

**BEFORE A BOARD OF INQUIRY
MACKAYS TO PEKA PEKA EXPRESSWAY PROPOSAL**

UNDER the Resource Management Act 1991

IN THE MATTER OF applications for resource consents and a notice of requirement in relation to the MacKays to Peka Peka Expressway Proposal

BY New Zealand Transport Agency

**STATEMENT OF EVIDENCE OF JULIA ANNE WILLIAMS
ON BEHALF OF THE KĀPITI COAST DISTRICT COUNCIL**

Landscape and visual effects

DATE: 5 October 2012

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1. INTRODUCTION

1.1 My full name is Julia Anne Williams.

1.2 I am a landscape architect in private practice, and a director of Drakeford Williams Limited, Landscape Architects. I am a Fellow of the New Zealand Institute of Landscape Architects and hold current professional registration. I have over 30 years of experience as a landscape architect in design, assessment and landscape development projects.

1.3 I hold a Bachelor of Architecture degree (Auckland University), a Post-graduate Diploma in Landscape Architecture (Lincoln College) and an Advanced Certificate in Tertiary Teaching (Wellington Polytechnic). I am a current certificate holder in the 'Making Good Decisions' Programme for Resource Management Act decision-makers.

1.4 I am a Fellow of the New Zealand Institute of Landscape Architects and hold current professional registration. I am also a member of the NZILA Accreditation Panel.

1.5 In my professional capacity I have been involved in a number of landscape assessments, site planning, and landscape management and strategy reports. I have prepared and presented landscape expert witness evidence at planning hearings, the Environment Court and a Board of Inquiry on behalf of a number of clients.

1.6 Projects of relevance I have been involved in include:

- (a) Turitea Wind Farm Proposal (2009), where I prepared a s42a report for the Board of Inquiry;
- (b) Horowhenua District Council Plan Change 22: Outstanding Natural Landscapes and Features, employed as a Hearing Commissioner;
- (c) Porirua City Council PC7 Windfarms appeal where I presented evidence to the Environment Court for Porirua City Council;
- (d) Western Corridor Transportation Study where I worked in collaboration with another landscape architect, Linda Kerkmeester, undertaking a landscape assessment and review of the Western Corridor and Transmission Gully routes; and

(e) Porirua City Council, District Plan Rural Zone Review on Landscapes where in collaboration with other landscape architects I completed a landscape assessment of the rural zone.

1.7 I am authorised by the Kāpiti Coast District Council (**Council**) to present this evidence on its behalf.

1.8 I have read and am familiar with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2011. I agree to comply with that Code. Other than where I state that I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express. In addition, as a registered landscape architect I respect and am bound by the Constitution, Code of Ethics and Code of Conduct of the NZILA.

1.9 I undertook a site visit of the project area on 22 May 2012 and again on 13 September 2012.

2. SCOPE OF EVIDENCE

2.1 My evidence will cover:

- (a) supported aspects;
- (b) extent of the coastal environment;
- (c) effects on natural character;
- (d) biophysical effects;
- (e) amenity and visual amenity;
- (f) landscape character;
- (g) landscape works maintenance, monitoring and management; and
- (h) conclusion.

2.2 In preparing my evidence I have read the Evidence in Chief of Boyden Evans, Marc Baily and Robert Schofield for NZTA and the relevant technical reports provided in the Assessment of Environmental Effects (**AEE**). I have read the Kāpiti Coast District Coastal Environmental Study Report¹ and the evidence of Brad Coombs for the Council.

¹ Kāpiti Coast District Coastal Environmental Study. Final Report October 2012.

3. EXECUTIVE SUMMARY

- 3.1** The Mackays to Peka Peka Expressway (**Expressway**) would run through the heart of Kāpiti Coast District and introduce significant change into the various landscapes along the route.
- 3.2** I support the intent of the applicant's proposed design and mitigation measures as set out in Technical Report 7 – Assessment of Landscape and Visual Effects, Landscape and Visual Assessment Appendix A and the Urban Landscape and Design Framework (**ULDF**), however there is insufficient detail in these documents and plans to ensure that design delivers the intended landscape outcomes.
- 3.3** The Landscape Management Plan (**LMP**) and consent conditions should include provision for adequate maintenance for landscape works and for planting in particular in order to establish sustainable plant communities that will mitigate landscape and visual effects on an on-going basis.
- 3.4** It is my opinion that while the design and mitigation measures avoid, remedy and mitigate effects, there are areas where the proposed mitigation is inadequate or there is insufficient certainty with regard to outcomes.
- 3.5** I support the Coastal Environmental Study prepared for Council and the mapping of the coastal environment, at least to the extent of the coastal environment including and encompassing the Expressway route.

