Section 42A Report
Land Use Consent

Section 127 Report to Change or Cancel Consent Conditions, Sections 95 to 95F of the Resource Management Act 1991

Date: Reporting Planner:	13 October 2023 Chris Dawson – BBO	App Number: Site Visit on:	RM200019 22 June 2023

Applicant:	Taumatatotara Wind Farm Ltd (TWF)
Property Address:	Taumatatotara West Road, Waitomo
Legal Description:	• Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Record of Title 141077 • Section 3 Block IX Kawhia South Survey District comprised in Record of Title SA28A/586 • Section 1 Survey Office Plan 58558 comprised in Record of Title SA47A/876 • Section 1A Block V Kawhia South Survey District comprised in Record of Title SA37A/25. • Section 12 and Section 22 Block V Kawhia South Survey District comprised in Record of Title SA31C/23. • Section 2 Block V Kawhia South Survey District comprised in Record of Title SA37A/26 • Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Record of Title SA48B/494.
District Plan	Operative Waitomo District Plan 2009
Activity Status:	Discretionary Activity
Zoning:	Rural Zone
Policy Area(s):	Landscape Policy Area
Proposal:	• To remove the southern 11 turbines from the project scope along with the removal of turbines 2, 4 & 9 to result in a total of 8 turbines remaining. • For the remaining 8 turbines; to undertake a minor increase in maximum diameter of the rotor area from 155 m to 163 m and an increase in the tip height from 172.5 m to 180.5 m to enable the ground clearance of 17.5 m to be maintained.

Appendices	
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1 INTRODUCTION

Taumatatotara Windfarm Ltd (TWF) have applied to the Waitomo District Council (Council) to change the conditions of Resource Consent RM500019 granted by Council in 2008 and subsequently varied in 2011 to increase the height of the northern 11 turbines to 121.5 m.

This application has been made under s127 of the Resource Management Act 1991 (the RMA), which prescribes the statutory direction to change or cancel the conditions of resource consents.

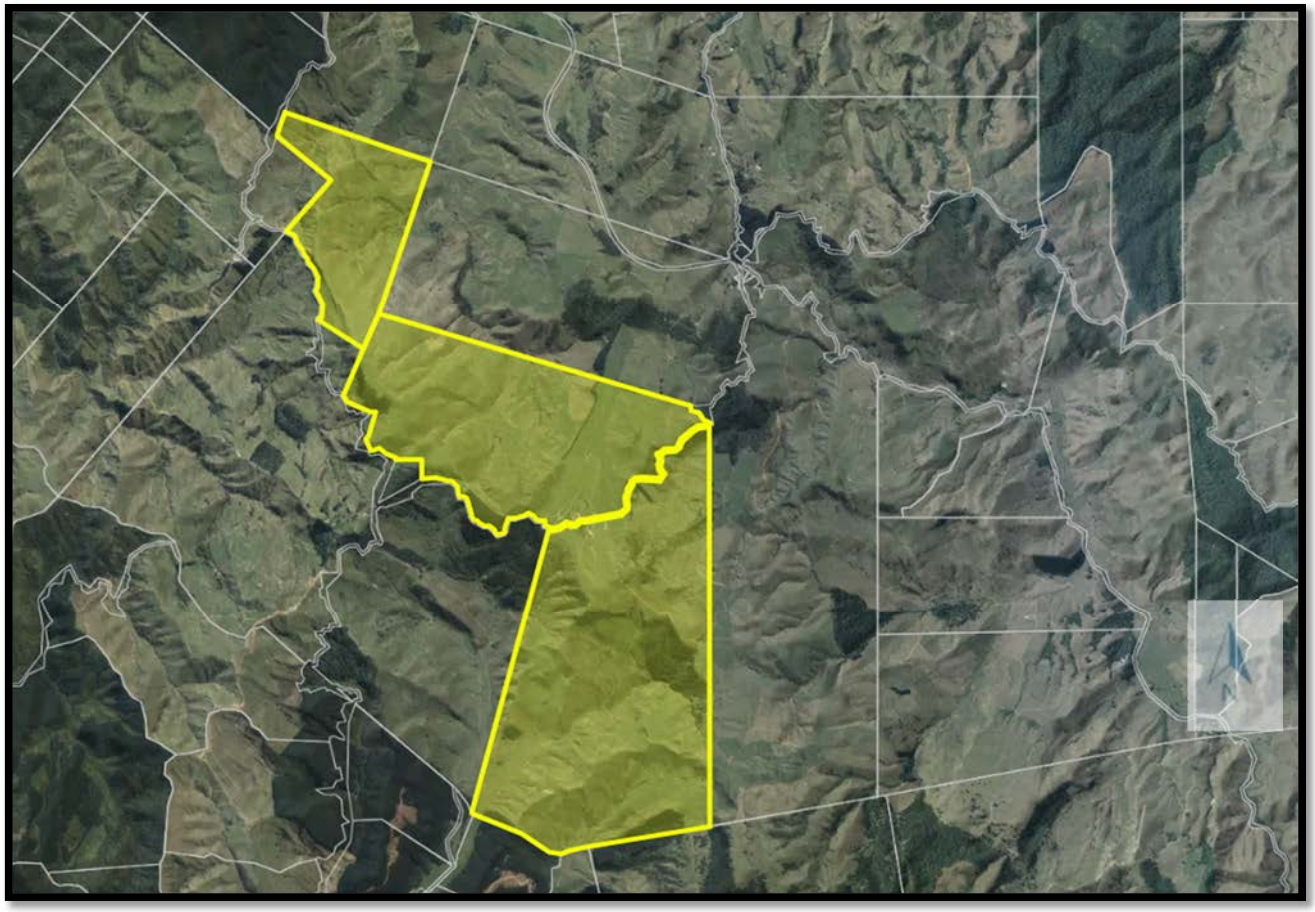
1.1 Description of site

The proposed windfarm site (the site) is 10km south of Taharoa Village and above the Taumatatotara Gorge in the Waitomo District. The windfarm is located on farms owned by three separate landowners, all of whom have given their written approval to the project. The site and the adjacent hills generally have very defined, but level ridgelines with steep slopes on the flanks. The local peak to the northern end of the site has an elevation of 340m with the remainder of the site ranging between 300m and 320m at the southern end. The gradient of the construction site is moderate too steep with slopes generally between 1 in 20 and 1 in 5. The site is currently used for grazing cattle and sheep with a very small plantation of radiata pines around the location of turbine 7.

The site is zoned Rural in the Operative Waitomo District Plan (ODP). No special features or overlays apply to the site. A number of Significant Natural Areas are shown on the site, being R16UP042.02 – Maungaakohe Scrub and R16018.02 – Stewardship land, Maungaakohe Reserve Extension.

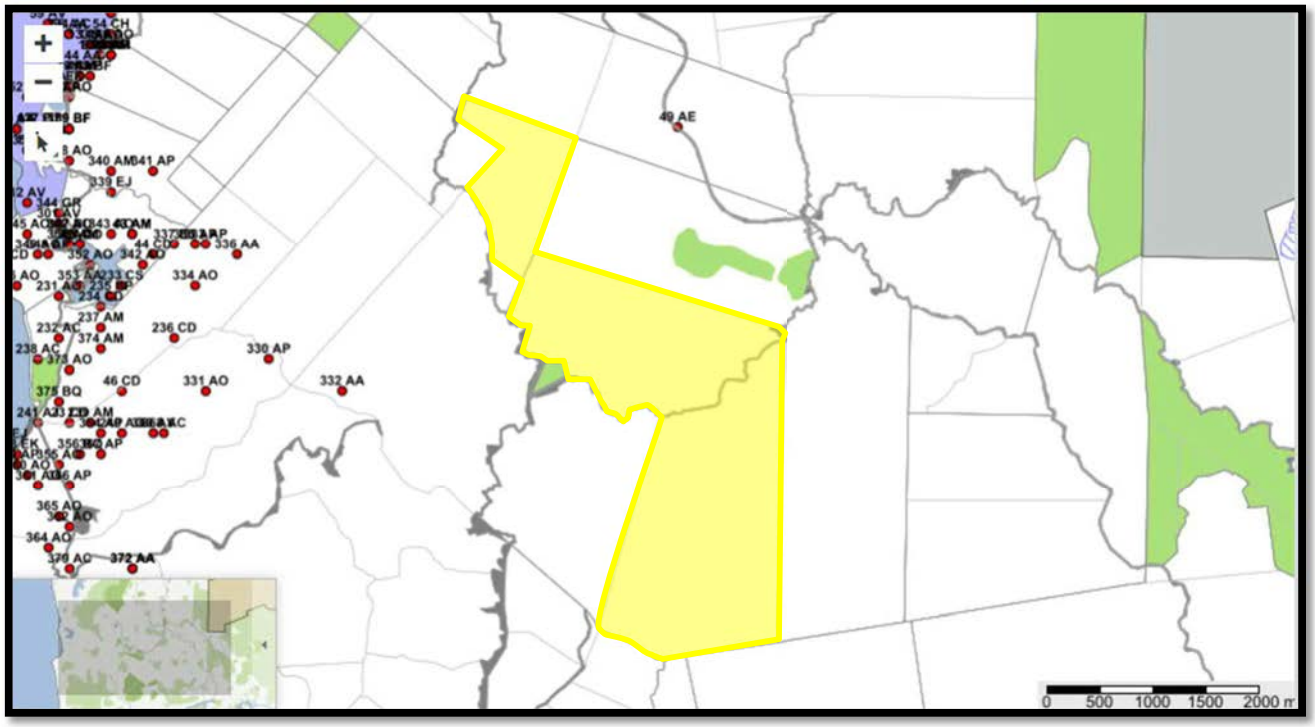
Refer to Figure 1 below for an aerial of the subject site (windfarm site is outlined in yellow).

Figure 1: Aerial photograph of site.



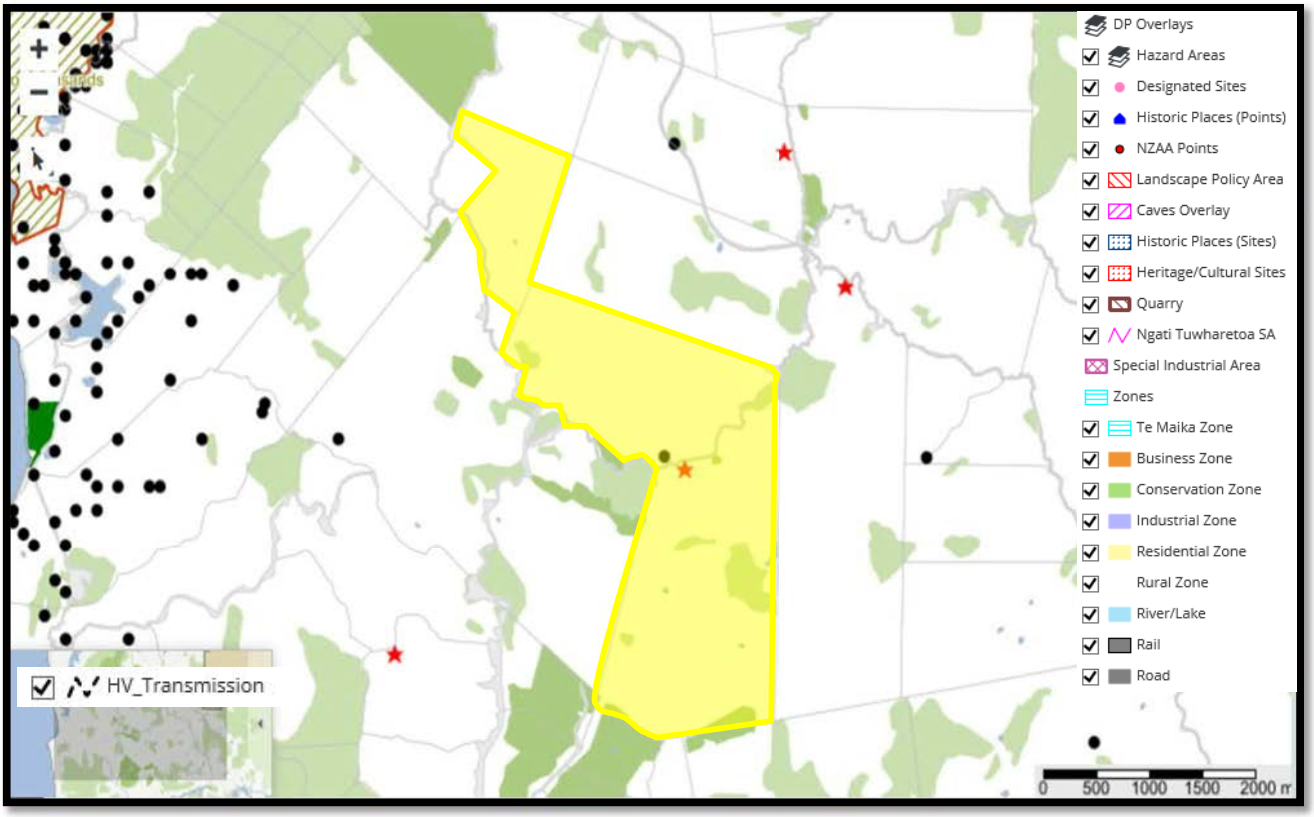
Source: https://app.grip.co.nz/

Figure 2: ODP Zone and Policy Overlays (windfarm site is outlined in yellow).



Source: https://waitomo.intramaps.co.nz

Figure 3: Special Features.



Source: https://waitomo.intramaps.co.nz

1.2 The Section 127 Proposal

Pursuant to s88 of the RMA, TWF has applied to increase the tip height of turbines at its Taumatatotara site through an application under s127 of the RMA. The windfarm is subject to an existing resource consent approved in 2006 which approved 22 turbines, each at 110 m in height. A further application to increase the height of the northern 11 turbines to 121.5 m was subsequently approved in 2011 and will hereafter be referred to as "the application".

Following the receipt of a further variation application from the applicant on 15 September 2023, the final proposal before Council is now:

- to delete the 14 turbines from the project specifically turbines 2, 4 & 9 and turbines 12 to 22, leaving a total of eight turbines.
- to increase the tip height above existing ground of the remaining eight turbines from 121.5 m to 180.5 m, and
- to apply for a minor increase in the maximum rotor diameter from 155 m to 163 m;

The positioning of the eight turbines would not change from that already consented. However, there will be consequential changes to other components of the turbines, such as the tower dimensions, height and nacelle size and foundation pad size. TWF seeks changes to the conditions of the existing consent conditions 1, 2, 3 and 11, relating to turbine height and to the general condition 1, as it relates to the number of turbines. It is also expected that there will be consequential changes to other conditions due to changes in technology and progress in condition drafting since 2006.

Conditions 3 and 11 are as follows:

3. The turbines shall have a maximum height measured from the ground to the top of the vertically extended blade tip as follows:

(a)Turbines 1 to 11 inclusive – maximum height of 121.5 metres.

(b) Turbines 12 – 22 inclusive – maximum height of 110 metres.

11. The wind turbines shall not exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or sound power will still comply with the requirements of NZS6808: 1998.

Condition 5 will be deleted as it relates to turbines 19-22, to be removed from the project.

The proposed nominal turbine dimensions are 180.5 m tip height, 95 m hub height and 163 m rotor. It is possible that development of the wind farm will be staged but this has not been further clarified by TWF.

1.3 History

Ventus Energy was granted consent to construct a 22-turbine wind farm at Taumatatotara West Rd, Te Anga in 2008 (after an appeal to the Environment Court was withdrawn). All turbines were to be 110 m high. A copy of the existing resource consent decision and conditions is provided as Appendix 1. Regional consents for earthworks were also granted by Waikato Regional Council (WRC), but these have since expired.

In 2011 Ventus Energy applied for a change in the conditions of the 2008 consent to increase the turbine height of the northern 11 turbines to 121.5 m. This was approved by the Council and a copy of this decision is included as Appendix 2. A lapse date extension was applied for in 2016 for a further 8 years until 2024. This was also approved.

An application to change the conditions of consent was made to Council on 5 July 2020 with a subsequent further variation submitted to Council dated 15 September 2023 (the 2023 update). The 2020 application, and all suitable modifications as set out in the 2023 update is the application subject to this s42a report. The detail of this application is set out in section 1.2 above, and the following sections of this report.

The scope of the resource consent application is limited to reducing the number of turbines from 22 to eight and increasing the tip height conditions 3 and 11 on the 2008 consent relating to tip height. Conditions 1 and 5 will also be updated to reference this application as a matter of process. However, it is also anticipated that there will be a number of consequential amendments required to other conditions throughout the condition set due to either requests from TWF, agreed condition changes between the experts or additional amendments to address effects arising from the variation.

As the previous WRC consents that Ventus Energy had applied for have expired, TWF has applied for a land use consent from the WRC to undertake approximately 259,000 m^3 of excavation associated with the development of the windfarm including the construction of tracks and wind turbine platforms. This consent was granted by WRC for a consent term of 15 years and a lapse

period of 10 years. A copy of the WRC consent (APP 141827) is included as Appendix 3 to this report.

Table 1 below summarises the relevant interests on the two existing Record of Titles.

Table 1: Existing titles and interests.

Title Reference	Legal Description	Size	Date Issued	Relevant Interests
SA31C/21	Section 12 Block V Kawhia South SD	98.743ha	09 May 1984	▪ Subject to s8 Mining Act 1971 ▪ Subject to s5 Coal Mines Act 1979 ▪ H523842 Land Improvement ▪ Agreement under Soil Conservation and Rivers Control Act 1941. ▪ 11688001.1 Caveat by TWF
SA47A/876	Section 1 SO 58558	226.400ha	23 Oct 1990	▪ Subject to: o s3 Petroleum Act 1937 o Atomic Energy Act 1945 o s3 Geothermal Energy Act 1953 o S6 and 8 Mining Act 1971 o S5 Coal Mines Act 1979 o Part IV A Conservation Act 19879969571.4 Consent Notice ▪ 11783123.1 Caveat by Ventus Energy (NZ)
SA37A/26	Section 2 Block V Kawhia South SD	350.248 ha	19 Aug 1986	▪ Subject to s8 Mining Act 1971 ▪ Subject to s5 Coal Mines Act 1979 ▪ H417502 Subject to Land Improvement Agent ▪ 9115115.1 Notice Pursuant tos195(2) Climate Change Response Act 2002

It is considered that the above listed interests do not restrict the proposal from proceeding.

2 REASON FOR THE APPLICATION

A land use consent (as described under section 87(a) of the Resource Management Act 1991) is required for the reasons set out below:

2.1 Operative Waitomo District Plan (ODP)

The application has been applied for as a variation to the original 2006 consent (as issued in 2008 following the appeal resolution) along with the 2011 variation to increase the tip height of eight of the turbines to 180.5 m under s127 of the RMA. This application is therefore being considered as a Discretionary Activity, as required under s127 of the RMA.

There has been a lot of correspondence between the Council and TWF in relation to whether the application should be processed as a s127 or as a new application pursuant to s88 of the RMA.

Commissioner Daysh issued Minute 1 on 12 September 2023 in relation to this matter and invited legal and/or planning submissions from any party on the following questions:

a) *What are the relevant legal tests to determine if the application should be considered as a variation under s127 or a new application under s88 of the RMA.*
b) *How do those legal tests apply to the TWF application; specifically whether the comparison is against the 2006 consent or the 2011 varied consent, what aspects of the proposal should be relevant to determine differences in effects and the relevance of whether the consent which is the subject of this application been exercised or not.*

Following the receipt of legal submissions, Commissioner Daysh issued Minute 5 on 4 October 2023 which made the following findings:

- The consideration of adverse effects should be between the 2011 consent and the proposed variation.
- It is irrelevant that the existing consent has not been exercised.
- All potential adverse effects of the modified proposal are relevant to assessment of the differences in the character, intensity and scale of those adverse effects. This may include any new adverse effects of the modified proposal that were not considered as part of the existing consent.
- The full package of conditions should be considered when considering the application against the existing consent (and the effects on the environment it seeks to manage).

This s42A report has therefore been prepared on the basis of assessing the application pursuant to s127 of the RMA.

127 Change or cancellation of consent condition on application by consent holder

(1) The holder of a resource consent may apply to a consent authority for a change or cancellation of a condition of the consent, subject to the following:

(a) the holder of a subdivision consent must apply under this section for a change or cancellation of the consent before the deposit of the survey plan (and must apply under section 221 for a variation or cancellation of a consent notice after the deposit of the survey plan); and

(b) no holder of any consent may apply for a change or cancellation of a condition on the duration of the consent.

(2) [Repealed]

(3) Sections 88 to 121 apply, with all necessary modifications, as if—

(a) the application were an application for a resource consent for a discretionary activity; and

(b) the references to a resource consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively.

For the purposes of determining who is adversely affected by the change or cancellation, the consent authority must consider, in particular, every person who—

(a) made a submission on the original application; and

(b) may be affected by the change or cancellation.

The effects of the proposed changes are considered in the latter sections of this report. Consideration has been given to all persons who made submissions on the original application in that the current variation application was publicly notified for submissions as set out in section 4 below.

2.2 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES)

These regulations came into force on 1 January 2012 and apply when a person wants to do an activity described in regulation 5(2) to 5(6) on a piece of land described in regulation 5(7) or 5(8). Following a review of the historical aerial photographs contained within Council's records, a Hazardous Activity and Industry List (activity does not appear to have been undertaken on the site. In accordance with Regulation 5(7), the site is not a 'piece of land' and consent is not required under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

3 SECTION 95 NOTIFICATION DECISION UNDER DELEGATED AUTHORITY

On 17 September 2021, Chris Dawson, Consultant Planner on behalf of Council recommended pursuant to section 95B of the RMA to limited notify the application by TWF for a Discretionary Activity to 5 landowners / parties. The notification report was provided to Commissioner Greg Hill for a determination. Subsequently, on 23 September 2021, contrary to Mr Dawson's recommendation and the position of the TWF, Greg Hill – Hearing Commissioner determined that the application should be publicly notified pursuant to section 95A(8)(b) of the RMA. A copy of this decision is included as Appendix 12.

4 NOTIFICATION

The application was publicly notified on Thursday, 6 April 2023 and for which submissions closed at 5pm on Monday, 1 May 2023. A total of 15 submissions were received to the application and their position as to whether they support or oppose the application are included in Table 2 below. This shows that 14 submitters supported the application and one submitter that remained neutral, three that did not specify, and seven submissions that opposed the application.

Table 2: Submission totals

Position	Number
Support	1
Oppose	14
Neutral	0
Unspecified	0
Total	15

The 14 details of the submitters are included in Table 3 below:

Table 3: Submitter details

Submission ID	Submitter
1	Te Waitere View Limited
2	David Galbraith
3	Department of Conservation
4	Julie Knight and Brett Knight
5	Leslie Gaston
6	Marokopa Paa Environment Team
7	Ngahuia Herangi

8	Roimata Harmon
9	Susan Irons
10	Te Nehenehenui
	Trustees of the John David
11	Keepa/Kupa Whanau Trust
12	Virginnia Dawn Taia
13	Waikato Regional Council
L1	*Te Nehenehenui*
L2	*Yvonne Armstrong*

A number of these submissions were from groups (Submitters 7, 10, 11, and 12). Submitters L1 and L2 provided their submissions after the submission period had formally closed.

A determination from the Commissioner is requested with respect to whether or not the late submissions from Te Nehenehenui and Yvonne Armstrong should be allowed or not.

Appendix 4 provides a list of submitters and a summary of all submissions received. It summarises the effects discussed in those submissions, and the reasons given for each submission. In summary, the greatest concerns were adverse effects related to cultural effects, ecological effects, and traffic effects. Other submissions raising concerns with adverse effects were noise effects, visual effects, economic effects with the remainder outlined in detail in Table 5 below.

Table 4: Adverse effects raised in submissions.

Adverse effect	Number
Cultural	8
Archaeological	1
Visual	3
Environmental	2
Heritage	2
Infrastructure	0
Traffic	5
Ecological	6
Scale of activity	1
Public safety	0
Noise	4
Construction	0
Flooding	0
Lighting	2
Economic	3

Table 5 provides a summary of the positive effects discussed in submissions with only 1 submitter identifying positive effects. These positive effects related to economic and environmental sustainability.

Table 5: Summary of positive effects raised in submissions.

Positive effect	Number
Economic	1
Environmental Sustainability	1

The aim of providing the summary information in Appendix 4 and Table 6 and Table 7 is to provide general guidance on the common themes presented in submissions and the broad range of issues that have been raised. It is important to keep in mind that there are groups of persons presenting some of the submissions, and the assessment below gives equal consideration to the matters raised where they are within the scope of the RMA decision-making process. The details of submissions will be discussed further when assessing the relevant effects on the environment below.

5 TECHNICAL REVIEW COMMENTS

Assistance with reviewing the technical information contained in the application was provided by the following:

- Visual/Amenity — Dave Mansergh, Director, Mansergh Graham Landscape Architects (refer to Appendix 5).
- Noise effects — Siiri Wilkening, Acoustic Engineer, Acoustics, Marshall Day Acoustics (refer to Appendix 6)
- Ecology — Leigh Bull, Ecologist, Blue Green Ecology (Appendix 7)
- Traffic/Transport — Thato Mariti, Transport Engineer, BBO (refer to Appendix 8)

Dave Mansergh and Chris Dawson undertook a site visit across the entire windfarm site along with surrounding public roads on 19 November 2019 in the company of the TWF. The entire s42A reporting team undertook a site visit on 22 June 2023, also in the company of the TWF. On that basis, all of those providing technical reporting to this hearing have visited the wind farm site in person prior to completing their report.

6 SECTION 104

This application is to be considered as a Discretionary Activity under section 104 of the RMA (in accordance with section 127(3)(a) of the RMA). Section 104 sets out those matters that Council must consider when assessing an application for resource consent. The matters that are relevant to the consideration of this application (subject also to Part II, Purpose and Principles are:

a) Any actual and potential effects on the environment of allowing the activity; and
b) Any relevant provisions of-
(vi) A plan or proposed plan; and
c) Any other matters the consent authority considers relevant and reasonably necessary to determine the application."

6.1 Section 104(1)A - Actual and potential effects on the environment

6.2 Actual and Potential Effects

The TWF provided an Assessment of Effects on the Environment (AEE) that addressed the following:

6.3 Geotechnical stability

- Turbine foundations
- Transportation effect
- Aviation effects

- Sound Effects
- Shadow Flicker
- Landscape and visual effects
- Ecological effects
- Positive effects
- Cultural / Iwi consultation

The conclusion of the TWF is that:

"Overall, with the changed dimensions of the proposal the actual and potential environmental effects have been shown to be less than the existing consented environment and are assessed as being 'less than minor' in RMA terms, "

Geotechnical stability can still be achieved and the foundation changes have a very small and very localised impact. Modern design of turbine componentry and transportation techniques will allow transport of all machinery within the confines of the existing consent, albeit with a greatly reduced number of components to be transported. There will be no shadow flicker effects on any dwellings outside the site – in fact shadow flicker will be significantly reduced.

Larger turbines are not anticipated to increase impacts upon birds and bats, with the halving of the number of turbines being a positive effect. The increased height of the 11 turbines will not create increased noise levels above existing consented levels. Finally, visual effects of increasing the tip height and dimensions of the turbine and structures have been assessed as being less than minor.

All other effects originally assessed and approved in the 2008 consent will not change as a result of the new proposal – they will be no greater with this amended proposal than that originally assessed, and likely to be much less due to the reduced number of turbines."

As a Discretionary Activity, the Council's discretion is unrestricted when considering the potential adverse effects on the environment. I believe the potential adverse effects on the environment relate to:

- Positive effects
- Construction effects
- Transport Effects
- Aviation Effects
- Noise Effects
- Shadow Flicker
- Landscape and Visual Effects
- Ecological Effects
- Archaeological/Heritage
- Cultural/Spiritual
- General submissions, miscellaneous

7 Positive effects

The windfarm proposal will lead to a greater amount of electricity being generated with up to 48.4 MW of electricity able to be produced, due to the larger generation capacity of the proposed larger turbines which are capable of producing 4.4 MW each. This is an increase from the output

of the consented 22 turbine windfarm at 32.5MW to 48.4MW. This will occur with under half the number of turbines to that originally consented. The power output from the proposed new machines demonstrates the significant improvements in wind power technology and the positive benefits such technology can bring.

The reduction in the number of turbines will reduce the amount of traffic that would have been required for the originally consented 22 turbines and will also likely limit the construction impacts (as set out below) along with a reduction in visual effects, particularly for those submitters who live to the south and west of the windfarm site. A more detailed analysis of the effects is set out below.

8 Construction Effects

It is considered that the development of the eight turbine wind farm will result in some adverse effects on the environment arising from construction; primarily around the upgrade of the road network, the construction of internal roads, the transportation of the necessary foundation materials such as gravel, concrete and reinforcing steel and finally the transport of the turbine and tower components from port to site plus appropriate cranes for turbine assembly. The majority of the internal construction activities will have little to no adverse construction effects due to the substantial distance to surrounding dwellings that are not connected to the project. This is illustrated on the separation distance map included as Appendix 9 which shows that the minimum distance from a turbine to a third party house is 1719 m with all other separation distances being greater than this.

In my opinion, the extent of construction effects from the development of an eight turbine windfarm over the northern portion of the original consented area will be significantly reduced compared to the consented level of construction effects from the 2011 variation wind farm. In addition, a number of the existing conditions (which will be carried over into the varied consent) address and manage construction effects such as condition 18, Construction Management Plan and conditions 19, 20 and 21, Traffic Management Plan.

9 Geotechnical stability and Turbine Foundations

The geotechnical report provided with the original consent held by Ventus Energy for 22 turbines was able to provide sufficient information to conclude that the geotechnical stability would not create any adverse effects on the environment as a result of undertaking construction and operation of the turbines. It also considered that the effects of constructing and using the windfarm access roads were appropriate. The reduction in turbine numbers from 22 down to 8 taller turbines will result in a corresponding reduction in the length of windfarm internal roads and is expected to result in a similar set of geotechnical conditions.

The 2019 s127 application by TWF assessed the geotechnical stability effects of 11 turbines at a height of 172.5 m and a diameter of 155 m. The diameter of the updated eight turbine proposal is 163 m which represents a 5% increase in size. TWF states on page 8 of the AEE that the taller turbines will each require an 18 m x 18 m concrete foundation which is a relatively small increase from the consented 14 m x 14 m. Condition 36 in the existing set of consent conditions requires further subsurface geotechnical investigation and mapping of the windfarm site to ensure that all of the turbines are provided with a stable building platform. The results of this investigation

must be reported to the Council for approval prior to the start of construction. In my view, the introduction of fewer, taller turbines will not result in additional geotechnical effects that cannot be addressed by the condition and the Council certification that it requires.

Transportation Effects

The originally consented turbines allowed for transportation of turbines with a diameter of up to 100 m with 10 m ground clearance. The existing consent provides for transportation of such turbines in conjunction with consent conditions to preserve Council Roads.

The updated proposal is for larger turbines, thereby resulting in a change to how the turbines can be transported to the site. Advancements in turbine and transport technology may also contribute to a newer approach to how the wind turbines could be transported to site since the original consent was granted.

The transport information provided to Council has been technically reviewed by Thato Mariti, Transportation Engineer, BBO. Her memo is summarised below and a copy of her technical assessment is included as Appendix 8.

Mrs Mariti confirms that the following documents and items have been submitted by the applicant and reviewed as part of this process:

1. Taumatatotara Wind Farm Application to change conditions of consent (July 2020):
   This document contains proposed changes to the conditions of consent for the wind farm due to changes in both size and number of wind turbines.

2. Transportation of Turbine Components for Taumatatotara Wind Farm Memo (July 2020):
   This memo details the transportation logistics for the turbine components in support of change of conditions application.

3. Transportation Response to s92 – Taumatatotara Wind Farm – RM200019 (December 2020):
   This memo was a response addressing specific transport relates information that was requested by WDC and submitters after reviewing document 1 and 2 above.

4. Transportation Response to s92 – Taumatatotara Wind Farm – RM200019 (February 2021): Similar to the previous response, this document was a response to additional information requested from the applicant.

5. Bridge Review – Taumatatotara Wind Farm (April 2022):
   This document involves a review of bridges within WDC on the route that will be used for wind turbine transportation.

6. Turbine Dimensions:
   This information details the dimensions of the wind turbines that will be installed for TWF.

7. Taharoa C Tower Test Run (July 2009):
   This document presents the results of a tower test run conducted for the Taharoa C Wind Farm. The test was conducted to assess the ability of roads and bridges along between Waitomo Village and Taharoa Township to accommodate the oversized vehicles including the live weights of the rubines components.

These documents have been peer reviewed accordingly.

Firstly, Mrs Mariti commented on the adequacy of information provided as a part of the 2020 application noting that:

- Transportation will be made easier due to technological advancements in fabrication and transportation techniques however, the applicant has yet to provide a clear plan on how they intend to further disassemble the turbine components. While the proposed change of conditions will have fewer turbines, the new turbines will rather have large components; and the applicant has mentioned that these will be broken into smaller components which effectively result in more generate traffic movements."
- The applicant notes in the application that it is not anticipated that road widening over that already approved for the existing consent will be necessary, including site access roads. Outside of Mrs Mariti's memo, I add that a report provided by the Applicant from Kina Consulting Engineers (date 12 April 2022) notes that "significant work is required to strengthen bridge 7 to accommodate the loads. We recommend that a bypass and temporary bridge be established around bridge 7. This will prevent the need for significant extra investigation, and issues regarding the potential need to extend the effective life of this bridge."
- However, Appendix 1 of the Kina Report also contains a marked-up plan for Bridge 7 showing some structural strengthening options. Confirmation on the applicant's preferred solution was sought through a letter request for further information under s92 of the RMA dated (3 July 2023). In the corresponding response on behalf of the applicant, it was specified that it was their preference to strengthen bridge 7 and that any works will comply with Condition 20 of the existing consent that all WDC administered roads will remain open.
- The applicant should conduct a comprehensive route assessment, inclusive of detailed tracking curves, to demonstrate that the transportation of tower, nacelle, and blade components can be successfully accomplished without adverse effects on the environment per Conditions 22, 23 and 24.

Following an assessment on the adequacy of the information provided by the applicant, Mrs Mariti assessed the route of the turbines to the site, including port of origin which is proposed to be Maungatapu Port, Tauranga. Mrs Mariti goes on to comment on the Route Test Report which identified a need for mitigation measures associated with transporting the turbines to site on Council administered roads. These being:

- Widening of a roundabout circulating lane on Te Anga Road / Tumutumu Road outside of Waitomo Caves, by 8m.
- Road widening at some isolated corners along the route to allow the passage of oversized loads.
- Transportation route may have a potential impact on some power lines along Taharoa Road.
- Highlighted the need for assessments and widening of few bridges on Te Anga Road to ensure that these bridges can safely accommodate the weight and dimensions of wind turbine components.

