals present for a transparent assessment of this species.
60. In Section 3.4.2, should kahikatea/*Carex* spp. treeland be classed as a *Carex* sedgeland with emergent kahikatea, to reflect its wetland status? If so, please update your assessment to reflect this.
61. In relation to Section 3.4.4, the wheki-ramarama vegetation type may be an ecologically interesting and important habitat. Please provide an explanation as to why this is not included for the ranking of ecological values in Table 3.1.
62. Should the ranking assigned to all alluvial forest (primary or secondary) be assigned a 'very high' ranking, due to the significantly reduced extent of this forest type locally, regionally and nationally? Further, has the ecological sequences associated with alluvial forests in the project area, which may form intact sequences with hillslope forest, been considered? Please update your assessment with respect of alluvial forest rankings.
63. Please explain why all herbaceous freshwater wetlands dominated by indigenous species are not ranked as 'very high' or 'high', given that less than 0.1% of this vegetation type remains in North Taranaki Ecological District.
64. Section 3.9 of Technical Report 7a (Vegetation) considers rare and threatened plants. *Astelia trinervia* is listed in the vegetation description for miro-rewarewa-kamahi forest and was

identified in Section 2.11 as being regionally distinctive, but adverse effects on it have not been addressed. Please provide an assessment of adverse effects on this species.

65. *Pittosporum cornifolium* may be the most widespread regionally significant plant throughout the route. Please provide an assessment of adverse effects on this species (Section 4.3.4).
66. Section 4.2.6 of the Vegetation Report considers that roadside batters will be suitable for cliff specialist species and that this will address the loss of 0.4 hectares of mapped cliff habitat, and thus the project should have a positive effect on cliff communities in the long-term. Please provide evidence for this assertion.
67. Different vegetation units have been grouped into broad ecosystem categories, which has resulted in the significance of particular units being downgraded because of the inclusion of other vegetation types of lower value within the same ecosystem type. For example, a representative area of kahikatea-swamp maire forest was included within "kahikatea-pukatea forest" and subsequently ranked as "High", when if assessed separately, might qualify as "Very High". For accuracy and usefulness of the ecological assessment, please assess the significance of each vegetation unit separately. Please include wider biodiversity values, such as habitats and populations of indigenous fauna, in the ecological significance assessment.
68. The grouping of vegetation types, and the assessment of their values in isolation from their fauna values, downplays the values of the certain habitats within the project footprint, e.g. mānuka scrub that may be habitat for At Risk gecko species. Please revise your assessment to reflect fauna values of habitat.
69. Section 4.3.2 of Technical Report 7a discusses the loss of large trees and considers that pest animal control can mitigate some of the loss. Effects of pest animal control on the health of large trees will differ from species to species, and have not been quantified. The extent to which pest animal control can mitigate the effects of loss of large trees is therefore uncertain. In general, it is very difficult to mitigate the adverse effects of loss of large trees which may be over 500 years old. They are not able to be replaced, except in extremely long timeframes, as the report notes. Please quantify the number and species of large, emergent trees within the area of proposed pest control, their vulnerability to browsing by introduced mammals, and the current health of their canopies.
70. In relation to Section 4.4, the overall unmitigated magnitude of effects on vegetation was assessed as only being 'high' despite the two most affected types being associated with 'very high' effects. Should this be reassessed as 'high'?
71. In relation to the ongoing control of introduced pest animals, and in light of Section 5.1 recognising that most gains would quickly be lost within 10-20 years if management stopped, please explain why you consider it could be appropriate to carry out pest control "until necessary", rather than "in perpetuity"?
72. Please describe the financial and legal mechanisms that will enable the pest control to occur, and ensure it does occur.
73. Section 5.5 of Technical Report 7a (Vegetation) stated that up to eight hectares of swamp forest and wetland plantings will be undertaken to offset significant residual effects. This creates significant uncertainty as to the scale of mitigation planting proposed. Please state a minimum area of mitigation planting and explain why it is appropriate and effective.
74. Section 6 of Technical Report 7a (Vegetation) states that the areas of highest ecological value in the project footprint are 1.231 hectares of kahikatea forest (Table 4.4) and areas of hill-country forest, but it does not state the type or extent of hill-country forest to be lost, and that this comprises 19.852 hectares of tawa, kohekohe, rewarewa, hinau, podocarp forest. As this forest type is a national uncommon ecosystem type (Table 4.4), please advise the extent of hill country forest to be lost. Please also provide justification as to why plantings are not proposed to address the loss of this forest type.