4. SUPPORTED ASPECTS

- 4.1** The Council, in its submission to the New Zealand Transport Agency (**NZTA**), supports a number of aspects of the landscape plans as outlined below. I agree with Council that given the constraints imposed by the location of a large piece of infrastructure into the Kāpiti Coast landscape, the proposed design and mitigation measures have the potential to reduce the landscape and visual effects of the project. In particular I support the following aspects of the Project:
- (a) the general assessment of landscape character along the route including the identification of 12 separate landscape character areas within the Expressway;
 - (b) the minimised loss of dune and wetland landscapes within the constraints of the four lane Expressway Proposal;

- (c) the general principles for restoration and rehabilitation of dune landforms;
- (d) the provision of large areas of planting to provide mitigation in terms of screening and softening expressway infrastructure, providing that the maintenance period and obligations are adequate to ensure the establishment and growth of the plants in this challenging coastal environment;
- (e) the selection of plant species;
- (f) the proposed trials prior to construction to assess planting needs and methodology for conditioning the sand/peat substrate, providing that the outcome of the trials informs and directs the final planting specifications; and
- (g) use of earthworks to moderate/mitigate visual effects of noise wall structures adjacent to the Expressway providing that the accompanying planting is sustainable and impacts on neighbouring properties are appropriately addressed.

5. EXTENT OF THE COASTAL ENVIRONMENT

5.1 I have read the Kāpiti Coast District Coastal Environment Study Report (**CE Study**) and the evidence of Mr Coombs for the Council and have reviewed the methodology employed for the CE Study. While I am in a similar position to Mr Evans in that I have not undertaken a district wide assessment in order to identify the Kāpiti coastal environment, I consider that a best practice approach has been undertaken by Mr Coombs.

5.2 I support the CE Study's recognition that an assessment of the coastal environment should consider all the elements and features that contribute to its natural character, landscape, visual qualities or amenity values, as set out in Policy 1 of the NZCPS, and I concur with the range of physical, perceptual and associative factors considered in the assessment process and outlined by Mr Coombs in his evidence, particularly at paragraph 4.17.

5.3 In particular I support Mr Coombs' view on the extent of the coastal environment. The term coastal environment appears to have been first defined in 1976 where the Court held the "coastal environment is an environment in which the coast is a significant

element or part" and noted that there will be difficulties applying this in different environments:²

What constitutes the coastal environment will vary from place to place and according to the position from which a place is viewed. Where there are hills behind the coast, it will generally extend to up to the dominant ridge behind the coast. But where the land behind the coast is generally flat, there may be great difficulty in defining the coastal environment.

- 5.4** Obviously landscape assessment and methodology has developed since that time but it has been generally accepted in the Environment Court that the area of coastal influence extends to the landward backdrop of the inland extent of the coastal environment, often referred to as 'the first ridgeline'.
- 5.5** In this regard I note the coastal influences exhibited in the remnant dune and wetland sequence extending from the coast to the kohekohe dominated coastal forest remnants on the west facing slopes of the coastal escarpment, and particularly evident in the original designation area.
- 5.6** Therefore in the matter of the extent of the coastal environment, I prefer the approach taken by Mr Coombs as reflected in the CE Study to the approach of Mr Evans.
- 5.7** With regard to the overall significance of the Project being in the coastal environment, I note that the Waikanae River, identified as an outstanding natural landscape in the operative District Plan, and other rivers and wetlands are recognised in s 6(a) and s 6(b) in their own right. The fact that they are also in the coastal environment may reinforce their importance but does not provide a basis for requiring more mitigation than the additional measures I have recommended in my evidence.

6. EFFECTS ON NATURAL CHARACTER

- 6.1** The Waikanae River is identified as an Outstanding Natural Landscape in the operative District Plan. Mr Evans acknowledges the natural character of the river and notes in his evidence at paragraph 19:

The Expressway bridge over the Waikanae River will introduce a large structure into a quiet, popular recreational environment and the effects on visual amenity will be extreme and the effects on landscape character very high.