Mrs Mariti's comments on the Transportation of Turbine Components for Taumatatotara Wind Farm Memo (July 2020) highlights that although the reports adequately address the effects of transportation of large tower components along the route between port of entry and Taharoa Township, the reports were conducted over 15 years ago and do not account for any changes that have potentially occurred along the mentioned route in the intervening years. As such, Mrs Marit's memo recommended that an updated assessment of a tower test route be conducted prior to turbine component transportation to address any changes that may have occurred along the preferred route since the initial reports were produced. This updated assessment should take into consideration any route alterations for the intended purpose. Any mitigation measures

required (if any) should clearly demonstrated to the satisfaction of the Council. Furthermore, the proposed Tauranga Port route differs from the initially preferred one originating from New Plymouth Port and a high-level analysis of various ports of entry and the route options should have been conducted highlighting the associated challenges and considerations for each.

Mrs Mariti agrees that the existing road network from Waitomo Village to Taharoa Road intersection can accommodate over dimensioned vehicles and that the identified roading issues such as power lines are consistent with the report. The TWF has not yet addressed any mitigation measures for the identified risk locations and Mrs Mariti recommends that a route test is undertaken once the vehicle size has been confirmed and detailed route assessment conducted.

Mrs Mariti's comments on the Bridge Review report note that that a detailed bridge assessment as required by the Council be conducted to determine the necessary works to strengthen the bridges along the route. The assessments should evaluate the structural integrity and capacity of these bridges and determine any necessary strengthening or modifications required to ensure their safe use for over-dimension and overweight loads, with specific reference to the related weights of the proposed wind turbine components. Full details of the required inspections and assessments are adequately described in Condition 23.

Submissions on the application related to Transport:

Of the 15 submissions received, six specified transportation effects as a concern. Table 7 below summarizes the key transportation concerns by those submitters, five of which opposed TWF.

Table 7: Transportation Effects Related Submissions (BBO Transport Memo, Appendix 8)

Summary of Submitters and key concerns			
Concerns Submitted	No. of Submitters	Oppose/Support	Wish to be heard
Lack of a Traffic Management Plan for review	2	Oppose	1
Insufficient Earthworks information is available for reviewing.	2	Oppose	1
No information about the impact of trucks on WDC roads	6	Oppose	5
Absence of documentation outlining the applicant's plans to reinstate road infrastructure affected by the project.	2	Oppose	1

Issues raised by submitters:

- Traffic management plan
    - Submitters 8 and 12 identified concerns about the lack of a Construction Management Plan (CMP) for both delivery and construction periods.
    - The peer review agreed that a CMP is required and should be adhered to for the safety of all users of the affected district roads. The requirements for a CMP are adequately outlined and covered under Condition 19.
- Earthworks
    - Submitters 1, 8, and 12 identified concerns about the lack of assessment of construction related effects and earthworks.
    - The applicant has provided the expected site generated traffic volumes during the construction phase. The memo notes that the uncertainty of actual construction traffic and the effects thereof at this point.

- The memo recommends that detailed information about earthworks and construction activities (construction phase) be submitted to the Council in line with the CMP detailed under Conditions 19-21.

Impact of Trucks to Council Roading Infrastructure

- Submitters 1, 5, 8, 12, and 15 stated that they are unable to understand the impact of trucks on the local road network due to a lack of information concerning the construction phase.
- The memo acknowledges that the applicant has provided the anticipated trip generation during both delivery and construction phase. The memo agrees that the applicant should submit a detailed route assessment addressing all potential impacts of TWF activities on the Council Roads prior to any turbine deliveries or construction. TWF has also stated in their s92 Transportation Response dated 6 July 2023 that a detailed route assessment will be required at a later stage following approval of this s127 application. Requirements related to this submission are adequately discussed under Conditions 19-25 of the existing consent.

- Reinstatement of the Council Road Infrastructure Post-Construction
  - Submitter 4 raised concerns of the lack of information on how the applicant intends to reinstate the road infrastructure, particularly the pavement and bridge structures after the completion of the project.
  - I agree that TWF has not submitted information regarding maintenance and reinstating of roading and infrastructure on the Council Roads. Mrs Mariti's memo recommends that TWF should conduct investigations including pavement deflection measurements and bridges review both before and after the construction period and make the necessary improvements (if any) to all the infrastructure in accordance with condition 26 of the existing consent.
  - It is worth noting that a bond of $86,000 was initially stipulated under the 2006 conditions. Given the significant rise in construction costs due to inflation, I would recommend that the bond amount be adjusted to align with the current 2023 costs of the anticipated road maintenance.

It is noted that any use of public roads to access the wind farm site must first gain prior approval from the relevant Road Controlling Authority being NZTA and the Council. Over-dimension and over-weight permits will be required from both authorities, and also from Kiwirail and the various Lines Companies along the transport route. To accompany such applications, detailed assessments of the preferred route, including swept path analysis of track and trailer tracking, road closures necessary, timing will be needed.

In conjunction with the conclusions drawn from the submitters assessment, technical information provided, and the peer review undertaken by BBO on behalf of the Council, I conclude and recommend the following:

- Information submitted by TWF, which are high-level Memos of the TWF transportation effects on the Council Roads suggests that the current Council roading infrastructure is largely sufficient to accommodate the transportation of turbines, including construction-related activities for TWF, pending a detailed route assessment, compliance with consent conditions, and the necessary approvals from the Road Controlling Authority(s).
- There is no comprehensive general transport assessment report provided for the proposed activity. This should be provided prior to any turbine component deliveries or construction activities and should cover the following at the very least:

    - A current route feasibility assessment for the proposed transporters to be used for the proposed size of wind turbine components. A report from 2009 for different sized components is not adequate to confirm the likely impacts of the haulage activities to site.
    - Detailed design for all required road works along the transport route on Council Roads to accommodate the over dimension trucks. Detailed design for the necessary road and bridge works should be in line with the conditions 22, 23, 24 and 27.
    - A comprehensive bridge assessment along the proposed route on the Council Roads should be conducted to the satisfaction of Conditions 23, 25 and 26.
- A CMP for both the turbine component deliveries and the construction phase should adequately satisfy Conditions 19-21 of the existing consent.
- A maintenance plan on the Council Roads during both the construction period and post construction should be addressed by TWF as per Conditions 22, 25 and 26 of the existing consent.
- TWF should also increase the 2006 bond amount under Condition 26 to bring it into line with the 2023 construction and maintenance costs given the 14 years that have elapsed since the original consent was granted. TWF are invited to propose an updated bond amount at the hearing.
- The submitters concern about the impact of TWF transport effects including the CMP and the Council Road maintenance should be adequately addressed by TWF through the detailed route assessment and CTMP prior to commencement of any project work.

Subject to the above recommendations in conjunction with compliance with the existing and proposed conditions, I am of the opinion that the transport effects from the proposal can be appropriately managed to be no more than minor.

Note*: The applicant is invited to comment on the quantum of the roading bond given inflation and the present day cost of road works maintenance and construction.

10 Aviation effects

The increased tip height results in an increased risk to aircraft. The risk to aircraft decreases in that the current proposal results in lower number of turbines from that that was originally consented. However, the turbine tip height of 180.5 m (592 feet) is higher than the typical minimum Visual Flight Reference (VFR) altitude of 500 feet (152 m) permitted by the Civil Aviation Authority (CAA). The CAA also requires the minimum height an aircraft is allowed to fly over a city, town, or settlement, is 1000 (305 m) feet above the highest obstacle, except when taking off or landing.

TWF has proposed that the updated determination and details on turbine dimensions can be sought upon the outcome of the decision on this application and propose that a condition be added to the consent conditions requiring a new determination be obtained from CAA.

I am satisfied that subject to the determination from the CAA as set out in Condition 33, the aviation effects of the increased tip height of the turbines and reduction in number of turbines will be appropriate to render effects to be no more than minor.

11 Noise Effects

Since the original consent was applied for in 2005, wind turbine technology has progressed to the point where larger turbines now generate similar or less noise than older, smaller turbines.

Ms Siiri Wilkening from Marshall Day Acoustics (MDA) was engaged by the Council to review the acoustic assessment undertaken by TWF and the corresponding conditions of consent that have been proposed. The assessment was based on a tip height of 180.5 m above ground level. The location of the turbines to the closest receivers has been used as measurement points with the receivers included dwellings from which written approval has been obtained, dwellings on the wind farm site as well as dwellings where noise effects must be assessed.

The closest dwellings at which effects must be assessed are more than 2 km from the closest wind turbine. Those are dwellings 22 to 25 on Taharoa Road and Taumatatotara West Road. We understand that written approval has been obtained from the Stokes family (835 Taharoa Road) and the Smith family (189 and 313 Te Waitere Road) and therefore the effects on these dwelling must not be taken into consideration (section 95E(3)(a)).

Predicted Noise Levels

The assessment by Altissimo (item (d) in the list above) includes noise level predictions of turbine layout scenarios:

- 11 turbines with a hub height of 95 m and a sound power level of 103.9 dB LAW (a previous iteration not relevant now).
- 11 turbines with a hub height of 95 m and a sound power level of 107.2 dB LAW (the consented sound power level and previous layout).
- 22 turbines with a hub height of 65 m and a sound power level of 107.2 dB LAW (the consented sound power level and originally consented layout/height) (the original proposal from 2006).

Of the above scenarios, the closest to the proposed 8-turbine, 99 m hub height layout, is the 11-turbine scenario with the 95 m hub height, with the proposed sound power level of 107.2 dB LWA. For this scenario, the noise levels at all receivers are below 35 dB LA90(10 min). Such noise levels are within the most stringent noise limit of NZS6808, which is 40 dB LA90(10 min) or the background noise level LA90 + 5 dB, whichever is the higher.

With the proposed 8 turbines, with slightly higher hub height and the same sound power level, the noise levels would be the same or lower than predicted at all dwellings. The highest predicted noise levels are at house 22 (the Martin dwelling) at 32 dB LA90(10min), with all other dwellings predicted to receive noise levels below 30 dB LA90(10min).

This means that the wind farm will likely be largely inaudible, and only intermittently audible when there are still conditions at the dwelling location and windy conditions at the wind farm site. Altissimo concludes that increasing the turbine height will not materially change the sound level received at the affected properties, and therefore the acoustic effects of this alteration will be no more than minor.

MDA's assessment considered the four submissions that raised an issue with noise effects from the proposal.

- *Te Waitere View Limited (submitter 1)*
    - The submitter is concerned with noise from construction and operation of the wind farm. The concern is that wind farm noise will be at a level so that the submitter loses "the ability to hear the sea in the morning and evening".
    - The submitter is located approximately 3 km from the closest wind turbine and just under 8 km from the coast. At the distance from the closest turbine while potentially at times audible, will generally be inaudible and should not interfere

with the ambient noise environment. MDA consider that the wind farm will not result in the adverse noise effects that the submitter is concerned about.

- During construction, I do not consider that noise levels will have an adverse effect on the environment that is more than minor, as at the distance and the shielding afforded by the intervening terrain (e.g. where materials are transported along the road), noise levels will be well less than 35 dB LAeq and therefore, while potentially audible at times outside, will be generally inaudible.

- *Knight Family Trust (Submitter 4)*
  - The submitter seeks to understand the noise levels from the wind farm at their property and comments that no noise level survey has been undertaken. MDA note that noise level surveys only need to be undertaken where the predicted noise level from the wind farm is 35 dB LA90 or higher.
  - The submitter property is located approximately 4 km from the closest wind turbine. MDA estimate that the noise levels at this property would be less than 25 dB LA90 which will be largely inaudible. Based on this noise level, MDA consider that the wind farm will have negligible noise effects on this property.

- Leslie Gaston (Submitter 5)
  - The submitter is concerned with the noise pollution from trucks on the public roads when delivering the wind farm components. I understand that delivery will occur via Te Anga Road rather than through Marokopa Road. Ms Wilkening notes that traffic is intended to and permitted to use public roads and that audibility is not an appropriate design criterion for traffic on the road. As such, noise effects from traffic generated by the proposal during construction / delivery cannot be considered. See map in Appendix 9 for separation distances from turbines to surrounding houses.

  - Trucks on the public road are not governed by noise limits in the ODP. MDA advise that best practice to mitigate traffic noise would be to undertake heavy vehicle movements during day time to avoid night-time noise impacts.

- Marokopa Paa Environmental Team (Submitter 6)
  - The submitter queries the noise levels from the turbines. The submission was unclear if this information is sought for the environment as a whole or at a specific location in relation to the Marokopa Paa.
  - As discussed, any receiver more than 2km from the closest wind turbine is likely to receive noise levels below 35 dB LA90 which is a relatively low level that is unlikely to cause adverse effects on the environment. Any locations further away will receive lower noise levels, and therefore negligible noise effects where the wind turbines will be largely inaudible (see map in Appendix 9).

Conclusion of Noise Effects on Submitters

Based on the assessment provided by TWF and subsequent review by MDA, I am satisfied that the noise effects to the submitters, and all sensitive receivers can be adequately avoided, remedied or mitigated through the imposition of appropriate consent conditions, which will result in no more than minor adverse effects on the environment. The proposed conditions related to Noise are outlined in the proposed condition set in Appendix 11 as draft conditions 7 to 17.

12 Shadow Flicker:

Shadow flicker was previously considered to potentially affect properties with 2km of a wind turbine. This was the accepted practice when the original application and tip height increase amendment were submitted. However, since that time the understanding of shadow flicker has been refined to be a product of the maximum blade chord (or width). Turbine blades of the modern design have become narrower relative to the overall size of the machine. A typical max chord for the larger machines that could be used at this site is 4m.

As the blade is estimated at a maximum of 4 m for this assessment and there are no third-party houses within 1060 m of the proposed eight wind turbines, shadow flicker effects are considered negligible. Regardless, this distance is less than the shadow flicker effect likely from the original consented turbines of 1166 m.

Accordingly, I adopt the findings of the applicant's assessment that the change in number of turbines and increase in tip height to 180.5 m will not create any additional adverse effects on the environment over and above what has already been authorised by the existing consent.

13 Landscape and visual effects:

The landscape and visual assessment has been reviewed by Dave Mansergh, Director, Mansergh Graham Landscape Architects who has had experience in windfarm assessments previously. I have summarised his memo below and include a copy of his technical assessment and addendum as Appendix 5.

Mr Mansergh has reviewed the Landscape and Visual Assessment (LVA) Proposed Variation to Consent: Revision 3. 22 March 2021 prepared by WSP. His review has drawn from the guidance provided by the Te Tangi a te Manu Aotearoa New Zealand Landscape Assessment Guidelines July 2022 in how to conduct peer reviews. Mr Mansergh also visited the site on 19 November 2019 in the company of Mr Dawson and TWF.

Mr Mansergh identified some concerns with the approach taken by WSP, including a failure to identify or assess the wider values associated with the landscape (aside from the fact that the site is not categorised as an outstanding natural feature or landscape in terms of s6 of the RMA) and how the increase in turbine height could affect those values. Mr Mansergh also concludes that the LVA prepared by the WSP does not provide adequate support for its argument that the landscape effects will be moderately positive. He also disagrees with the LVA conclusion that a decrease in adverse effects in one area can discount an increase in adverse effects at another location to result in an "average effect".

Mr Mansergh generally agrees with the LVA findings with respect to views from public viewpoints such as roads. From these locations, views of the windfarm will often be limited due to winding roads, roadside vegetation, topography resulting in a "transient" view. He also agrees that it is unlikely that any additional mitigation measures could be imposed on the development that would lessen its effects from a landscape and visual perspective. However, Mr Mansergh concludes that the conclusions of the LVA are not adequately supported by the analysis contained in the LVA report and it is difficult to understand how the various assessment ratings have been reached by WSP.

A number of submissions referred to landscape and visual effects but did not provide any further detail surrounding their concern.

Mr Mansergh concludes that the LVA provided by TWF provides insufficient information to fully understand the nature of the application and the effects that are likely to arise from it. He considers that the effects of the increase in size for the remaining 8 turbines may be underestimated and that they may be more noticeable and dominant from viewpoints to the north. The assessment of landscape and visual effects is more complex and should include looking at both the number and size of the turbines in weighing up their landscape and visual impact.

While he does not conclude that the recommendations in the LVA are necessarily incorrect, he notes that the LVA conclusions are not supported by the data and analysis to allow an independent reviewer to apply the same approach and reach the same conclusion. In particular, the focus of the LVA is on the southern end of the site, with less analysis of the northern part of the visual catchment which is where the 8 remaining turbines are to be located.

Mr Mansergh has also reviewed the memo prepared by Mike Moore Landscape Architect, who has now replaced WSP as the visual assessment expert. Mr Moore concludes in his "will say" memo dated 13 September 2023 that the overall visual effects will be positive and in locations where there are visual effects, that they will be no greater than adverse/low (minor). Mr Mansergh notes that the Mike Moore "will say" statement does not contain enough information for those findings to be reviewed and verified. Mr Moore is invited to provide sufficient detail in his evidence to enable his findings to be verified while also confirming the extent to which he has relied on the evidence original WSP assessment work.

On this basis, TWF is invited to provide further information to clarify these outstanding matters at the hearing, specifically:

- The way in which the landscape architect has reached the effects conclusions and assessment ratings through his report.
- The extent to which Mr Moore has relied on the original WSP LVA and the extent to which he has undertaken his own independent assessment in sufficient detail to be verified and reviewed by Council.

Provided TWF is able to adequately respond to the two matters above and Mr Mansergh is satisfied that the findings can be adequately supported by the analysis, I consider that any change in the landscape effects arising from the variation will be minor.

14 Ecological effects:

Leigh Bull, an Ecologist from BlueGreen Ecology Ltd with significant experience in wind farms in New Zealand has undertaken an expert peer review of the ecological reporting provided by TWF. I have provided below a summary of the ecology peer review conclusions with her full technical memo in Appendix 7 to this report.

Ms Bull notes that a substantial time period has elapsed since the granting of the original wind farm consent in 2006 and the practices associated with ecological assessments for wind farm developments have progressed significantly over that time. Importantly, Ms Bull notes that

AUSWEA (2018) produced best practice guidelines for ecological assessments for wind farms which recommend the following approach:

1. *a desktop review of available information to identify any potential issues that may prevent the project being approved;*
2. *field surveys to map the vegetation and identify flora and fauna species;*
3. *species-specific studies to obtain more information about significant flora and fauna (particularly birds and bats) that may be at risk from the development or to avoid them or develop mitigation strategies;*
4. *development of avoidance, mitigation and offset strategies to minimise impacts on species if required; and*
5. *development and implementation of monitoring programs for the construction and operational phases of the wind farm development.*

While some ecological assessment and reporting was been undertaken by TWF, Ms Bull concludes that this has been insufficient to confirm the number or type of threatened or at risk species present across the wind farm site and therefore the most appropriate mitigation that should be applied.

The specific conclusions in Ms Bull's memo are set out below:

"The original (2006 and 2011) assessments only alluded to bats being present in the wider area, furthermore they considered the risk of bats hitting the structures, blades or power lines was extremely low. The first ecological assessment for the current application only undertook a desktop approach (no field data) which then elicited my initial s92 recommendations. Through the s92 process, long-tailed data has been collected showing the presence of this species across the site. However, the survey was only undertaken during one of the key periods of bat activity. Still no appropriate / targeted NZ falcon surveys have been undertaken. In addition, studies arising since the time of the original assessment have shown that bats populations can be impacted by wind farm developments. It remains my opinion that effects to bats and falcon of the proposed changes to the windfarm cannot be appropriately judged, and that the effects management regime cannot be adequately considered. On this basis, turbine curtailment should be given due consideration as a requirement to manage potential effects on bats.[1]

This conclusion raises questions in relation to the appropriateness of the mitigation proposed by TWF with respect to bats and New Zealand Falcons along with other threatened and at risk species. Without more certainty around the presence or absence of bats and New Zealand Falcon across the windfarm site and more specifically around the eight remaining turbines, it is difficult to confirm how the mitigation and offset compensation proposed by the applicant is appropriate or sufficient.

The reduction in the number of turbines from 22 to 8 should result in a reduction in adverse effects on avifauna, however it is not clear from the information provided by the applicant that the effects management hierarchy has been appropriately implemented with respect to the investigations completed, the avoidance mechanisms adopted or the conditions proposed. Therefore, the applicant has not sufficiently demonstrated that they have fully sought to avoid, remedy or mitigate adverse effects on avifauna for those 8 turbines that remain as part of this application.

[1] Appendix 7: Technical memo of Leigh Bull, Blue Green Ecology, dated 29 September 2023, para 33 - 38

In addition, the latest variation application (which removed turbines 2, 4 and 9) while retaining turbines 1, 7 and 11 where the highest levels of bat activity were recorded by the applicant. This is illustrated in Table 8 below[2].

Table 8 – Turbines and bat presence (Leigh Bull)

Turbine	Distance (m) to SNA	Bat detector	Bat detect distance (m)	Ave passes / night
6	127	4	151	Failed
1	469	1	245	8.75
11	104	9	108	6.15
7	19	5	40	0.94
2	**220**	**2**	**124**	**0.93**
3	49	2	128	0.93
4	**38**	**3**	**145**	**0.73**
5	98	3	88	0.73
10	125	8	217	0.54
8	86	6	100	0.4
9	**267**	**7**	**159**	**0**

It is not clear on the rationale behind the removal of turbines 2, 4 and 9 as opposed to removing other turbines where the initial bat survey showed a much higher number of average bat passes per night. TWF is invited to comment on this matter further in their evidence at the hearing.

On the basis of Ms Bull's technical memo, I have provided an amended set of recommended conditions (see Appendix 11). Specifically, these additional ecology conditions address the lack of a baseline study for NZ Falcon, the lack of a standardised post construction mortality monitoring condition for bird and bat strikes and the specific exclusion of any modification or restriction on the operation of the wind turbines. Since 2006, advances in the area of turbine curtailment have increased significantly resulting in the ability to consider this as a legitimate mitigation option.

As Ms Bull has noted, the Department of Conservation have recently issued the New Zealand Bat Recovery Group Information Sheet "Bats and wind farms in New Zealand, Version 5.0 dated October 2023. Ms Bull has helpfully referenced her comments back to the relevant section of the DoC Information sheet where relevant.

On this basis, I consider that the additional conditions proposed by Ms Bull[3] are appropriate to address the gaps in information provided by TWF with respect to the effects of the varied windfarm configuration on avifauna. In particular, I consider that the development of mitigation approaches in collaboration with the Department of Conservation, including curtailment approaches if warranted, is appropriate.

15 Cultural / Iwi consultation

A number of submissions were received from submitters comprising local iwi which noted a lack of engagement and the lack of a Cultural Impact Assessment for the project. Other submissions raised concerns over potential impacts on iwi, hapu and whare, cultural, social, economic and environmental interests. It was also noted that there was no assessment against the Maniapoto

[2] Appendix 7: Technical memo of Leigh Bull, Blue Green Ecology, dated 29 September 2023, para 32
[3] Appendix 11 – draft conditions 37 to 52

Environmental Management Plan. TWF has provided a summary of engagement actions, dates and responses in the 15 September 2023 variation application. This information indicates a number of engagement actions and attempts to engage but provides no conclusions or comments. The last few entries under the 2023 actions seem to indicate that the development of a CIA (Cultural Impact Assessment) was underway but no indication of timing has been provided by the TWF. No additional information has yet been provided to clarify progress with this issue.

TWF is invited to share any updated information that has been obtained through the ongoing engagement in their evidence at the hearing. In my opinion the adverse effects on matters of cultural significance cannot be appropriately assessed until additional information is provided at the hearing.

16 General submission issues, miscellaneous

A number of the submissions have raised issues that do not fit within the main issues listed above. I have listed these below and discuss each of them below.

Submitter # 2: David Galbraith raised a concern in relation to what will happen with used turbine blades after they have been replaced. He also questioned the amount of energy used to construct the turbines.

Discussion: It is anticipated that any turbine blades that are replaced in the future will need to be removed from the site and taken to an appropriate facility for recycling or disposal. TWF is invited to comment on their plans with respect to this issue.

Given that this application is a variation to an existing resource consent that has not yet lapsed, the question of energy use in turbine construction is not relevant. The consent holder has a consent that would enable a 22 turbine wind farm to be constructed immediately and have applied to vary that consent to remove 14 turbines while making the remaining 8 turbines larger. As such, s127 of the RMA limits the discretion of the Council to assessing only those effects that are materially different to those that were originally consented in 2006 and then varied in 2011. Given the substantial reduction in the number of turbines proposed for the project, this question becomes immaterial as the overall number of turbines and therefore physical construction required, is reduced.

Submitter # 4 Julie and Brett Knight: have raised concerns over the disposal of used wind turbine blades and components, the visual pollution of red flashing lights at night and a failure to enable new landowner who had bought since the granting of the original consent to voice any concerns over that original process.

Discussion: It is anticipated that any turbine blades that are replaced in the future will need to be removed from the site and taken to an appropriate facility for recycling or disposal. The applicant is invited to comment on their plans with respect to this issue.

The consent holder holds a valid resource consent from 2006 (varied in 2011) which has not yet lapsed. The statutory process related to this consent took place some 14 years ago and there are no statutory opportunities to revisit this process.

Submitter # 6 – Marokopa Pa & #8 Roimata Harmon: These submitters raised concerns with water quality and soil stability impacts, safety concerns, economic benefits, compliance with regulations and the consideration of alternatives.

Discussion: Water quality and soil stability issues have been addressed through the Waikato Regional Council consent which was granted on 20 August 2020 with a term of 15 years and a lapse period of 10 years. A copy of this consent is included in Appendix 3. Given the wind farm is located within large rural properties with significant distances to the nearest neighbours, safety concerns are restricted to interactions between the windfarm construction activities and the local roading network. These matters have been addressed by the applicant and are covered by the transportation peer review in this report and draft conditions 18 to 28 in Appendix 11.

The economic benefits of the project were canvassed as part of the original wind farm consent process in 2006 and this process is only able to assess the adverse effects of any differences between the effects of the consented windfarm and the proposed variation.

A resource consent is granted on the basis of an assumption that a consent holder will comply with the conditions of that consent. The consent and its set of conditions forms a legally binding agreement between the Council and the consent holder in relation to the project.

Given the application is a variation on an existing consented windfarm, there is no requirement to assess alternative sites or technologies.

17 Section 104(1)(b) - Relevant Provisions

Pursuant to s104(1)(b), in considering an application for a resource consent, regard must be had to the following relevant provisions of section 7.2. The provisions considered relevant are restricted to those relevant to the change in conditions of the resource consent, and not to the unchanged as aspects of the existing application.

17.1 National Policy Statements and National Environmental Standards

A number of National Policy Statements (NPS) have been issued since the original consent was granted in 2008. These comprise:

- National Policy Statement for Fresh Water Management
- National Policy Statement for Renewable Electricity Generation
- National Policy Statement for Electricity Transmission
- New Zealand Coastal Policy Statement
- National Policy Statement on Urban Development Capacity
- National Policy Statement for Highly Productive Land
- National Policy Statement for Indigenous Biodiversity
- National Policy Statement for Greenhouse Gas Emissions from Industrial Process Heat

It should be noted that the NPS for Highly Productive Land, Indigenous Biodiversity and Greenhouse Gas Emissions from Industrial Process Heat came into effect after this application was lodged, and have therefore the application has not been assessed against these NPSs. The only relevant National Policy Statement is the National Policy Statement for Renewable Electricity Generation 2011 (NPSREG). The NPSREG sets out an objective and policies to enable the sustainable management of renewable electricity generation under the RMA. The NPSREG came into effect on 13 May 2011.

The NPSREG has the following Objective: *To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation.*

The Taumatatotara Wind Farm has an existing consent granted in 2006 (and varied in 2011) that provides for the development of a 22-turbine wind farm. The current variation before the Council seeks to amend that proposal to remove 14 wind turbines from the project leaving 8 remaining turbines, largely in the northern part of the site. TWF has provided an assessment of the relevant policies in the NPSREG for the current proposal. For the purposes of this report, I have adopted their assessment as contained on page 18 of the AEE and consider the proposal is entirely consistent with this NPSREG.

17.1.1 Waikato Regional Policy Statement and Regional Plan

The Waikato Regional Policy Statement (WRPS) lists Energy as on Objective:

- *Objective 3.5 Energy*
  Energy use is managed, and electricity generation and transmission is operated, maintained, developed and upgraded, in a way that
  a) increases efficiency;
  b) recognises any increasing demand for energy;
  c) seeks opportunities to minimise demand for energy;
  d) recognises and provides for the national significance of electricity transmission and renewable electricity generation activities;
  e) recognises and provides for the national, regional and local benefits of electricity transmission and renewable electricity generation;
  f) reduces reliance on fossil fuels over time;
  g) addresses adverse effects on natural and physical resources;
  h) recognises the technical and operational constraints of the electricity transmission network and electricity generation activities; and
  i) recognises the contribution of existing and future electricity transmission and electricity generation activities to regional and national energy needs and security of supply.

The proposed amendment will increase efficiency of energy production by producing more electricity across fewer turbines. This will help further the provision of renewable energy production that is not from fossil fuels while providing for regional and national energy needs. Accordingly, I find that the proposal is consistent with the stated Objective of the WRPS in particular by providing for additional energy produced from a renewable resource while addressing adverse effects on environment.

17.1.2 Operative Waitomo District Plan Objectives and Policies

TWF's agent has provided an assessment of the relevant ODP objectives and policies. The key objectives and policies noted by TWF as being relevant are set out below:

- *Objective 11.3.1 – To promote the Rural Zone as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.*

- *Objective 11.3.7 – To promote efficient and effective management of the District's physical resources of roading, land drainage, and bulk services.*

- *Objective 11.3.8 – To promote use of rural land in a manner which encourages maintenance and enhancement of amenity values of the rural environment, protects outstanding natural features and landscapes from inappropriate use and development, and preserves the natural character of the coastal environment, wetlands, lakes and rivers, and their margins.*

- *Objective 11.3.9 – To encourage maintenance and enhancement of rural visual character.*

- *Objective 11.3.11 – To ensure that rural activities and lawfully established industrial activities in the rural area are not adversely affected by the location of new activities with expectations of high amenity values.*

In addition I wish to add:

- *11.3.4 To protect areas of significant indigenous vegetation and significant habitat of indigenous fauna.*

As set out above in my assessment of the effects arising from the variation, it is only the difference in effects between the 2011 consented windfarm and the latest variation application that can be assessed. The removal of 14 turbines with the remaining 8 turbines to be up to 180.5 m high with consequential changes in turbine blade length, overall height, foundation size and transportation logistics has been carefully reviewed by the expert s42A team.

In terms of transportation, the expert peer reviewer[4] concluded that the environmental effects of the proposed changes can be addressed within the existing transport conditions and the requirement for various management plans to be submitted for certification prior to activities commencement.

In terms of noise, the expert reviewer[5] concluded that "*we are now satisfied that the proposed wind farm can comply with the relevant noise limits, and that the effects would be insignificant, and generally inaudible, at most of the closest dwellings from which written approval has not been obtained*." [6]

In terms of landscape, the expert peer reviewer[7] noted that sufficient information has been provided to understand the nature of the application and the effects that are likely to arise. He also concurred that the approach taken for the assessment of public views was supported and that these would be mostly transient and expected to have lower viewer sensitivity. However, he did have residual questions surrounding the visual effects ratings and while "*this does not*

[4] Thato Mariti, BBO
[5] Siiri Wilkening, Marshall Day Acoustics
[6] Pg 1, Noise expert peer review memo, Marshall Day Acoustics, dated 25 September 2023 in Appendix 6
[7] Dave Mansergh, Mansergh Graham Landscape Architects

necessarily mean that the conclusions reached in the LVA are incorrect, rather it means that the conclusions reached are not sufficiently supported to allow an independent reviewer to apply the same approach and reach the same conclusions." Specifically, the expert review noted that *from it, the premises and weighting applied during the assessment means that the effects of the increase in the size of the proposed turbines are underestimated*."[8] On the basis that TWF is able to provide additional clarity on these matters in their evidence at the hearing and Mr Mansergh is satisfied that the conclusions in the LVA are correct, then I consider that the adverse effects on the environment of the variation on landscape and visual amenity will be no more than minor.

In terms of ecology, the expert peer reviewer[9] noted the absence or lack of background data on bats and New Zealand Falcons meant that effects on the environment of the proposed variation on these species could not be appropriately assessed. This means that the appropriateness of the effects management regime proposed by TWF could not be adequately assessed. The ecology peer reviewer has proposed a number of additional ecology conditions requiring the collection of baseline presence/absence data on bats and New Zealand Falcons prior to the commencement of construction, improved monitoring post construction and consideration of measures such as curtailment (in conjunction with the Department of Conservation) should adverse effects on bats and New Zealand falcons arise as a result of the windfarm operation. On the basis of these additional conditions being imposed, I consider that adverse effects on ecological matters from the variation can be appropriately mitigated such that any adverse effects will be minor.

The removal of 14 turbines results in a decrease in the amount and area of earthworks across the site. While the increased blade length could result in some additional road widening required along the transport route leading to the site, this is likely to be minimal provided that TWF can secure the blade lifting transporter they have proposed.

In conclusion and taking into account the provisos set out above, it is my opinion that the variation proposal will be consistent with all of the relevant objectives and policies set out in the Rural Zone provisions of the ODP. The amended set of draft consent conditions are included in Appendix 11).

17.2 Section 104(1)(c) – Other Matters

17.2.1 Treaty Settlement Acts – Areas of Interest (AOI) or Statutory Acknowledgement Area

No Areas of Interest of Statutory Acknowledgment Areas will be affected by the proposed activity.

18 PART 2 MATTERS

The Court of Appeal's decision in *R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316 was released on 21 August 2018. The Court of Appeal held that the Supreme Court's rejection in *Environmental Defence Society Inc v New Zealand King Salmon Company Limited* [2014] NZSC 38 ("*King Salmon*") of the "overall broad judgment" approach in the context of plan provisions applied in the particular factual and statutory context of the NZCPS which, the Supreme Court confirmed, already reflects Part 2 and complies with the requirements of the RMA. The Court of Appeal did not consider that the Supreme Court in *King Salmon* "intended to

[8] Page 15, Landscape peer review, Mansergh Graham Landscape Architects, 13 September 2023, Appendix 5
[9] Dr Leigh Bull, Blue Green Ecology

prohibit consideration of Part 2 by a consent authority in the context of resource consent applications (paragraph [66])".

In the context of resource consents, the Court of Appeal determined that:

(a) RMA decision makers should usually consider Part 2 when making decisions on resource consents (this is the implication of the words "subject to Part 2" in section 104); and

(b) However, doing so is unlikely to advance matters where the relevant plan provisions have clearly given effect to Part 2, or where it is clear that the plan is "competently prepared" with "a coherent set of policies" such that there is no need to refer to Part 2.

The variation application was formally lodged with Council on 5 July 2020 and therefore precedes the notification of the Proposed Waitomo District Plan on 20 October 2022 and has therefore not been considered in assessing this application. As the ODP does not give effect to various higher order policy documents it is considered that it has not been competently prepared in accordance with Part 2 of the RMA. Further, the ODP was prepared well before the *King Salmon* decision. As such there can be no certainty that it is a competently prepared plan. Accordingly, it is appropriate to provide an assessment of the application against Part 2 below.