Bats

75. Please provide the following two reports which were relied upon in preparing Technical Report 7f (Bats):
- Opus (2017a). Mount Messenger Bypass Investigation. Bat Baseline Survey and Preliminary Assessment of Effects, April 2017. New Zealand Transport Agency
 - Opus (2017b). Mount Messenger Bypass: Option MC23 - Bat Survey Addendum, Memo dated 25 July 2017.
76. It was identified in Technical Report 7f (Bats) that the data used to assess the bat fauna within the project area was of limited use because the surveys occurred only within the winter and autumn periods, when bats are less likely to be active. Also, the report was prepared on the assumption that species present to the west of SH3 are also present in similar habitats to the east of SH3. A supplementary report based on the 2017-2018 field season for bats has been provided (9 March 2018) and whether this newly submitted information addresses this key information gap is currently being reviewed. Further questions may follow.
77. The Department of Conservation bat database (as at 24 July 2017) includes records of both long-tailed bats and central lesser short-tailed bats approximately seven kilometres to the east of the project footprint in 1994 and 1995, as well as more recent records of central lesser short-tailed bats from Mt Damper, approximately 20 kilometres east of the project footprint in April 2016. This indicates a high likelihood that both species would be present within the project footprint. Therefore, please explain why the report considers that it is unlikely that short-tailed bats are present within the project footprint.
78. A recent review of bat threat classifications found that long-tailed bats are now considered “Threatened-Nationally Critical” - that is, more threatened than previously described, whilst central lesser short-tailed bats ranking remains “At Risk-Declining”. The old threat classifications suggest that long-tailed bats have a lesser threat classification. Please revise/comment.
79. Based on research cited by Wildland Consultants, the five metre wide edge effects strip proposed may be too small given that the effects of roads on bats can extend over far greater distances. British bat studies showed that activity and diversity were affected as far as 1.6 kilometres from major roads. A New Zealand study found that long-tailed bat activity was reduced compared to edges 200 metres or more distant from roads used at night. Please confirm whether you maintain that a five metre strip is adequate with respect to edge effects on bats and provide evidence to support this.
80. With regard to roads being fragmenting features as discussed in Section 4.2.3 of Technical Report 7f (Bats), there is doubt that the project would “shift this potential fragmenting feature” because it is not yet known what will become of the existing road. Rather, considerate is likely that the new road could create a cumulative effect in terms of there being two fragmenting features. Please address the cumulative effects of two roads that potentially fragment the landscape for bats; two roads which are relatively close to each other.
81. Please address the effect of the placement of the proposed road footprint in an ecologically significant wetland area, and along a watercourse, with its potential for increased effects on long-tailed bats in particular, as this species has been detected foraging along waterways at higher rates than in other locations.
82. Please provide an assessment of the impact on bats from lighting during road operation, from both road and tunnel lighting, and from vehicle headlights. Please further address this with respect to Technical Report 7h (ecological mitigation).
83. Effects on the local bat population will be higher than the overall assessment (“negligible”) in Technical Report 7f (Bats) if an occupied roost is felled. Section 4.4 of the report states that “The loss of any occupied roost tree(s) would constitute an adverse effect of ‘Very High’ magnitude for both bat species.” How could the likelihood of this occurring be reduced?

84. Please outline the logistics involved in locating bat roosts and capturing/relocating bats, and likely success that would be expected.
85. Please provide a bat management plan, including the purpose and objectives of the plan, to avoid and mitigate adverse effects on bats.
86. In sources cited by Wildland Consultants, research is presented relating to the extent of pest management areas required to be effective in protecting long-tailed bat populations. These studies suggest that the 560 hectare area proposed for pest control mitigation/offset would be insufficient to result in benefits to bats. The area of proposed pest control is approximately half the extent required, based on the lowest estimates available in the literature. Please confirm whether you consider the proposed 560 hectares is a sufficiently sized area in which pest control would benefit bats, and provide evidence to support this.
87. The proposed 560 hectares for pest control consists of a core area of 220 hectares plus a 340 hectare buffer. Please provide a comparison of pest control measures envisaged within the core and buffer areas. Is there reduced certainty over the practicable likelihood that the buffer area will be maintained?
88. Pest control may not benefit bat populations when undertaken at the scale proposed, and long-tailed bats are known to return to their natal social group to breed. Evidence is requested to support your assertion that pest control will result in a 'halo' effect, with species reaching carrying capacity within the pest controlled area, and subsequently dispersing to and increasing populations in adjacent habitats.
89. Please detail the design of the early bat monitoring program, and clarify the basis for the locations selected for placing Automated Bat Monitoring units (ABMs), to allow review of the methodology followed.
90. Please confirm whether bat monitoring would occur post-construction, and advise whether this is in accordance with NZTA's Framework for bat monitoring. I note the Department of Conservation submission suggests bat monitoring for a period of at least 15 years following completion of the project works, and an adaptive management approach which responds with additional appropriate measures if the monitoring shows that the bat population is declining. Please provide draft conditions in this regard.
91. Please provide an assessment of the areas of vegetation communities suitable for bat roosting within and around the project area/identify areas considered important to bats, with supporting evidence.
92. The Department of Conservation submission suggests an offsetting and compensation approach must be developed in relation to unavoided and unmitigated effects on bats. Is this an approach the Requiring Authority is exploring? If so, please provide details.