2 *Northland Regional Planning Authority v Whangarei County Council* [1976] A63/76.

- 6.2** I agree. Mitigation is proposed through the planting of native vegetation along Muaupoko Stream and Waikanae River to replace the existing vegetation in the river corridor that will be removed.
- 6.3** The landscape plans do not provide assurance in terms of the final design details, and it is difficult to ascertain the extent of the works and assess whether additional planting is required. Mr Evans has noted at paragraph 183 of his evidence that the detailed aspects of planting will be determined during the detailed design phase as dealt with in the LMP and designation conditions. In a similar statement in the ULDF which deals with the bridge interface design, Mr Baily has noted at paragraph 47 that “many of the principles though will need to be further considered in the Project’s developed and detailed design phases”. Given the high status of this area in terms of its natural character and proximity to a public recreational area, in my view it is essential for Council’s assurance that it have input into the developed design process (which should be reflected in conditions). This process also could resolve any potential conflicts between floodplain capacity and appropriate levels of landscape mitigation planting along the Waikanae River. Council should also have the opportunity to certify the contract documentation for both hard and soft landscape works prior to the work being put out to tender.
- 6.4** From a visual perspective there is a further requirement to moderate the impact of the Expressway and bridge on the natural values of the Waikanae River through the detailed design of the bridge interface, and the long term maintenance programme for both soft and hard landscape components of the Project. The design of the space under the bridge, and the maintenance of this area and of the Waikanae River plantings should support and reflect the natural values of the landscape.
- 6.5** I also recommend that the conditions incorporate a process to monitor the efficacy of the long term maintenance of the works around Waikanae River, in order to provide Council with a mechanism to ensure the on-going mitigation of the effects of the Expressway on the natural character of this outstanding natural landscape.
- 6.6** With regard to other sections of streams affected by the Project, Mr Evans has noted “that the riparian planting proposed as part of the Project’s landscape and ecological mitigation will improve the natural character of particular sections.”³

3 Mr Evans' statement of evidence paragraph 175.

6.7 With regards to natural character, an area of particular concern to me is the Wharemauku Stream. The stream is channelized, with highly modified banks and no existing riparian vegetation. I acknowledge that development of the wider Wharemauku Basin is dependent on the future town centre plans, however Council's long term goal is to maximise the values in the Wharemauku Stream area by restoring the natural character of the stream. While I agree with Mr Evans that the current management is highly constrained and naturalising will require significant widening of the stream channel, the Project will have the effect of making it more difficult for Council to restore the stream. It is my opinion that more detailed design is required around the Wharemauku Basin, and more specifically Wharemauku Stream in order that Council can be confident that the proposed mitigation aligns with Council's plans for restoring the natural character of the stream and does not make such plans more difficult.

6.8 I recommend:

- (a) that DC 54 is extended to include a requirement for NZTA to consult with Council prior to detailed design commencing, on the design and mitigation measures for the Waikanae River and Wharemauku Stream;
- (b) a condition similar to one in the Transmission Gully Motorway decision that requires the LMP to demonstrate how the design principles in the ULDF have been adhered to in the development of the design *'including (but not limited to) principles for noise walls, boundary walls and structures (including bridges, underpasses and associated retaining walls) which are identified in the ULDF as being in highly sensitive locations'*;⁴
- (c) an additional condition that Council certify contract documentation for these landscape and urban design works prior to the work being sent out to tender; and
- (d) a condition requiring a long term maintenance programme following on from the time of Final Completion, for both soft and hard landscape components of the Project. This is discussed in more detail in section 9.0 of my evidence.

4 Final report and decision of the Board of Inquiry into the Transmission Gully Proposal. Volume 2: Conditions. NZTA.46.

7. BIOPHYSICAL EFFECTS

7.1 Mr Evans has stated in relation to dune modelling and the restoration of dune landscapes:⁵

In various places along the route, however, it has not been possible to avoid biophysical effects. Physical change to the dune landforms, floodplain areas and wetlands cause the greatest level of adverse biophysical effects, as these are permanent changes to natural areas. Due to the large scale of the physical changes proposed, little effective mitigation is possible in these areas, beyond integrating the earthworks into the natural landforms as far as is practicable.

7.2 I agree with the design concept and principles for landform design as outlined in the ULDF⁶ and the proposed measures within the LMP to provide information on the integration of the Project's permanent works into the surrounding landscape and topography, particularly the inclusion of representatives from Council to inspect the finished earthworks and post-mitigation planting phase.