18.1 Section 6 – Matters of National Importance

Section 6 requires that Council shall recognise and provide for the following matters of national importance:

> *In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:*
>
> *(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*
>
> *(b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:*
>
> *(c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*
>
> *(d) The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*
>
> *(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.*
>
> *(f) The protection of historic heritage from inappropriate subdivision, use and development.*
>
> *(g) The protection of recognised customary activities.*

The project is not in the coastal environment and is not in an area noted in the ODP as an outstanding natural features or landscape overlay. Minimal significant indigenous vegetation will be removed, and the application will not affect any lakes, rivers or wetlands. There are no other matters of national importance under s6 that are relevant to the consideration of the proposal in my view.

TWF has been engaging with tangata whenua on an ongoing basis and is invited to report on this engagement further at the hearing. In particular, TWF is invited to report on any proposed conditions recommended by tangata whenua which should be applied to the consent to ensure a greater degree of safety for the relationship of Māori and their culture and tradition with their ancestral lands, water, sites, waahi tapu and other taonga.

18.2 Section 7 – Other Matters

Section 7 requires that Council shall have particular regard to a number of other matters:

> *Section 7 – Other Matters*
>
> *In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to –*
>
> *(a) Kaitiakitanga*
>
> *(aa) The ethic of stewardship*
>
> *(b) The efficient use and development of natural and physical resources*
>
> *(ba) The efficiency of the end use of energy*
>
> *(c) The maintenance and enhancement of amenity values*
>
> *(d) Intrinsic values of ecosystems*
>
> *(e) repealed*
>
> *(f) Maintenance and enhancement of the quality of the environment*
>
> *(g) Any finite characteristics of natural and physical resources*
>
> *(h) The protection of the habitat of trout and salmon*
>
> *(i) The effects of climate change*
>
> *(j) The benefits to be derived from the use and development of renewable energy*

In this case, sections (a, (aa), (c) and (f) are relevant to consideration of the proposal.

(a) Kaitiakitanga and (aa) the Ethic of stewardship

This matter must be assessed in relation to the difference in effects between the consented and the proposed activity. As noted above, TWF has been engaging with tangata whenua for some time and is invited to report at the hearing on the outcomes of that engagement, particularly around any conditions that are invited to address the matters in s7(a) and (aa).

(c) and (f) Maintenance and Enhancement of Amenity Values & Quality of the Environment

In terms of the maintenance and enhancement of amenity values (7(c)) and the maintenance and enhancement of the quality of the environment (7(f)) there has been an assessment of landscape and visual effects. Noting that only the adverse effects of the proposed changes to the consented activity can be taken into account and assuming that TWF provides additional clarity on the analysis of the effects ratings associated with the larger turbines, I consider that s7(c) and(f) have been considered in this assessment.

(j) the benefits to be derived from the use and development of renewable energy.

The amended proposal will deliver renewable energy from 8 turbines and is therefore consistent with s7(j) due to the benefits derived from the windfarm, as demonstrated by the assessment of positive effects outlined in this report.
Taking the above into consideration, it is my opinion that the proposal meets the relevant principles of s7.

18.3 Section 8 – Treaty of Waitangi

Section 8 requires that the principles of the Treaty of Waitangi be taken into account.

TWF has commenced engagement with tangata whenua and has indicated in the latest package of information provided on 15 September 2023 that this engagement has been ongoing and that a Cultural Impact Assessment is underway. TWF is invited to report further on this matter at the hearing.

However, on the basis that the application is a reduction in the size of the windfarm from its originally consented 22 turbines to 8 turbines and that the consideration of effects is limited to the difference in effects between the consented and varied proposal and that appropriate engagement has been ongoing between the applicant and tangata whenua to understand their concerns, I consider that the principles of the Treaty of Waitangi have been taken into account in this process.

18.4 Section 5 - Purpose

As stated above, s6, 7 and 8 all serve to inform the analysis and consideration of whether the purpose of the RMA under s5 will be achieved by the proposal. S5 is set out as follows and the matters within it are considered below:

> *(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.*
>
> *(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while -*
>
> *(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
>
> *(b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
>
> *(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

The overriding purpose of the RMA is 'to promote the sustainable management of natural and physical resources'. It is my opinion that the proposal does provide for people and communities and their social, economic and cultural wellbeing while promoting the sustainable management of the natural (land) or physical (infrastructure) resources. The proposal will enable the development of a renewable energy facility to provide additional electricity generation from a renewable source, the wind.

Having regard to the above assessment it is concluded that the proposal is consistent with the principles (sections 6 to 8) of the Resource Management Act 1991. This is provisional on the following matters:

1. the effects on landscape matters being appropriately addressed by the applicant at the hearing,
2. the additional ecology conditions being accepted, and
3. the applicant demonstrating that cultural/iwi effects can be appropriately addressed by the applicant at the hearing.

Overall and on the basis that these provisos are satisfactorily addressed at the hearing the application is considered to meet the relevant provisions of Part 2 of the RMA as the proposal achieves the purpose (section 5) of the RMA being sustainable management of natural and physical resources.

19 RECOMMENDATION

On the basis that those issues requiring clarification are addressed further by the applicant at the hearing, specifically the additional ecology conditions, the adequate addressing of cultural / iwi effects and the confirmation on the rating and significance of the landscape effects, I believe the proposed variation application is acceptable subject to compliance with the suite of existing, amended and proposed conditions contained in Appendix 11 Subject to these provisos being addressed, I consider that the proposal is consistent with relevant objectives and policies of the ODP, as well as being consistent with the Waikato Regional Policy Statement and all other relevant matters.

In my view, the proposed change to consent conditions pursuant to s127 of the RMA meets the purpose and principles of Part 2 of the RMA and therefore subject to the conditions and advice notes recommended in Appendix 11, the proposed change to consent conditions can be granted under the Operative Waitomo District Plan.

Reporting Officer:	Approved By:
	
Chris Dawson Consultant Planner	Alex Bell General Manager – Strategy & Environment Waitomo District Council
Dated: 13 October 2023	Dated: 13 October 2023

Appendix 1

2006 windfarm decision

REPORT TO : The Waitomo District Council Hearings Committee

FROM : Ben Inger, Consultant Planner for Waitomo District Council

APPLICANT : Ventus Energy (NZ) Limited

PROPOSAL : Applications for resource consent made by Ventus Energy (NZ) Limited for the construction and operation of 22 wind turbines and associated services on a ridgeline approximately 6.5km south of Taharoa (from Turbine 1) in the Waitomo District.

SITE : Comprising the following Rural zoned land:

- Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Certificate of Title 141077;
- Section 3 Block IX Kawhia South Survey District comprised in Certificate of Title SA28A/586;
- Section 1 Survey Office Plan 58558 comprised in Certificate of Title SA47A/876;
- Section 1A Block V Kawhia South Survey District comprised in Certificate of Title SA37A/25;
- Section 12 and Section 22 Block V Kawhia South Survey District comprised in Certificate of Title SA31C/23;
- Section 2 Block V Kawhia South Survey District comprised in Certificate of Title SA37A/26; and
- Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Certificate of Title SA48B/494.

WDC REFERENCE : 050 103

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Appendix A: Copy of the Application

Appendix B: Copy of the s.92 Further Information Requests and Information Received

Appendix C: Peer Reviews Undertaken on behalf of Council:

1. Peer Review of the Acoustic Assessment undertaken by Hegley Acoustic Consultants

2. Peer Review of the Visual and Landscaping Assessment undertaken by Priest Mansergh Graham
3. Peer Review of the Traffic and Roading Assessment undertaken by Opus International Consultants

Appendix D: Copies of Submissions

Appendix E: Written Approvals Received by Council

Appendix F: Locality Plan and Planning Map

1 Introduction

1.1 An application for land use consent has been made by Ventus Energy (NZ) Limited to establish and operate a wind farm on a site adjacent to Taumatatotara West Road. The application was lodged on 15 December 2005.

1.2 The purposes of this report are to assist the Hearings Committee in coming to a decision on the application by:

- Independently "auditing" the reports submitted by the Applicant in support of the application to identify any deficiencies or areas where different interpretations should be applied;
- Identifying key issues that need to be considered by the Committee;
- Commenting on points raised in submissions; and
- Making a recommendation to the Committee for their guidance.

1.3 The following specialists have audited the acoustic, visual and roading assessments within the application and have provided input into this report:

Nevil Hegley of Hegley Acoustic Consultants (Acoustic Engineering Consultant) in respect of potential noise effects;

Dave Mansergh and Adele Wilson of Priest Mansergh Graham (Landscape Architects) in respect of potential landscape and visual effects.

Rui Leitao and Bill Flavell of Opus International Consultants (Roading Engineers) in respect of potential roading and traffic safety effects on the surrounding local roading network.

1.4 Each of these specialists have prepared an individual report on those aspects of the proposal and these are contained in **Appendix C** to this report.

1.5 These peer reviews have been used to form part of the assessment of environmental effects (provided in **Section 13** below).

2 The Applicant

2.1 Ventus Energy (NZ) Limited is a privately owned independent wind energy development company based in Auckland. It is affiliated to Ventus Energy Limited, an Irish renewable energy company incorporated in the year 2000. Ventus Energy's principal project to date is the Knockastanna Wind Farm, a five turbine 7.5MW development located in east county Limerick, Ireland. The project received planning consent in 2003.

2.2 Ventus Energy have also applied to the Waitomo District Council to construct and operate a thirty two turbine wind farm on a ridgeline at Awakino (Council reference 050 003). That application is currently on hold.

3 The Proposal

3.1 Background

3.1.1 Ventus Energy (NZ) Limited ("the Applicant") seeks land use consent to construct a wind farm at a site on Taumatatotara West Road near Taharoa.

3.1.2 The application (refer to **Appendix A – The Application**) involves the establishment and operation of a utility scale wind farm comprised of twenty-two 'horizontal axis' wind turbines, associated sub-station and operations buildings, and access roads on a ridgeline located approximately 6.5 kilometres south of Taharoa in the Waitomo District.

3.1.3 The additional information provided as a result of a request for further information (section 92 request) is attached as **Appendix B**.

3.1.4 The twenty-two turbines to be constructed will be positioned over four rural properties, owned by G & J Gallagher Farm Limited (CT reference 31C/23), Larry and Lynette Harper (CT references 141077, 47A/876, 37A/25 and 37A/26), GL Stokes and Company (CT reference 48B/494) and The Proprietors of Taharoa C Incorporation (CT reference 28A/586).

3.1.5 The properties are currently used predominantly for pastoral grazing purposes (sheep and cattle). Scattered pockets of plantation radiata pines and small fragments of native bush also exist in the surrounding area.

3.2 Proposed Wind farm Activities

3.2.1 The Applicant states on page 16 of the AEE that the actual supplier (and hence capacity) of the turbine equipment will not be chosen until the tendering stage. However, drawings and images of a 'typical turbine' similar to that which will be installed are provided in Appendix A of the AEE, and provide the overall (maximum) parameters for this consent.

3.2.2 The Applicant has, however, based the assessment on the model of turbine that is most likely to be chosen. This is the Ventus V80 model.

3.2.3 The maximum parameters/consent envelope that are sought by the Applicant and are being considered in the application are summarised in Table 1 below:

Table 1: Consent Envelope for the Proposed Wind farm

Maximum Parameters:	
Turbine Number	22 maximum
Tower Height	No Restriction (but likely to be 65 metres)
Turbine Tip Height (measured from ground to vertically extended	110 metres maximum

blade tip)	
Rotor diameter	No Restriction (but likely to be 90m diameter)
Ground Clearance from Rotor Tip	Not stated (but likely to be 20 metres)
Turbine Output	No Restriction (but likely to be 2MW)
Location of Turbines	Within a 100 metre radius of turbine locations shown
Location of Roads	Generally as shown on Figure 1 (Volume 2, AEE) with variation as required to provide access to the turbines if locations are varied.
Turbine type	Three bladed tapered tubular steel tower and support structures.

3.2.4 The Applicant also states in the table on page 17 of the AEE that a 15% variance is requested where dimensions are stated within the consent envelope.

3.2.5 Twenty two horizontal axis wind turbines will be constructed. Based on the Ventus V80 model of turbine, each turbine will have a maximum tip height of 110 metres (to vertically extended blade tip), comprising a tower height of up to 65 metres (to the top of the nacelle) and blade length (diameter) of up to 90 metres, and with a minimum ground clearance of 20 metres. The turbines will be of the standard three blade type and will be light grey in colour to minimise reflectivity. Tapered tubular towers are proposed. The towers will have a maximum diameter of 4.5 metres at the base, tapering to between 2 – 3 metres at the maximum height.

3.2.6 Reinforced concrete foundations will support the steel tubular towers and fibreglass turbines. The bases will be designed to withstand high gust wind conditions, and will be approximately 1.5 metres deep (in the centre) and 16 metres by 16 metres in area. At difficult turbine locations, piled foundations will be required.

3.2.7 The proposal also involves the construction of compacted crane pads adjacent to each of the tower/turbine foundations. The crane pads are approximately 1.0 metre deep compacted aggregate, with dimensions of approximately 16 metres by 22 metres, and are required to enable a large mobile crane of up to 600 tonne capacity to install each of the turbines (Figure 4.1 on Page 25 of the AEE depicts a 'Typical Turbine Base Configuration').

3.2.8 The Applicant has stated on page 16 of the AEE that the proposed turbines operate at wind speeds of between 3 and 25 metres per second. At wind speeds above 25 metres per second they shut down to prevent damage to the structure and the generating system.

3.2.9 The turbines will operate on a continuous 24 hour basis depending on the wind resource available. The power output of the turbines will be approximately 2.0 Megawatts (MW) each, giving a total power rating for the wind farm of

approximately 44 MW, depending on the final turbine choice. The Applicant has stated on page 1 of the AEE, that this is equivalent to the power demand of approximately 16,000 households.

3.2.10 The design of the turbines is such that they rotate to face the wind. The Applicant states on page 14 of the AEE that the predominant wind resource at the subject site is a south-westerly wind and the secondary wind resource is an easterly wind.

3.2.11 The location of the proposed turbines is shown in Figure 1 (Volume 2) of the AEE. However, the Applicant states on page 15 of the AEE that it may be necessary to change turbine locations following detailed foundation and site access investigation. Changes would also be required in the event that any archaeological features are discovered during the initial earthworks and site preparation works. For these reasons the application includes the provision for a '*turbine contingency zone*' which is a defined area of a 100 metre radius around each of the proposed turbine locations.

3.2.12 The layout generally consists of a single row of turbines running northwest to southeast along a well defined ridgeline.

3.3 Other Ancillary Activities

3.3.1 Other ancillary buildings and activities proposed are:

(a) An underground fibre optic network connecting each turbine to the central control system in the operations building;

(b) An underground network of 33kV transmission lines delivering electricity from each turbine to two proposed sub-stations located within a single compound.

(c) Overhead powerlines connecting the wind farm substations to the two existing 33kV lines that traverse the eastern edge of the landholding;

(d) A compound occupying a maximum footprint of 41 metres by 33 metres is proposed to house the control building and the sub-station equipment (Figure 3 of AEE Volume 2). The function of the control building is to house monitoring and control equipment for the wind turbines and the transmission of electricity. External electrical equipment will include switchgear and may include transformers and busbars. The function of the sub-station equipment is to allow for the transformation from the local site voltage up to a transmission voltage of 33 or 110kV. Two separate sub-stations and circuits are proposed (one for each of the 33kV lines to which the wind farm will be connected) however, the substations will both be contained within a single compound area, and surrounded by a 2.4 metre high security fence and locked gates. The location of the compound is shown on

Figure 1 (Volume 2) of the AEE and on the annotated photo attached as further information in **Appendix B**.

(e) Internal access roads of a 5 metre width to provide access to the turbines and ancillary buildings;

(f) Earthworks associated with the creation of the turbine sites, access roads and other facilities described above.

3.4 Transmission Lines and Grid Connection

3.4.1 Ventus propose to connect the wind farm directly to the two sets of existing 33kV lines that traverse through the eastern edge of the landholding. Ventus have stated that connection(s) can be achieved by one of the two methods as follows:

- By installing and operating new 33kV or 110kV overhead lines from the on-site substations, to the existing 33kV lines (for distances of approximately 2 and 3 kilometres respectively). Use of 110kV lines would also require an upgrade of the existing 33kV lines to 110kV; **OR**
- By using the existing single phase 11kV route (indicated as Option A on Figure 1 of the AEE). For this option, the old 11kV wooden poles would be replaced by new stronger concrete or wooden ones to accommodate two sets of 33kV lines as well as the existing 11kV ones – so three sets of lines in total (The Applicant states on page 17 of the AEE that this option is preferred by Ventus).

3.4.2 For each of the above options it would be possible to lay the cables underground (rather than overhead). This option is considered in the assessment of effects provided in **Section 13** below, and in the visual and landscape audit contained in **Appendix C**.

3.5 Vehicle Access

3.5.1 All vehicular access to the site is proposed to be from Taumatatotara West Road.

3.5.2 Due to topographical and geotechnical constraints at the site it is not practical to construct a separate access road connecting all of the turbine sites. Three separate entrances and associated access tracks are therefore proposed to allow for vehicular access during construction and maintenance works as follows:

- to turbine 7;
- to access the northern block of turbines (Nos. 1-6); and
- to access the southern block of turbines (Nos. 8-22).

3.5.1 Each access crossing will be approximately 6.5 metres wide, and all areas disturbed adjacent to access roads are proposed to be grassed following completion of the construction works.

3.5.2 Public access will not be available to the site. However, Ventus have stated that they are supportive of any proposal by Council to create public viewing areas (including associated signage) from Council's local roading network in the surrounding area. Any consideration of a public viewing area would require separate consideration by Council, and falls outside of the scope of this application.

3.6 Transportation of Materials to the Site

3.6.1 In addition to the loads of imported aggregate and concrete that will be trucked to the site for the proposed construction works, the proposal also involves the transportation of a number of oversized loads (containing the actual wind farm components), as follows:

- Nacelle mass of up to 60 tonnes (each),
- Blade length of up to 45 metres, and
- Base tower diameter of 4.5 metres.

3.6.2 The turbines and sub-station transformer components will all be imported by ship to the port of New Plymouth and then transported by road to the site, northbound along State Highway 3 using specialist (large load) transportation services.

3.6.3 Some road widening/road alignment correction will be required to accommodate the large-load vehicles. Aside from widening and upgrading works to Taumatatotara West Road, resource consents for road upgrade works do not form part of this application and will need to be applied for at a later date should this application be approved.

3.6.4 The imported aggregate and concrete will be trucked from '*any one of a number of local quarries*'. No further details are provided in the AEE.

3.6.5 The Applicant states on page 54 of the AEE that approximately 12,000 traffic movements will result from the construction and establishment of the wind farm, including movements resulting from transportation of turbine components, transportation of other materials, and vehicles associated with people employed as part of the construction works.. The majority of the heavy vehicle movements are expected to occur over the first 5 months of construction.

3.6.6 The potential traffic and roading effects are discussed in **Appendix C** and **Section 13** below.

3.7 Vegetation Removal

3.7.1 The ecological assessment (Appendix L of the application) states that the "*vegetation in the immediate vicinity of all pylons is exotic pasture grasses and herbs*" which are of minimal value from a biodiversity perspective. Overall, the report concludes that the proposed works involve the removal of only small areas of indigenous vegetation, most of which is already degraded either through previous road works or invasion by exotic species and is well represented elsewhere within the district.

3.7.2 Some relatively small areas of roadside vegetation will require removal to enable upgrading and widening of Taumatatotara West Road. This includes the removal of a small amount of indigenous vegetation on some of the road corners.

3.8 Earthworks

3.8.1 The Applicant estimates the approximate volumes of material for the construction works as follows:

- 32,000m^3 of aggregate and basecourse material,
- 6,200m^3 of concrete,
- 14,149m^3 of topsoil strip; and
- 187,730m^3 of excavated sub-soil.

3.8.2 Earthworks are required to create the turbine sites, crane pads, access roads and other facilities described above. The proposed earthworks will involve cuts and benching to the existing site topography, the creation of building platforms for each of the turbines, and the construction of internal access roads.

3.8.3 The Applicant has provided a spreadsheet detailing earthworks volumes **(see Appendix B).** Approximately 14,149m^3 of topsoil strip, 187,730m^3 of cut and 124,365m^3 of fill is required for the various aspects of the application. The fill material will be comprised entirely of the cut material, with the excess cut of approximately 63,365m^3 and the topsoil strip of approximately 14,149m^3 (a total of 77,514m^3) being deposited on-site within well drained natural depressions.

3.8.4 The potential effects of the proposed earthworks are considered under various headings in section 13 below and in the visual and traffic assessments undertaken on behalf of Council (**Appendix C**).

3.8.5 A hardstand laydown area measuring approximately 150 metres by 60 metres is proposed adjacent to the proposed sub-station site, for the short term storage of some components during the construction phase of the project. The hardstand laydown area will be constructed of compacted basecourse to a depth of approximately 400mm. The laydown area will be removed upon the completion of construction and the area will be re-grassed. The potential

visual effects of the proposed hardstand area are discussed in the visual and landscape audit in **Appendix C** and summarised in **Section 13** below.

Aggregate:

3.8.6 Significant earthworks are proposed to create the internal access roads and building platforms for the turbine sites, crane pads and other ancillary facilities. It is estimated in the AEE that approximately 32,000m^3 of aggregate will be required for these activities. Some aggregate, particularly sub-base material required for the roads will be sourced from on-site. However, aggregate for the road surface *"is likely to come from any one of a number of local quarries"*.

Concrete:

3.8.7 Several options are suggested in the application with regard to a source of concrete. These options include trucking concrete to the site from a quarry at Taharoa, or alternatively from Otorohanga. The Applicant also suggests that a concrete batching plant may be located on-site.

3.8.8 The establishment of a batching plant on-site will have associated effects such as visual and noise matters that are potentially significant and would require consideration. No proposed location for a concrete batching plant has been identified so it has not been considered in this report. The Applicant should clarify whether a batching plant is proposed at the hearing.

Spoil:

3.8.9 It is estimated that some 14,149m^3 of excavated topsoil will be stored during construction and then used to reinstate the disturbed areas. The extent of the proposed cuts, and the areas of temporary storage are not specified in the application other than a comment on page 31 of the AEE that the excavated topsoil *"will be stored in well-drained locations"*.

3.8.10 The Applicant states on page 53 of the AEE that the heavy machinery (transportation) phase of construction is expected to take approximately 5 months. The total construction period is expected to be approximately 9 months.

3.9 Operation, Monitoring and Maintenance

3.9.1 Once the turbines are operational there is a relatively low level of manual input required. No full time staff would be present at the site. However, staff would normally visit the site on a fortnightly basis to undertake routine checks and data collection. The proposal also includes a facility to transmit important operational data remotely.

3.9.2 Physical maintenance such as oil changes and lubrication will take place approximately twice a year. Servicing will generally occur within the nacelle, using an internal ladder in the tower to gain access.

4 Lapsing Period and Consent Term

4.1 Section 125 of the Resource Management Act 1991 states:

*1) A resource consent lapses **on the date specified in the consent or**, if no date is specified, **5 years** after the date of commencement of the consent unless, before the consent lapses, -*

a) the consent is given effect to; or

b) an application is made to the consent authority to extend the period after which the consent lapses, and the consent authority decides to grant an extension after taking into account -

(i) whether substantial progress or effort has been, and continues to be, made towards giving effect to the consent; and

(ii) whether the applicant has obtained approval from persons who may be adversely affected by the granting of an extension; and

(iii)the effect of the extension on the policies and objectives of any plan or proposed plan.

[**Emphasis Added**]

4.2 Ventus have requested a lapsing period of 8 years, siting the possibility that some or all of the construction will be delayed. Ventus seeks an unlimited term for all consents.

4.3 Ventus state on page 20 of the AEE that the expected life of the turbines is 20 – 25 years. Following this period, the turbines may be upgraded and retained, depending on the technology available and the demand for wind power at that time. The infrastructure supporting the wind farm (access roads, substation and grid connections etc) will have a design lifetime of some 50 to 60 years. Ventus therefore anticipate that they will operate a wind farm at the site for two turbine replacement cycles (a total project lifetime of approximately 50 years).

5 The Site

5.1 Site Selection

5.1.1 The Applicant states on Page 1 of the AEE that the site was selected because it displays the following:

- *Has a good 'wind regime' (exposed to prevailing winds and elevated)*
- *has excellent grid connection possibilities*
- *is highly modified (ecologically) so has a low sensitivity*
- *is not adjacent to the coastline or a high amenity area*
- *is generally well screened from views.*

5.2 Land Use and Landscape

5.2.1 The site of the proposed wind farm is located on an unnamed ridgeline, situated approximately 6.5 kilometres south of Taharoa (from Turbine 1) and 2.5 – 3 kilometres east to southeast of Te Anga.

5.2.2 The existing landuse is predominantly pastoral grazing (sheep and cattle) with scattered pockets of plantation radiata pines. Small fragments of native bush also exist in the surrounding area.

5.2.3 Taumatatotara West Road traverses through the centre of the site in an east-west orientation, and effectively 'divides' the wind farm site into two parts, with turbines 1-6 located on the northern side of Taumatatotara West Road, and turbines 7-22 located to the south.

5.2.4 Surrounding land uses are predominantly rural. The topography of the site ranges from moderate to very steep hill country.

5.2.5 The southern part of the ridgeline, in particular, is visually prominent with respect to a large but sparsely populated area of the nearby Marokopa Valley.

5.2.6 There are four dwellings located within 1 kilometre of the site, with the closest dwelling being approximately 600 metres away from the nearest proposed turbine (Harper House 3). Gallagher House 1 and Gallagher House 2 are each located approximately 700 metres from the closest turbines, being turbines 1 and 6 respectively. An additional dwelling is also located near Gallagher House 2, however, this house is not marked on the plans provided with the application. This dwelling is also owned by the Gallaghers.

5.2.7 All of these dwellings are located on properties that are owned by people who own land that forms part of the wind farm site itself (Harper's and Gallagher's). Written approval has been provided from the owners and occupiers of all four of these dwellings.

5.2.8 The site is zoned Rural in the Proposed Waitomo District Plan, as are all of the adjoining properties (refer to planning map in **Appendix F**). There are no designations, sites of significance or other special features affecting the site that are identified on the District Plan maps. However, the planning maps do denote three areas zoned 'Conservation' located in close proximity to the wind farm site (the Maungaakohe Scenic Reserve administered by DOC to the south-west, and two open space covenant areas to the north-east).

5.2.9 There are a number of agricultural airstrips in the surrounding area. The Applicant has consulted with the Civil Aviation Authority (CAA) in relation to the proposal, and their written comments are included in **Appendix B** of the application.

5.2.10 Telecom New Zealand operate a small communications link with an associated cable on the site. Telecom have advised that they have no objection to the proposal.

6 Pre-Application Consultation

6.1 Prior to lodging the applications, Ventus Energy engaged in consultation with a number of organisations and surrounding landowners. The nature of and results of discussions with those organisations and people are summarised in Section 2.5 of their application (Volume 1).

6.2 The AEE includes detail of consultation and correspondence undertaken prior to lodging the resource consent application. According to the Applicant, consultation was undertaken with the following persons and organisations:

- NZ Police
- Civil Aviation Authority of New Zealand
- Department of Conservation
- Telecom New Zealand
- Waitomo District Council
- Environment Waikato
- Ornithological Society of New Zealand
- Hang Gliding Association
- Marokopa RMC
- Ngatai Tai O Kawhia
- Taharoa C Incorporation
- Transit NZ
- Teamtalk
- Superair
- D & C Green
- D & D Donald
- G & S Scott
- W & B Holmes
- B Neeley
- J & K Phillips

7 Written Approvals

7.1 The Applicant has provided written approvals from the owners and occupiers of those dwellings and sites located closest to the turbine sites. The following people have provided their written approval to the proposed wind farm development:

Table 2: Potentially Affected Persons From Whom Written Approval Has Been Obtained

NAME	ADDRESS	OWNER/OCCUPIER
The Proprietors of Taharoa C Incorporation		Owner
T Barlow	290 Marokopa Road, RD 5, Te Kuiti	Occupier
G & S Hamilton	297 Coutts Road, Te Anga	Occupier
G & J Gallagher Farm Limited	Private Bag 3026, Hamilton	Owner
D & C Green	Taumatatotara West Road, RD 8, Te Kuiti	Occupier
J Green	Te Anga Road, RD 8, Te Kuiti	Occupier
GL Stokes and Company Limited	Te Anga Road, RD 8, Te Kuiti	Owner
G & S Scott	465 Taumatatotara West Road	Owner & Occupier
L & L Harper	Taumatatotara West Road, RD8, Te Kuiti	Owner & Occupier
R Phillips	255 Taumatatotara West Road, RD 8, Te Kuiti	Occupier
Marokopa Marae	CO/- 2 Turongo Street, Otorohanga	Owner

7.2 Copies of their written approvals are attached as **Appendix E**.

7.3 In accordance with Section 104(3)b of the Resource Management Act 1991, Council must not have regard to the effects of the proposal on a person who has given written approval to the application.

7.4 The Applicant has confirmed that they have undertaken consultation with local iwi for the area and written approval was obtained from Marokopa Marae. Ngatai Tai O Kawhia did not provide written approval to the development, nor did they lodge a submission to the consent application.

8 Public Notification and Submissions Received

8.1 Notification Details

8.1.1 The Applicant requested that the application be processed on a notified basis.

8.1.2 This was consistent with Council's view that the proposal was likely to have a wide public interest and that the effects on the environment may be more than minor.

8.1.3 The application was publicly notified by the placement of notices in the Waitomo News and Waikato Times on 14 February 2006.

8.1.4 The closing date for receipt of submissions was 4pm on 14 March 2006.

8.2 Submissions Received

8.2.1 A total of fifteen submissions were received. All of the submissions were received within the statutory time period.

8.2.2 Ten of the submissions received were in opposition to the proposal, four submissions were in support, and one neutral submission was also received.

8.2.3 A submission was lodged by GL and CR Stokes, however, this was formally withdrawn on 23rd March 2006.

8.2.4 A summary of the submissions is included in **Table 3** below. Copies of the full submissions are included in **Appendix D**.

Table 3: Summary of Submissions

SUBMITTER	ADDRESS	SUPPORT/OPPOSE/NEUTRAL	WISH TO BE HEARD?
Wind Farm Developments (Australia) Limited	PO Box 10-905, Wellington	Support	No
M, J, & N Phillips	719 Marokopa Road	Oppose	Not stated
Department of Conservation (DOC)	PO Box 38, Te Kuiti	Neutral	Yes
R & S Irons	83 Te Waitere Road	Oppose	No
Mr M Paterson	669 Marokopa Road	Oppose	Yes
Mrs M Paterson	669 Marokopa Road	Oppose	Yes
C & D Gilbert	443 Marokopa Road, Castle Craig Farm	Oppose	Yes
M Haddad	158 Coutts Road	Oppose	Yes
G Pilgrim	Marokopa Road, Castle Craig Farm	Oppose	No
C Pilgrim	Marokopa Road, Castle Craig Farm	Oppose	No
Ministry of Economic Development	PO Box 1473, Wellington	Support	No

Energy Efficiency and Conservation Authority	Po Box 388, Wellington	Support	Yes
Airways Corporation of New Zealand	PO Box 294, Wellington	Support	Yes
Waikato District Health Board	PO Box 505, Hamilton	Oppose	Yes
Tim Stokes	781 Taharoa Road	Oppose	Yes

8.3 Issues Raised by the Submitters

The issues raised in submissions in support include:

- Proposal is well aligned with government objectives to deliver security of supply with an increasing focus on renewable energy sources
- Windpower is a viable alternative energy source
- Will ensure diversification in electricity production methods
- An environmentally responsible alternative to using fossil fuels for generation because generation does not produce carbon dioxide
- New Zealand is ideally situated to generate electricity from wind
- Will assist NZ in meeting its commitments under the Kyoto protocol
- Governments Energy Policy commits the government to a sustainable and efficient energy source with an increasing focus on renewables
- Is consistent with the principles for sustainable development
- The proposal enhances security of supply in the electricity sector especially in dry (hydro) years
- Ensures New Zealand has the generation capacity to meet the forecasted growth in energy demand
- Is consistent with the governments Sustainable Development Programme of Action for Energy, to ensure continued delivery of energy services to New Zealanders; and recognition of renewable resources
- Is consistent with National Energy Efficiency and Conservation Strategy (NZEECS)
- Is consistent with Government Policy Statement on Electricity Governance
- Is consistent with Resource Management (Energy and Climate Change) Amendment Act 2004
- Public support for renewable energy sources

The issues raised in submissions in opposition include:

- Roading and traffic disruption and safety effects along Taumatatotara Road and Marokopa Road.
- Effects of transportation vehicles on lambs during lambing season.
- Effects on road quality – need for reinstatement.
- Effects on existing tourism – tourists attracted because of natural quality of surrounding landscape.

- Noise effects on neighbouring properties
- Visual effects on the Marokopa Valley environment from turbines numbered 18-22.
- Potential for vibration effects.
- Possible effects relating to the upgrade of the transmission line – particularly health effects.
- Effects on property values in the neighbouring area.
- Possible rates increases as a result of additional pressure on roading infrastructure.
- Stability of the ridge on Taharoa C land and potential for erosion/slippage to occur.
- Potential additional costs for aerial spraying

***Other matters or suggested amendments raised in submissions*:**

- Some submitters expressed concern at a lack of consultation.
- Six of the ten submitters who lodged submissions in opposition to the proposal want turbines 18 (or in one case 19) to 22 removed from the proposal.

9 District Plan Assessment – Classification of the Activity

9.1 Proposed Waitomo District Plan

Status

9.1.1 The Decisions Version of the Proposed Waitomo District Plan was notified in October 2001.

9.1.2 Several of the Proposed District Plan provisions are the subject of Environment Court appeals and/or consent orders. However, the provisions relating to zoning and to land use activities in so far as they relate to this application are now effectively beyond challenge, and are given weight to in accordance with section 19 of the Act when assessing this application. Therefore there is no need to consider the Transitional Waitomo District Plan.

Zoning

9.1.3 The site on which the proposed turbines are located is zoned **Rural** under the Proposed District Plan, a zoning that applies to the majority of the rural land within the Waitomo District. A copy of the relevant planning map is attached as **Appendix F** (Planning Map 3).

9.1.4 The District Plan describes the overall approach in the Rural zone as being "*to minimise controls on rural activities so there are no unnecessary barriers to productive land use, while ensuring that the rural environment is protected from significant adverse effects of activities*" (Section 11.1 of the Proposed District Plan).

The Proposed Wind Farm Activity

9.1.5 'Wind farms' are not an activity that is expressly referred to in the Proposed Waitomo District Plan, and the District Plan does not make any direct provision for wind farming activities within any of the zones.