Avifauna

In December 2017 when the NoR was served, information had not been collected and the Requiring Authority was unable to provide baseline data for forest/farmland birds within the project footprint. Similarly surveys of wetland birds had not occurred. A supplementary avifauna report was provided in March 2018, which is currently being reviewed, and further information may be requested.

93. Ideally, the sedimentation controls proposed will be effective and any adverse effects on high quality wetland will be avoided. However, in a worse-case scenario in which sedimentation controls failed, potential effects on wetland birds may be 'High'. This includes māātā/fernbird and pūweto/spotless crane which have been confirmed as being present in adjacent habitats, and matuku/Australasian bittern, which although not confirmed, may use adjacent habitats given the presence of suitable habitat. Please address how these effects would be mitigated if the worst case scenario was to eventuate.
94. Please comment on the possible effects on local populations of the wetland species mentioned above if the worst case scenario were to eventuate.

95. Despite the low probability of kōkako entering the project footprint from the west, please address the effect of the project if it does occur. The project footprint is well within the known post-release dispersal distances of kōkako at other reintroduction sites. A kōkako survey - using playback calls and experienced personnel – could be undertaken within the project footprint prior to the commencement of construction, to specifically determine if kōkako have dispersed into this area. A contingency plan could then be developed to guide decision-making in the event that kōkako are detected within the proposed project footprint. Please provide draft conditions allowing for the adaptive management of this species, to identify and avoid adverse effects on these birds in the project area.
96. The Department of Conservation submission includes a range of measures to manage adverse effects on kiwi. Please comment on these measures and whether/how they will be incorporated into proposed designation conditions.
97. It is considered that post-construction monitoring for avifauna is required. Please propose details for monitoring.

Herpetofauna

98. In December 2017 when the NoR was served, a robust herpetofauna field survey had not been carried out within the project footprint by the Requiring Authority. A supplementary herpetofauna report was provided in March 2018, which is currently being reviewed, and further information may be requested. At this stage the following 2 clarifications are sought relating to the March 2018 supplementary report:
 - a. Please provide more detail on the duration of time that Artificial Cover Objects (“ACOs”) and Closed Cell Foam Covers were left in situ prior to being checked. Please also clarify the times of day that ACOs were checked.
 - b. Please provide justification for the limited duration that tracking tunnels and funnel traps were deployed, and why this duration is considered to be sufficient to detect highly cryptic species at very low densities.
99. Technical Report 7d (Herpetofauna) rates the overall species value assessment score at ‘moderate-high’. Should this be ‘high’ given the number of At Risk species that are potentially present, and the abundance of suitable habitat for these species within the project footprint? If so, please provide an updated assessment.
100. Technical Report 7d (Herpetofauna) states that construction of a tunnel and bridge will provide “some level of connectivity for herpetofauna across the Project footprint.” However, this would only be beneficial for the extremely limited proportion of lizards with home ranges within the immediate location of the tunnel and bridge. For all lizards that reside throughout the rest of the area, the barrier of the road will fragment the wider habitat that would otherwise be available to them. The report correctly identifies the fragmentation effects of creating a second road, however, then suggests that the effect of it will be minimised as road traffic will decrease along the existing road. This is contradictory to the report’s statement about roads acting as “hard barriers that species or individuals within a populations would not be able to traverse”. There would therefore be cumulative effects of creating a secondary ‘hard barrier’ with its corresponding edge effects, which is unlikely to be offset by a reduction of traffic volume along the existing road. Please propose ways that fragmentation effects can be reduced.
101. Construction of the new road will result in the creation of an ‘island’ of habitat between the existing and new roads which would isolate resident lizard populations. This could result in a reduction of gene flows and create an increased vulnerability of these populations to edge effects, i.e. degraded quality of edge vegetation and habitat, and increased exposure to predation. Please address this adverse effect, and the effects of habitat fragmentation on herpetofauna.
102. Whilst it is noted that there will be some permeability for herpetofauna to get across the road for some locations along the route (e.g. over the tunnel and under the bridge), please advise what

measures could be put in place to reduce fragmentation effects caused by road construction, e.g. plantings and structures to restore linkages between habitats.