7.3 However I have concerns that unless the conditions place high enough importance on landscape values, the engineering and functional requirements of the project may override the aesthetic and design requirements that are part of the package of design and mitigation measures. Given the stated reliance on the skill of contractors rather than detailed drawings to complete earthworks in the remnant dune forms, I recommend an addition to the LMP to the effect that the Council also be included in the site visits at the critical 'hold point' before the earthworks are finalised and prior to placement of the planting substrate, to ensure that it is satisfied that the final shaping has a natural appearance. I have also recommended a condition that Council certify the works at the time of practical completion.

7.4 In addition, I note that while the LMP discusses the construction activities that have the potential to impact on landscape values, the associated conditions do not provide specific information on the rehabilitation of areas required for the Project's construction phase once the works have been completed. For example the dune that physically and visually buffers the Otaihanga landfill from Otaihanga Road will be impacted by the requirements for access to the proposed project office and yard at the landfill.

5 Mr Evans' Statement of Evidence paragraph 50.

6 ULDF 5.10 Landscape – Landforms Design.

7.5 I recommend:

- (a) the LMP is extended to include Council in site visits at the critical 'hold point' before the earthworks are finalised and prior to placement of the planting substrate, to ensure that it is satisfied that the final shaping has a natural appearance;
- (b) a condition be added for all construction yards to ensure the restoration of landforms and reinstatement of appropriate vegetation once they are disestablished in order to return them to the condition they were in prior to the commencement of construction; and
- (c) an additional condition that Council certify these works at the time of practical completion.

8. AMENITY AND VISUAL AMENITY

8.1 The landscape and visual assessment provides a summary of effects for each of the 12 landscape character areas along the Project route. However, and particularly with regard to visual amenity, there is not currently enough detail and specificity in either the Landscape and Visual Assessment Appendix A plans or the ULDF to assess the level of effects in specific locations or individual properties, and the ability of the proposed design measures to mitigate those effects. NZTA's intention is for the detailed design plans for earthworks, planting, noise walls and fences, local road interface and under bridge areas, pedestrian, cycle and bridleways (**CWB**) and road furniture to be prepared later as part of the Landscape Management Plan (**LMP**).

8.2 Of particular concern are a number of public spaces that reflect the Kāpiti Coast's identity, are popular recreational areas, or are on well used roads. These include Waikanae River; Wharemauku Stream; Poplar Avenue/QE Park interchange; Kāpiti Road interchange; Te Moana Road interchange; Peka Peka interchange; and Mazengarb Road bridge.

8.3 In addition there is general agreement between the NZTA landscape and urban design experts that the amenity values of properties close to the proposed Expressway will be changed.

8.4 In his evidence at paragraph 65 Mr Evans states:

From most locations, the visual changes resulting from the Project will not necessarily adversely affect visual amenity but will simply present a different view (e.g. along Makarini Street). For the majority of viewers (resident and transient), once the bunds are formed and vegetation established on them, Expressway traffic will generally not be visible, and so the visual effects of the Expressway will be minimal. However, at some locations, the effects on visual amenity for residents immediately adjacent to the Expressway will be severe, particularly for residents who lose views of open space and traffic becomes a prominent element of their foreground view (e.g Chilton Drive).

8.5 And he goes on to say in paragraph 66:

I consider that planting on bunds in some of these particular situations may help to ameliorate visibility of the Expressway to various degrees, however, I recognise there is a balance to be struck between competing effects. For example, noise bunds, whilst acting as mitigation for the effects of noise from the Expressway have consequential effects in terms of loss of visual amenity.

8.6 I agree with these statements. From my site visits and analysis of the landscape plans and additional documentation from the assessment of traffic noise⁷, I have identified a number of ‘hotspots’, clusters of residential and semi-residential properties in close proximity to the highway with the potential for adverse effects on visual amenity and amenity. These include: Conifer Grove; both sides of the designation between Kāpiti Road and Mazengarb Road including Greenwood Place, Elder Grove, Cypress Grove, Spackman Crescent, Makarini Street, Palmer Court, St James Court and Chilton Drive to the east and Cheltenham Drive and Lincoln Court to the west; Leinster Avenue; Milne Drive through to Quadrant Heights; and Puriri Road (El Rancho).