9.1.6 However, Rule 11.5.1.3 of the Waitomo District Plan identifies the following activities as discretionary within the Rural zone:

Rule 11.5.1.3:
*"**Discretionary Activities:** Any activity described as a Discretionary Activity in Rule 11.5.2 [Karst Systems], and **any activity that does not comply with three or more of the Conditions for Permitted Activities set out in Rule 11.5.4**. See also Rule 11.5.4.5 for Discretionary Activity rules relating to clearance of indigenous vegetation".*

Rule 11.5.4 Conditions for Permitted Activities:		
Condition	**Complies**	**Comments**
Rule 11.5.4.1: Buildings *a) Front Yard: 10 metres minimum* *b) Side Yard: 10 metres minimum* *c) Rear Yard: 10 metres minimum* *d) Height in relation to boundary: **3 metres plus 1 metre for every metre from the boundary to the structure*** *e) Maximum Height: **10 metres*** *f) Maximum building area: 200m^2, except for dwellings and buildings for farming and forestry activities where no limit applies.*	✓ ✓ ✓ ✘ ✘ ✘	The proposed wind farm is unable to comply with items (d), (e) and (f) of Rule 11.5.4.1. (d) Height in relation to boundary – the proposal will not comply at turbines 7 and 8. The nearest external boundary to turbine 7 is approximately 60 metres and the nearest external boundary to turbine 8 is approximately 70 metres away. (a) The turbines are likely to have a maximum height of 110 metres (from ground to tip), and a maximum height of just 10 metres is permitted. (b) The proposed turbines, substation and ancillary structures all fit within the District Plan definition of 'building' and occupy a total building area greater than 200m^2.
Rule 11.5.4.5: Indigenous Vegetation *"Within the Rural Zone the removal or clearance of indigenous vegetation, or indigenous wetland vegetation, shall be Discretionary subject to assessment for significance under Assessment Criteria*	✓	The ecological assessment included in the application and referred to in **Section 13** of this report has confirmed that the proposed wind farm activities will only result in the removal of minor areas of indigenous vegetation, totalling less than 1 hectare in area. The actual turbines will be sited in areas that are presently in pasture.

11.6.3. This Rule does not apply to the following forms of clearance of indigenous vegetation which shall be Permitted Activities . . . . *(vi)* ***Establishment of new tracks and fences*** *through indigenous* ***vegetation where the clearance of indigenous vegetation is no more than one hectare in area****, and the track or fence line is* ***constructed to acceptable farming practice****, provided that the indigenous vegetation lies more than 10 metres from any water body".*		
Rule 11.5.4.6: Earthworks *"Earthworks, farm quarries and extractive industries may occur on any site provided that:* *. . .* *(d) The activity does not breach ... Rule 11.5.3 General Provisions, and Conditions for Permitted Activities in Rules 11.5.4.1 to 11.5.4.5* *(e)* ***No more than 10,000m³ of soils,*** *minerals, and overburden are* ***moved*** *or removed* ***in any one calendar year****".*	✘	The proposal involves significant volumes of earthworks to create the platforms required for the turbines, crane pads and substations, and the internal access road to those platforms. The proposal is unable to comply with Item (e) of Rule 11.5.4.6 because the scale of the proposed earthworks is in excess of the 2,000m^3 maximum that is permitted.
Roads and Vehicle Access ***Rule 16.5.4.1 - Permitted Activity*** *Any minor upgrading or realignment of a road or state highway provided that no more than 1000m^2 of land outside the existing road designation*	✓	Should road realignment and upgrading works require a resource consent then this will be applied for at a later date. Aside from Taumatatotara West Road, road upgrading works are outside the scope of this resource consent application.

boundary is required to accommodate the road, except for land in the Conservation Zone.		The upgrading works to Taumatatotara West Road are minor and are not expected to involve more than 1000m^2 of land outside of the existing road designation boundary.
Noise **Rule 20.5.1 and 20.5.2** specify the noise standards for permitted activities in the Rural Zone. *All permitted activities shall be carried out such that the noise level at the notional boundary shall not exceed the following levels:* • *50dBA L10 daytime 7:00am to 10:00pm Monday to Saturday and 8:00am to 5:00pm Sundays and Public Holidays; and* • *40dBA L10 night time (all other times)* *No single noise event shall exceed 70dBA Lmax at night time* ***Rule 20.5.1.4*** *All noise levels shall be measured and assessed in accordance with the requirements of NZS 6801:1991 The Measurement of Sound and NZS 6802:1991 Assessment of Environmental Sound. The noise shall be measured with a sound level meter complying with the International Standard IEC651 (1979): Sound Level Meters, Type 1*	✘	Noise from the proposed turbines is expected to exceed these levels. Rule 20.5.1.2 of the Plan (page 114) lists the activities that are exempt from the rural zone noise standards but wind farms are not currently exempt. It is noted that there is a separate NZ Standard to measure wind turbine noise.

9.1.7 From the above table it is evident that the proposed wind farm activities do not comply with the following five conditions for permitted activities:

- **Buildings** - Rules 11.5.4.1.(d), (e) and (f);
- **Earthworks** - Rule 11.5.4.6; and
- **Noise** – Rule 20.5.

The proposal is therefore assessed as a **discretionary activity** in accordance with Rule 11.5.1.3 of the Waitomo District Plan.

Assessment Criteria

9.1.8 Section 11.6 of the Proposed Waitomo District Plan sets out the '*Assessment Criteria for Discretionary Activities*'. Those that are relevant to the wind farm application are as follows:

11.6.1 The relevant Objectives and Policies of the Rural Zone, and if applicable, those of the "General Provisions" where standards are not met.

11.6.2 The anticipated adverse effects resulting from the area of non-compliance and its impact on the following matters:

b) amenity and archaeological, historical and cultural heritage

c) the integrity of areas of significant indigenous vegetation and significant habitats of indigenous fauna

f) the safe and efficient operation of the district infrastructure and physical resources, including road

h) the noise level associated with the proposal and its effects on neighbouring properties.

9.1.9 ***Rule 11.6.1*** - An assessment of the relevant objectives and policies of the Rural Zone is provided below.

9.1.10 ***Rule 11.6.2*** – An assessment against each of the matters raised in items b), c), f) and h) is provided in **Section 13 (Assessment of Environmental Effects)** below. The assessment concludes that the proposal complies with the above assessment criteria.

Assessment Against the Relevant Objectives and Policies of the Proposed Waitomo District Plan

Objectives

11.3.1 *To promote the Rural Zone as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.*

11.3.3 To ensure that significant archaeological, historical and cultural features are protected from adverse effects arising from the removal of vegetation, or other development of land. See also Section 21, Heritage Resources.

11.3.4 To protect areas of significant indigenous vegetation and significant habitat of indigenous fauna.

11.3.5 To ensure that rural development and land use does not give rise to increased erosion and thus degradation of water quality.

11.3.8 To promote use of rural land in a manner which encourages maintenance and enhancement of amenity values of the rural environment, protects outstanding natural features and landscapes from inappropriate use and development, and preserves the natural character of the coastal environment, wetlands, lakes and rivers, and their margins.

11.3.9 To encourage maintenance and enhancement of rural visual character.

11.3.12 To ensure the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, are avoided, remedied or mitigated.

Policies

11.4.1 To ensure the Rural Zone functions as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.

11.4.4 To avoid, remedy or mitigate any effects of the use or development of rural land that gives rise to erosion which adversely affects water quality.

11.4.10 To avoid, remedy or mitigate the adverse effects of removal of areas of significant indigenous vegetation and significant habitat of indigenous fauna.

11.4.12 To ensure that all rural activities, including extractive industries, are established and operated so as to avoid, remedy or mitigate adverse effects on amenity or on neighbours, or on significant karst features.

11.4.13 To encourage mitigation of the adverse effects of all rural activities, including afforestation and forestry clearance, on adjacent sites. Particularly that mitigation should occur in areas that are visually sensitive, including areas with significant tourist resources, areas of high landscape quality and in the coastal environment.

11.4.17 To avoid, remedy or mitigate the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, on sunlighting, privacy, landscaping and amenity.

9.1.11 The proposal encourages the use and development of natural resources of land and air, and is therefore consistent with Objective 11.3.1 and Policy 11.4.1.

9.1.12 No areas of significant archaeological, historical or cultural features are known to exist on the site. The proposal is therefore consistent with Objective 11.3.3 above. Similarly, the ecological assessment included in the application confirms that there are no areas of significant indigenous vegetation and/or habitats of indigenous fauna that require protecting (Objective 11.3.4 and Policy 11.4.10).

9.1.13 Conditions regarding the on-site earthworks and construction activities will ensure that the land use does not give rise to increased erosion and/or degradation of water quality (Objective 11.3.5 and Policy 11.4.4).

9.1.14 The visual audit concludes that the landscape and amenity values of the immediate area will be adversely affected by the proposed wind farm. Given the nature of wind farms and their specific location needs, this is largely unavoidable. Nevertheless, the proposal is not consistent with Objectives 11.3.8 and 11.3.9 and Policies 11.4.12 and 11.4.13.

9.1.15 The proposed turbines will be setback approximately 60-70 metres from the nearest external property boundary, and written approvals have been obtained from the owners and occupiers of the nearest dwellings. It is therefore considered that the proposal is consistent with Objective 11.3.12 and Policy 11.4.17 above.

9.1.16 The following objectives and policies of section 16 of the Waitomo District Plan are also relevant:

Section 16: Roads and Vehicle Access

Objectives

16.3.3 *To ensure that development of new roads and the realignment of existing roads is carried out in a manner that avoids, remedies or mitigates adverse effects on adjoining land use activities including areas of significant indigenous vegetation, the coastal environment and heritage values.*

16.3.4 *To ensure that land use activities are carried out and designed so as to avoid, remedy or mitigate adverse effects on traffic.*

Policies

16.4.1 *To ensure that land use activities are operated and designed in a manner that avoids, remedies or mitigate any adverse effects on the safe and efficient function of the adjoining road or highway.*

16.4.2 *To ensure that land use activities include appropriately sited and designed vehicle accesses.*

16.4.4 To ensure that new roads and road realignments are designed in a manner that takes into account the nature of the environment through which they pass

9.1.17 The traffic audit undertaken by Opus International Consultants on behalf of Council, and included as **Appendix C** to this report has assessed the traffic and roading effects of the proposal in relation to the surrounding local roading network. The audit concludes that appropriate resource consent conditions would be required to mitigate the likely adverse effects on the roading network. With the imposition of appropriate conditions it is considered that the proposal would be consistent with the above objectives and policies relating to roading.

10 Regional Plan and Regional Policy Statement

10.1 Environment Waikato staff have assessed the application against the relevant provisions of the Proposed Regional Plan and Regional Policy Statement, and are satisfied that the proposal is consistent with the objectives and policies of both documents. I agree with the assessment of the Regional Council Planning Officer, and for the avoidance of duplication, shall not consider either Regional Document any further in this report.

11 Relevant RMA Provisions

11.1 **Section 104(1)** sets out those matters that Council must have regard to in considering an application for resource consent and any submissions received. Such matters include:

a) Any actual and potential effects on the environment of allowing the activity; and

b) Any relevant provisions of-

(iii) a regional policy statement or proposed regional policy statement:

(iv) a plan or proposed plan; and

c) Any other matters the consent authority considers relevant and reasonably necessary to determine the application.

11.2 The relevant matters under Section 104(1) for the Councils consideration of the Ventus application are:

- *Actual and potential effects on the environment*: These are discussed in **Section 13** below;

- The relevant provisions of the *Waikato Regional Policy Statement*; and the *Proposed Waitomo District Plan:* These are discussed in **Section 10** above;

- *Other Matters:*

  - *NZS 6808: 1998 Acoustics – The Assessment and Measurement of Sound From Wind Turbine Generators*; and

  - The Government's national policies and guidelines on energy and specifically:
    - The *Energy Efficiency and Conservation Act 2000*
    - The *National Energy Efficiency and Conservation Strategy (2001)*
    - The *Kyoto Protocol*
    - *The Sustainable Development Programme of Action for Energy (2003)*
    - *Resource Management (Energy and Climate Change) Amendment Act 2004*
    - *Climate Change Policy*
    - The Energy Efficiency And Conservation Authority's publication *Guidelines for local authorities: wind power*

  An assessment against each of these 'Other Matters' is provided in **Section 14** below.

11.3 Section 104 is subject to Part 2 of the Act. This means that the Section 104 considerations are not an end in themselves – but are subsidiary to the overriding purpose of the RMA set out in section 5 of the Act. An assessment against the Part 2 matters is provided in **Section 12** below.

11.4 **Section 104(2)** states that *"when forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if the plan permits an activity with that effect"*. This is commonly known as the 'permitted baseline'. The Council has the discretion to disregard an adverse effect of an activity where the District Plan would permit such an activity. In this instance, there is no permitted activity that would have the same or similar level of effects to the proposal and therefore it is not considered that the permitted baseline is a relevant consideration for this application.

11.5 **Section 104(3)(b)** states that:

"A consent authority must not–
(a) …
(b) When considering an application, have regard to any effect on a person who has given written approval to the application".

In relation to (b) above, several of the owners of land on which the turbines are to be sited or living nearby have supplied their written approval to the proposal. Details of those parties from whom written approvals were received are contained in **Section 7** above. Therefore the effects on these people have not been assessed.

11.6 **Section 104B** sets out a consent authority's powers to grant or refuse discretionary activities and to impose conditions.

11.7 **Section 108** defines the scope of matters that may be included in any conditions imposed on a grant of consent.

12 Part 2 Matters

12.1 The matters that Council is to have regard to in considering the application and the submissions under section 104 of the Act (as set out in Section 12 above) are all subject to Part 2 of the Resource Management Act 1991. Part 2 deals with the purpose and principles of the Act.

12.2 **Section 5** - The purpose of the Act is '*to promote the sustainable management of natural and physical resources . . .*

> *In this Act, "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while-*
> *a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
> *b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
> *c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

12.3 In regard to Section 5(a), the wind farm proposal is an important means of harnessing a natural resource to provide for the energy needs of New Zealand. Wind energy is a renewable resource and therefore the proposal will provide for the ability of future generations to meet their needs. One of the needs of future generations will be electricity and energy, and the use of wind to meet that need is sustainable. The proposal is therefore consistent with Section 5(a) above.

12.4 Section 5(b) requires that the life supporting capacity of air, water, soil and ecosystems be safeguarded. The proposal will not have any affect on the life supporting capacity of air or water, and will have minimal affect upon the life supporting capacity of the soil resource, by causing some temporary disruption to the existing pastoral activities during the construction period. However, once the wind turbines are operational, the pastoral farming activities will continue to operate in a fully functional manner around the wind farm area. An ecological assessment submitted as part of the application has demonstrated that the effects on the ecology of the area will be minor, and will not pose significant adverse effects to bird life in the area. The proposal is therefore consistent with section 5(b) above.

12.5 Section 5(c) requires any adverse environmental effects to be avoided, remedied or mitigated. The environmental effects associated with the proposal are discussed in **Section 13** below. The majority of effects are minor and are able to be mitigated through the imposition of appropriate consent conditions. For example, the recommended traffic conditions will ensure that the proposal does not compromise the traffic safety of the local roading network, and that the road is realigned to enable the safe passage of the turbine components to the site. Similarly, noise conditions will ensure compliance with the relevant noise standards, thereby ensuring that the dwellings in the surrounding area are not adversely affected by excessive noise levels. With regards to visual and landscape effects, the audit concludes that the visual, landscape and amenity effect of the proposed wind farm development will be more than minor, and will result in significant changes to existing views. Wind turbines by their very nature are big and therefore they can't be hidden, painted to blend with their surroundings, or have shrubs planted in front of them.

12.6 **Section 6 - Matters of national importance –** The Section 6 issues that are relevant for consideration with regards to this application are:

(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development:

(b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development:

(c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.

12.7 'Coastal environment' is not defined within the Act or within the New Zealand Coastal Policy Statement. In formulating the New Zealand Coastal Policy Statement, the Board of Inquiry commented that it is unsuitable to "mechanically" apply a pre-determined definition to specific areas to determine whether or not a portion of land is or is not within the coastal environment.

12.8 However, case law has provided guidance as to what the term 'coastal environment' means. In the case *Northland Regional Planning Authority vs. Whangarei County Council 463/76* the Court found as follows:

> *"We therefore hold that the term "coastal environment" is an environment in which the coast is a significant part or element, but clearly it is impossible to give an abstract definition which is capable of simple and ready application to any given situation. 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 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."

12.9 As the ridgeline on which the turbines are proposed to be located is not the first ridgeline back from the coast, and the coast is not a significant element in the locality, the site is not considered to be within the 'coastal environment'.

12.10 The site also does not contain any wetlands, and lakes and rivers and their margins and so section 6(a) of the Act is not considered relevant to the assessment of this application.

12.11 The site of the proposed wind farm is not recognised as having outstanding natural features and/or landscapes in terms of Section 6(b) of the RMA. The District Plan does not identify any outstanding natural landscape features in the immediate vicinity of the site, and this is confirmed in the visual and landscape audit completed by Priest Mansergh Graham.

12.12 Section 6(c) requires the protection of areas of significant indigenous vegetation and habitats of indigenous fauna. The Planning maps for the site do not denote any areas of significant vegetation or habitats of indigenous fauna within the wind farm site. While some small areas of vegetation will require removal (mainly in relation to the proposed access roads and road realignment works), the proposed turbine building platform areas are presently predominantly in pasture, and utilised for farming purposes. The ecological assessment included in the application concludes that *"The wind farm would not involve the removal of any significant indigenous vegetation of habitats of significant indigenous fauna"*. On going monitoring of the site, particularly in relation to the effects of the turbines on bird life is recommended. Conditions relating to the proposed earthworks and construction activities, vegetation removal and weed control are also recommended. With these measures in place it is considered that proper consideration to section 6(c) will have been given.

12.13 Section 6(e) recognises the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga. The Proposed Waitomo District Planning Maps do not denote any waahi tapu sites in the immediate vicinity of the wind farm site. The tangata whenua for the area is represented by Ngatai Tai O Kawhia Regional Management Committee (whose territory encompasses the northern half of the site) and Marokopa Regional Management Committee (the southern half). The Applicant has confirmed on pages 9 – 12 and 56 – 57 of the AEE that they have consulted with both iwi groups, including attending a meeting with Marokopa RMC. The application does not include the written approvals of either iwi group, and neither group made a submission on the consent. Marokopa Marae, however, have provided written approval to the proposed wind farm.

12.14 If consent is granted, it is recommended that a suitable condition is imposed in relation to the discovery of any maori artefacts during the construction activities.

12.15 **Section 7** lists the matters that a consent authority is required to *have particular regard to* in achieving the purpose of the Act. The listed matters are not threshold tests or criteria but, where a proposal raises issues of the kind listed, they are to be given *particular regard*. The Section 7 issues that are relevant to this application are:

(b) the efficient use and development of natural and physical resources:
(ba) the efficiency of the end use of energy:
(c) the maintenance and enhancement of amenity values:
(f) maintenance and enhancement of the quality of the environment:
(i) the effects of climate change
(j) the benefits to be derived from the use and development of renewable energy.

12.16 Section 7(b) requires regard to be had to the efficient use and development of natural and physical resources. The use of wind (a renewable resource) is considered an efficient use and development of natural resources.

12.17 Section 7(c) relates to amenity values. The overall amenity of the area will be altered as a result of the proposed wind farm development. This is supported by the opinion of the landscape reviewer who has stated that the *"amenity value of the area is unlikely to be maintained, but either significantly enhanced or be seriously degraded based on people's perception of the development"*. The noise review concludes that while there are a number of areas of uncertainty that require clarification at the hearing, it is generally expected that the proposal's impacts are likely to be within the national guidelines for wind farms. Nevertheless, I cannot agree with the Applicant's assessment that *"the amenity value of the local area will be maintained"*. In my opinion the amenity value of the area will be altered by the proposal and the application is therefore not consistent with Section 7(c) of the Act.

12.18 With regard to Section 7(f), the maintenance and enhancement of the quality of the environment (which deals with such issues as the effects on the ecology and the potential erosion effects) has been considered. With the conditions proposed it is considered that the application is consistent with Section 7(f).

12.19 Items (i) and (j) are particularly relevant to this proposal. These two subsections were added by the *Resource Management (Energy and Climate Change) Amendment Act 2004* and reflect the Government's commitment to its obligations under the Kyoto Protocol to reduce greenhouse gases and promote the generation of energy from renewable sources. The proposed turbines would yield national benefits in terms of their use of a renewable energy source (as opposed to the burning of fossil fuels), contribution to security of energy supply, providing energy to meet the needs of communities and potential economic growth that could derive from the energy generated.

12.20 **Section 8** of the Resource Management Act requires that in considering the application the Council take into account the principles of the Treaty of Waitangi. The Applicant has contacted the iwi authorities recognised as representing maori interests in the area in relation to the proposal.

13 Assessment of Environmental Effects

13.1 Landscape and Visual Effects

13.1.1 A key consideration in any wind farm proposal is the potential visual effects of the proposed wind farm on the landscape. In its publication "*Guidelines for Local Authorities: Wind Power*" the EECA states that it is difficult to establish guidance in terms of good practice for detailing with the visual effects of wind farms. EECA state on Page 21 of their report that '*Each development will need to be considered on its merits in terms of site and locality-specific considerations such as distance, backdrop, landscape scale, and the number of potential viewers*'.

13.1.2 The EECA report goes on to state on page 20 *'Site location, size, tower design, colour, and layout and spacing are all important factors in terms of visual impact. As well, access roads, site buildings, and any additional electricity requirements may require consideration in any specific development'.*

13.1.3 The EECA report makes the following generalised recommendations in terms of reducing visual effects:

- *All turbines in a wind farm should be of similar size and style.*
- *Blades should always rotate in the same direction.*
- *Light colours – pearly grey and white – have been found to be most appropriate colours for all parts of the turbines in Northern Europe, where they tend to be against a sky background. If the background is other than sky, darker colours may be appropriate.*
- *Distance and scale of the landscape is a major consideration. In an open or grand landscape, wind farms can be of minor intrusion. However, the human eye is often drawn to 'artificial' vertical features, regardless of distance, making them seem bigger than they really are".*

13.1.4 Priest Mansergh Graham (PMG) have reviewed the landscape and visual effects of the proposal on behalf of Council. A copy of their report is attached in **Appendix C**.

13.1.5 The PMG report covers the visual, landscape and amenity effects that are likely to arise from the development of the turbines, ancillary structures, hardstand areas, earthworks, aircraft obstruction lights, electricity lines and support structures, and internal access roads on the site.

13.1.6 The report also addresses the concern raised by a number of submitters regarding the visual effects of proposed turbines 18-22. In that regard, the audit states:

> *"While I concur that these turbines will dominate the skyline when travelling along Marokopa Road, it should be noted that they will be seen in the context of the wind farm, of which a significant portion of the turbines will be visible. Due to the nature of the development (scale and movement), attention will be drawn to the wind farm regardless of whether the five turbines would be removed or not."*

13.1.7 Regarding the visual effects of the wind farm proposal, the report goes on to state as follows:

> *"The subject site and surrounding landscape is natural in appearance. 'Natural' is defined by RMA case law as those things which are a product of nature, as opposed to man made. This extends to include such things as pasture and exotic tree species as natural, whereas, man made structures, roads, machinery and the like are excluded . . .*
>
> *The visual absorption capability of this landscape for this type of development is very low. This is due to the large scale and nature of the development, the placement on the ridge line, the lack of surrounding development, and the inability of existing landscape features to screen the development. The size of the structures also means they will be visible for a significant distance, in excess of 20 kilometres where sight lines permit. It is considered that up to approximately five kilometres from the wind farm the turbines will be highly prominent. Views of the wind farm outside this radius are considered to be less frequent, or at such a distance, that while the turbines may still be visible, the potential visual effect is considered less significant.*
>
> *However, with respect to the turbines on top of a ridgeline and commonly viewed against a sky backdrop, the visibility and conspicuousness is more dependent on ambient light levels, and the atmospheric conditions on any particular day. For example, in hazy or rainy conditions, the wind turbine structures may be difficult to see, but on clear days with direct sunlight highlighting the turbines, they may be readily discernable"*.

13.1.8 The PMG audit concludes that the visual, landscape and amenity effect of the proposed wind farm development will be more than minor. It is considered that the proposed development will result in significant changes to existing views by introducing new elements into the view that have the potential to act as a focal attraction. This finding is consistent with the findings of the AEE report which states: "*The visual impact of the turbines on the landscape cannot be avoided, although their position and configuration has been chosen to minimise the effects. In the longer term, the turbines are more likely to be positively accepted as part of the landscape . . .*".

13.1.9 With regards to the identified effects, however, the PMG report also concludes:

"the nature and scale of the development is such that it would have those effects on virtually any site selected. This site has the advantage of being in a developed rural area, relatively remote from large viewing audiences and not in the coastal environment".

13.1.10 The PMG audit goes on to recommend *"that the application be approved subject to a set of stringent conditions, aimed at the mitigation of potential effects".*

13.1.11 The audit recommends a number of consent conditions to mitigate the effects associated with:

a) Size, location, colour and design of turbine components and associated structures;
b) Landscape restoration of earthworks, cuttings and pads;
c) Decommissioning of the wind farm.

13.1.12 Should the application be approved by Councils Hearings Committee, recommended conditions are included in **Section 16** below.

13.2 Blade Glint

13.2.1 The PMG audit also addresses the issue of blade glint and provides recommended conditions of consent to mitigate potential effects.

13.2.2 Blade glint (the regular reflection of sun off rotating turbine blades) can pose a potential adverse visual effect for both animals and humans. However, the effect is generally temporary, and its occurrence depends on a combination of circumstances arising from the orientation of the nacelle, angle of the blade, and the angle of the sun. Blade glint is able to be minimised by ensuring that the blades are of a matt surface finish (EECA, 2004; P22).

13.2.3 Provided the mitigation measures recommended by PMG as conditions of consent are implemented, effects will be no more than minor.

13.3 Shadow Flicker

13.3.1 The PMG audit also addresses the issue of shadow flicker. The audit concurs with the assessment in the AEE that *"shadow flicker will not have a significant effect on local households and motorists".*

13.3.2 'Shadow Flicker' or 'strobe effects' inside houses may result from a turbine that is located in a position where the blades pass across the sun, causing an intermittent shadowing. This potential effect occurs only where a turbine is in close proximity to a dwelling, and at very low sun angles. EECA have stated

that this is unlikely to be an issue in New Zealand because the separation distance required for noise mitigation is usually more than enough to prevent occurrence of shadow flicker (EECA, 2004; P22).

13.3.3 The Applicant has identified the properties shown as 'House 1', 'House 2', and 'House 3' on the figures contained in Volume 2 of the AEE as likely to be affected by shadow flicker. The report by PMG, however, states one of the conditions for shadow flicker as being that houses (or the viewing audience) must be located to the south of the turbines. House number 1 is located to the northwest of turbine 1 and therefore would not be affected by shadow flicker. It is expected that the Applicant will be able to clarify this matter at the hearing.

13.3.4 Nevertheless, the owners and occupiers of all of these dwellings have provided their written approval to the development and effects on these persons must be disregarded.

13.3.5 The Applicant has also identified a section of Marokopa Road as being subject to shadow flicker during parts of the year. Part of Marokopa Road is located to the south of turbine 22. The Applicant states that the effect of shadow flicker on Marokopa Road will only be over a short section of road and will be for very limited durations. Given the distance of turbine 22 from Marokopa Road (approximately 900 metres minimum) effects are expected to be no more than minor.

13.3.6 Effects of shadow flicker on Taumatatotara West Road have not been considered at all within the application. The Applicant will need to clarify why effects were not considered on Taumatatotara West Road users at the hearing. This is especially important given the location of the road within close proximity of turbines to the north.

13.4 Amenity Effects

13.4.1 Amenity is defined in the RMA as:

> "*those natural and physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes*".

13.4.2 The consideration of the effects on the amenity of an area is therefore somewhat subjective, and in the context of the proposed wind farm, it is considered that effects such as visual effects, noise effects, and effects on ecology collectively contribute to the general amenity of an area. The potential environmental effects of each of these issues are considered individually elsewhere in this report.

13.5 Ecological Impacts

13.5.1 The District Plan does not identify any areas of significant ecological value within the wind farm site.

13.5.2 The application includes an ecological assessment of the site, prepared by Kessels and Associates Limited (Appendix L to the AEE). Walk over flora and fauna surveys were carried out as part of the assessment, and the report concludes that the site is highly modified due to pastoral farming, and no significant ecological impacts were anticipated.

13.5.3 Observations made whilst on site support these conclusions, and as such a review of the ecological assessment contained in the AEE was not deemed to be necessary.

13.5.4 The Department of Conservation (DOC) manage the Maungaakohe Scenic Reserve approximately 80 metres to the south of the nearest turbine location (turbine 6). The DOC site is zoned 'Conservation' in the Proposed Waitomo District Plan.

13.5.5 DOC were notified of the consent application and lodged a neutral submission on the application requesting that monitoring conditions be placed on the consent should it be granted.

13.5.6 As part of the ecological assessment undertaken by Kessels and Associates, a bird survey was conducted, and several native and introduced species were recorded as present. However, the assessment concluded that the site is not on any known migration route for either international or internal migratory waders.

13.6 Bird Deaths

13.6.1 The EECA Guidelines for local authorities has reviewed overseas literature with regards to the potential effects of wind turbines on bird populations. They have identified five potential impacts on bird life:

- Collision;
- Direct habitat loss;
- Indirect habitat loss (during construction, and disturbance to nesting, feeding sites, and habitual flight paths);
- Electrocution from associated infrastructure; and
- Cumulative Impact.

The report notes that:

"In general, it appears that local residential birds of most types grow accustomed to the presence of local turbines, and will avoid them

…

Numerous studies overseas have compared bird mortality caused by wind farms with that experienced from buildings, stretches of roads, motorways,

and transmission lines. The studies have found wind turbine effects to be significantly lower than other causes

…

While overseas evidence suggests that the total impact of wind farms on birds is small, it should not be dismissed. It is good practice for developers to seek advice on the main flight paths of birds so the number of bird deaths can be minimised. In addition, developers would need to avoid any impacts on rare or unusual species. (EECA, 2004; P25).

Collision

13.6.2 Birds can potentially collide with the moving turbines. Careful consideration is therefore required when considering the location of a proposed wind farm in respect of the natural ecology of the area. The ecological assessment included in the application confirms that the wind farm activity "*may increase the incidence of bird strike or impede the movement of resident or migratory bird species"* but goes on to state that the site is not located within a known flight path of significant habitat for any bird species. On this basis, it is considered that the proposal will not pose a significant hazard to birds. Longer term monitoring of the effects of the turbines on bird populations is recommended as a condition should consent be granted.

Direct and Indirect Habitat Loss

13.6.3 The building platforms for the proposed turbines will be located on land that is already heavily modified, and is presently utilised predominantly for agricultural farming purposes. While some vegetation clearance will be necessary as part of road upgrading works and internal access road construction, the ecological assessment included in the application concludes that the proposed wind farm activities will not result in the removal of any significant areas of indigenous vegetation, and that the site is not within important resident or migratory wader flight paths. The proposal therefore will not result in a direct or indirect loss of natural habitat for bird species.

Electrocution

13.6.4 The design of a proposed wind farm also has the potential to affect bird mortality from electrocution. For example, the use of lattice towers (rather than the tubular towers proposed by Ventus), and the attachment of signs or telecommunications devices onto the wind turbines all provide artificial 'perches' for bird species, and therefore increase the likelihood of birds 'stopping' within the wind farm area. Should consent be granted, it is recommended that conditions are included to ensure the following design measures to mitigate against bird mortality:

- no telecommunications attachments or signs shall be attached to the wind turbines;
- all 'internal' wiring between the wind farm turbines shall be underground;
- the towers shall be tubular in design.

13.7 Noise

13.7.1 Hegley Acoustic Consultants were engaged to review the potential noise effects associated with the proposal on behalf of Council. Their report is attached within **Appendix C**.

13.7.3 A number of submissions expressed concerns regarding the potential noise effects of the turbines. In particular, the submission made by the Waikato District Health Board identifies that the noise assessment provided with the application is insufficient. Mr Hegley has reviewed these submissions and advised that while the information provided in the application has a number of deficiencies, he considers that it is likely that the proposal will be able to comply with the relevant noise standards provided a number of stringent conditions are imposed on the consent. The Applicant should provide evidence at the hearing to confirm compliance.

Construction Noise Effects

13.7.4 During construction of the wind farm, the primary source of noise that is likely to be discernible from beyond the site is that associated with construction vehicles (including the proposed earthworks, construction of the access roads and the pouring of concrete foundations for each turbine).

13.7.5 Mr Hegley advises that *"the applicant will need to clarify if the noise levels as set out in the Construction Standard will be met and what the levels will be"*.

Operational Noise Effects

13.7.6 Mr Hegley's audit of the assessment of potential noise from the operation of the proposed turbines is contained in **Appendix C**. Mr Hegley makes his assessment in terms of the appropriate current New Zealand Standard (*NZS 6808:1998*) which is the standard adopted by the Applicant. The Proposed Waitomo District Plan, however, contains other noise criteria which the Applicant considers are not relevant to the assessment of noise for this application given the nature of the activity. Mr Hegley comments that although the District Plan noise rules have some relevance, NZS6808 is the appropriate standard to use.

13.7.7 Mr Hegley's assessment concludes:

"The noise analysis of the proposed wind farm does not provided the level of certainty expected by NZS6808:1998, Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators.

Although limited data is available to assess the noise from the proposed windfarm, a general analysis indicates it should be practical to comply with the requirements of NZS6808. Thus, should the Council wish, the project could be approved provided strict noise controls are included in the conditions to overcome the deficiencies in the report."

13.7.8 Mr Hegley identifies a number of other points that require clarification. The matters identified in Mr Hegley's report will need to be addressed at the hearing by the Applicant.

13.8 Vibration Effects

13.8.1 The Applicant has stated on page 36 of the AEE that *"vibrations from the wind turbines will not be felt except immediately adjacent to the tower"*. No supporting data or additional information aside from this comment is provided within the application.

13.8.2 It is stated on pages 19-20 of the EECA publication *'Guidelines for Local Authorities: Wind Power'* that:

> *"…the potential effects of infrasound from wind turbines are sometimes raised as a concern. Infrasound is very low frequency sound – often below the level of human hearing. If 'loud' enough, infrasound can be heard or felt as a vibration. While wind turbines have been listed as one of many potential sources of infrasound (along with household appliances and the wind itself), this was due to an old American down-wind turbine which is no longer used. The author of the report often quoted, Dr Geoff Leventhall, has stated there is no significant infrasound from wind turbines currently used. Dr Leventhall has categorically stated that there will not be any effects from infrasound from wind turbines."*

13.8.3 Mr Hegley has confirmed that the turbines will not generate adverse effects with regards to vibration.

13.9 Potential Dust Nuisance

13.9.1 There is the potential for dust from the proposed earthworks and construction activities to create a nuisance for site neighbours. However, it is envisaged that any dust nuisance effects are likely to only be temporary, and confined to the period prior to the wind farm being operational. The Applicant has stated that construction is expected to take place over a continuous 9 month period, however, there is a chance that the construction of the turbines will be 'staged'. Consideration must therefore be given to the potential dust nuisance effects, in the event that the construction of the turbines is 'staged', as this would clearly result in a far longer construction period than if the turbines were all erected at once.