103. Areas to be impacted as a result of the project works include suitable habitat for lizards and such habitat often contains lizards which are not easily detected. The project effects upon an At Risk or Threatened species would be potentially significant if unmitigated (Section 4.3.2, Technical Report 7d (Herpetofauna)). Given that ten of the thirteen species identified as potentially present within the footprint are classified as At Risk, there is a considerable likelihood that at least one or more At Risk species will be encountered. Please propose designation conditions with a precautionary approach to manage effects on low density populations of At Risk or Threatened lizard species present.
104. The Department of Conservation submission suggests a compensation approach must be developed in relation to unavoided and unmitigated effects on lizards. Is this an approach the Requiring Authority is exploring? If so, please provide details.
105. It is proposed that 200 seedlings will be planted for every 'significant' tree felled, however, the habitats and micro-habitats that are being removed within the project footprint are likely to be of much greater diversity than will be provided by restoration plantings, which are often characterised by low compositional and structural diversity for many decades. Please explain how ecological restoration will address the potential adverse effects on herpetofauna (e.g. loss of forest epiphytes, loss of standing and fallen woody debris, loss of tree holes, loss of complex vegetation structure with trees/vines/ground tier vegetation).
106. Mice are well-documented predators of indigenous lizards. Please discuss the likely build-up of mice populations in the periods between aerial 1080 drops, and the likely effects of these predator peaks on herpetofauna. Please consider if there is anywhere on the route where gentler terrain may allow ground-based control of mice over a smaller area (e.g. mature forest or scrub communities on valley floors).
107. The supplementary report (February 2018) proposes to manage mouse densities within the soft-release pen and a 200 metre radial buffer. Please give a rationale for how this will provide protection for salvaged lizards outside of the construction period and immediate release term, with the potential for increased mouse densities to immediately invade and heavily predate upon lizards. Please consider if mouse control could continue longer term in the vicinity of the soft-release pen, as presumably this area is on accessible terrain.
108. Technical Report 7h (Ecological Mitigation and Offset) initially suggests that the lizard management plan would include provisions for all of the usual and expected activities for a project of this scale, including the provision for post-release monitoring; but later in Section 3.6.3 it states that no post-construction herpetofauna monitoring is recommended, and that pest monitoring will serve as an indicator. Should post-release monitoring be a requirement, given the scale of the project, and the likelihood of At Risk and/or Threatened species being present? If so, please revise the monitoring approach or justify the rationale for not providing post-release monitoring.
109. Please add a detailed Herpetofauna Management Plan to the Ecology and Landscape Management Plan ("ELMP") and the Pest Management Plan ("PMP"), providing management options for all key vegetation types and lizard habitats within the project footprint, including the salvage of material from within the construction footprint for use at ecological restoration sites (e.g. logs, epiphytes, rocks). Please include management contingencies for the discovery of any unexpected herpetofauna 'hotspots'.
110. The supplementary report acknowledges that there is still a possibility of low density populations of multiple At Risk and Threatened species being scattered throughout the footprint, with extremely cryptic behaviours to avoid high predation pressures in the area. With this noted, if it is still considered that the herpetofauna population across the wider Project area is unlikely to be affected in any meaningful way by the Project, please justify this conclusion.

Terrestrial invertebrates

In December 2017 when the NoR was served, an invertebrate survey had not been carried out within the project footprint by the Requiring Authority. A supplementary invertebrate report was provided in March 2018, which is currently being reviewed, and further information may be requested.

111. We are concerned that seasonal constraints and the limited period of field survey does not allow for a full understanding of baseline entomology. Please advise whether, now that additional field surveys have been undertaken, you are satisfied that there is an adequate understanding of the range of terrestrial invertebrates present in the area, the presence/ density/importance of the populations present, the fauna in the areas of vegetation to be lost, and the fauna of the proposed pest management area.
112. Lepidoptera (butterflies and moths) are closely associated with the vegetation of the different community types and they have significant biodiversity in the project area. Is there a baseline Lepidoptera survey of the project area across the seasons, including targeted surveys for forest ringlet butterfly, to inform the mitigation package?
113. Please outline how the risk of potential invasions/accidental release of exotic invertebrates will be reduced during and post-construction.
114. With regards to effects on invertebrates, a suite of introduced predators including small mammals and vespid wasps are responsible for the Threatened status of many invertebrates. Please update the mitigation package to include additional introduced predators.