8.7 In the matter of noise walls and fences, the Urban Design assessment notes that “noise effects are to be mitigated in some places by structures which will require careful design and integration with the landscape to ensure they do not generate adverse visual effects in their own right.”⁸

8.8 I agree. Each of the identified properties is unique in terms of its proximity to the highway, the distance of the house from the designation boundary, the difference in elevation between the property and the carriageway and the orientation of the house. These factors in turn influence the acoustic screening solution and the resultant visual

⁷ Technical Report 15: page 57 plus plans EN-NV-004, 005, 006, 007 and EN-NV-041, 042.

⁸ Technical Report 6 – assessment of Urban Planning and Design Effects page 26.

effects. Finally I assume that the residents of each these properties will want input into the form, size and finish of the structure on their residential boundary. While the principles embedded in the ULDF are admirable, the final outcomes must be designed to create the best solution for these residents and their living environment.

- 8.9** Moreover it appears that residents of these properties, and in particular those along the eastern edge of the designation between Kāpiti Road and Mazengarb Road may lose amenity in a number of areas.
- 8.10** Potential landscape and visual effects include temporary effects such as removal of vegetation, earthworks, and more significantly the preloading of peat areas with large bunds, and the impact on visual amenity due to the effects of noise bunds, walls and fences and planting which have the potential to block views (or rather create new and less pleasant views), shade and change the character of the landscape context. Within the wider definition of amenity, I would include potential effects with respect to noise, lighting, loss of privacy due to the proximity of the CWB route and loss of connectivity.
- 8.11** No assessment has been made of the magnitude of effects or the potential cumulative amenity effects because the design decisions and final details for acoustic screening structures and planting have not been completed, although Mr Evans suggests that the LMP “will ensure that landscape and visual mitigation measures will be able to be developed in response to specific properties to ascertain exactly what landscape mitigation is needed.”⁹
- 8.12** Overall it is my opinion that if the LMP is to be the document that provides assurance for Council that effects on visual amenity and amenity have been mitigated over the length of the route, then Council must have a role in the consultation and certification process.
- 8.13** I recommend:
- (a) that DC 54 is extended to include a requirement for NZTA to consult with Council prior to detailed design commencing on the design and mitigation measures for the following sites of particular concern: all 4 major interchanges; Mazengarb Road bridge and the identified residential hotspots discussed above;

9 Mr Evans' Statement of Evidence, paragraph 170.

- (b) a condition that as detailed design progresses, a multi-disciplinary assessment of noise, traffic, social and visual effects is made in order to ascertain that the cumulative amenity effects have been considered, assessed and mitigated;
- (c) a condition that Council is consulted if properties are identified where the cumulative significant adverse effects cannot be mitigated in a manner consistent with the ULDF, with noise standards and social impact requirements, in order that it can have input into a resolution that is acceptable to all the stakeholders; and
- (d) a condition that Council certify contract documentation for landscape and urban design works prior to the work being sent out to tender.

9. EFFECTS ON LANDSCAPE CHARACTER

- 9.1** Mr Evans¹⁰ notes that the key to successful landscape mitigation for the Expressway along its 16km length is dependent upon “ensuring that the measures proposed are appropriate to the particular location and landscape character of the particular area.”
- 9.2** I agree. The Expressway runs through the heart of the Kāpiti Coast District, passing through entry points, its ‘front yard’ in the form of the future Paraparaumu town centre, residential back yards, rural residential areas, parks and reserves and over local waterways and roads.
- 9.3** For this reason it is my opinion that the long term maintenance of the route is as important as the initial mitigation and should be approached the same way, so that the frequency and management regime is tailored to fit best practice for maintaining the character of the landscape context and the visual amenity requirements of the viewing audience.
- 9.4** In particular I note areas with special characteristics such as the Waikanae River with high natural character, the four major interchanges that will become gateways to the district, Wharemauku Stream and a number of properties with close views to planted noise bunds or areas of mass planting where a high standard of maintenance is required in order to sustain landscape values and uphold the proposed mitigation of effects. These include properties in Conifer Grove, along the Kāpiti Road to Mazengarb Road section of the route (as described above at 8.8), Leinster Avenue adjacent to the designation, from Milne Drive to Wharemauku Stream and Puriri Rd.

¹⁰ Mr Evans Statement of Evidence paragraph 105.

9.5 Not only are these areas important to Council, their location and function mean that they are likely to be important to the community, and over a period of time, they will likely be perceived as belonging to Council or at least being maintained and managed by Council.