13.9.2 The site preparation works and commissioning of the proposed turbines will involve the creation of access tracks, and building platforms for each of the proposed turbines, crane pads and substations. Such work will require significant earthworks and benching as outlined in section 3.8 of this report.

13.9.3 The Applicant proposes to time the cut and fill operations to minimise the length that cut material is required to be stockpiled prior to being used in fill

operations. Should consent be granted, conditions of consent can be imposed to ensure that dust generation is minimised. It is considered that conditions of consent can ensure that effects will be minor.

13.10 Potential Reverse Sensitivity Effects

13.10.1 Of relevance to the application is the potential for noise from the wind turbines to create an environment with a high ambient noise level and adverse visual effects inappropriate for or incompatible with future permitted residential dwellings in the immediate proximity. The land surrounding the wind farm site is zoned 'Rural' under the Proposed Waitomo District Plan, and the subdivision of rural zoned properties is a controlled activity. Rules 26.5.3 and 26.5.6 of the Proposed Waitomo District Plan set out the conditions for permitted activities, and the assessment criteria for controlled activities. They include minimum lot size, and access and service requirements.

13.10.2 If the wind farm is approved, there is the potential for the wind farm noise level in particular to be a factor affecting the location of future dwellings and/or subdivision. That effect is referred to as "reverse sensitivity" – ie the creation of a situation where an activity established on a site is unable to contain its (noise) effects on-site and the spill-over of those effects to other sites creates limitations or constraints on the range or location of land use activities on those other sites. These effects, however, will be apparent to subdividers or new residents coming to the area, so it is not considered that any action is needed on them.

13.11 Traffic Effects

13.11.1 The roading audit undertaken by Rui Leitao and Bill Flavell of Opus Consultants **(Appendix C)** has assessed the potential effects on the roading network as a result of the transportation of the turbine components to the site from New Plymouth port and as a result of the transportation of other materials, including aggregate and concrete. Some assessment has also been carried out regarding the ability of the current road network to accommodate the large transporters and weights associated with the turbine components and recommendations incorporate traffic management measures.

13.11.2 Internal access road requirements have also been audited and appropriate conditions of consent have been recommended.

13.11.3 Some of the equipment that has to be brought to the site during construction will be large and transported on specialist over-dimension vehicles. This includes turbine blades, tower components, and nacelles. Some alterations to the geometry of parts of the public roads will be required to accommodate those vehicles. Should this application be approved, any necessary resource consents associated with road realignment works (aside from Taumatatotara West Road which is covered by this consent) will need to be applied for at a later date.

13.11.4 Transportation of large volumes of aggregate and concrete to the site is necessary as part of the construction works. The application identifies that the aggregate and concrete is likely to come from a quarry in the surrounding area, most likely from Otorohanga or Taharoa. Given the uncertainty in the application, it is difficult to assess the effects that the transportation of these items may have. However, all of the land surrounding the site is within the Rural Zone where transportation of this type is part of the normal rural environment.

13.11.5 Furthermore, the Applicant is uncertain of whether the concrete will be batched at the quarry itself or on-site. Again, this creates difficulties for assessing the effects of the proposal.

13.11.6 The Applicant has calculated that approximately 3,169 return truck movements (6,338 total movements) will be necessary for the transportation of aggregate to the site and 1,035 return truck movements (2,070 total movements) will be necessary for the transportation of concrete to the site. If the concrete is batched on the site rather than off-site then 497 return truck movements (994 total movements) will be necessary to transport the concrete aggregate and cement to the site.

13.11.7 One submitter expressed concern with regard to the effects of the potential use of Taharoa Road during lambing season. Mr and Mrs Irons own a property that is split by Taharoa Road. Mr and Mrs Irons lamb on both sides of the road during late Autumn and Winter. Should the Taharoa Quarry be used as a source of materials, Mr and Mrs Irons are concerned that vehicles transporting materials to the site from the quarry will adversely effect the animals. It is not clear in the submission how the animals are expected to be affected and it is anticipated that this matter may be clarified by the submitter at the hearing.

13.11.8In any case, heavy vehicle use of rural roads is generally an anticipated and common activity. Although the numbers of heavy vehicle movements during the construction period will be relatively high, movements will occur over a short period. The Applicant has stated that the heavy vehicle movement phase of construction will occur over approximately 5 months.

13.11.9 Opus expects that the use made of Taumatatotara West Road during construction will necessitate increased maintenance of this road. He recommends that a contribution should be paid by the Applicant towards the cost of that work which is required to mitigate or remedy the traffic movement effects of the proposal.

13.11.10 The Council does have the authority, pursuant to Section 108 (2) (c) of the RMA to impose a condition on a resource consent requiring:

> *…..that services or works, including (but without limitation) the protection, planting or replanting of any tree or other vegetation or the protection, **restoration**, or enhancement **of any natural or physical resource,** be provided.* [my emphasis]

13.11.11 Whilst the Council does not have the authority to require a cash contribution, it would be appropriate to require some form of upgrading and maintenance works in the event that consent is granted.

13.11.12 As part of this requirement, a bond may be required to ensure that the works are carried out to the satisfaction of Council. Section 108 (2) (b) of the Act allows provision for a bond to be required as a condition of consent. Section 108A (1) sets out what a bond may be required for. That section states:

> *"(1) A bond required under section 108(2)(b) may be given for the performance of any 1 or more conditions the consent authority considers appropriate and may continue after the expiry of the resource consent to secure the ongoing performance of conditions relating to long-term effects, including –*
> *(a) …*
> *(b) a condition relating to remedial, restoration, or maintenance work;"*

13.11.13 The roading report recommends, that road upgrade works be required and recommends that a bond be requested as a condition of consent to ensure that these works are undertaken to the required standards.

13.11.14 Several other roading conditions are recommended to mitigate effects, should consent be granted.

13.12 Long Term Traffic Effects

13.12.1 Opus's assessment is that existing traffic volumes are relatively low and the expected daily traffic volumes associated with operation and maintenance of the turbines will add only a negligible amount to those. No adverse effects on traffic safety, efficiency or convenience are anticipated and this level of movement is not expected to disturb or conflict with nearby rural activities.

13.12.2 With regard to tourism effects, the roading report considers international case studies of wind farms and states that *"we can therefore assume that tourism will have minimal impact on traffic volumes, pavement design requirements and maintenance issues"*.

13.12.3 A number of submitters identified that the proposed wind farm development may have traffic disruption and safety implications for users of Taumatatotara Road and Marokopa Road.

13.12.4 Visibility of the turbines from Taumatatotara Road will be relatively limited due to the topography of the surrounding area and the alignment of the road. Along sections of Taumatatotara Road where the wind farm will be the most visible, the road is relatively straight and there are opportunities for vehicles to pull over to the side of the road. Furthermore, traffic volumes on Taumatatotara Road are currently very low and are not expected to increase to

any significant extent post-construction as a result of the wind farm development.

13.12.5 Visibility of the turbines along Marokopa Road will be high, especially along the road's eastern sections. The road is sealed and is generally of a good quality. The road currently accommodates low volumes of traffic. Some submitters identified that there is limited room to pull over along Marokopa Road due to existing constraints such as roadside drains and the Marokopa River which runs along some southern sections of the road in the vicinity of the Taharoa C block of land.

13.12.6 While the carriageway does not allow for vehicles to pull over in some stretches of the road, in other parts of the road there are opportunities for vehicles to safely pull over. Given the low volumes of traffic that use the road, effects are expected to be no more than minor.

13.12.7 Some submitters also expressed concern regarding potential rates increases due to accelerated degradation of local roads as a result of increased traffic movements associated with the wind farm. Post-construction traffic effects associated with the wind farm will include a very limited number of maintenance workers and tourist vehicles. When compared to other permitted activities in the area such as intensive livestock farming, the traffic generated by the wind farm activity will be similar in scale and relatively minimal. This assessment is supported by findings of the Opus audit report.

13.12.8 Conditions can be imposed on the consent regarding the maintenance of local roads as a result of potential degradation caused by construction traffic. This will further ensure that effects are no more than minor in this regard and that all additional roading costs associated with the consent are carried by the Applicant, not ratepayers.

13.13 Air Traffic Safety

13.13.1 The site is not located adjacent to or within the approaches of a major airport or aerodrome. However, the topographical map of the immediate area (NZMS R16) does indicate the presence of six local airstrips in the vicinity of the turbine sites.

13.13.2 The closest, is a top dressing airstrip located on the Harper property, approximately 400-500 metres east of turbine 7, and orientated in a generally northeast-southwest direction. Aircraft from this strip service a number of farms around the local area. During typical westerly wind conditions, the aircraft generally take off to the northeast, and land to the southwest.

13.13.3 Another airstrip within close proximity to the turbines is located approximately 700 metres west of the proposed location of turbine 22, on the property owned by The Proprietors of Taharoa C Incorporation. This airstrip is orientated in a northwest-southeast direction.

13.13.4 While the Applicant has considered effects on the Harper airstrip within the application, no mention is given to potential effects on the Taharoa C airstrip or other airstrips within the vicinity of the proposed wind farm site. The Applicant should clarify this at the hearing.

13.13.5 With regard to the airstrip on the Harper's property, the Applicant has stated on page 33 of the AEE that the turbines will not compromise the taking off or landing activities of this airstrip although "*the presence of the turbines may require aircraft to take a slightly longer flight path when servicing landholdings to the west. There therefore exists a potential adverse effect of longer flight times (and hence costs) for those properties to the west*".

13.13.6 We have previously discussed the above limitation with representatives of SuperAir (an aerial topdressing operator who services this area). SuperAir have confirmed in a letter dated 6th October 2005 that *"as we are probably unable to remove any inherent risks that this wind farm would present, we must attempt to isolate or minimise them to an acceptable level in order to continue to work the area"*.

13.13.7 To ensure the isolation or minimisation of risks, SuperAir requested that all turbines be obstacle lit and that planes be permitted to fly between the turbines referenced at the time as turbines 7 and 8. 'Turbine 7' has subsequently been removed as part of the revised proposal and the turbines renumbered.

13.13.8 The Applicant has consulted with the Civil Aviation Authority (CAA) regarding the potential effects of the proposal on aviation activities. The CAA determination states that Mark Clifford of the CAA *"conducted an aeronautical study in consultation with such persons, representatives and organisations as I considered appropriate"*. As a result of that study, the CAA advised that the wind farm *"could constitute a hazard in navigable airspace"*.

13.13.9 The CAA determination includes the following conditions:

Those wind turbines identified as numbers 1, 5, 10, 18 and 22 as listed below be lit with a medium intensity obstacle light located on the highest practicable point of each of the turbines. The medium intensity obstacle light shall –

- Be red; and
- Have an effective intensity of not less than 1600cd of red light; and
- Be visible to aircraft approaching the wind farm from any direction.

ID	Easting	Northing	Attitude
1	2664848	6331439	251m AMSL
5	2665338	6330549	322m AMSL
10	2666640	6329258	319m AMSL
18	2667836	6327401	367m AMSL
22	2668272	6326391	321m AMSL

13.13.10 The CAA's determination is relied upon in this regard and should consent be granted, a condition supporting the CAA determination is recommended.

13.14 Effects on Topdressing Operations

13.14.1 One submitter identified a concern with regard to increased topdressing costs for some farmers using local airstrips. In this regard, correspondence between Council and SuperAir dated 6th October 2005 identified that increased costs would result from the use of the airstrip on the Harper's property should the wind farm be constructed. SuperAir confirmed that the construction of the wind farm *"may necessitate a climb over the wind farm towers themselves for certain farms. This means longer flight times at higher engine power settings, hence increased costs to those farmers"*.

13.14.2 However, the Harper's are a directly affected landowner who have provided their written approval to the development. Increased costs for other farmers utilising the Harper's airstrip is a matter to be dealt with between those farmer's and the Harper's as the owner of the airstrip and cannot be considered in determining this consent application.

13.14.3 It is not known whether the airstrip located on the Taharoa C property is used for topdressing operations. While there may be increased costs for users of this airstrip, the Proprietors of Taharoa C Incorporation have also provided their written approval to the wind farm.

13.14.4 Given that the majority of increased costs are borne from the take-off (and the associated necessary power input) of fully laden aircraft, there are no other airstrips within close enough proximity of the wind farm that would be likely to incur significant additional costs for topdressing activities.

13.14.5 Associated effects are therefore expected to be no more than minor.

13.15 Effects on Communications

13.15.1 On Page 22 of the EECA Guidelines for Local Authorities, the report states:

'Radio, television and microwave transmission can potentially be affected in several ways by individual turbines and wind farms:

- *The tower may obstruct, reflect or refract the electromagnetic waves used in a range of communications systems for transmission.*
- *The rotating blades may have similar effects, on a time-variable basis. If the blades are made of metal, of have metallic cores, these can act as an aerial to on-transmit the communication. This may cause, for example, ghosting in local TV receivers.*
- *The generator itself can produce electromagnetic interference, although this can usually be suppressed by shielding design and good maintenance of turbines. In practice, a generator is little different from any other electrical machine, and only in rare circumstances is a wind turbine generator likely to be a potential problem*

In general terms, these effects will be relatively limited, as the tower and blades are slim and curved, and consequently will disperse rather than obstruct or reflect electromagnetic waves.'

13.15.2 Ventus have stated on Page 34 of the AEE that "*wind turbines present a possibility of disruption to the broadcast of radio or TV*". Ventus have confirmed that the cost of any rectification works that may be required as a result of disruptions caused to the broadcast of radio or TV will be borne by Ventus. A condition to this effect is recommended, should the consent be granted.

13.15.3 Telecom New Zealand operate a small radio communications link with an associated cable on the site. The location of this communications link is shown on Figure 1 of the AEE (labelled as 'communications pathway').

13.15.4 On Page 27 of the AEE Ventus state that the location of the Telecom cable will be confirmed by survey prior to construction of the turbine activities and the cable will be accommodated within the proposed access road.

13.15.5 Ventus also state that the turbine locations have been chosen so that they do not conflict with the telecommunications pathway.

13.15.6 The Applicant has provided copies of correspondence dated November 2005 between the Applicant and Telecom New Zealand. This correspondence confirms that the Applicant and Telecom New Zealand have reached a private agreement with regards to this matter.

13.16 Electricity Transmission Lines

13.16.1 The Applicant identified in the AEE two possibilities for developing electricity transmission lines to connect the site to the existing 33kV lines that traverse through the eastern edge of the landholding. The construction of overhead transmission lines in the Rural Zone is a permitted activity and either option identified by the Applicant is therefore able to occur without the need to obtain resource consent.

13.16.2 Provided the transmission lines are constructed in accordance with the NZ Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) the transmission lines will not have adverse effects on the health and safety of nearby residents.

13.17 Archaeological and Cultural Effects

13.17.1 There are no archaeological sites identified in the Planning Maps located in close proximity to the wind farm site. However, a suitable condition is recommended, should consent be granted, to ensure that all works cease in the area immediately, in the event that any human remains or archaeological items are exposed during the construction of the wind farm activities. The Police,

New Zealand Historic Places, Trust, and Kaumatua representing the local Tangata Whenua shall be contacted and work shall not recommence in the affected area until any necessary statutory authorisations or consents have been obtained.

13.18 Geotechnical Effects

13.18.1 The application includes a geotechnical review undertaken by Riley Consultants (Appendix K to the AEE). The geotechnical review and associated on-site inspections confirmed that many of the turbine sites are located in close proximity to slopes affected by creep/ground movement. However, "*all sites are considered geotechnically feasible and will require specific assessment at detailed design stage*". Setbacks will be required in relation to the steeper slopes; and foundations are likely to consist of a variety of large pad and piled systems.

13.18.2 The review assesses each of the proposed building platform areas, and recommends additional geotechnical investigations and/or foundation designs for each turbine. The report concludes as follows:

> *"Prior to detailed design subsurface geotechnical investigation will need to be undertaken along with engineering geological mapping of the wind farm area.*
>
> *The subsurface investigation is likely to consist of test pits at each of the proposed turbine sites with machine boreholes to a minimum depth of 12m at selected sites."*
>
> The report goes on to state:
>
> *"For access assessment a combination of testpits, hand augers and possibly machine boreholes will be undertaken".*

13.18.3 One submitter expressed concern regarding the stability of the ridge on the land in the vicinity of the southernmost turbines. This instability was also acknowledged in the geotechnical report submitted with the application which identifies a number of potential measures (including setbacks, in ground walls, and specific foundation design) to ensure that slippage and creep does not occur. This is able to be covered by suitable geotechnical (and in particular detailed design) conditions.

13.18.4 Should consent be granted, it is recommended that the site is developed in accordance with the recommendations of the Riley Geotechnical report. Conditions can be imposed on the consent requiring geotechnical investigation and detailed design to be carried out to Council's approval prior to works commencing.

13.19 Tourism Effects

13.19.1 Two submitters identified that tourists are attracted to the area currently due to it's natural attractiveness. These submitters are concerned that this tourism market will be lost as a result of the wind farm activity.

13.19.2 The majority of the Waitomo District will not be visually affected by the wind farm activity, however, and the wider area will therefore retain a market for tourists who wish to view remote and natural landscapes. It is also likely that a number of these tourists will be interested in viewing the wind farm development.

13.19.3 Although difficult to determine, it is likely that the wind farm will have positive tourism effects overall.

13.20 Cumulative Effects

13.20.1 There are no existing wind farms within the vicinity of the site.

13.20.2 In *Rodney DC v Gould 2005 11 ELRNZ 165* the High Court held that it is not legitimate to consider, as cumulative effects in relation to a particular application, any effects relating to possible future applications. Furthermore, the Court found that a cumulative effect must be one that arises from the proposal. An effect that may never happen is not a cumulative effect.

13.20.3Furthermore, in *Dye v Auckland RC 11/9/01, CA86/01* the Court concluded that a cumulative effect is concerned with things that will occur rather than something that may occur.

13.20.4While Council is aware that separate applications have been lodged for wind farms on sites near Taharoa and Awakino, these applications are yet to be heard by the Hearings Committee. As such these applications cannot be considered with regards to cumulative effects as they involve effects that may never happen.

13.21 Property Value Effects

13.21.1 One submitter identified effects on neighbouring property values as being of concern. Effects on property values, however, are not a relevant consideration in determining whether a resource consent should be granted. These effects are dealt with elsewhere as part of the environmental effects.

13.22 Decommissioning

13.22.1 Ventus have stated that the turbines will have an operational life of 20-25 years, and two cycles are presently anticipated (i.e. a total duration of approximately 50 years). However, it is difficult to predict future trends in

demand for energy, changes in energy sources and generation and changing technology even within the wind generation sector itself.

13.22.2 The decommissioning effects must also be addressed in considering the current application.

13.22.3 The decommissioning process involves the removal of all above ground structures; and their transportation off site. Ventus have stated that the concrete foundations would be left in situ and covered with topsoil and re-vegetated. The access roads are also able to be covered in topsoil and re-vegetated, however, it is likely that these will be retained and used for farming activities.

13.22.4 It is recommended that a condition is imposed requiring the Applicant to submit a decommissioning plan to Council for approval, should consent be granted.

13.23 Positive Benefits Of Harnessing Renewable Energy

13.23.1 The Applicant and a number of the submitters have highlighted the positive effects that will arise if the wind farm proceeds. These include:

- ***Diversity of Supply*** - provision of greater diversity in New Zealand's energy supplies. Windpower is a viable alternative energy source to fossil fuels and can be installed relatively close to the source of electricity demand, thereby minimising the independence on the national grid.
- ***Security of Supply*** – Electricity is a vital resource for New Zealand. The proposal enhances the security of supply in the electricity sector especially in dry (hydro) years. Ventus have stated that the proposed wind farm has the potential to supply electricity to approximately 16,000 households per annum.
- ***Renewable Energy Resource*** – The proposal is well aligned with government objectives to deliver security of supply with an increasing focus on renewable energy sources.
- ***Climate Change*** - unlike electricity from fossil fuels, the use of wind doesn't generate any greenhouse gases, such as carbon dioxide, which contribute to climate change. Wind generation therefore assists in the national carbon dioxide reduction strategies with particular reference to the Kyoto Protocol.
- ***Sustainable Development*** – Windpower is consistent with the government's Sustainable Development Programme of Action for Energy, to ensure continued delivery of energy services to New Zealanders; and recognition of renewable resources.

14 Other Matters

Other Matters:

- *NZS 6808: 1998 Acoustics – The Assessment and Measurement of Sound From Wind Turbine Generators*; and

- The Government's national policies and guidelines on energy and specifically:
  - The *Energy Efficiency and Conservation Act 2000*
  - The *National Energy Efficiency and Conservation Strategy (2001)*
  - *The Kyoto Protocol*
  - *The Sustainable Development Programme of Action for Energy (2003)*
  - *Resource Management (Energy and Climate Change) Amendment Act 2004*
  - *Climate Change Policy*

NZS 6808:1998 Acoustics – The Assessment and Measurement of Sound From Wind Turbine Generators

14.1 NZS 6808:1998 specifies the sound level from a wind farm should not be more than 5 dBA above the background level, or more than 40 dBA (L95) whichever is the greater when measured at the boundary of a site (or a notional boundary, if a rural site).

14.2 The acoustic audit carried out by Hegley Acoustic Consultants has confirmed that the noise standards that appear in the Proposed Waitomo District Plan (NZS 6801:1991 and NZS 6802:1991) are not applicable to a wind farm development, and are not appropriate to measure wind turbine noise. Mr Hegley has therefore provided an assessment based on the above NZS 6808:1998 standard (refer **Appendix C** and **Section 14.7** above).

14.3 The NZS 6808:1998 standard provides Council with some guidance on the limits of acceptability for sound received at residential and noise sensitive locations. Compliance with the aforementioned standard provides Council with some assurance that the noise levels associated with the wind farm activities are acceptable.

Government Policy and Guidelines

14.4 These are discussed as follows:

The *Energy Efficiency and Conservation Act 2000*

The Energy Efficiency and Conservation Act 2000 is a major legislative basis in New Zealand for promoting energy efficiency, energy conservation and renewable energy.

The Act established the Energy Efficiency and Conservation Authority (EECA) as a stand-alone Crown entity with a role to promote energy efficiency, energy conservation and renewable energy across all sectors of the economy. Importantly, the Act also mandates development of a National Energy Efficiency and Conservation Strategy.

The proposal by Ventus Energy is consistent with the purpose of the Act which is stated in section 5 as:

"The purpose of this Act is to promote, in New Zealand, energy efficiency, energy conservation, and the use of renewable sources of energy."

The *National Energy Efficiency and Conservation Strategy (2001)*
The purpose of this strategy is '*to promote energy efficiency, energy conservation and renewable energy within the context of a sustainable energy future*'. The strategy has two high-level targets – one relating to energy efficiency ('*at least 20% improvement in economy wide energy efficiency by 2012*') and the other to the level of energy supply from renewable energy sources ('*increase renewable energy supply to provide a further 25-55PJ of consumer energy by 2012*'). It is considered that the proposal to harness wind energy at the Taumatatotara site is consistent with the above strategy.

The Kyoto Protocol
The Kyoto Protocol is an international agreement to address global warming and delay climate change by aiming to reduce the total greenhouse gas emissions of developed countries to 5% below the level of emissions in 1990. New Zealand's target is to reduce its greenhouse gas emissions to the level they were in 1990, or take responsibility for excess emissions. The NZ Climate Change Office website (www.climatechange.govt.nz) states that New Zealands latest 'greenhouse gas inventory' shows that NZ emissions are increasing with carbon dioxide emissions in 2003 approximately 37% higher than they were in 1990. '*If NZ does nothing to reduce our emissions, our total emissions are forecasted as being 30% over our target for 2012*'.

In *Environmental Defence Soc (Inc) v Auckland RC [2002] NZRMA 492 (EnvC)* the Court found that the weight to be given to the Kyoto Protocol as an 'other matter' under section 104 of the RMA is dependant on New Zealand's obligations under it and the extent to which government policy has crystallised, to indicate how New Zealand's obligations would be given effect to in domestic law.

In this regard a number of policy responses have been made (many of which are outlined in this report) and the government has a range of programmes to reduce emissions already in place or being developed. This commitment to policy reform to promote renewable energy sources further demonstrates the government's strong position on this matter and supports the need to consider the Kyoto Protocol when making decisions that potentially impact on climate change. The research, promotion, development and increased use of renewable forms of energy such as wind energy will assist New Zealand

in meeting its commitments under the Kyoto Protocol. The proposed wind farm is consistent with these objectives.

The Sustainable Development Programme of Action for Energy (2003)
An overarching goal of this document is *'to ensure the delivery of energy services to all classes of consumers in an efficient, fair, reliable and sustainable manner'*.

The Programme of Action seeks to achieve the following outcomes:

- energy use in New Zealand becomes progressively more efficient and less wasteful;
- our renewable sources of energy are developed and maximised;
- New Zealand consumers have a secure supply of electricity.

The proposed wind farm is considered consistent with all three of the above outcomes.

Resource Management (Energy and Climate Change) Amendment Act (2004)
The changes to the Resource Management Act as a result of the 2004 Amendments are considered in **Section 12** above (Part 2 Matters).

Climate Change Policy
New Zealand's climate change policy was developed in response to New Zealand's role as a member of the United Nations Framework Convention on Climate Change and in order to provide an established means of meeting New Zealand's obligations as a signatory to the Kyoto Protocol. The Climate Change Policy was reviewed in 2005 and among its key considerations was an identified need to reduce the emissions intensity of New Zealand's existing energy mix. The Policy identifies that this is likely to involve a shift in energy production from the use of fossil fuels, to renewable energy sources such as wind. Overall, the wind farm proposal by Ventus Energy is consistent with New Zealand's Climate Change Policy, especially the identified need to reduce greenhouse gas emissions through the development of renewable energy sources.

15 Conclusion

15.1 The Applicant seeks consent from the Waitomo District Council to construct and operate a utility scale wind farm comprised of a maximum of twenty-two horizontal axis turbines together with the access roading required to construct and maintain the turbines, and the erection and operation of two electricity sub-stations on a site south of Taharoa in the Waitomo District.

15.2 The site is zoned Rural in the Proposed Waitomo District Plan. Wind farms are not an activity that is expressly referred to in the Waitomo District Plan. The wind farm activity does not comply with five of the conditions for permitted activities in the Rural Zone (maximum height, maximum building

height, height in relation to boundary, earthworks and noise) and as such is classified as a discretionary activity in accordance with Rule 11.5.1.3.

15.3 Section 104B of the Resource Management Act 1991 sets out a consent authority's powers to grant or refuse discretionary activities and to impose conditions.

15.4 In assessing this application there has been some difficulty in being able to give proper consideration to the effects of the activity, as required under Part 2 of the Act Section 5(2)(c), and Section 104(1)(a). This is largely due to insufficient detail being submitted with the application in relation to noise matters. There is also some uncertainty with regards to the transportation of materials to the site, and the location of the concrete batching plant. It is anticipated that the Applicant will adequately address these issue at the Hearing, to allow the effects to be properly considered.

15.5 My conclusion is subject to consideration of whatever evidence is presented at the hearing and, in particular, clarification of the noise and transportation effects of the proposal.

15.6 However, based on the information available to me to date, and the peer reviews conducted in relation to the potential visual and landscape, noise and roading effects associated with the proposal, I consider that the proposal merits a grant of consent, subject to a series of stringent consent conditions. My reasons for recommending that the application is granted are as follows:

(a) The proposal will meet the sustainable management purpose of the Resource Management Act 1991, and the benefits of the proposal, when seen in the national context, outweigh the site-specific effects, and the effects on the local surrounding area.

(b) The proposal is consistent with legislation and policies that encourage renewable energy, including the policies and environmental outcomes sought by the RMA, and Government policy relating to energy efficiency and climate change.

(c) I am satisfied that the proposed turbines, transmission lines, substations, ancillary buildings and ancillary activities can be accommodated in this environment in a manner consistent with the objectives, policies and environmental outcomes sought by the relevant plans and with the sustainable management purpose of the Act.

(d) Having considered the issues raised by submitters, the actual and potential environmental effects, the policy framework of the relevant district and regional plans and the matters identified in Sections 6, 7 and 8 of the Act, I am satisfied that the proposal, subject to appropriate resource consent conditions is generally consistent with Part 2 of the Resource Management Act 1991.

(e) When viewed in the wider context, the proposal will enable people and communities to provide for their wellbeing. The proposal will contribute positively to sustaining the potential of natural and physical resources to meet the needs of future generations. Provided mitigation measures are successfully implemented, the proposal will present no threat to the life-supporting capacity of air, water, soil or ecosystems.

It is therefore recommended that the application be approved.

16 Recommendation

That:

a) The report of Ben Inger, of Bloxam Burnett and Olliver Limited dated 28 April 2006 be received.

b) In consideration of Section 104, and pursuant to Sections 104B and 108 of the Resource Management Act 1991, the Waitomo District Council grants consent to Ventus Energy (NZ) Limited to construct and operate a utility scale wind farm comprised of a maximum of 22 horizontal axis turbines and associated substation buildings, earthworks and access roads and activities as described in Condition (2) below for the purpose of generating electricity, on a Rural Zoned site located at Taumatatotara West Road, Taharoa, legally described as:

- Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Certificate of Title 141077;
- Section 3 Block IX Kawhia South Survey District comprised in Certificate of Title SA28A/586;
- Section 1 Survey Office Plan 58558 comprised in Certificate of Title SA47A/876;
- Section 1A Block V Kawhia South Survey District comprised in Certificate of Title SA37A/25;
- Section 12 and Section 22 Block V Kawhia South Survey District comprised in Certificate of Title SA31C/23;
- Section 2 Block V Kawhia South Survey District comprised in Certificate of Title SA37A/26; and
- Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Certificate of Title SA48B/494.

Subject to the following conditions:

GENERAL

1. The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005. The application documentation comprises of:

(a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 – Main Report, dated March 2005;
(b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 – Book of Figures, dated March 2005.
(c) Further information received 30th January 2005 and 8th March 2005.

Copies of the approved plans (Labelled 'Approved Plans 'A', 'B' and 'C') are attached.

2. For the purposes of this consent and for avoidance of doubt the activities authorised by this consent include:

ii) the installation, operation and maintenance of no more than twenty-two (22) horizontal axis wind turbines ("turbines");
iii) An underground fibre optic network connecting each turbine to the central control system in the on-site operations building(s);
iv) Tracking and placement of an underground network of 33kV transmission lines delivering electricity from each turbine to the two on-site substations;
v) Overhead or underground powerlines connecting the on-site wind farm substations to the two existing 33kV lines that traverse the eastern edge of the landholding;
vi) A fenced compound to house the on-site control building and sub-station equipment;
vii) Earthworks associated with the creation of the turbine building platforms, access roads and other facilities described in items i)-vi) above.
viii) Widening and/or realignment works along parts of Taumatatotara West Road to enable the safe passage of the oversized wind farm components to the site.

3. Each turbine shall be located within a turbine contingency zone of no greater than 100 metre radius from the turbine locations specified in the application. The turbine contingency zones shall avoid locations closer to external property boundaries, significant indigenous vegetation and significant habitats of indigenous fauna.

4. The consent holder shall submit to the Manager Policy and Planning, Waitomo District Council an as-built plan confirming the locations of all constructed turbines, access roads, entranceways, excess material fills, the substations and control building, electricity transmission lines, and road upgrading/realignment works. The Plan shall also include but is not limited to:

- The finished line of cut and fill batters;
- The finished edge line of pavement and seal widening works;
- The location and dimensions of site entrances;
- The finished level of access road centrelines;

- The location, size and extent of all new stormwater drains or culvert extensions;
- The location of all subsoil drains, sumps and manholes; and
- Any underground services installed or altered as part of the works.

This plan shall be certified by a registered surveyor as to the accuracy at the completion of the work and is required to be submitted to Council within 6 months of the completion of construction of the wind farm.

NOISE

Operational Noise

5. The noise from the wind farm shall comply with the requirements of NZS6808:1998, Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators in relation to any dwelling existing at the date of granting consent, except:

   i. Any dwelling on any site that forms part of the wind farm; and
   ii. The dwellings labelled as H1, H2, H3, and H4 on the approved plans.

6. Prior to the commencement of construction, detailed ambient noise monitoring shall be undertaken within the notional boundary of any dwelling within the 30dBA noise contour (other than the dwellings on the same land as the wind farm) by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council. The monitoring shall be undertaken to determine the existing background sound with regard to the requirements of NZS6808:1998. Sufficient field measurements shall be undertaken to demonstrate to the satisfaction of Council's Manager, Policy and Planning, that the best fit regression curve gives an accurate representation of the existing noise environment.

7. Prior to the commencement of construction, the consent holder shall prepare a noise report to demonstrate, to the satisfaction of Council's Manager, Policy and Planning, that the wind farm will comply with the requirements of NZS6808:1998. This report shall be prepared by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council.

8. The wind turbines shall not exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA at a wind speed of 10m/s unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or noise levels will still comply with the requirements of NZS6808:1998.

Construction Noise

9. All construction work shall comply with the noise requirements of Rule 20.5.1.5 of the Proposed Waitomo District Plan.

10. Prior to the commencement of construction, a Construction Noise Management Plan shall be prepared to the satisfaction of the Manager, Policy and Planning, Waitomo District Council. The Construction Noise Management Plan shall demonstrate how the requirements of Rule 20.5.1.5 of the Proposed Waitomo District Plan will be achieved.

11. The Construction Noise Management Plan shall address, amongst other things, the potential noise effects of construction traffic on the roads and techniques to minimise these effects. Any night time (10.00pm – 7.00am) traffic movements must be included in the evaluation.

Noise Monitoring:

12. Within six months of the commencement of operation of the wind farm, the noise levels shall be measured and results provided to the Manager, Policy and Planning, Waitomo District Council.

TRAFFIC AND ROADING

Construction Programme

13. A Construction Programme shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Construction Programme shall include the following:

- The hours of construction work on Taumatatotara Road shall be between 7.00am and 7.00pm Monday to Saturday (excluding public holidays), unless written approval is otherwise obtained from the Manager, Policy and Planning, Waitomo District Council to work outside of these hours;
- Provision shall be made to maintain adequate and safe access to and from individual properties along Taumatatotara West Road while transportation movements are undertaken; and
- The Applicant shall arrange to hold a copy of all Resource Consents on site at all times during construction.

Traffic Management Plan

14. A Traffic Management Plan shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Traffic Management Plan shall be prepared in accordance with the latest edition of the Transit New Zealand Code of Practice for Temporary Traffic Management and shall include but not be limited to:

- The transport route (in general accordance with the route proposed in the application);
- Times and locations when deliveries are prohibited;
- Piloting and traffic management procedures;

- Contingency plans for breakdowns, bridge or pavement failure, severe weather conditions, accidents or roadworks;
- Provisions for co-ordination with other parties, including emergency services;
- Provisions to maintain adequate and safe access to and from individual properties along Taumatatotara West Road while transportation movements are undertaken; and
- A construction timetable, detailing vehicles movements to and from the site, and the hours that the trucks will operate.