Freshwater ecology

115. Please confirm whether works in streams will be timed to avoid peak migration of most fish species, and advise the fish recovery protocols proposed to be implemented at all affected waterways.
116. In Section 4 of the Application (Technical Report 7b) it states that the kahikatea swamp forest is “buffered from the Project area by a raupō reedland and rautahi swamp, and this reduces the potential effects”. Based on Figure 3.4 in Technical Report 7a (Vegetation), the raupō reedland and rautahi swamp only provides a partial buffering to the northernmost margin of the swamp forest. Most of the northern margin of the kahikatea swamp forest is in fact contiguous with swamp maire forest, which is of equal (if not greater) ecological value to that of the kahikatea swamp forest. The proposed route footprint is very close to the swamp maire forest, and there is little in the way of buffering to be provided should sediment and erosion controls fail particularly given the steep terrain and unstable geology. The swamp forest provides suitable habitat for At Risk fish species such as giant kōkopu and longfin eel, and significant inputs of sediment have the potential to adversely affect local fish populations as well as alter the hydrology and morphology of the pools and watercourses present in the swamp forest. Please address the concern that the swamp maire component of the overall swamp forest system in the Mimi catchment is types that are vulnerable to a failure of sediment and erosion control and describe remedial measures should there be a failure of sediment and erosion control to the swamp forest.
117. The supplementary freshwater report states that:

Sediment traps and sediment plates have been established in the raupō wetland near the end of the stream. These can be used to check the extent of any sediment deposition in the raupō wetland extending from the stream to the kahikatea wetland.

Please provide details of how often the traps and plates would be checked, and what actions would be taken if sediment thresholds were exceeded (note that this is not discussed in the Geotechnical Appraisal Report - Technical Report 14).
118. The Department of Conservation submits that there will be significant effects due to the loss of habitat in headwater streams, and that sufficient weight has not been given to the biological importance of these headwater streams as source populations to maintain biodiversity for downstream reaches. Please revise the quantum and effects management approach to ensure no-net loss for these freshwater effects.

119. Forest & Bird submits that macroinvertebrate samples collected and scored consist of larval individuals (rather than adults), so provide only an indicator of water quality and taxa richness, and do not allow for the assessment of species richness or the presence/absence of rare species (as this would require adult individuals). It is possible that many notable and rare species of macroinvertebrate could be adversely affected by the proposal, but these would need to be surveyed for as part of a terrestrial invertebrate survey. Please advise whether further investigations are planned or possible to determine the actual biodiversity values of macroinvertebrate species present, to determine the level of diversity in the macroinvertebrate community, the presence of rare/threatened species, and any adverse effect on these species as a result of the project.

Ecological Mitigation Review

120. It is noted that Section 5.2.3 of Technical Report 7a (Vegetation) states that greater than estimated loss could occur, for example if landslides that result from earthworks occur, and that the actual loss should be quantified at the end of the construction period. Please advise what additional mitigation or offsetting would be implemented, and how this would be calculated, if the extent of loss is greater than expected.
121. Technical Report 7h (Ecological Mitigation and Offset) considers that many aspects of the indigenous flora and fauna present in the project area will benefit from the management of pest animals to permanently low densities. No quantitative data is presented to support this opinion (e.g. assessments of foliar browse index for canopy trees, or seedling ratio index for ground-tier vegetation). Please provide evidence to support the application's statements regarding current forest health, as this is required to then determine if forest condition can be improved, and by how much. Without knowing this, the quantum of pest control required to offset vegetation loss cannot be determined,
122. As not all species are likely to benefit from pest control (e.g. the area proposed being too small to benefit bats) should the mitigation package be reviewed to place greater emphasis on actions other than pest control? For example, can there be a goal to achieve no net loss of habitat area? If so, please provide an assessment of the effectiveness of the mitigation package to achieve this goal.
123. As already identified, five metres is considered an insufficient measure for assessing edge effects. In addition, we note some discrepancies regarding the area likely to be subject to habitat removal or modification, and consider there is under-reporting of vegetation loss. Therefore, please revise these calculations. As discussed, we are agreeable to further discussions between specialist ecologists to work through concerns and seek the intended 'no net loss' of biodiversity values.
124. Actions proposed to be undertaken to mitigate the adverse effects of vegetation clearance include the planting of nine hectares of secondary scrub vegetation, mostly along the floor of the Mangapekepeke Valley. This vegetation to be cleared comprises mānuka scrub and mānuka-tree fern communities, and it is proposed to replace these on a 1:1 basis. This is certain to result in a net loss, as the affected mānuka forest associations in the Mangapekepeke Valley are 25-50 years old and some include pole-sized trees of rewarewa, kahikatea, and rimu. To acknowledge that plantings do not replace vegetation loss until similar maturity is reached, ratios for vegetation loss and planting extent usually consider the time lag between planting and when ecological equivalency is reached. For mānuka scrub with pole-sized rewarewa, kahikatea, and rimu, we consider a ratio of 1:2 would be more appropriate. If agreeable, please update the calculation for replacement vegetation.
125. In Section 3.3.2.2 of Technical Report 7h (Ecological Mitigation and Offset), it is proposed that 200 trees are planted as compensation for each significant tree felled. We are not convinced that 200 seedlings will compensate for the loss of a single significant large tree, because large trees are likely to be at least several centuries old, have large canopies that support epiphytes, have cavities suitable for hole-nesting birds, provide habitat for indigenous lizards, provide roosts for bats, and provide significant sources of fruit and nectar. None of these resources are available in seedlings or young trees. It is almost impossible to offset the loss of large trees through planting due to the