9.6 With regard to planting, Mr Evans and Mr Quinn have provided an assurance that NZTA will assume maintenance of planted areas within the final designation. Mr Quinn notes¹¹ that after the maintenance period lapses “the planting will be maintained by the NZTA as part of the normal Network Maintenance Contract.”

9.7 NZTA Network Maintenance standards have not been detailed in the proposed designation conditions. Council has developed guidelines for internal use that give some indication of the standard of maintenance expected for its parks, reserves and amenity areas.

9.8 I note that the focus of these guidelines is on soft landscape works but that they contain specifications on the maintenance of hard landscape works including graffiti and rubbish removal. These functions are as important as planting maintenance for areas in close proximity to and visible from dwellings, or sites notorious for their low visual amenity such as under bridge areas.

9.9 I recommend:

(a) a condition that these Council guidelines form the basis for a set of maintenance standards for sites that Council regards as having special importance and that the final maintenance standards are negotiated between the Council and NZTA; and

(b) These final maintenance standards form part of the certification by the Council at the time of Final Completion.

10. LANDSCAPE WORKS MAINTENANCE, MONITORING AND MANAGEMENT

10.1 NZTA proposes a two year maintenance period for terrestrial planting and four year period for wetland planting.

11 Mr Quinn Statement of Evidence paragraph 77.

10.2 Mr Evans notes at paragraph 149:

I understand that some NZTA projects have adopted different maintenance periods than those proposed for this Project; for example, all planting in the recently approved Transmission Gully roading project is subject to a three year maintenance period, with a review of all planting at the end of 10 years. In my opinion, this regime is appropriate for that project because the harsh environmental conditions present in Transmission Gully warrant it. However, in comparison, the widely settled coastal plain of the Expressway environment is far more conducive to plant survival and establishment, so the proposed planting regime and maintenance periods proposed are in my opinion, entirely appropriate.

10.3 While I agree that areas on the coastal plain may be conducive to plant survival, Kāpiti Coast dunelands in which the Expressway is located is a testing environment for plant establishment. Isobel Gabites, in her guide 'Growing Native Plants in Kāpiti'¹² states "Salt, summer drought and winter frosts dictate life in the dunelands. Many of the westerly winds are strong and dry, so without rain to wash salt off plants they really can be killers. Watch too for the infrequent but damaging easterly gales."

10.4 The planting in dunelands where plants are exposed to drying coastal winds creates harsh environmental conditions for plant establishment. This is particularly so for large grade specimen trees and it is Council's experience in subdivisions such as Kotuku Park and Ferndale that in exposed sites, many trees have struggled. It is my opinion that tree species may not have enough root mass or depth after two years to guarantee their survival and irrigation is not an option in this water poor environment and on this scale of works.

10.5 In addition, NZTA proposes to plant into a substrate of peat mixed with other material such as biosolids, topsoil and compost. The substrate and planting trials commenced in 2012 and will continue for at least two years but the techniques are as yet unproven and there is no certainty that planting will be successful in subsequent years, or even what alternatives have been considered if the proposed substrate proves to be an unviable planting medium.

10.6 As I have discussed in my evidence above, planting is the primary mitigation measure for landscape and visual effects.

12 Growing Native Plants in Kāpiti, Council, June 1999.

- 10.7** With regards to the 'Mitigation Planting Types'¹³, I do not differentiate between the 'ecological' and 'landscape' mass plantings; in many cases the same species are used, and from a visual perspective the same outcomes are sought in the form of a self-sustaining plant community. In this respect, I agree with the requirement in proposed Condition 57 for eco-sourced native plants.
- 10.8** In addition, along the route I have observed evidence of animal pests such as rabbits, hares and pukeko, and difficult to eradicate weed species including as blackberry, convulvulus and broom. These pest species do not generally distinguish between ecological and landscape plantings and provisions should include detailed methodology for their control.
- 10.9** Along long stretches of the route in rural open areas such as Peka Peka and in high visual impact areas such as interchanges, large trees are essential elements. The design relies on trees for their size and scale, and their capacity to screen views, maintain visual amenity for residents and users of the Expressway and pedestrian cycleway and integrate the Expressway and its associated infrastructure into the local landscape.
- 10.10** I note that a condition¹⁴ in the Board of Inquiry Transmission Gully Motorway (TGM) decision, in reference to screening electricity pylons and mitigating the visual effects of the nearby towers when viewed from existing residential dwellings, required approximate minimum planting heights to be achieved after 10 years and at maturity. In conjunction with a required review of the planting after 10 years, a height achievement goal provides an opportunity to determine the success of the mitigation measures and whether further management actions are required.
- 10.11** It is my opinion that the large scale tree plantings that I have described have a similar magnitude of importance for this project, and that a similar condition and review period are required.
- 10.12** For these reasons, and given the environmental conditions, I recommend that the provisions of the LMP and proposed designation conditions should be extended to ensure the success of the planting works and the establishment of sustainable plant communities, and in turn provide Council with assurance that the proposed planting works are fit for purpose and will continue to mitigate landscape and visual effects on an on-going basis.