15. The Traffic Management Plan shall be designed to ensure that at all times during construction, all Waitomo District Council administered roads shall be kept open. In exceptional circumstances a request may be sought for road closures of up to 10 minutes maximum. Any road closures shall be approved by the Manager, Policy and Planning, Waitomo District Council.

16. If traffic control measures are not carried out in accordance with the Traffic Management Plan and the Transit New Zealand Code of Practice for Temporary Traffic Management, the Road Controlling Authority reserves the right after notifying the Applicant or contractors either verbally or in writing, to instruct the Applicant or contractors to cease all work until the requirements of this Plan and Code of Practice are met. Alternatively the Road Controlling Authority may arrange for the traffic management to be carried out by others, the costs of which will be borne by the Applicant.

Roading Design

17. The Applicant shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, pavement deflection data for Taumatatotara West Road both before and after the construction period. The pavement deflection measurements shall be carried out using either Falling Weight Deflectometer or Benkelman Beam testing techniques.

18. Detailed roading design plans for internal site access roads, Taumatatotara West Road, and any other Waitomo District Council roads that are subject to upgrading or realignment works, shall be developed in accordance with appropriate construction standards and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing. The detailed design shall include:

- Geotechnical investigation and interpretation report;
- Corner widening design (including cut/fill batters details);
- Taumatatotara West Road / Taharoa Road intersection design;
- Pavement design;
- Surfacing details;
- Shoulder feather-edge details; and
- Drainage (surface water channels and culverts).

Road Maintenance

19. A maintenance regime for Taumatatotara West Road shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and

Planning, Waitomo District Council prior to any construction works commencing. The maintenance regime shall cover the full construction period and may be developed in partnership with an ongoing maintenance programme (shared with the Waitomo District Council's own Network Maintenance Contractors). The maintenance regime shall ensure the following:

- During the construction period, the consent holder shall undertake any necessary works to ensure that Taumatatotara Road is maintained at a quality no less than the quality of the road prior to construction commencing; and
- At the completion of construction, the consent holder shall undertake any necessary works to ensure that Taumatatotara West Road is of a quality that is no less than the quality of the road at the commencement of construction.

20. A bond of $86,000 shall be paid to Council to secure the ongoing performance of condition 19 pursuant to section 108(2)(b) and section 108A of the Resource Management Act 1991. The bond applies to regular maintenance only, not pavement rehabilitation and shall be refunded to the Applicant at such a time as the Manager, Policy and Planning, Waitomo District Council is satisfied that the objectives of the maintenance regime required by condition 19 has been met. Should the Manager, Policy and Planning, Waitomo District Council consider the consent holder is not meeting the objectives of the maintenance regime, the bond will be utilised to ensure compliance.

Access

21. Detail of vehicle access points and permanent entranceways along Taumatatotara West Road shall be provided prior to construction works commencing. The details will include allowances for:

- Pavement widening to a minimum 6.5 metre sealed width;
- Bellmouth radii to a minimum 15 metres;
- Entranceway culverts to a minimum 300mm diameter; and
- Pavement surfacing to a minimum 70 metres at full width, with matching in tapers at 1 in 10.

22. All internal access roads shall be no narrower than 5 metres in width.

LANDSCAPING AND VISUAL

23. Prior to construction commencing the consent holder shall submit to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, a Landscape Mitigation Plan prepared by a suitably qualified Landscape Architect. The Landscape Mitigation Plan shall detail the visual mitigation and landscape restoration strategies that will be undertaken and shall include but not be limited to:

i. A plan showing details of planting and landscaping to be undertaken around the substation and control building;
ii. The height and location of any earth bunds or mounds created for visual, noise, or mitigation purposes;
iii. Topsoil stockpile and management plan for all topsoil stockpiled for more than six months from the time of stripping;
iv. The restoration strategy for any disturbed landforms including:
    1) Permanent earthworks, including all road cuttings;
    2) Temporary earthworks, including construction pads; and
    3) Topsoil restoration.
v. The restoration shall integrate the new landform into the natural contours, and revegetate (with either pasture or planting) so it appears homogenous with the surrounding landscape;
vi. An implementation strategy identifying when the mitigation works will be undertaken;
vii. A maintenance schedule.

24. The colour of the turbines shall be selected to minimise the visual impact. Due consideration will be given to the predominant ambient background sky colour in selection of the final colour. Low reflectivity finishes shall be used on the turbines and the turbine blades where practicable.

25. No spare wind turbine parts shall be stored on the site, and all 'dead' turbines and turbine components shall be removed within one month from the time that they ceased to function, unless exceptional circumstances exist and written approval is obtained from Manager, Policy and Planning, Waitomo District Council.

AIR SAFETY

26. The consent holder shall comply with the Civil Aviation Authority (CAA) Determination issued to Ventus Energy Limited dated 7 February 2006.

27. Those turbines identified as numbers 1, 5, 10, 18 and 22 on the approved plan (and identified below) shall be lit with a medium intensity obstacle light located on the highest practicable point, sufficient to indicate to aircraft the general location of the wind farm.

Turbine ID	**Easting**	**Northing**	**Attitude**
1	2664848	6331439	251m AMSL
5	2665338	6330549	322m AMSL
10	2666640	6329258	319m AMSL
18	2667836	6327401	367m AMSL
22	2668272	6326391	321m AMSL

28. The medium intensity obstacle lights shall –
- be red; and
- have an effective intensity of not less than 1600 cd of red light;

- be visible to aircraft approaching the wind farm from any direction; and
- shall be installed and operated in a way that minimise their visibility to persons on the ground while meeting CAA requirements.

GEOTECHNICAL

29. In accordance with the recommendations of the geotechnical review prepared by Riley Consultants, and submitted with the application (Appendix K of Volume One), the consent holder shall undertake subsurface geotechnical investigation and engineering geological mapping for the wind farm area at the detailed design stage, to ensure that all of the turbine sites are geotechnically feasible, and provided with stable building platforms. The results of these investigations and detailed design of the proposed geotechnical works for each of the turbines shall be provided for the approval of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing.

EFFECTS ON WILDLIFE

Register

30. The consent holder shall keep a register of observations of effects of the wind farm activities on wildlife. This will include evidence of turbine strike (with species, date, weather conditions and other relevant observations), notes of avoidance behaviour observed, and other observed interaction of wildlife with the wind farm. Ground inspections with nil results should also be recorded. The register shall be maintained for the life of the consents, and shall be made available to Council within 2 working days of its request.

Inspections

31. In accordance with Condition 28 above, all wind farm personnel will inspect the area around the turbine bases when visiting or passing by a turbine, throughout the life of the consents, for evidence of wildlife mortality.

32. The consent holder shall undertake dedicated inspections of all turbine bases for evidence of wildlife mortality at monthly intervals for the first two years of operation. If construction is staged, later turbines shall also continue to be inspected for a full two years.

33. If no significant adverse effects on wildlife are evident then dedicated inspections shall be discontinued, with the prior approval of the Manager, Policy and Planning, Waitomo District Council.

If a significant adverse effect is found (through dedicated monitoring or other monitoring) then monthly inspections shall continue in the interim and a plan developed, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council and in consultation with the Department of Conservation, acting reasonably, to address the effects. Such a plan shall propose a monitoring regime and identify methods and options to avoid,

remedy or mitigate the adverse effects. Specifically excluded from a plan will be any modification or restriction on the operation of the wind turbines.

Reporting:

34. An annual report, detailing the information required in conditions 28 – 31 above shall be provided to Waitomo District Council and the Department of Conservation. Any unidentified species remains recovered shall be referred to the Department of Conservation for identification as soon as is practicably possible following their discovery.

Bird Perches

35. No telecommunications devices or signs shall be connected/attached to any part of the turbines and/or the accessory structures.

36. With the exception of the transmission lines connecting the substation to the existing transmission lines, all other intra project lines within the wind farm shall be underground.

37. The turbine towers shall be tubular in design.

ECOLOGICAL EFFECTS

Native Vegetation

38. The clearance and trimming of native vegetation associated with the wind farm activities shall be restricted to the minimum area required to undertake the road realignment works, and any realignments of the power line routes. In particular, the consent holder shall avoid the removal of pole stand Rimu where practicable.

39. The consent holder shall develop and implement a weed control programme for the site and access roads, to the satisfaction of Council, and for the first 1-2 years of operation.

COMMUNICATIONS

40. In the event that the wind farm activities result in any disruption to free to air (not satellite) television, Broadband Wireless access licenses and/or microwave path operators at those properties in the area surrounding the wind farm site, the consent holder shall assist those parties to obtain reception comparable to the pre-construction quality, to the satisfaction of Council. The consent holder shall advise the Manager Policy and Planning, Waitomo District Council of the agreed mitigation measures in writing.

COMPLAINTS REGISTER

41. The consent holder shall maintain a complaints register for the wind farm activities. The register shall record all complaints received and shall include:

a) The date, time and duration of the incident that has resulted in the complaint;
b) The location of the complainant;
c) The cause of the incident where appropriate;
d) Any corrective action undertaken by the consent holder in response to the complaint.

The register shall be available to Council within 2 working days of its request.

REVIEW AND MONITORING

42. Pursuant to sections 128 to 130 of the Resource Management Act the Waitomo District Council may undertake a review of conditions of consent, within twelve months of the commencement of operation of the wind farm and thereafter on an annual basis for the following purpose:

(i) to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent (in particular the potential adverse environmental effects in relation to noise, vegetation removal, earthworks, and the visual, landscape and amenity effects), and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or

(ii) to address any adverse effect on the environment which has arisen as a result of the exercise of this consent; or

(iii) if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment; or

(iv) to review the adequacy of and the necessity for monitoring undertaken by the consent holder.

The Council will undertake the review in consultation with the consent holder. The consent holder shall pay the actual and reasonable costs of the review.

43. Pursuant to section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Council when monitoring the conditions of this consent.

LAPSE PERIOD

44. This consent shall lapse eight years after the date of it being granted, unless the consent is either given effect to before that lapsing date, or unless the

Waitomo District Council fixes a longer period pursuant to section 125 of the Resource Management Act 1991.

Advisory Notes

1) The Applicant shall also ensure compliance with conditions of the Waikato Regional Council resource consent. Conditions related to matters covered by that consent have been omitted from this consent to avoid duplication.

2) All on-site works shall comply with the requirements of the Health and Safety in Employment Act 1992.

3) This consent covers road widening and realignment works associated with Taumatatotara West Road only. The Applicant shall obtain any other resource consents for road widening.

4) The Applicant will need to consult with and meet the requirements of all road controlling authorities affected by the transportation of the turbine components, including Transit New Zealand.

Reasons for the Decision

1) The proposal will meet the sustainable management purpose of the Act, and the benefits of the proposal, when seen in the national context, outweigh the site-specific effects, and the effects on the local surrounding area.

2) The proposal is consistent with legislation and policies that encourage renewable energy, including the policies and environmental outcomes sought by the RMA, and Government policy relating to energy efficiency and climate change.

3) The proposed turbines, transmission lines, substations, ancillary buildings and ancillary activities can be accommodated in this environment in a manner consistent with the objectives, policies and environmental outcomes sought by the relevant plans and with the sustainable management purpose of the Act.

4) The proposal, subject to appropriate resource consent conditions, is generally consistent with Part 2 of the Resource Management Act 1991.

5) When viewed in the wider context, the proposal will enable people and communities to provide for their wellbeing. The proposal will contribute positively to sustaining the potential of natural and physical resources to meet the needs of future generations. Provided mitigation measures are successfully implemented, the proposal will present no threat to the life-supporting capacity of air, water, soil or ecosystems.

REFERENCES

Environment Court Decision No. 148/2005: *Genesis Power Limited and The Energy Efficiency and Conservation Authority versus Franklin District Council* (Awhitu Windfarm)

Ashby, M. 1994: *Winds Up: Planning the Future Now*; Connell Wagner Limited, Wellington, New Zealand

Energy Efficiency and Conservation Authority 1995; *Guidelines for Local Authorities: Wind Power*, EECA Publication Wellington, New Zealand

Appendix 2

2011 windfarm variation decision

WAITOMO DISTRICT COUNCIL REPORT ON A NON-NOTIFIED APPLICATION PURSUANT TO SECTION 127 OF THE RESOURCE MANAGEMENT ACT 1991 – WAITOMO DISTRICT COUNCIL LAND USE CONSENT RM050019A

COUNCIL REFERENCE:	RM050019A
APPLICANT:	Ventus Energy (NZ) Ltd
PROPERTY ADDRESS:	Taumatatotara West Road, Te Anga
LEGAL DESCRIPTION:	Section 2 Block V Kawhia South Survey District (SA37A/26) Section 1 Survey Office Plan 58558 (SA47A/876) Section 12 and Section 22 Block V Kawhia South Survey District (SA31C/23) Section 1A Block V Kawhia South Survey District (SA37A/25)
ZONING – WAITOMO DISTRICT PLAN:	Rural
PROPOSAL:	An application has been made in accordance with Section 127 of the Resource Management Act 1991 to change the conditions of resource consent RM050019 to increase the maximum consented height of the 11 northernmost consented wind turbines to 121.5 metres. The current maximum consented height is 110 metres. The remaining consented turbines will remain at a maximum consented height of 110 metres.
REPORT DATE:	12 March 2011

1.0 BACKGROUND

1.1 Waitomo District Council granted land use consent RM050019 to Ventus Energy (NZ) Ltd on 13th June 2006. The resource consent approval was for 22 wind turbines with a maximum height of 110 metres from the ground to the top of the vertically extended blade tip. The resource consent decision is subject to 53 conditions of consent, including an extended lapse period of eight years. Construction on the wind farm has not yet commenced.

2.0 THE SITE

2.1 The site of the proposed wind farm is located on an unnamed ridgeline, situated approximately 6.5 kilometres south of Taharoa (from Turbine 1) and 2.5 – 3 kilometres to west of Te Anga.

2.2 The existing land use of the site is predominantly pastoral grazing (sheep and cattle) with scattered pockets of plantation radiata pines. Small fragments of native bush also exist in the surrounding area. The topography of the site ranges from moderate to very steep hill country. Surrounding land uses are predominantly rural.

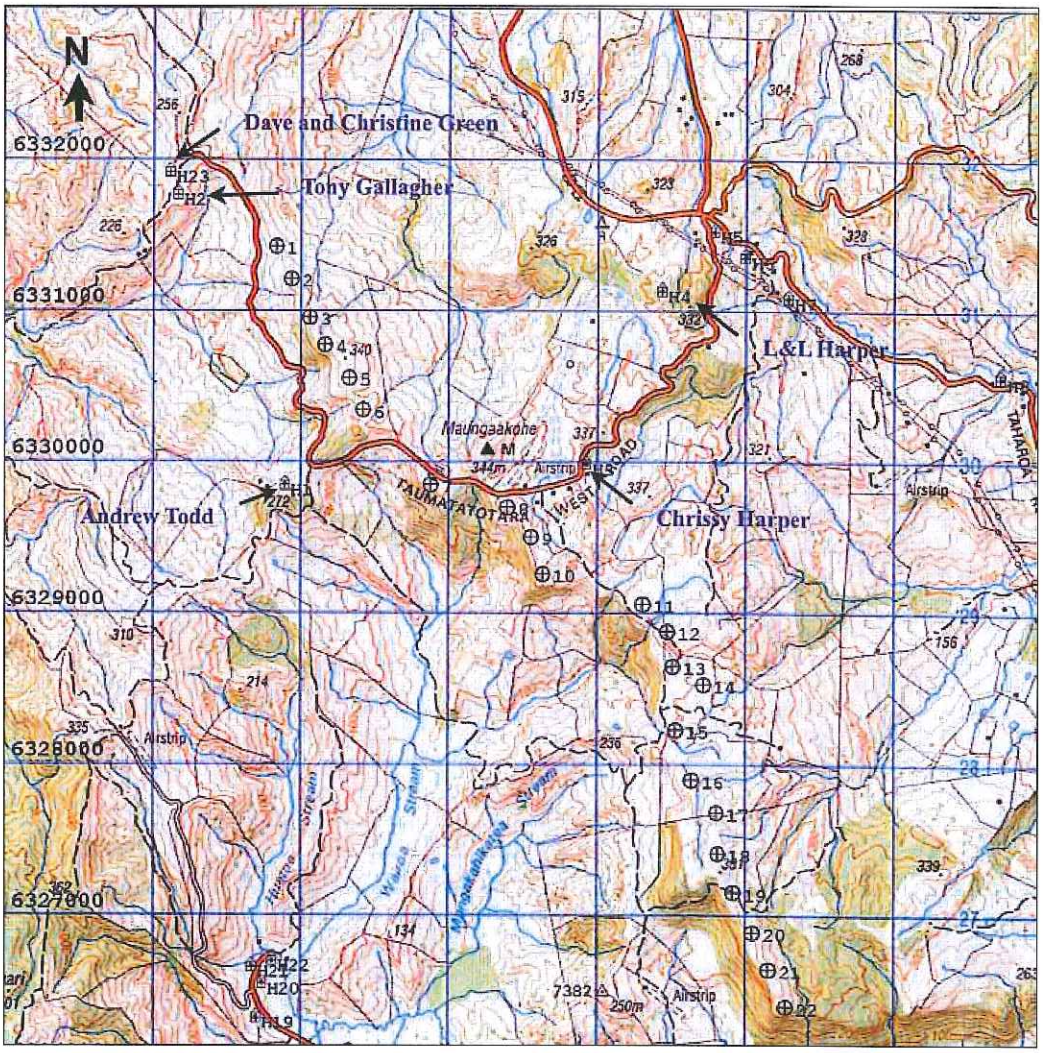
2.3 Taumatatotara West Road traverses through the centre of the site in an east-west direction, and effectively 'divides' the wind farm site into two parts, with turbines 1-6 located on the northern side of Taumatatotara West Road, and turbines 7-22 located to the south.

2.4 The southern part of the ridgeline, in particular, is visually prominent with respect to a large but sparsely populated area of the nearby Marokopa Valley.

2.5 The application which has been made by Ventus Energy (NZ) Ltd relates specifically to the northern 11 consented wind turbines. Turbines 7 to 11 will be located just to the south of Taumatatotara West Road while turbines 1 to 6 will all be located to the north and east of the road.

2.6 The nearest dwellings to turbines 1 to 11 are shown on the site layout plan provided by the Applicant as an appendix to the further information response dated February 2012. A scanned copy of the site layout plan is included as **Diagram 1** below.

Diagram 1: Site Layout Plan with Turbine and Dwelling Locations



2.7 All of the dwellings that are labelled with occupant names on the map (**Diagram 1**) are located on land that forms part of the wind farm site itself (Harper's and Gallagher's). Written approval to this application has been provided from the owners and occupiers of all five of these dwellings (see section 8 of this report).

2.8 The site is zoned Rural in the Proposed Waitomo District Plan, as are all of the adjoining properties. There are no designations, sites of significance or other special features affecting the site that are identified on the District Plan maps. However, the planning maps do denote three areas zoned 'Conservation' located in close proximity to the wind farm site (the Maungaakohe Scenic Reserve administered by DOC to the south-west, and two open space covenant areas to the north-east).

2.9 There are a number of agricultural airstrips in the surrounding area. The Applicant has consulted with the Civil Aviation Authority (CAA) in relation to the proposal, and their written comments are included in the appendices of the application.

3.0 THE PROPOSAL

3.1 The proposal involves changes and deletions to conditions of resource consent RM050019 which authorised the construction and operation of a 22 turbine wind farm on the site.

3.2 The changes which are being sought are associated with a proposal to increase the maximum consented height of the 11 northernmost wind turbines from 110 metres to 121.5 metres. The existing height limit of 110 metres will be retained in respect of the 11 southernmost consented wind turbines.

3.3 The application explains that the increase in height is necessary because wind turbine design has evolved since the application was initially made. Turbines now typically have larger rotors and taller towers. Furthermore the wind monitoring data collected at the site has been independently analysed meaning the wind regime is now better understood. Taller towers will have the advantage of allowing for a reduction in the turbulent effect of wind closer to the ground. The Applicant considers that larger turbines (in respect of turbines 1-11) will therefore give better economic returns for the project.

3.4 The 121.5 metre proposed turbine height is based on a nominal turbine design with a 76 metre hub height and a 90 metre rotor diameter. A turbine with these dimensions would have a clearance between the blade tip and the ground of 31 metres.

3.5 The application seeks amendments to conditions 1, 3 and 11.

4.0 SECTION 127 RESOURCE MANAGEMENT ACT 1991

4.1 Section 127 of the RMA states:

> *"(1) The holder of a resource consent may apply to a consent authority for a change or cancellation of a condition of the consent, subject to the following:*
>
> *(a) the holder of a subdivision consent must apply under this section for a change or cancellation of the consent before the deposit of the survey plan (and must apply under section 221 for a variation or cancellation of a consent notice after the deposit of the survey plan); and*

(b) no holder of any consent may apply for a change or cancellation of a condition on the duration of the consent.

(2) Repealed.

(3) Sections 88 to 121 apply, with all necessary modifications, as if –

(a) the application were an application for a resource consent for a discretionary activity; and

(b) the references to a resource consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively.

(4) For the purposes of determining who is adversely affected by the change or cancellation, the consent authority must consider, in particular, every person who –

(a) made a submission on the original application; and

(b) may be affected by the change or cancellation."

4.2 The application is able to be processed under section 127 of the RMA as it seeks a variation to the consented activity, and the resulting effects will not be materially different. The overall nature of the activity will remain the same and the only change that will result relates to the height of turbines 1 to 11.

4.3 The effects of the proposed changes and cancellations are considered in section 6 of this report. Consideration has been given to all persons who made submissions to the original application as part of the notification assessment in section 8.

5.0 PEER REVIEW

Visual and Landscape Effects

5.1 A specialist review of the visual and landscape effects of the proposed change has been undertaken by Mansergh Graham on behalf of the Waitomo District Council. The review was commissioned by the Council and with the agreement of the Applicant following a request made pursuant to Section 92(2) of the Resource Management Act 1991.

5.2 The Mansergh Graham assessment reports on the assessment of visual and landscape effects provided by the Applicant which was prepared by Opus International Consultants Ltd ('Opus'). The findings of the Mansergh Graham report are relied on for the purposes of this assessment. The main points and conclusions of the Mansergh Graham report are summarised below:

- The Opus report generally follows an acceptable methodological approach to the assessment of landscape and visual effects;
- The effects of the turbine height increase on landscape and visual amenity values will be less than minor, as stated within the report prepared by Opus. This is principally due to the context of the consented wind farm, the relatively small proposed increase in the turbine size and the distance between potentially affected parties and the wind farm;
- All properties around the application site have provided written approval and therefore shadow flicker is not expected to be an issue. Any shadow flicker effects beyond a theoretical 1.2km flicker effect limit are expected to be less than minor and will only occur for a relatively short period of time during the day when the top 11m of the turbine (the extension) is between the viewer and the sun.

6.0 ASSESSMENT UNDER SECTION 104 OF THE RMA

6.1 The variation is to be considered as a discretionary activity under Section 104 of the RMA (in accordance with Section 127(3)(a) of the Act). Section 104 sets out those matters that Council must consider when assessing an application for resource consent. The matters that are relevant to the consideration of this application (subject also to Part II, Purpose and Principles) are:

> *"a) Any actual and potential effects on the environment of allowing the activity; and...*
> *b) Any relevant provisions of –*
> *(vi) A plan or proposed plan; and*
> *c) Any other matters the consent authority considers relevant and reasonably necessary to determine the application."*

Each of the relevant matters is considered in the following sections of this report.

6.2 Section 104(1)(a) – Assessment of Actual and Potential Effects on the Environment of Allowing the Activity

6.3 The effects on the environment related to the proposed changes include visual and landscape effects, shadow flicker effects, ornithological effects and aviation effects resulting from the increased height of the turbines. Other effects, including noise, traffic and roading, geotechnical (earthworks) and cultural effects either will not change as a result of the proposal or will continue to be mitigated by existing conditions of consent.

Visual and Landscape Effects

6.4 The visual and landscape assessment undertaken by Opus on behalf of the Applicant has assessed the potential visual and landscape effects as a result of the proposal to increase the height of the 11 northernmost turbines. That report has been reviewed by Dave Mansergh of Mansergh Graham (Appendix A) on behalf of Waitomo District Council.

6.5 The Mansergh Graham review assessment has considered the assessment methodology and findings of the specialist visual and landscape assessment prepared by Opus which was submitted by the Applicant with the further information response dated February 2012. It concludes that the Opus report generally follows an acceptable methodological approach to the assessment of landscape and visual effects.

6.6 The Opus report concludes that the change in height of the turbines will be difficult to discern at dwellings to the south of the site based on the viewing distance, including at the nearest residences where approvals have not been provided on Coutts Road. On that basis the report concludes that there will be no discernible change to the effects on landscape character and visual amenity relative to the consented turbine height. The assessment also identifies that the increased height will potentially result in four properties along Coutts Road seeing part of one additional turbine relative to the consented turbine height. That assessment is supported by the wire frame images that are included within Appendix 3 of the Opus assessment. As the properties will only have a partial view of the additional turbine, the assessment concludes that the associated effects will be less than minor.

6.7 The Mansergh Graham report concludes that the effects of the turbine height increase on landscape and visual amenity values will be less than minor, as stated within the report

prepared by Opus. This is principally due to the context of the consented wind farm, the relatively small proposed increase in the turbine size and the distance between potentially affected parties and the wind farm.

6.8 The findings of the Mansergh Graham report are relied on for the purposes of this assessment. On the basis of the Mansergh Graham assessment, the visual and landscape related effects will be less than minor.

Shadow Flicker Effects

6.9 The Mansergh Graham review assessment also considers the effects of the proposed increase in turbine height in relation to the potential for shadow flicker to cause a nuisance.

6.10 Written approval to the application has been provided from the owners and occupiers of the dwellings nearest to turbines 1 to 11 (refer to section 8 of this report). Therefore effects on those dwellings must be disregarded in terms of this application. The nearest dwelling where written approvals have not been provided is approximately 3.2km from the nearest wind turbine.

6.11 The Mansergh Graham review report (Appendix A) confirms that any shadow flicker effects beyond a theoretical 1.2km flicker effect limit are expected to be less than minor and will only occur for a relatively short period of time during the day when the top 11m of the turbine (the extension) is between the viewer and the sun. The associated effects in terms of the proposed increase in turbine height are therefore considered to be less than minor.

Ornithological Effects

6.12 The Applicant has also provided a specialist assessment with the application from Kessels and Associates Ltd in terms of potential ornithological effects relating to the change. That assessment concludes that the proposed increase in turbine height will have *"no discernible increase on mortality risk associated with strike for birds and bats, nor will it increase habitat displacement"*. On the basis of this assessment, the ornithological effects of the change in turbine height will be negligible and less than minor.

6.13 The resource consent conditions include requirements for monitoring and reporting of ornithological effects as well as specific design requirements (conditions 37 to 44). Those conditions will remain and will not be amended.

Aviation Effects

6.14 The Applicant has provided a letter from the Civil Aviation Authority (CAA) which confirms their requirements in relation to the wind farm. The letter advises that the change in the height of the turbines will not impact on the CAA's original determination. However, the letter also advises that the CAA policy has been updated since the time that the initial determination was made by the CAA.

6.15 The resource consent already includes conditions (33 to 35) which relate to requirements for obstacle lights. It is suggested that condition 33 should also be amended to include reference to the CAA letter included with the application (dated 23 August 2011). A recommendation to that effect is included in section 11 of this report.

Noise Effects

6.16 The application identifies that the change in the height of turbines 1 to 11 will not have any additional noise effects relative to the consented turbine height.

6.17 Conditions 7 to 17 deal with noise from the wind farm. Those conditions will continue to apply. Amongst other things, the conditions require that compliance must be achieved with the standard *NZS6808:1998 Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators*. The onus of demonstrating compliance with that standard will be on the Consent Holder. In that regard, condition 9 requires that the Applicant must engage a person suitably qualified and experienced in acoustics to undertake background noise monitoring and condition 10 requires a person with the same qualifications and experience to prepare a noise report to demonstrate that the proposed turbines will achieve compliance with NZS6808:1998.

6.18 Condition 11 specifies that the wind turbines must not exceed a height of 110 metres or a sound power level of 107.2 dBA unless it can be demonstrated by a person specialising in acoustics and accepted by Waitomo District Council that higher turbine heights or sound power will still comply with NZS6808:1998. The Applicant has sought to change this condition. However, no expert assessment has been provided to support the increased turbine height.

6.19 It is considered that the condition as worded provides an opportunity for Council to approve higher wind turbine heights than 110 metres if it can be satisfactorily demonstrated that they will achieve compliance with NZS6808:1998. While the Applicant has applied to amend condition 11 so that it refers to 121.5 metres instead of 110 metres, that amendment is not considered to be necessary. Furthermore it would be inappropriate to make that change in the absence of expert assessment.

6.20 Accordingly a new advice note is recommended to clarify that an increase in the height of turbines 1 to 11 will be acceptable subject to the necessary acoustic reporting that is required by the current wording of condition 11. An advice note to that effect is included in the recommendation in section 9 of this report.

6.21 The existing noise conditions will control noise effects so that noise from the wind turbines must meet the appropriate noise standards. As those standards are not proposed to be changed, the effects of the increase in the height of turbines 1 to 11 will still need to be managed so that the effects will be no different to those anticipated and approved under the existing resource consent conditions.

Traffic/Roading Effects

6.22 The application identifies that the proposal to construct taller turbines is based on an increase in the tower height. The tower height is not the critical component for transportation as the tower sections are shorter than the blades. The tower components also have a lesser weight than the nacelles. Therefore it is the blades and the nacelles that control the road upgrade and maintenance requirements.

6.23 Conditions 18 to 28 deal with traffic and roading effects. The conditions include a requirement for a traffic management plan during the transportation of the wind turbine components, as well as requirements for monitoring, upgrading and maintenance of public roads used to transport the wind farm infrastructure to the site. The Applicant does not seek

to amend any of those conditions and they will therefore continue to adequately control traffic and roading related effects.

6.24 The effects of the change in the height of turbines 1 to 11 will therefore be negligible in relation to traffic and roading related effects.

Other Effects

6.25 The application identifies that there will be no changes in respect to effects relating to matters including geotechnical stability, vibration, radio and television communications, hydrology, archaeological/heritage and cultural related impacts.

6.26 Furthermore, there are existing resource consent conditions which will continue to apply in respect of some of these matters. Those conditions are commented on as follows:

- Geotechnical stability will continue to be subject to requirements for further investigations and detailed design (condition 36). Conditions imposed on the resource consents issued by Waikato Regional Council also address land stability issues.
- Condition 47 deals with effects relating to radio and television communications. The condition requires the consent holder to rectify any issues in terms of disruption to those services if problems arise following the wind farm construction. That condition will remain in place and will continue to apply.

6.27 Vibration related effects were considered during the processing of the original resource consent application for the wind farm. Mr Nevil Hegley of Hegley Acoustic Consultants was engaged to review the noise and vibration aspects of the application. Mr Hegley confirmed at that time that the turbines will not generate adverse effects with regards to vibration. Therefore it follows that the increase in wind turbine height will not result in any vibration related effects.

6.28 Effects relating to hydrology predominantly relate to land disturbance works necessary to construct the wind farm. The resource consent issued by Waikato Regional Council deals with these matters. The proposal to increase the height of turbines 1 to 11 is not expected to create any new effects in respect of hydrology.

6.29 Effects relating to archaeology, heritage and cultural matters will not change. The existing environment includes 22 consented (but not yet built) wind turbines. It is not proposed to change the location of any of the wind turbines and the increase in height therefore will not result in any new effects in respect of these matters.

6.30 Section 104(1)(b) – Assessment of relevant provisions of the Operative Waitomo District Plan

6.31 The objectives and policies of most relevance to this application are those relating to the Rural Zone, as set out in Section 11 of the Operative Waitomo District Plan. The relevant objectives and policies have been extracted and are included below.

Objectives

11.3.1 To promote the Rural Zone as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.

11.3.3 *To ensure that significant archaeological, historical and cultural features are protected from adverse effects arising from the removal of vegetation, or other development of land. See also Section 21, Heritage Resources.*

11.3.4 *To protect areas of significant indigenous vegetation and significant habitat of indigenous fauna.*

11.3.5 *To ensure that rural development and land use does not give rise to increased erosion and thus degradation of water quality.*

11.3.8 *To promote use of rural land in a manner which encourages maintenance and enhancement of amenity values of the rural environment, protects outstanding natural features and landscapes from inappropriate use and development, and preserves the natural character of the coastal environment, wetlands, lakes and rivers, and their margins.*

11.3.9 *To encourage maintenance and enhancement of rural visual character.*

11.3.12 *To ensure the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, are avoided, remedied or mitigated.*

Policies

11.4.1 *To ensure the Rural Zone functions as a productive working environment where the use and development of its natural resources, consistent with meeting environmental safeguards, is encouraged.*

11.4.4 *To avoid, remedy or mitigate any effects of the use or development of rural land that gives rise to erosion which adversely affects water quality.*

11.4.10 *To avoid, remedy or mitigate the adverse effects of removal of areas of significant indigenous vegetation and significant habitat of indigenous fauna.*

11.4.12 *To ensure that all rural activities, including extractive industries, are established and operated so as to avoid, remedy or mitigate adverse effects on amenity or on neighbours, or on significant karst features.*

11.4.13 *To encourage mitigation of the adverse effects of all rural activities, including afforestation and forestry clearance, on adjacent sites. Particularly that mitigation should occur in areas that are visually sensitive, including areas with significant tourist resources, areas of high landscape quality and in the coastal environment.*

11.4.17 *To avoid, remedy or mitigate the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, on sunlighting, privacy, landscaping and amenity.*

6.32 The wind farm was assessed in terms of these same objectives and policies during the processing of the initial resource consent application. They are generally of little relevance in terms of the effects of the change and the amended wind farm incorporating higher turbines 1 to 11 will not be contrary to them.

7.0 RESOURCE MANAGEMENT ACT 1991 – PART II

7.1 Applications considered under Section 104 are also subject to Part II of the Act (Purpose and Principles). Part II outlines and promotes the concept of sustainable management, lists matters of national importance as well as other matters related to achieving the purpose of the RMA, and requires the principles of the Treaty of Waitangi to be taken into account.

7.2 In particular, the following sections of Part II are applicable to this application:

5. Purpose

(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –

(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

7. Other Matters

"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to –

(b) The efficient use and development of natural and physical resources:
(c) The maintenance and enhancement of amenity values:
(f) Maintenance and enhancement of the quality of the environment:
(g) Any finite characteristics of natural and physical resources:
(i) The effects of climate change:
(j) The benefits to be derived from the use and development of renewable energy".