very long period of time required for planted trees to grow large enough to provide similar habitat and resources. Furthermore, no details are provided regarding where the plantings to compensate for significant tree loss will occur. These planting areas will need to encompass a similar range of soils and landforms to the proposed project footprint, and should, as much as possible, replicate the composition of the existing vegetation to achieve similar ecological functions to the habitats to be lost, i.e. low density, emergent podocarps planted within a similar compositional mix to the vegetation within which the significant trees occur, e.g. a matrix of broadleaved species, not simply a dense single-species stand of the “significant” tree species. Please provide further information in this regard.

126. For the proposed mitigation planting, please provide further details as to the suitability of the proposed planting site for swamp forest species, as these species have very specific soil and hydrology requirements. Furthermore, please provide information which supports a conclusion that the planting package will result in no net loss of forest area.
127. As the forest through which the road is to pass is largely continuous and intact, the project will result in a permanent new major road barrier through this forest, and no new areas of plantings are planned that will connect forest areas that are currently separated, it is difficult to see how connectivity benefits claimed in the application will occur. When considering connectivity, it is important to determine which specific biota would benefit from the claimed improved connectivity. For example, forest birds are unlikely to have any connectivity limitations in the project area, whereas herpetofauna and flightless invertebrates are likely to experience nearly complete severance of populations due to road construction. Therefore, please provide information which supports the assertion that the proposed mitigation will greatly improve the connectedness of the forest areas.
128. In Section 3.3.3 of Technical Report 7h (Ecological Mitigation and Offset), the monitoring proposals are vague and do not include any detail on methods. Please provide further information on this.
129. A key potential effect on lizards is mortality due to vegetation clearance and earthworks. The application lists habitat loss, habitat fragmentation and vehicle strikes as adverse effects on lizards, but mortality due to vegetation clearance and earthworks has not been addressed. Please address this.
130. Approximately 3,825 metres of stream habitat in the Mangapepeke and Mimi catchments are proposed to be diverted, culverted, or substantially altered as a result of the Project. In order to offset the residual effects it is proposed to restore the margins of 8,724m² of stream channel equating to approximately nine kilometres of stream length. It is proposed to plant ten metre margins on each side of the stream. Although Technical Report 7b (Freshwater) outlines potential streams along which to undertake restoration planting, nothing has been confirmed. Please provide details on where the proposed stream restoration planting would take place if the areas mentioned in the report are not available. Please also describe the mechanisms proposed to ensure that the stream restoration plantings are permanently protected, both physically and legally.
131. The pest management strategy described in Section 4.4.2 of Technical Report 7h (Ecological Mitigation and Offset) indicates that monitoring of pest animal densities will be used as a surrogate for biodiversity outcomes. However, it would be more effective to verify the claimed positive benefits of pest control if quantitative information on biodiversity outcomes was collected as an element of the monitoring. Given that most of the mitigation package is dependent on the proposed pest control resulting in ecological benefits, we consider that post-construction monitoring is essential. Please reconsider your monitoring approach and provide more information on possible design or methods for monitoring, so that its effectiveness can be assessed.
132. Claims about the difficulties in monitoring of bats, herpetofauna, and invertebrates appear to be inconsistent with the claimed expectations of benefits to these taxa from pest control. Please explain the basis for your claims of expected benefits from pest control.
133. Construction and operation of the road has the potential to increase populations of mice, stoats, ship rats, and hares. Please outline the anticipated dispersal of alien species, and how this could be

dealt with, by ensuring the potential increases in the abundance of mice, rats, stoats, and hares that could be caused by road construction are addressed in the pest management strategy.