¹³ Landscape and Visual Assessment, Appendix A, Pages 6 and 7.

¹⁴ TGM decision Volume 2: Conditions, RC 21 & 22, Transpower NZ Ltd Resource Consents, Condition TL10.

10.13 This would include the following:

- (a) the LMP to include a four year maintenance period for all planting including both terrestrial and wetland species including a requirement for minimum canopy cover of 80% at the time of final completion plus a survival rate of 90% of the original density and species before works are handed over to NZTA to maintain. Where enrichment planting is used, with canopy species planted over 2 years following the initial mass planting, the four year maintenance period for those plants starts from the completion of their planting;
- (b) the LMP to include details on the types and levels of animal and weed pest control;
- (c) a condition requiring a monitoring process following on from Final Completion, with monitoring and review on a regular basis. First monitoring undertaken 2 years after Final Completion, then 3 years later and thereafter on a 5 yearly basis until the planting is established and sustainable, and the specimen trees have grown to a height where they can provide the required mitigation. I recommend that monitoring be undertaken as a joint venture between Council and NZTA;
- (d) detail within the LMP on a separate and more frequent process for monitoring weeds, given the prevalence in the designation area of weed species such as blackberry, convolvulus and broom that are difficult to eradicate;
- (e) a condition requiring a protocol between Council and NZTA establishing a designated person/section in NZTA to whom/which Council could relay maintenance concerns, and a process for dealing with these concerns. This could be an extension of the Complaints process embedded in the LMP during the construction process;
- (f) a condition for a monitoring and review period after 10 years that measures the success of the planting. In particular, I recommend that minimum average heights (after 10 years in the ground) are set for the large trees referred to in 10.9 in order to determine whether any further management actions are required to mitigate visual effects;

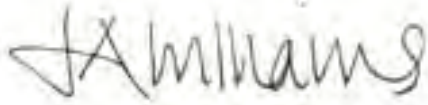
And for Council's confidence that works are fit for purpose:

- (g) a condition that Council certify soft landscape works at the time of Practical Completion and again at Final Completion.

11. CONCLUSION

- 11.1** The Expressway runs through the heart of Kāpiti Coast District and will introduce significant change into the various landscapes along the route.
- 11.2** Based on the landscape plans and my assessment, I conclude that the landscape visual effects of the Project cannot be fully avoided, remedied or mitigated, particularly in respect of properties in close proximity to the Expressway.
- 11.3** It is my opinion that if the LMP is to be the document that provides assurance for Council that effects on visual amenity and amenity have been mitigated over the length of the route, then Council should have a role in the consultation and certification process.
- 11.4** I consider that further design detail is required to provide more certainty and assurance that the proposed design measures deliver an appropriate level of mitigation, particularly for identified areas of special concern to Council.
- 11.5** In my opinion, the provisions of the LMP and the proposed designation conditions should be extended to ensure the success of the planting works and the establishment of sustainable plant communities, and in turn provide Council with assurance that the proposed planting works are fit for purpose and will continue to mitigate landscape and visual effects on an on-going basis.
- 11.6** Given the location of the route, and its importance as a corridor and gateway to Kāpiti, I consider that the long term management regime for the hard and soft landscape works should reflect the landscape context and the expectations of the viewing audience.

11.7 My specific recommendations are contained in my evidence at paragraphs 6.8, 7.5, 8.13, 9.9 and 10.13.

A handwritten signature in black ink that reads "Julia Anne Williams". The signature is written in a cursive style with a large initial 'J' and 'A'.

Julia Anne Williams
Registered NZILA Landscape Architect
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