8. Treaty of Waitangi

"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi."

7.3 In respect to Section 5(a), the wind farm proposal is an important means of harnessing a natural resource to provide for the energy needs of New Zealand. Wind energy is a renewable resource and therefore the proposal will provide for the ability of future generations to meet their needs. One of the needs of future generations will be electricity and energy, and the use of wind to meet that need is sustainable. The proposal is therefore consistent with Section 5(a).

7.4 Section 5(b) requires that the life supporting capacity of air, water, soil and ecosystems be safeguarded. The proposal will have minimal effect on the life supporting capacity of the air and soil, and is not expected to have any significant effect on the water resource. Conditions require that issues relating to land stability are addressed as part of detailed design. The proposal is not expected to have any effect on the life supporting capacity of ecosystems. The proposal is therefore consistent with section 5(b).

7.5 Section 5(c) requires any adverse environmental effects to be avoided, remedied or mitigated. The environmental effects associated with the wind farm will continue to be mitigated by the existing (and amended) conditions of consent. The proposal is therefore consistent with section 5(c) of the Act.

7.6 Section 7(b) requires regard to be had to the efficient use and development of natural and physical resources. The Applicant has identified that the proposed increase in the height of turbines 1 to 11 will enable the wind farm to more efficiently harness the wind resource at the site. The proposal is therefore considered to represent an efficient use and development of the land and wind resource. The use of wind (a renewable resource) to generate electricity is considered an efficient use and development of natural resources.

7.7 Section 7(c) relates to amenity values. The predominant amenity related effect will be in terms of visual amenity. Those matters have been given consideration in the Opus landscape and visual effect assessment provided by the Applicant and in the review undertaken by Mansergh Graham. The Mansergh Graham review (see Appendix A) concludes that the "*effects of the turbine height increase on landscape and visual amenity values will be less than minor*". Accordingly in my opinion the amenity value of the area will be generally maintained by the proposal and the application is therefore consistent with Section 7(c) of the Act.

7.8 With regard to Section 7(f), the maintenance and enhancement of the quality of the environment has been considered. The section 2 definition of 'Environment' includes 'ecosystems and their constituent parts, including people and communities', 'all natural and physical resources', 'amenity values' and 'social, economic, aesthetic and cultural conditions'. As previously stated, the proposal will generally maintain amenity values. Conditions of consent will continue to address effects on ecosystems and on people and the local community. The proposal is therefore consistent with section 7(f).

7.9 Subsections 7(i) and 7(j) are particularly relevant to this proposal. These two subsections were added by the *Resource Management (Energy and Climate Change) Amendment Act 2004* and reflect the Government's commitment to its obligations under the Kyoto Protocol to reduce greenhouse gases and promote the generation of energy from renewable sources. The proposal will support the feasibility of the construction of the consented wind farm, which in turn will yield national benefits in terms of the use of a renewable energy source (as opposed to the burning of fossil fuels), contribution to security of energy supply, providing energy to meet the needs of communities and potential economic growth that could derive from the energy generated. The proposal is therefore consistent with sections 7(i) and (j).

7.10 Section 8 of the Resource Management Act requires that in considering the application the Council take into account the principles of the Treaty of Waitangi. Local groups representing tangata whenua interests were involved during the processing of the original application. The change will not significantly alter the environmental effects relative to the original application, nor will it result in any increase in terms of cultural effects or impacts

on any sites of significance. The wind turbine locations will not change, only the maximum consented height of turbines 1 to 11. The proposed change and the process that has been followed in relation to the wind farm proposal is considered to be consistent with section 8 of the Act.

8.0 NOTIFICATION

8.1 The provisions of the Resource Management Act 1991 ("RMA") relevant to an assessment of notification are sections 95A to 95F, with the consideration of effects limited to effects resulting from the changes proposed only.

8.2 Section 95A states as follows:

" Section 95A Public notification of consent application at consent authority's discretion

(1) A consent authority may, in its discretion, decide whether to publicly notify an application for a resource consent for an activity.

(2) Despite subsection (1), a consent authority must publicly notify the application if—

(a) it decides (under section 95D) that the activity will have or is likely to have adverse effects on the environment that are more than minor; or

(b) the applicant requests public notification of the application; or

(c) a rule or national environmental standard requires public notification of the application.

(3) Despite subsections (1) and (2)(a), a consent authority must not publicly notify the application if—

(a) a rule or national environmental standard precludes public notification of the application; and

(b) subsection (2)(b) does not apply.

(4) Despite subsection (3), a consent authority may publicly notify an application if it decides that special circumstances exist in relation to the application."

8.3 Section 95D of the RMA sets out the way in which a consent authority must decide whether the effects are likely to be more than minor for the purpose of reaching a determination under Section 95A. In this case there are no relevant trade competition effects.

8.4 However, a number of parties have provided written approval to the application. Effects on those persons must be disregarded when undertaking the assessment in terms of notification and in terms of assessing the resource consent application under section 104 of the Act. The parties who have provided written approval are listed in Table 1 which follows. The location of the properties where written approvals have been provided is shown on the diagram in Appendix C.

Table 1: Written Approval List

Name	Owner/Occupier	Description
Andrew Todd and Doreen Rangitata Putaranui	Occupier	Occupier of H1
Tony Gallagher	Occupier	Occupier of H2
David Green	Occupier	Occupier of H23
Kris Harper	Occupier	Occupier of H3
John Gallagher and Glenice Gallagher (G and J Gallagher Farm Ltd)	Owner	See Appendix C for land ownership. Owner of H1, H2, H23.
Larry and Lynette Harper	Owner & Occupier	See Appendix C for land ownership. Owner of H3. Owner and occupier of H4.

8.5 The original land use consent application was processed on a notified basis. A total of fifteen submissions were received to the application.

8.6 A table which lists the submissions received and the issues raised in each submission is included in Appendix B. The table demonstrates that although some submissions related to visual and/or landscape effects, the minor nature of the increase in turbine height and the distance to the nearest dwellings will ensure that the change in effects will be less than minor. That assessment is supported by the reporting undertaken by Opus and by Mansergh Graham.

8.7 Other effects associated with the change have been assessed in section 6 of this report. That assessment concludes that the effects of the change will be less than minor in respect of those matters. The assessment also concludes that the existing resource consent conditions will continue to avoid, remedy and mitigate the effects of the wind farm.

8.8 Having had regard to the notification provisions of the RMA, the notification report prepared in relation to the application determined that the application did not require notification for the following reasons:

a) The landscape and visual effects assessment prepared by Opus Consultants and provided with the application concludes that landscape and visual related effects will be 'less than minor'. This finding is supported by the findings of the peer review report undertaken by Mansergh Graham. Therefore landscape and visual effects will be less than minor.

b) There are no other adverse effects related to the proposed change that will be minor or more than minor.

c) The submissions that were received to the original resource consent application have been considered. None of the submitters are considered to be affected parties in relation to the change.

d) There are no special circumstances that justify public notification.

9.0 CHANGES TO CONSENT CONDITIONS

9.1 In assessing the conditions of consent, the following changes are recommended (additions shown <u>underlined</u> and deletions shown in ~~strikethrough~~):

a) Amend condition 1 so that it reads as follows:

"The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005 except as otherwise amended by the s127 application dated 21st November 2011 and the further information response dated 28th February 2012. The application documentation comprises of:

(a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 – Main Report, dated March 2005;
(b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 – Book of Figures, dated March 2005.
(c) Further information received 30th Jnuary 2005 and 8th March 2005.
(d) Further Information provided in respect of the revised proposal approved as part of the change to the conditions of consent in accordance with Section 127 of the Resource Management Act 1991, namely :

i. Report dated 21st November 2011; titled 'Taumatatotara Windfarm Assessment of Environmental Effects for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
ii. Further information response dated 28th February 2012; titled 'Taumatatotara Windfarm Further Information for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
iii. Report dated 24th February 2012; titled 'Taumatatotara Wind Farm Landscape and Visual Assessment for S92(1) Further Information Request', prepared by Opus International Consultants Ltd."

b) Amend condition 3 so that it reads as follows:

"The turbines shall have a maximum height ~~of 110 metres~~ measured from the ground to the top of the vertically extended blade tip as follows:

(a) Turbines 1 to 11 inclusive – maximum height of 121.5 metres
(b) Turbines 12 to 22 inclusive – maximum height of 110 metres".

c) Amend condition 33 so that it reads as follows:

"The consent holder shall comply with the Civil Aviation Authority (CAA) Determinations issued to Ventus Energy Limited dated 7 February 2006 and 23 August 2011."

d) Insert a new advice note 7:

"For the purposes of condition 11, a height greater than 110 metres will be approved for turbines 1 to 11 inclusive subject to the necessary confirmation being provided in respect of compliance with NZS6808:1998. Condition 3 also requires that the maximum height of turbines 1 to 11 inclusive must not exceed 121.5 metres and that the maximum height of turbines 12 to 22 inclusive must not exceed 110 metres."

9.2 The changes that are recommended above are consistent with the changes that were requested by the Applicant with one exception. The Applicant sought for condition 11 to be amended to refer to a maximum turbine height of 121.5 metres. Condition 11 states:

"The wind turbines shall not exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or sound power will still comply with the requirements of NZS6808:1998."

9.3 It is considered that the condition as worded provides an opportunity for Council to approve higher wind turbine heights than 110 metres in respect of turbines 1 to 11 inclusive if it can be satisfactorily demonstrated that they will achieve compliance with NZS6808:1998. An amendment to condition 11 is therefore not considered to be necessary. Furthermore it would be inappropriate to make that change in the absence of an expert acoustic assessment.

9.4 The recommended advice note 7 will clarify that an increase in the height of turbines 1 to 11 will be acceptable subject to the necessary acoustic reporting that is required by the current wording of condition 11.

10.0 CONCLUSION

10.1 This assessment has demonstrated that the proposed changes to conditions of resource consent RM050019 will have less than minor effects on the environment. Furthermore, the amended proposal will be consistent with the objectives and policies of the Operative Waitomo District Plan.

10.2 The proposal is considered to be consistent with section 127 and Part II of the Resource Management Act 1991. It is therefore recommended that the resource consent conditions be amended to incorporate the changes set out in sections 9 and 11 of this report. The full set of resource consent conditions incorporating the amendments resulting from this application is included in Appendix D.

11.0 RECOMMENDATION

That pursuant to Section 127 of the Resource Management Act 1991, the Waitomo District Council hereby grants consent to Ventus Energy (NZ) Ltd to change the conditions of Waitomo District Council land use consent reference RM050019. The land use consent shall be amended as follows:

a) Amend condition 1 so that it reads as follows:

"The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005 except as otherwise amended by the s127 application dated 21st November 2011 and the further information response dated 28th February 2012. The application documentation comprises of:

(a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 – Main Report, dated March 2005;
(b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 – Book of Figures, dated March 2005.
(c) Further information received 30th January 2005 and 8th March 2005.
(d) Further Information provided in respect of the revised proposal approved as part of the change to the conditions of consent in accordance with Section 127 of the Resource Management Act 1991, namely:

i. Report dated 21st November 2011; titled 'Taumatatotara Windfarm Assessment of Environmental Effects for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
ii. Further information response dated 28th February 2012; titled 'Taumatatotara Windfarm Further Information for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
iii. Report dated 24th February 2012; titled 'Taumatatotara Wind Farm Landscape and Visual Assessment for S92(1) Further Information Request', prepared by Opus International Consultants Ltd."

b) Amend condition 3 so that it reads as follows:

"The turbines shall have a maximum height ~~of 110 metres~~ measured from the ground to the top of the vertically extended blade tip as follows:

(a) Turbines 1 to 11 inclusive – maximum height of 121.5 metres
(b) Turbines 12 to 22 inclusive – maximum height of 110 metres".

e) Amend condition 33 so that it reads as follows:

"The consent holder shall comply with the Civil Aviation Authority (CAA) Determinations issued to Ventus Energy Limited dated 7 February 2006 and 23 August 2011."

c) Insert a new advice note 7:

"For the purposes of condition 11, a height greater than 110 metres will be approved for turbines 1 to 11 inclusive subject to the necessary confirmation being provided in respect of compliance with NZS6808:1998. Condition 3 also requires that the maximum height of turbines 1 to 11 inclusive must not exceed 121.5 metres and that the maximum height of turbines 12 to 22 inclusive must not exceed 110 metres."

Reasons for the Decision:

1. The application is considered to satisfy Sections 127 and 104 of the Resource Management Act 1991. The proposal is also consistent with Part II of the Act.

2. The application is able to be processed under section 127 of the RMA as it seeks a variation to the consented activity, and the resulting effects will not be materially different. The overall nature of the activity will remain the same and the only change that will result relates to the maximum height of turbines 1 to 11.

3. The proposal is consistent with the objectives and policies of the Operative Waitomo District Plan.

4. A specialist assessment relating to the landscape and visual effects of the proposal has been submitted with the application. The findings of the report support Council's own assessment that the effects on the environment relating to the change will be less than minor in terms of visual and landscape effects.

5. The peer review of the landscape and visual effects aspects of the application undertaken by Council concludes that the effects of the change will be less than minor.

6. The existing and amended conditions of consent will ensure that any adverse environmental effects that may arise from this proposal will continue to be adequately avoided, remedied or mitigated.

_____

Ben Inger
Planner – Bloxam Burnett & Olliver Ltd

Approved/Declined

_____

John Moran – Planning and Policy Manager

Date: _____

Appendix A – Mansergh Graham Peer Review Report (Landscape and Visual Effects)

mansergh graham
LANDSCAPE ARCHITECTS

23 Naylor Street . PO Box 542 . Waikato Mail Centre
Hamilton 3240 . Phone 07 858 4959 . www.mgla.co.nz

12 March 2012

Bloxam Burnett & Olliver
Level 5, 18 London Street
PO Box 9041
Hamilton

Attention: Ben Inger

RE: Review of the landscape and visual components of the application to modify the conditions of consent for the Taumatatotara Wind Farm

Please find attached my review of the visual and landscape components of the application to modify the conditions of consent for the Taumatatotara Windfarm. I have undertaken a site inspection, as well as a review of all information received.

The AEE documentation contains a comprehensive explanation of the changes that will occur with the construction of the Windfarm. The assessment of what these changes will mean in terms of effects on visual and landscape amenity and rural character is less comprehensive.

However, I generally concur with the findings of the report that effects of the proposed increase in the height of the 11 northernmost turbines will be *less that minor*. This is principally due to the context of the consented wind farm, the relatively small proposed increase in the turbine size and the distance between potentially affected parties and the Windfarm.

Please contact the writer, if you have any questions.

Yours faithfully

Dave Mansergh Dip P&RM (Dist), BLA(Hons), MLA, ANZILA
Registered NZILA Landscape Architect
Director

INTRODUCTION

In November 2011, Mansergh Graham Landscape Architects Ltd was engaged by BBO, on behalf of Waitomo District Council, to review the visual, landscape, and amenity components of the assessment of environmental effects (AEE) for the Taumatatotara Windfarm.

This document has been prepared as part of an analysis of the adequacy of information relating to visual, landscape, and amenity effects identified within the AEE.

This document has been reviewed within the context of the Resource Management Act 1991 and the Waitomo District Plan.

AEE DOCUMENTATION REVIEW APPROACH

Approach

The following approach was used in the review of the landscape and visual effects section of the above reports and assessment of the effects of the application:

1. Review relevant sections of the Resource Management Act including:
   a. Section 6 matters.
   b. Section 7 matters.

2. Desktop review of the resource consent application and AEE documentation, as well as the landscape and visual assessment. This information was reviewed to determine whether it meets the relevant provisions of the RMA and is of "sound" professional practice. In particular the following was assessed:
   a. Identification and description of the existing landscape context.
   b. Identification of the nature of the proposed activity/development.
   c. Identification of the potentially affected parties and potential viewing audience.
   d. Identification, analysis and rating of potential effects on landscape, visual and amenity values.
   e. Report graphics and photomontages
   f. Conclusions and recommendations.

3. Inspection of the subject site and surrounding landscape context.

The content of the report was also compared with other visual assessments for similar applications. A site familiarity inspection has been undertaken in association with this application.

S92 Request

Preliminary review of the AEE, prepared by Ventus Energy (NZ) Ltd, found that there was insufficient information to fully understand the visual and landscape components of the application. In response to a S92 request, supplementary information was provided by Ventus and a *Landscape Visual Effect Assessment (LVEA)* was prepared by Opus International Ltd. This report takes into account all the information supplied.

Documents Reviewed

Documents and/or extracts received and reviewed are as follows:

- Taumatatotara Windfarm. Further Information for a Turbine Tip Height Increase Prepared by Ventus Energy (NZ) Ltd. 28 February 2012.
- Taumatatotara Wind Farm. Landscape and Visual Assessment for s92 (1) Information Request. Prepared by Opus International Consultants Ltd. December 2011.

AUDIT OF THE ASSESSMENT OF LANDSCAPE, VISUAL AND AMENITY EFFECTS

The following audit reviews the landscape and visual amenity components of the responses to the s92 request from Mansergh Graham landscape Architects and all accompanying AEE documentation to determine whether they meet the provisions of the RMA and are of standard or 'sound' professional practice.

Identification and Description of the Existing Landscape Context

At a broad scale, the project is identified as being located within the Western Hill Country of the Waikato District, which is described as follows:

Steep pastoral hill country inter-dispersed with exotic tree stands and areas of native vegetation.

Within a 10km study area surrounding the project site, key elements of the local context are identified as:

- *steep sided hills with well defined ridgelines and narrow valley systems to the north and south of the site;*
- *A predominantly pastoral landcover with areas of remnant native vegetation associated with the hill slopes and valley systems that run off the ridgelines;*
- *Isolated areas of exotic trees scattered across the landscape;*
- *Rural houses and farm buildings generally sparsely located in the surrounding landscape and typically located in sheltered low-lying areas.*

A number of photos of the site and the surrounding area are contained in Appendix 1 of the report.

Reviewer's comments

The description of the surrounding landscape components is adequate; however greater emphasis could have been placed on how these components (landcover, landform, development) contribute to the existing landscape character and amenity values of the wider landscape.

However, when read alongside the photos in the report, a reasonable impression of the surrounding landscape character can be achieved.

Identification of the Nature of the Proposed Development

Consent has been granted for the construction of 22, 110m high turbines within the site. Associated development includes new access roads and transmission lines. The current application seeks to increase the height of the 11 northernmost turbines from 110m to 121m. Greater detail regarding the rotor types, dimensions and ancillary components is provided in the AEE.

Reviewer's comments

The main components of the application relevant to landscape and visual effects appear to have been identified.

Identification of the Potentially Affected Parties and Potential Viewing Audience.

The visual catchment of the turbines was identified following ZTV analysis and site inspection. In broad terms, potential receptor groups (viewers) are identified as including the following:

...Single residential properties and travellers through the area (i.e drivers, cyclists and pedestrians).

The assessment specifically addresses effects from the following view locations:

...Public roads and areas adjacent to residential properties, particularly along Marokopa and Coutts Road where properties have a direct view of the site.

ZTV maps have been produced for both the consented windfarm (110m) and the proposed windfarm with turbines (121m) following an s92 request for a comparison of the two applications.

Reviewer's comments

While the methodology used to determine the extent of potentially affected parties is an acceptable approach, it is considered that the comparison of ZTV maps for the consented and proposed windfarms could have been more clearly presented.

The s92 request noted that the comparison of ZTV maps should be presented in such a manner that *any change in potential turbine visibility can be clearly identified by comparing the consented ZTV analysis map and the application ZTV map*. A map which clearly showed new areas where the turbine tip extension would be theoretically visible (where previously the 110m turbines would not have been visible) would have clearly communicated the extent to which the proposed turbines will increase the visual catchment of the windfarm.

It appears from the two maps that the visibility of the two options is similar. While, the small increases in potential visibility are difficult to discern, the ZTV table provided in the Ventus further information report (section 4.2) clearly indentifies where there are potential increases in the number of turbines visible from surrounding dwellings. This table indicates that from four houses an additional turbine will become visible with the proposed tip height extension. It is noted that this does not mean that the entire turbine will be visible, rather, that a part of the tip extension will be visible. This is further illustrated in the wire frame images in Appendix 3 of the Landscape and Visual Assessment prepared by Opus International Consultants Ltd, which are commented on later in this report.

Written Approvals

In response to an s92 request, a map identifying properties and dwellings for which written approval has been supplied by Ventus. This is useful in that it can be used to cross reference between the site layout map and ZTV maps and identify where potential effects cannot be considered because written approval has been received.

Identification, analysis and rating of potential effects on landscape, visual and amenity values.

The landscape effects of the windfarm are described in terms of landform, landcover, and landuse.

Physical changes to the landscape from the construction of the windfarm, with the potential to give rise to landscape effects, are identified as including:

- The formation earthworks for the construction of the access road and turbine foundations;
- The construction of substations and ancillary control buildings;
- The construction and or connection to of electrical power lines; and
- The installation of the wind turbines.

It is identified that the extent of change and the effects on landscape character of the above components were considered during the consenting process (November 2005), and the level of effects were judged as being within *acceptable limits* given that consent was granted.

The Opus report contends that the proposed increase in turbine height will have *no discernable effect on landscape character* and that this is illustrated in the photographic montages (Appendix3, Figures 2.0, 2.1, 3.0 and 3.1). It is noted that the access road, power lines and earthworks will not alter in relation to the consented scheme.

The Opus report identifies that the high degree of modification within the surrounding landscape and the remoteness of the location means that it has a good capacity to absorb change.

The relatively small increase in the turbine height is considered to have a *less than minor* effect from all surrounding public locations and house sites. From locations south of the site, it is identified that the proposed 121m turbines will be seen at the far northern extent of the windfarm, which the report describes as further reducing effects on visual amenity, as these turbines recede into the distance.

Visual effects ratings used in the report are as follows.

Major Effects
The project will be visible and immediately apparent element within the landscape and will result in a change to the overall character and/or affect to the viewer.

Moderate Effect
The project may form a visible and recognisable new element within the landscape and would be discernable by the viewer

Minor Effect
The project may result in being discernable within the landscape, but will not have a marked effect on the overall quality of the landscape or affect the viewer.

No Effect
The project will not be discernable and will have no effect on the landscape or viewer.

Reviewer's comments

In general, the report contains a clear explanation of the changes that will occur with the extension of the turbine heights of northernmost 11 turbines. However, the assessment of how these changes effect visual and landscape amenity and rural character is not as comprehensive.

The assessment generally focuses on the visibility of the proposal from the surrounding landscape. It does not address in detail how the proposal affects existing visual and landscape amenity, or the rural character of the landscape in depth. However, it is clear that the relatively small extent of the turbine height increase, in combination with the distance at which the windfarm will be viewed from surrounding locations will mean that effects on visual and landscape amenity will be *very low*.

Shadow Flicker

Additional information was requested regarding the effect of the tip height extension on shadow flicker. In response Ventus have confirmed that the dwellings nearest the proposed 121m turbines will be beyond the range at which shadow flicker will be an issue.

Reviewer's comments

Because the applicant has identified that there will be no houses within 1.2km of the turbines (subject to the consent), shadow flicker is not expected to be an issue. It is noted that all properties around the application site have provided sign off. Any flicker effects beyond the 1.2km theoretical flicker effect limit are expected to be less than minor and will only occur for a relatively short period of time during the day when the top 11m of the turbine (the extension) is between the viewer and the sun.

Photomontages

In response to an s92 request for an additional photomontage from each view location showing the increase in size of the turbines subject to this application within the context of the remaining turbines, montages from two locations have been supplied (from the corner of Marokopa and Coutts Road and from Taharoa Road). In addition, wire frame images have been supplied from various other surrounding house sites.

Reviewer's comments

In general, it is considered that the photomontages are valuable in terms of communicating the extent of visual effects from a limited range of view locations. It would have been helpful in terms of communicating cumulative effects if in Appendix 3, Figure 3, the southernmost turbines were shown as well as those subject to the proposed increase in height.

The wire frame images do not aid in communicating the extent of visual effects as well as a photomontage due to the lack of contextual visual information. Nevertheless they do usefully illustrate the very small extent to which the visibility of the windfarm will increase as a consequence of the current application.

Residual Effects

In response to an s92 response, full references to public opinion surveys and research into public perception research have been supplied by the applicant.

Reviewer's comments

These references now support comments made in the AEE regarding the potential effects of turbines on landscape and visual amenity.

CONCLUSIONS AND RECOMMENDATIONS

In general, it is considered that the report and S92 responses contains a comprehensive explanation of the changes that will occur with the construction of the windfarm, however the assessment of how these changes effect visual and landscape amenity and rural character is not as comprehensive. The assessment tends to focus on the visibility of the proposal from the surrounding landscape, with less emphasis on the effects of the proposed turbine height extension on the amenity derived from the existing landscape character.

The report generally follows an acceptable methodological approach to the assessment of landscape and visual effects.

The inclusion of additional photomontages and wireframe images depicting views of the turbines from surrounding locations have greatly assisted in the review of the application documentation.

In general, it is considered that effects of the turbine height increase on landscape and visual amenity values will be *less than minor* as stated within the report prepared by Opus International Ltd.

Appendix B – Assessment of Submissions

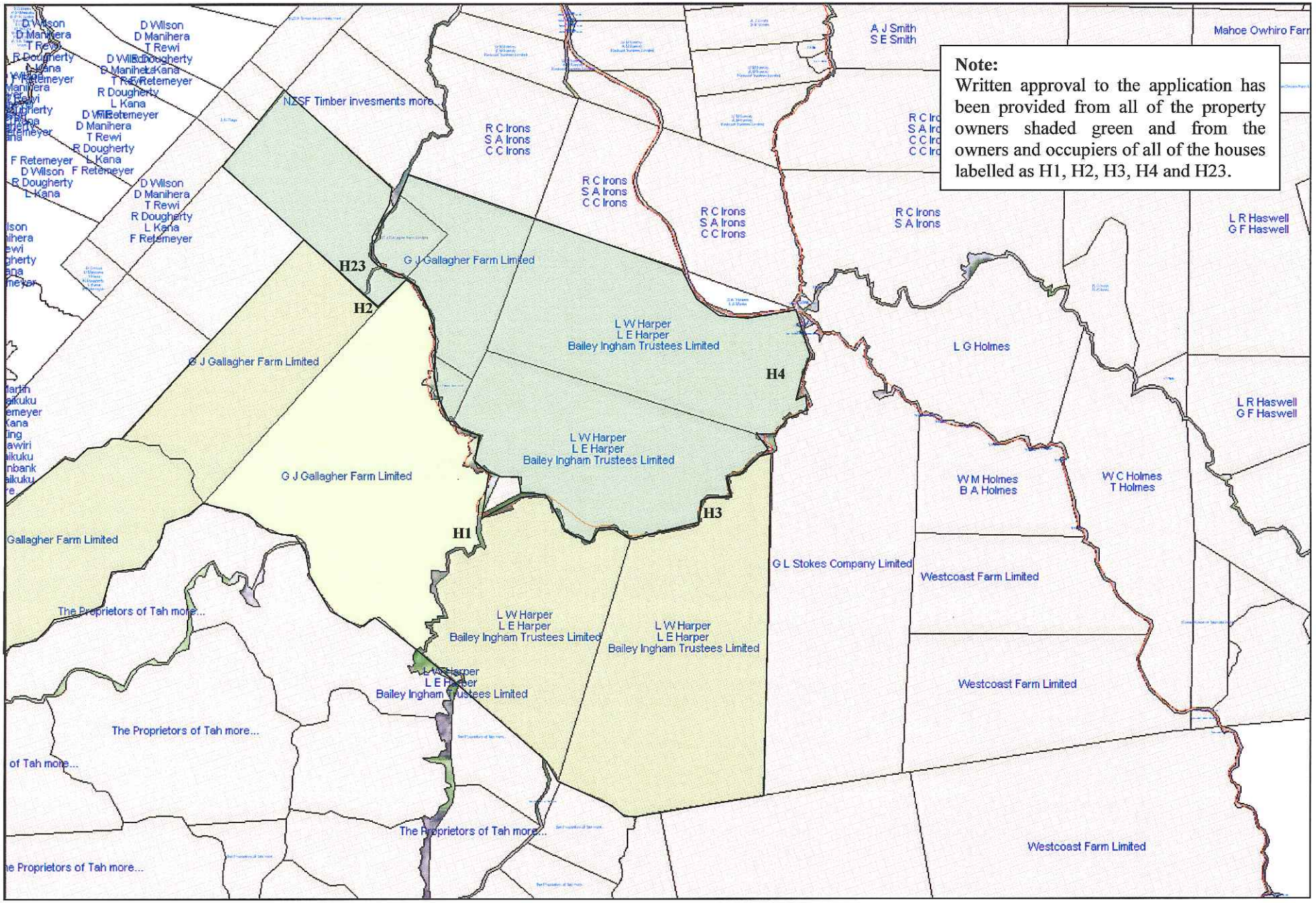
Table 1: Submitter Table

SUBMITTER	ADDRESS	SUPPORT/OPPOSE/ NEUTRAL	S127 AFFECTED PARTY
Wind Farm Developments (Australia) Limited	PO Box 10-905, Wellington	Support	The submission was in support of the proposal. The submitter is not considered to be an affected party in terms of the s127 application.
M, J, & N Phillips	719 Marokopa Road	Oppose	The submission raised issues regarding the turbines spoiling the natural environment, traffic effects and lack of consultation. The submission also stated that the wind farm will not have the economic and social benefits outlined in the application. The wind farm has already been granted resource consent and the increase in height of turbines 1-11 will not result in any changes in traffic effects. The existing environment includes the consented wind farm and therefore it is already anticipated that the existing 'natural environment' will be modified. The visual and landscape effects of the increase in turbine height have been considered in the landscape and visual report as well as the peer review. The Opus report concludes that due to the distance of turbines 1-11 to the dwellings on Marokopa Rd to the south of Coutts Rd, the change in turbine height will not be noticeable. The submitter is not considered to be an affected party in terms of the s127 application.
Department of Conservation (DOC)	PO Box 38, Te Kuiti	Neutral	The DOC submission sought for requested conditions to be imposed relating to the monitoring of the effects of the wind farm on wildlife. Those conditions were imposed on the resource consent and the Applicant doesn't seek to change them as part of this application. The Applicant has also provided a letter from Kessels and Associates confirming that there will be *"no discernible increase on mortality risk associated with strike for birds and bats, nor will it increase habitat displacement effects"*. The submitter is not considered to be an affected party in terms of the s127 application.
R & S Irons	83 Te Waitere Road	Oppose	Concerns raised in the submission related to earthworks, heavy vehicle movements and impacts relating to electricity line voltage. The s127 application will not result in any changes in respect of these matters. The submitter is not considered to be an affected party in terms of the s127 application.
Mr M Paterson	669 Marokopa Road	Oppose	The submission raised visual effects as a concern as well as traffic effects. The relief sought by the submitter was to remove the 5 turbines closest to Marokopa Road. Those turbines are not affected by the s127 application and will remain at the maximum height as currently consented. The visual and landscape effects of the increase in turbine height have been considered in the landscape and visual report as well as the peer review. The Opus report concludes that due to the distance of turbines 1-11 to the dwellings on Marokopa Rd to the south of Coutts Rd, the change in turbine height will not be noticeable. The s127 proposal will not alter traffic related effects.

			The submitter is not considered to be an affected party in terms of the s127 application.
Mrs M Paterson	669 Marokopa Road	Oppose	The submission raised visual effects as a concern as well as land stability, economic impacts and inadequate consultation. The relief sought by the submitter was to remove at least the 5 turbines closest to Marokopa Road. Those turbines are not affected by the s127 application and will remain at the maximum height as currently consented. The visual and landscape effects of the increase in turbine height have been considered in the landscape and visual report as well as the peer review. The Opus report concludes that due to the distance of turbines 1-11 to the dwellings on Marokopa Rd to the south of Coutts Rd, the change in turbine height will not be noticeable. Land stability effects are already addressed through conditions of consent which will remain in place. The s127 proposal will not alter economic effects. The submitter is not considered to be an affected party in terms of the s127 application.
C & D Gilbert	443 Marokopa Road, Castle Craig Farm	Oppose	The submission sought relocation of turbines 19-22 which are the turbines nearest Marokopa Road. None of those turbines are affected by the s127 application. The submitter is not considered to be an affected party in terms of the s127 application.
M Haddad	158 Coutts Road	Oppose	The submission raised visual effects as a concern. The relief sought by the submitter was to remove the 5 turbines closest to Marokopa Road. Those turbines are not affected by the s127 application and will remain at the maximum height as currently consented. The visual and landscape effects of the increase in turbine height have been considered in the landscape and visual report as well as the peer review. The Opus report concludes that the viewing distance to the nearest turbines from Coutts Rd is sufficient that those properties will not discern the increase in turbine height. Also the report identified that while some dwellings on Coutts Rd will see part of one additional turbine, the associated effects will be less than minor. The submitter also raised concerns about noise and road traffic. The s127 application will not result in any changes in respect of these matters. The submitter is not considered to be an affected party in terms of the s127 application.
G Pilgrim	Marokopa Road, Castle Craig Farm	Oppose	The submission related specifically to turbines 18-22 which are the turbines nearest to Marokopa Road. The submission sought their removal due to adverse visual, noise and traffic effects. The submitter also expressed concern at the lack of consultation. Turbines 18-22 are not affected by the s127 application and will remain at the maximum height as currently consented. The submitter is not considered to be an affected party in terms of the s127 application.
C Pilgrim	Marokopa Road, Castle Craig Farm	Oppose	The submission related specifically to turbines 18-22 which are the turbines nearest to Marokopa Road. The submission sought their removal due to adverse visual, noise and traffic effects. The submitter also expressed concern at the lack of consultation. Turbines 18-22 are not affected by the s127

			application and will remain at the maximum height as currently consented. The submitter is not considered to be an affected party in terms of the s127 application.
Ministry of Economic Development	PO Box 1473, Wellington	Support	The submission was in support of the proposal. The submitter is not considered to be an affected party in terms of the s127 application.
Energy Efficiency and Conservation Authority	Po Box 388, Wellington	Support	The submission was in support of the proposal. The submitter is not considered to be an affected party in terms of the s127 application.
Airways Corporation of New Zealand	PO Box 294, Wellington	Support	The submission was generally in support of the proposal. It also requested that the Applicant should consult the CAA in respect of the proposal. The CAA has provided a letter in relation to the s127 application which confirms they have no issues with the changes proposed. The submitter is not considered to be an affected party in terms of the s127 application.
Waikato District Health Board	PO Box 505, Hamilton	Oppose	The submission relates to noise effects. The existing condition which requires compliance with a specified maximum noise level will be retained without modification. Therefore the existing noise conditions will continue to control noise effects. The submitter is not considered to be an affected party in terms of the s127 application.
Tim Stokes	781 Taharoa Road	Oppose	The submitter raised concerns about vibration effects, health effects associated with the high voltage power lines and lack of consultation. The s127 application will not result in any changes in respect of these matters. The submitter is not considered to be an affected party in terms of the s127 application.