134. Please describe how goats will be controlled with regard to any mitigation plantings, particularly along the mitigation streams.
135. The Department of Conservation submits that African clubmoss should be added to the weed species targeted for control and management, also appropriate measures should be followed throughout the duration of the construction works to avoid the spread of Myrtle Rust, both within the site, and from the site to other locations. Please confirm whether this is accepted by NZTA and, if so, what measures will be adopted.
136. The Mt Messenger site supports complex indigenous forest and wetland vegetation that contains old growth trees and provides habitat for indigenous bats, birds, lizards, fish, and invertebrates. Please provide examples of cases in New Zealand where a biodiversity offsetting approach has been used successfully to address significant adverse impacts on complex ecosystems such as this.
137. It is likely that the health of the forest to the east of SH3 compared to west of SH3, if it is notably degraded, could be rapidly improved within 5-10 years if a pest control plan was implemented. We therefore question the considerable weight that is applied to differences in forest health either side of the state highway. Do the findings of the recent fauna surveys (February 2018), with regards to kiwi and long-tailed bats, validate the degraded state of the forest to the east of SH3, as claimed in the AEE?
138. Please advise/assess whether the offsetting proposed follows the Department of Conservation guidelines for biodiversity offsetting. If not, please explain why the offsetting methodology is appropriate.
139. Please identify where the land is, which is intended to be used for mitigation and offsetting of ecological effects. Offset sites should be clarified and confirmed and the location of the offset site to allow an assessment of effectiveness of the proposed package, and must be reflected in the offset calculations so that quantified loss at the impact site can be compared with anticipated gains at a specific offset site. Please provide information which demonstrates that the offsetting sites are available for this purpose and about the legal mechanisms which will secure this.
140. The Department of Conservation submission identifies that in terms of the revegetation component of the effects management, there is no mitigation or other management measures proposed to address the loss of emergent trees which may be important as perches for falcon. Further, standing dead trees, and the time for revegetation to recover to be available for use by avifauna should be included for mitigation/offsetting. Please explain why such trees have not been identified in the mitigation/offsetting assessment. Alternatively, please revise the assessment to include them.
141. If a restoration site can be found that is suitable for the restoration of hillslope forest, this would potentially create opportunities to address the loss of 19.85 hectares of tawa-kohekohe-rewarewa-hinau-podocarp forest, noted by the Applicant as a "nationally uncommon ecosystem, type". At present, the loss of this forest is to be solely mitigated for by pest control. Please consider opportunities to provide an area of hillslope forest restoration, within the goal suggested in No.122 above, to achieve no net loss of habitat area?
142. Please revise/strengthen the proposed designation conditions to reflect the level of action recommended by ecologists to adequately avoid, remedy, mitigate, offset or compensate (in that order) the adverse effects of this project, to provide greater confidence that the no-net loss approach that is proposed in Technical Report 7h (Ecological Mitigation and Offset) will be achieved, and to ensure the best ecological outcomes result. Can the proposed conditions be framed in such a way that deferring such a high level of detail to a future (post-consenting) process is avoided?

Landscape effects

143. The application documents clearly acknowledge that significant work will have to be undertaken to create positive landscape outcomes and the application documents note that there are considerable opportunities for enhancement of natural character values. However the designation conditions do not reflect the proposed mitigation of landscape effects detailed in the application documents. There seems to be only one condition that refers explicitly to landscape, namely the requirement for an Ecology and Landscape Management Plan (ELMP). The draft ELMP is very brief and it is therefore considered that conditions do not adequately ensure that the Project's potential adverse landscape effects are addressed to create the outcomes suggested in Technical Reports 8a and 8b. Please propose suitably detailed conditions which specifically address the following 13 mitigation items listed in Technical Report 8a:

- Cut and fill batters to tie into natural landforms in the area – techniques should be employed to reflect natural rock faces as appropriate and treatments should be implemented to assist in the natural re-colonisation (revegetation);
- Options to further reduce the use of rock drapes will be investigated in detailed design;
- Avoiding “engineered” landform modification and blending earthworks in with the immediate landform context including the form and contouring of permanent disposal areas;
- Detailed design of highway furniture, barriers, lighting (if any) and signage – with particular emphasis on simplifying such elements and minimising visual clutter;
- Consideration of rehabilitation and mitigation/offset planting that reflect the wider ecological conditions of the site including eco-sourcing of seed, coordination with the Project ecological restoration experts and participation with Ngāti Tama;
- Maintenance of access to the conservation estate as appropriate;
- A planting programme including staging, integration with construction programme and wider maintenance programme;
- Design and finish of co-designed cultural expressions particularly for the tunnel portals and bridge areas and any other ancillary structures as appropriate;
- Providing for views from the bridge, and for pedestrian and cycling access including through the tunnel;
- Architectural form appropriate to nearby ecologically sensitive areas and the finish of the bridge appropriate to the rural landscape context;
- Provision for cycling within the carriageway shoulder;
- Consideration of stopping places as appropriate and where practical; and
- Avoidance and retention of significant trees and areas of vegetation wherever possible.

Natural Character

144. The proposal involves stream realignments, cut slopes and structures which would adversely affect the natural character of water bodies within the Mimi and Mangapepeke catchments. As with concerns relating to landscape effects above, proposed conditions do not adequately ensure that the project's potential effects on natural character are addressed to create the outcomes suggested in Technical Reports 8a and 8b. Please propose revised and suitably detailed conditions which specifically address the following 3 mitigation items listed in Technical Report 8a:

- Minimising construction effects on natural stream environments in the Mimi Valley and rehabilitating with riparian planting following construction;
- Constructing stream diversions (where impacts are unavoidable), with naturalised elements reflecting the characteristics of the existing streams, within the Upper Mangapepeke Valley; and
- Ecological restoration along the Mangapepeke Stream corridor within the designation.

145. The proposal removes the ability to provide access along the Mangapepeke Stream. A portion of the upper stretch on Ngāti Tama owned land will flow beneath the road. The submissions by Mr and Mrs Pascoe describe many people enjoying the lower stretches that run through their farm. Please outline how the loss of stream values, in respect of public access, may be remedied or mitigated.

Management Plan conditions

146. The proposed designation and resource consent conditions require the Requiring Authority to provide the Council with updated management plans, which the Council may comment on within 15 working days, and the Requiring Authority will take Council comments into account before finalising the plans. This is not in accordance with standard practice and Council as consent authority should hold the ultimate “certifying” responsibility for ensuring that management plans fulfil their intended functions. The Council would prefer that it retains a role as independent “certifier”. This is particularly important because the Requiring Authority seeks a waiver of the Outline Plan requirement. Please provide your view on whether the Council’s preferred approach is acceptable and, if so, amend proposed conditions accordingly. If you disagree, please provide your reasons for maintaining NZTA’s current approach.
147. Given that expert input will be required in certifying management plans, and the complexity of the project, a longer period than 15 working days to consider these plans is likely to be required. Council would endeavour to respond in a reasonable timeframe but would be a 15 working day turnaround would be unachievable in many instances. Please confirm whether Council’s preferred approach is acceptable and, if so, amend proposed conditions accordingly. If you disagree, please provide your reasons for maintaining NZTA’s current approach.
148. Please provide examples of cases in New Zealand, of large state highway projects through sensitive areas, where management plan conditions similar to the approach suggested in designation conditions 5 to 14 have been used, where the consent authority has no certifying role and where a 15 working day timeframe is stipulated.

Other matters

149. Computer Freehold Registers for the affected properties include the following notations: Ngati Tama Claims Settlement Act 2003; Conservation Covenants (Reserves Act); Crown Minerals Act; Mining Act and Coal Mines Act; NZ Walkways Act; Sustainable forest management permit; and Electricity easement. Table 2.4 of the AEE lists approvals required under other legislation (Public Works Act, Heritage New Zealand Pouhere Taonga Act, Wildlife Act, Freshwater Fisheries Regulations, Ngati Tama Claims Settlement Act). Please advise whether the remaining notations on Computer Freehold Registers are affected by the proposal.
150. Survey respondents request there be pull over areas and/or scenic spot for motorists. Section 5.1.7 of Technical Report 8a also notes possible opportunities in this regard. Please advise whether these have been considered for inclusion in the final roading layout and, if so, where they are proposed.
151. Please provide information which identifies the access to and location of the proposed parking area for accessing walking tracks on the southern side of Mt Messenger.
152. Some submitters consider that black ice and fog will be a problem along the new route. Please provide an assessment of this matter.
153. Some submitters have concerns about flooding downstream as a result of the significant earthworks associated with the project. Please address this concern.

When we need the information

Please provide the information as soon as possible to allow the matters raised to be addressed prior to the Hearing. I need the information within two weeks (by Thursday 5 April) to allow sufficient time for the information to be assessed and included in the Officer’s hearing report. You are already aware of most of Council’s concerns and questions, however I understand this will be challenging and you are welcome to provide information as it becomes available, rather than sending one response.

Under Section 92A (1), you must, within 15 working days of the date of the request, either:

(a) provide the information; or

(b) tell us in writing that you agree to provide the information; or

(c) tell us in writing that you refuse to provide the information.

If you do intend to provide the information, under section 92(3A), the information must be at the Council no later than 10 working days before the hearing.

Status of your application

Under Section 198AB(1) of the RMA, your NoR is on hold while we wait for you to reply to this letter. If you are unable to provide the information in a timely manner, or chose not to, I would appreciate you letting me know. We may need to discuss a suitable date for you to provide the information and discuss rescheduling the Hearing date commencement of 14 May 2018, or you may request that we will continue to process the NoR based on the information we have.

Yours Faithfully

A handwritten signature in cursive script, appearing to read 'R. L. McBeth'.

Rachelle McBeth

SENIOR ENVIRONMENTAL PLANNER