Appendix C – Written Approval Plan


Note:
Written approval to the application has been provided from all of the property owners shaded green and from the owners and occupiers of all of the houses labelled as H1, H2, H3, H4 and H23.
H23
H2
H1
H3
H4
NZSF Timber invesments more...
G J Gallagher Farm Limited
R C Irons
S A Irons
C C Irons
A J Smith
S E Smith
Mahoe Owhiro Farm
L R Haswell
G F Haswell
L W Harper
L E Harper
Bailey Ingham Trustees Limited
L G Holmes
W M Holmes
B A Holmes
W C Holmes
T Holmes
G L Stokes Company Limited
Westcoast Farm Limited
The Proprietors of Tah more...
D Wilson
D Manihera
T Rewi
R Dougherty
L Kana
F Retemeyer

Appendix D – Amended Decision Text

That:

a) The submission by Mr M Taitoko be declared to be out of time pursuant to Section 97 of the Resource Management Act 1991 and ruled invalid.

b) In consideration of Section 104, and pursuant to Sections 104B and 108 of the Resource Management Act 1991, the Waitomo District Council grants consent to Ventus Energy (NZ) Limited to construct and operate a utility scale wind farm comprised of a maximum of 22 horizontal axis turbines and associated substation buildings, earthworks and access roads and activities as described in Conditions (1) and (2) below for the purpose of generating electricity, on a Rural Zoned site located at Taumatatotara West Road, Taharoa, legally described as:

- Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Certificate of Title 141077;
- Section 3 Block IX Kawhia South Survey District comprised in Certificate of Title SA28A/586;
- Section 1 Survey Office Plan 58558 comprised in Certificate of Title SA47A/876;
- Section 1A Block V Kawhia South Survey District comprised in Certificate of Title SA37A/25;
- Section 12 and Section 22 Block V Kawhia South Survey District comprised in Certificate of Title SA31C/23;
- Section 2 Block V Kawhia South Survey District comprised in Certificate of Title SA37A/26; and
- Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Certificate of Title SA48B/494;

subject to the following conditions:

General

1. The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005 except as otherwise amended by the s127 application dated 21st November 2011 and the further information response dated 28th February 2012. The application documentation comprises of:

   (a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 – Main Report, dated March 2005;
   (b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 – Book of Figures, dated March 2005.
   (c) Further information received 30th January 2005 and 8th March 2005.

(d) Further Information provided in respect of the revised proposal approved as part of the change to the conditions of consent in accordance with Section 127 of the Resource Management Act 1991, namely:

i. Report dated 21st November 2011; titled 'Taumatatotara Windfarm Assessment of Environmental Effects for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
ii. Further information response dated 28th February 2012; titled 'Taumatatotara Windfarm Further Information for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;
iii. Report dated 24th February 2012; titled 'Taumatatotara Wind Farm Landscape and Visual Assessment for S92(1) Further Information Request', prepared by Opus International Consultants Ltd.

2. For the purposes of this consent and for avoidance of doubt the activities authorised by this consent include:

a) the installation, operation and maintenance of no more than twenty-two (22) horizontal axis wind turbines ("turbines");
b) An underground fibre optic network connecting each turbine to the central control system in the on-site operations building(s);
c) Tracking and placement of an underground network of 33kV transmission lines delivering electricity from each turbine to the two on-site substations;
d) Overhead or underground powerlines connecting the on-site wind farm substations to the two existing 33kV lines that traverse the eastern edge of the landholding;
e) A fenced compound to house the on-site control building and sub-station equipment;
f) Earthworks associated with the creation of the turbine building platforms, access roads and other facilities described in items a) to e) above.
g) Widening and/or realignment works along parts of Taumatatotara West Road to enable the safe passage of the oversized wind farm components to the site.

3. The turbines shall have a maximum height measured from the ground to the top of the vertically extended blade tip as follows:

(a) Turbines 1 to 11 inclusive – maximum height of 121.5 metres
(b) Turbines 12 to 22 inclusive – maximum height of 110 metres.

4. Each turbine shall be located within a turbine contingency zone of no greater than 100 metre radius from the turbine locations specified in the application. The turbine contingency zones shall avoid locations closer to external property boundaries, significant indigenous vegetation and significant habitats of indigenous fauna.

5. Prior to construction, the consent holder shall submit to the Manager Policy and Planning, Waitomo District Council for approval a plan specifying the final proposed locations of turbines 19 to 22 and a report outlining the reasons for the final locations. The locations of these turbines shall be chosen so that they are located as far as practicable back from the western ridgeline, taking into account geotechnical and other such location requirements, so as to minimise their visual impact as viewed from the west and south.

6. The consent holder shall submit to the Manager Policy and Planning, Waitomo District Council an as-built plan confirming the locations of all constructed turbines, access roads,

entranceways, excess material fills, the substations and control building, the spare turbine component storage area, electricity transmission lines, and road upgrading/realignment works. The Plan shall also include but is not limited to:

a) The finished line of cut and fill batters;
b) The finished edge line of pavement and seal widening works;
c) The location and dimensions of site entrances;
d) The finished level of access road centrelines;
e) The location, size and extent of all new stormwater drains or culvert extensions;
f) The location of all subsoil drains, sumps and manholes; and
g) Any underground services installed or altered as part of the works.

This plan shall be certified by a registered surveyor as to the accuracy at the completion of the work and is required to be submitted to Council within 6 months of the completion of construction of the wind farm.

Noise

Operational Noise

7. The noise from all other activities on the site (other than wind turbine generator operation and construction activities) shall not exceed the following limits when measured in accordance with the requirements of NZS 6801:1991 Measurement of Sound and assessed in accordance with the requirements of NZS 6802:1991 Assessment of Environmental Sound:

7.00am to 7.00pm 45dBA L_{10}
7.00pm to 7.00am 35dBAL_{10}
7.00pm to 7.00am 60dBA L_{max}

8. The noise from the wind farm shall comply with the requirements of NZS6808:1998, Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators in relation to any dwelling existing at the date of the granting of this consent, except:

a) Any dwelling on any site that forms part of the wind farm; and
b) The dwellings labelled as H1, H2, H2A, H3, and H4 on the approved plans.

9. Prior to commencing any development of the wind farm, detailed ambient noise monitoring shall be undertaken within the notional boundary of any dwelling within the 30dBA noise contour (other than the dwellings specifically referred to in (a) and (b) of condition 8 above) by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council. The monitoring shall be undertaken to determine the existing background sound in terms of the requirements of NZS6808:1998 Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators. Sufficient field measurements shall be undertaken to demonstrate to the satisfaction of Council's Manager, Policy and Planning, that the best fit regression curve gives an accurate representation of the existing noise environment.

10. Prior to commencing any development of the wind farm, the consent holder shall prepare a noise report to demonstrate, to the satisfaction of Council's Manager, Policy and Planning, that the wind farm will comply with the requirements of NZS6808:1998. This report shall be prepared by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council.

11. The wind turbines shall not exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or sound power will still comply with the requirements of NZS6808:1998.

Construction Noise

12. Noise from all construction and decommissioning work including (but not limited to):

a) Site works;
b) Wind turbine generator assembly and placement;
c) Concrete placement;
d) Wind turbine removal; and
e) Land reinstatement

Shall be measured and assessed in accordance with the requirements of NZS6803:1999 Acoustics – Construction Noise. The noise limits shall be those set out in Table 2 of NZS6803 for works of "long term" duration (the levels for long term construction work are reproduced in the table below).

Time	Weekdays		Saturdays		Sundays	
	L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}
0630-0730	55dBA	75dBA	45dBA	75dBA	45dBA	75dBA
0730-1800	70dBA	85dBA	70dBA	85dBA	55dBA	85dBA
1800-2000	65dBA	80dBA	45dBA	75dBA	45dBA	75dBA
2000-0630	45dBA	75dBA	45dBA	75dBA	45dBA	75dBA

13. No concrete trucks shall be permitted to enter the site before 7.00am or leave the site after 7.00pm.

14. Prior to the commencement of construction, a Construction Noise Management Plan shall be prepared to the satisfaction of the Manager, Policy and Planning, Waitomo District Council. The Construction Noise Management Plan shall demonstrate how the requirements of condition 12 will be achieved.

15. The Construction Noise Management Plan shall address, amongst other things, the potential noise effects of construction traffic on the roads and techniques to minimise these effects. Any night time (10.00pm – 7.00am) traffic movements must be included in the evaluation.

Noise Monitoring:

16. Within six months of the commencement of operation of the wind farm, the noise levels shall be measured and results provided to the Manager, Policy and Planning, Waitomo District Council.

17. The consent holder shall pay all costs associated with noise compliance measurements, monitoring and reporting.

Traffic and Roading

Construction Programme

18. A Construction Programme shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Construction Programme shall include the following:

    a) The hours of construction work on Taumatatotara West Road and other Waitomo District Council administered roads shall be between 7.00am and 7.00pm Monday to Saturday (excluding public holidays), unless written approval is otherwise obtained from the Manager, Policy and Planning, Waitomo District Council to work outside of these hours;
    b) Provision shall be made to maintain adequate and safe access to and from individual properties along Taumatatotara West Road and other Waitomo District Council administered roads while transportation movements are undertaken; and
    c) The consent holder shall arrange to hold a copy of all Resource Consents on site at all times during construction.

Traffic Management Plan

19. A Traffic Management Plan shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Traffic Management Plan shall be prepared in accordance with the latest edition of the Transit New Zealand Code of Practice for Temporary Traffic Management and shall include but not be limited to:

    a) The transport route (in general accordance with the route proposed in the application);
    b) Times and locations when deliveries are prohibited;
    c) Piloting and traffic management procedures;
    d) Contingency plans for breakdowns, bridge or pavement failure, severe weather conditions, accidents or roadworks;
    e) Provisions for co-ordination with other parties, including emergency services;
    f) Provisions to maintain adequate and safe access to and from individual properties along Taumatatotara West Road and other Waitomo District Council administered roads while transportation movements are undertaken; and
    g) A construction timetable, detailing vehicles movements to and from the site, and the hours that the trucks will operate.

20. The Traffic Management Plan shall be designed to ensure that at all times during construction, all Waitomo District Council administered roads shall be kept open. In exceptional circumstances a request may be sought for short term road closures. Any road closures shall be approved by the Manager, Policy and Planning, Waitomo District Council.

21. If traffic control measures are not carried out in accordance with the Traffic Management Plan and the Transit New Zealand Code of Practice for Temporary Traffic Management, the Waitomo District Council reserves the right after notifying the consent holder or contractors either verbally or in writing, to instruct the consent holder or contractors to cease all work until the requirements of this Plan and Code of Practice are met. Alternatively the Manager, Policy and Planning, Waitomo District Council, may arrange

for the traffic management to be carried out by others, the costs of which will be borne by the consent holder.

Roading Design

22. The consent holder shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, pavement deflection data for relevant sections of Waitomo District Council roads that are to be utilised for transportation of construction materials and turbine components both before and after the construction period. The pavement deflection measurements shall be carried out using either Falling Weight Deflectometer or Benkelman Beam testing techniques.

23. The consent holder shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, bridge inspection findings and details of axle loadings resulting from the transportation of the turbine components, to verify that all Waitomo District Council bridges are able to accommodate the transportation of these loads without resulting in any damage. If the Manager, Policy and Planning, Waitomo District Council considers it to be necessary, Council may require the consent holder to provide an appropriate level of supervision of heavy loads across Waitomo District Council bridges.

24. Detailed roading design plans for internal site access roads, Taumatatotara West Road, and any other Waitomo District Council roads that are subject to upgrading or realignment works, shall be developed in accordance with appropriate construction standards and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing. The detailed design shall include:

a) Geotechnical investigation and interpretation report;
b) Corner widening design (including cut/fill batters details);
c) Taumatatotara West Road / Taharoa Road intersection design;
d) Pavement design;
e) Surfacing details;
f) Shoulder feather-edge details;
g) Drainage (surface water channels and culverts);
h) Safe stopping sight distance; and
i) Minimised cut earthworks for the construction of the internal access roads.

Road Maintenance

25. A maintenance regime covering all Waitomo District Council roads and bridges to be utilised for transportation of construction materials and turbine components shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The maintenance regime shall cover the full construction period and may be developed in partnership with an ongoing maintenance programme (shared with the Waitomo District Council's own Network Maintenance Contractors). The maintenance regime shall ensure the following:

a) During the construction period, the consent holder shall undertake any necessary works to ensure that the roads and bridges utilised for transportation of construction materials and turbine components are maintained at a quality no less than the quality of the road and bridges prior to construction commencing.

26. A bond of $86,000 shall be paid to Council to secure the ongoing performance of condition 25 with regard to Taumatatotara West Road maintenance only, pursuant to section

108(2)(b) and section 108A of the Resource Management Act 1991. The bond applies to regular maintenance only, not pavement rehabilitation and shall be refunded to the consent holder at such a time as the Manager, Policy and Planning, Waitomo District Council is satisfied that the objectives of the maintenance regime required by condition 25, as it relates to Taumatatotara West Road, has been met. Should the Manager, Policy and Planning, Waitomo District Council consider the consent holder is not meeting the objectives of the maintenance regime with regard to the maintenance of Taumatatotara West Road, the bond will be utilised to undertake the work.

Access

27. Detail of vehicle access points and permanent entranceways along Taumatatotara West Road shall be provided prior to construction works commencing. The details will include allowances for:

    a) Pavement widening to a minimum 6.5 metre sealed width;
    b) Bellmouth radii to a minimum 15 metres;
    c) Entranceway culverts to a minimum 300mm diameter; and
    d) Pavement surfacing to a minimum 70 metres at full width, with matching in tapers at 1 in 10.

28. All internal access roads shall be a minimum of 5 metres in width.

Landscaping and Visual

29. Prior to construction commencing the consent holder shall submit to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, a Landscape Mitigation Plan prepared by a suitably qualified Landscape Architect. The Landscape Mitigation Plan shall detail the visual mitigation and landscape restoration strategies that will be undertaken and shall include but not be limited to:

    a) A plan showing details of planting and landscaping to be undertaken around the substation, control building and spare turbine part storage area;
    b) The height and location of any earth bunds or mounds created for visual, noise, or mitigation purposes;
    c) Topsoil stockpile and management plan for all topsoil stockpiled for more than six months from the time of stripping;
    d) The restoration strategy for any disturbed landforms including:
        i. Permanent earthworks, including all road cuttings;
        ii. Temporary earthworks, including construction pads; and
        iii. Topsoil restoration.
    e) The restoration shall integrate the new landform into the natural contours, and revegetate (with either pasture or planting) so it appears homogenous with the surrounding landscape;
    f) An implementation strategy identifying when the mitigation works will be undertaken;
    g) A maintenance schedule.

30. The colour of the turbines shall be selected to minimise the visual impact. Due consideration will be given to the predominant ambient background sky colour in selection of the final colour. Low reflectivity finishes shall be used on the turbines and the turbine blades where practicable.

31. All 'dead' turbines and turbine components shall be removed within one month from the time that they ceased to function, unless exceptional circumstances exist and written approval is obtained from Manager, Policy and Planning, Waitomo District Council.

32. Upon decommissioning of the wind farm, all visible structures (including turbines, substations and hard stand areas) shall be removed from the site. All foundations shall be buried under a minimum of two metres of soil and revegetated, unless otherwise approved by the Manager, Policy and Planning, Waitomo District Council.

Air Safety

33. The consent holder shall comply with the Civil Aviation Authority (CAA) Determinations issued to Ventus Energy Limited dated 7 February 2006 and 23 August 2011.

34. Those turbines identified as numbers 1, 5, 10, 18 and 22 on the approved plan (and identified below) shall be lit with a medium intensity obstacle light located on the highest practicable point, sufficient to indicate to aircraft the general location of the wind farm.

Turbine ID	Easting	Northing	Attitude
1	2664848	6331439	251m AMSL
5	2665338	6330549	322m AMSL
10	2666640	6329258	319m AMSL
18	2667836	6327401	367m AMSL
22	2668272	6326391	321m AMSL

35. The medium intensity obstacle lights shall –
- be red; and
- have an effective intensity of not less than 1600 cd of red light;
- be visible to aircraft approaching the wind farm from any direction; and
- shall be installed and operated in a way that minimise their visibility to persons on the ground while meeting CAA requirements.

Geotechnical

36. In accordance with the recommendations of the geotechnical review prepared by Riley Consultants, and submitted with the application (Appendix K of Volume One), the consent holder shall undertake subsurface geotechnical investigation and engineering geological mapping for the wind farm area, to ensure that all of the turbine sites are geotechnically feasible, and provided with stable building platforms. The results of these investigations and detailed design of the proposed geotechnical foundation works for each of the turbines shall be provided for the approval of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing.

Effects on Wildlife

Register

37. The consent holder shall keep a register of observations of effects of the wind farm activities on wildlife. This will include evidence of turbine strike (with species, date, weather conditions and other relevant observations), notes of avoidance behaviour observed, and other observed interaction of wildlife with the wind farm. Ground inspections with nil results should also be recorded. The register shall be maintained for

the life of the consent, and shall be made available to Council within 2 working days of its request.

Inspections

38. In accordance with Condition 37 above, all wind farm personnel will inspect the area around the turbine bases when visiting or passing by a turbine, throughout the life of the consent, for evidence of wildlife mortality.

39. The consent holder shall undertake dedicated inspections of all turbine bases for evidence of wildlife mortality at monthly intervals for the first two years of operation. If construction is staged, later turbines shall also continue to be inspected for a full two years.

40. If no significant adverse effects on wildlife are evident then dedicated inspections shall be discontinued, with the prior approval of the Manager, Policy and Planning, Waitomo District Council.

If a significant adverse effect is found (through dedicated monitoring or other monitoring) then monthly inspections shall continue in the interim and a plan developed, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council and in consultation with the Department of Conservation, acting reasonably, to address the effects. Such a plan shall propose a monitoring regime and identify methods and options to avoid, remedy or mitigate the adverse effects. Specifically excluded from a plan will be any modification or restriction on the operation of the wind turbines.

Reporting:

41. An annual report, detailing the information required in conditions 37 – 40 above shall be provided to Waitomo District Council and the Department of Conservation. Any unidentified species remains recovered shall be referred to the Department of Conservation for identification as soon as is practicably possible following their discovery.

Bird Perches

42. No telecommunications devices or signs shall be connected/attached to any part of the turbines and/or the accessory structures.

43. With the exception of the transmission lines connecting the substation to the existing transmission lines, all other intra project lines within the wind farm shall be underground.

44. The turbine towers shall be tubular in design.

Ecological Effects

Native Vegetation

45. The clearance and trimming of native vegetation associated with the wind farm activities shall be restricted to the minimum area required to undertake the road realignment works, and any realignments of the power line routes. In particular, the consent holder shall avoid the removal of pole stand Rimu where practicable.

46. The consent holder shall develop and implement a weed control programme for the site and access roads, to the satisfaction of Council, and for the first 2 years of operation.

Communications

47. In the event that the wind farm activities result in any disruption to free to air (not satellite) television, Broadband Wireless access licenses and/or microwave path operators at those properties in the area surrounding the wind farm site, the consent holder shall assist those parties to obtain reception comparable to the pre-construction quality, to the satisfaction of Council. The consent holder shall advise the Manager Policy and Planning, Waitomo District Council of the agreed mitigation measures in writing.

Complaints Register

48. The consent holder shall appoint a representative who shall be the Waitomo District Council's principal contact person in regard to matters relating to this resource consent. The consent holder shall inform the Manager Policy and Planning, Waitomo District Council of the representative's name and how they can be contacted prior to this resource consent being commenced.

49. The consent holder shall maintain a complaints register for the wind farm activities. The register shall record all complaints received and shall include:

a) **The date, time and duration of the incident that has resulted in the complaint;**
b) **The location of the complainant;**
c) **The cause of the incident where appropriate;**
d) **Any corrective action undertaken by the consent holder in response to the complaint.**

The register shall be available to Council within 2 working days of its request.

Implementation, Review and Monitoring

50. Pursuant to sections 128 to 130 of the Resource Management Act the Waitomo District Council may undertake a review of conditions of consent, within twelve months of the commencement of operation of the wind farm and thereafter on an annual basis for the following purpose:

a) to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent (in particular the potential adverse environmental effects in relation to noise, vegetation removal, earthworks, and the visual, landscape and amenity effects), and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or

b) to address any adverse effect on the environment which has arisen as a result of the exercise of this consent; or

c) if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment; or

d) to review the adequacy of and the necessity for monitoring undertaken by the consent holder.

The Council will undertake the review in consultation with the consent holder. The consent holder shall pay the actual and reasonable costs of the review.

51. The consent holder shall pay all costs associated with the implementation of this consent in order to achieve and demonstrate compliance with the consent conditions therein.

52. Pursuant to section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Council when monitoring the conditions of this consent.

Lapse Period

53. This consent shall lapse eight years after the date of it being granted, unless the consent is either given effect to before that lapsing date, or unless the Waitomo District Council fixes a longer period pursuant to section 125 of the Resource Management Act 1991.

Advisory Notes

1) The consent holder shall also ensure compliance with conditions of the Waikato Regional Council resource consent. Conditions related to matters covered by that consent have been omitted from this consent to avoid duplication.

2) All on-site works shall comply with the requirements of the Health and Safety in Employment Act 1992.

3) This consent covers road widening and realignment works associated with Taumatatotara West Road only. The consent holder shall obtain any other resource consents required for road widening, including any resource consents required from Waikato Regional Council.

4) The consent holder will need to consult with and meet the requirements of all road controlling authorities affected by the transportation of the turbine components, including Transit New Zealand.

5) The consent holder will need to consult with the Manager, Policy and Planning, Waitomo District Council in order to facilitate proceeding with the establishment of a turbine viewing area on Marokopa Road.

6) If the transmission lines connecting the substation to the existing electricity transmission lines are located above ground, they shall be designed and located so that they are a permitted activity in accordance with Rule 15.5.1 of the Proposed Waitomo District Plan and the NZ Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).

7) For the purposes of condition 11, a height greater than 110 metres will be approved for turbines 1 to 11 inclusive subject to the necessary confirmation being provided in respect of compliance with NZS6808:1998. Condition 3 also requires that the maximum height of turbines 1 to 11 inclusive must not exceed 121.5 metres and that the maximum height of turbines 12 to 22 inclusive must not exceed 110 metres.

Appendix 3

WRC consent 2020

Combined s95 Non Notification and s42a Planning Report for Resource Consent

Applicant:	Taumatatotara Wind Farm Limited		
Address of Site:	Taumatatotara West Road, Te Anga		
Application Number:	APP141827	**File No.:**	61 34 30A
Project Code:	RC25287	**Application document:**	16340543

1 PROPOSAL

Taumatatotara Wind Farm Limited has made an application for resource consent to undertake earthworks totalling approximately 259,000m3 of soil disturbance associated with the construction of roading and platforms for a wind farm at Taumatatotara West Road, Te Anga at or about NZTM 1756000 E 5768000 N as identified on Figure 1 below.

The activities to be considered are as follows:

Reference Id	Activity Subtype	Activity Description
AUTH141827.01.01	Land - disturbance	Undertake earthworks totalling approx. 200,000m3 of soil disturbance associated with the construction of tracks

This report assesses the application, the potential environmental effects and the relevant planning provisions in the Resource Management Act 1991 and Waikato Regional Council policies and plans. The report recommends whether to process the consent with or without notification and whether consent(s) should be granted.

Figure 1: Aerial photo of site location & surrounds

2 BACKGROUND

Earthworks associated with the construction and development of 22 windfarm turbines was granted consent in 2008.

"Shortly after the consents were granted, wholesale electricity market slumped, largely due to the economic downturn associated with the global financial crisis, which made the project uneconomic. In recent times the electricity market has improved and, in association with larger turbine rotors which reduce the cost of energy, wind farms are now a viable alternative to other forms of electricity generation. Larger turbines capture greater energy from the wind for a disproportionately small increase in capital cost."

The earthworks consent expired and in 2013 Taumatatotara Wind Farm Limited applied for another similar earthworks consent. This consent application has been on hold since 2013. In 2020 Taumatatotara Wind Farm Limited submitted more information to proceed the application but for a smaller windfarm – 11 wind turbines. The environmental effects of the earthworks have been determined by the applicant to be less than in the original proposal. The most recent information submitted for the smaller scale proposal being assessed in this report is being treated as a new application.

3 SITE AND PROPOSAL

The proposed windfarm site is 10km south of Taharoa Village and above the Taumatatotara Gorge in the Waitomo District. It is located on farms owned by three separate landowners.

Below is a description of the site as described in the application documents:

"The site and the adjacent hills generally have very defined but level ridgelines with steep slopes on the flanks, particularly on the southern side. The local peak to the northern end of the site has an elevation of 340m with the remainder of the site ranging between 300m and 320m at the southern end. The gradient of the construction site is moderate to steep with slopes generally between 1 in 20 and 1 in 5. The site is currently used for grazing cattle and sheep with a very small plantation of radiata pines at the location of turbine 7. Further details on the site's slopes can be seen in Attachment 2."

The proposal is to undertake bulk earthworks associated with the development of 11 turbine sites and associated tracking needed to access those sites.

There are to be two access points into the site, both from Taumatatotara West Road. An access road 2.03 km long will be formed to the north, serving turbines 1-6. Turbine 7 can be accessed via a short track directly off Taumatatotara West Road. Turbines 8-11 are accessed via a 2.1km road heading south. These roads generally follow existing farm tracks. The roads will be 6m wide to allow for large machinery such as mobile cranes and transporters.

The application provides a Road Construction Methodology which can be seen on pages 7 and 8 in section 3.3.

The wind turbines foundations will be constructed from reinforced concrete and will be 2.5m to 3.5m below ground surface. Retaining walls may be required to support cut faces where steep batters are required. The design life of the turbines is based on 50 years.

The method of transportation of the turbines has been amended from the previous application. The new application document proposes:

"In relation to movement of the turbine components, there are three distinct types with each having their own criticality:

- *Nacelle - heaviest (and bulky)*
- *Tower Sections – bulkiest*
- *Blades - longest*

The basic outcome from the analysis on new transportation methods is:

- *Nacelles can now be easily split into components to reduce size and weight.*
- *Tower Sections are made with thicker steel and shorter lengths to keep the diameter low and the weight manageable.*
- *Blades can be transported with a specialist cantilevered transporter system to allow the blades to negotiate tight corners - see photograph in Figure 2 below. This modern trailer unit will therefore minimise roadside cuts such as identified in previously consented proposals.*

These improvements will lead to reduced loads on the roading network, thereby reducing potential for instability, and easier movement around tight corners."

An underground cable network will also need to be installed during development of the windfarm. Interconnecting cables will be laid underground following the road alignment. This will be done using a specialised cable laying machine. The cable laying is part of this application and earthworks for the interconnecting cables will be incorporated into the erosion and sediment control plan.

The application documents suggest that the development of the wind farm will be constructed at one time and during one earthworks season.

A final location of the wind turbines has not yet been confirmed. I recommend a requirement to finalise the location of the turbines and submit to WRC before works commence, to be added into the condition set.

Taumatatotara Wind Farm Limited hold a Land Use consent from Waitomo District Council (WDC) which was granted in 2008. A lapse date extension was applied in 2016 for a further 8 years. This consent expires in 2024.
The applicant has also lodged an application with WDC for a change in conditions for the active consent it holds from WDC. At the time of writing this report, the change in conditions application with WDC is still being processed.

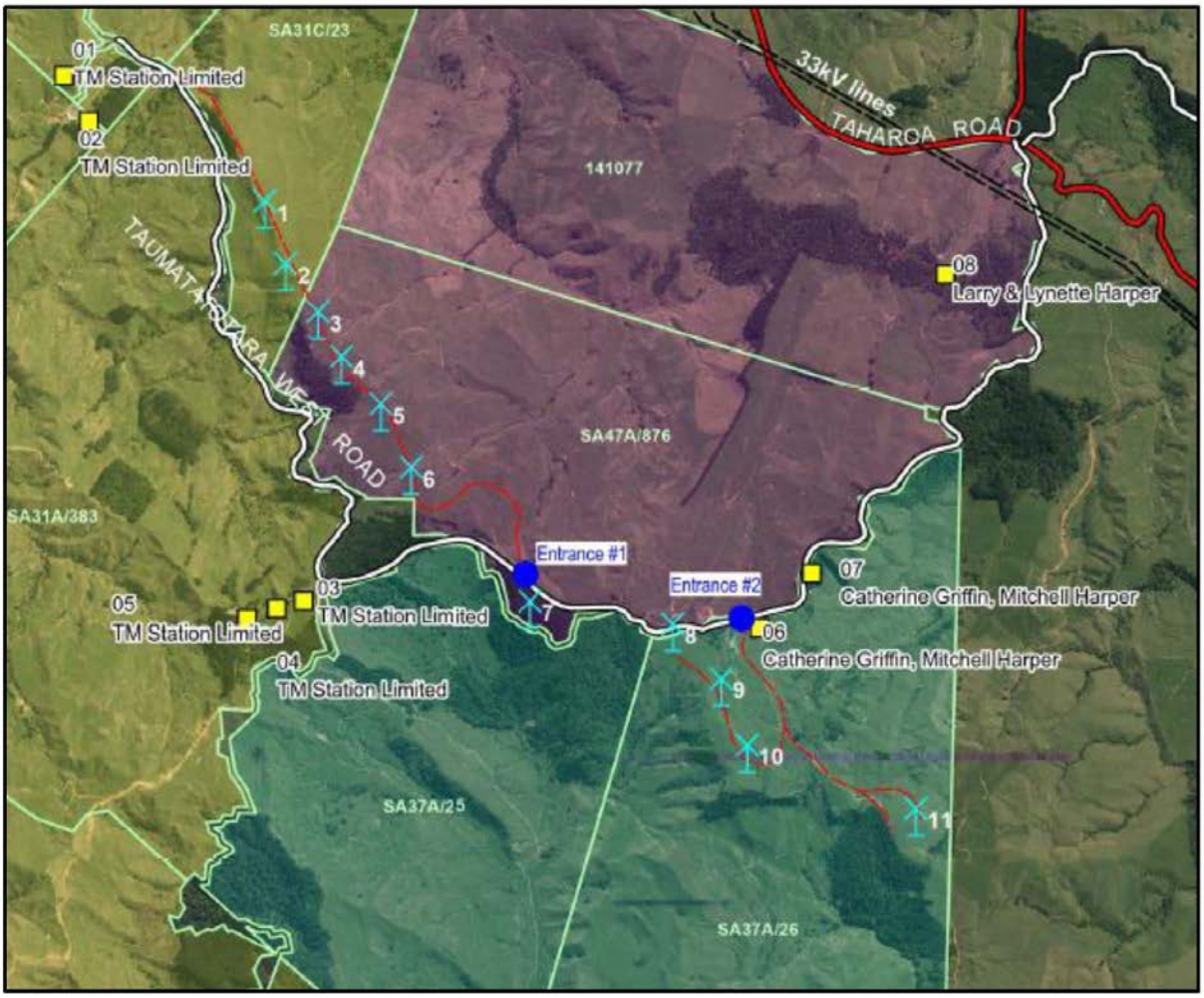


Figure 2: Indicative location of turbines

4 STATUS OF ACTIVITIES UNDER THE PLANS

The application has been assessed against the Waikato Regional Plan (WRP) as follows:

- AUTH141827.01.01 is assessed as a Discretionary under Rule 5.1.4.13 of the Waikato Regional Plan

5.1.4.13 Discretionary Activity Rule – Soil Disturbance, Roading and Tracking and Vegetation Clearance

1. *Any soil disturbance, roading and tracking, and vegetation clearance and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air that does not comply with the conditions of Permitted Activity Rule 5.1.4.11;*
2. *Soil cultivation within two metres of the bed of a river or lake that does not comply with Rule 5.1.4.12;*

are discretionary activities (requiring resource consent).

Advisory Notes:

- *District plans may have rules, which restrict land disturbance and vegetation clearance in areas outside of high risk erosion areas.*
- *Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.4.1 of this Plan. In addition, assessment shall also take into account the matters identified in Policy 1 of Section 5.1.3.*

The provisions of section 104B and 105 of the Act which are relevant to the determination of applications for discretionary activities, also apply.

5 PROCESS MATTERS

The resource consent application was accepted on 8/05/2020. The application was put on hold for the following period:

The application was placed on s92(1) request for further information hold from 21 May 2020.
The applicant supplied the further information on the 24th July 2020.
The information was accepted on the 3rd August 2020 and the application was taken off hold on this date and continued to be processed.
The application was placed on hold under s37 of the Act for draft condition review. The timeframe for processing the application was extended from the 7th August 2020 to the 20 August 2020.

6 ASSESSMENT FOR THE PURPOSE OF NOTIFICATION

6.1 Adequacy of information

It is my opinion that the information contained within the application is substantially suitable and reliable for the purpose of making a recommendation of and decision on notification. The information within the application is sufficient to understand the characteristics of the proposed activity as it relates to provisions of the Regional/Coastal Plan, for identifying the scope and extent of any adverse effects on the environment, and to identify persons who may be affected by the activity's adverse effects.

6.2 S95A: Determining whether the application should be publicly notified

Step 1(a): Has the applicant requested public notification? (s95A(3)(a))

The applicant has not requested public notification.

Step 1(b): Is there further information to consider? (s95A(3)(b))

The applicant has not failed to respond as statutorily required to a further information request (s92(1))or to the commissioning of a report (s92(2)) under s95C.

Step 2(a): Is there a Rule or NES that precludes public notification? (s95A(5)(a))

There are no rules in the Regional Plan or national environmental standard relevant to this proposal that preclude public notification.

Step 2(b): Is the activity for one or more <u>controlled activity</u>, or "<u>residential activity</u>" under the Regional Plan? (s95A(5)(b)(i) and (ii))

The activity is not for a controlled activity or "residential activity" which is a discretionary or restricted discretionary activity under the Regional Plan.

Step 3(a): Is there a rule or NES that requires public notification? (s95A(8)(a))

There are no rules in the Regional Plan or national environmental standard relevant to this proposal that require public notification.

Step 3(b): Will the activity have adverse effects on the environment that will be, or are likely to be, more than minor? (s95A(8)(b))

In forming this opinion (a) to (e) are assessed as below.

(a) There are no persons on which effects can be disregarded. (s95D(a)

(b) There are no rules in the Regional Plan or national environmental standard relevant to this proposal that permit an activity with this effect. (s95D(b))

(c) There are no restricted discretionary activities for which effects must be disregarded as the effect does not relate to a rule in the Plan or NES which restricts discretion.(s95D(c))

(d) There are no trade competition effects to be disregarded (s95D(d))

(e) There are no persons who have given written approval (s95D(e))

The assessment below considers adverse effects on the environment that are potentially more than minor.

Table 2: Potential Adverse Environmental Effects Assessment
Erosion and sediment control: Construction works at the proposed site will result in areas of soil becoming exposed and therefore vulnerable to erosion. Steeper parts of the site are particularly prone to erosion and subsequent instability. Without appropriate erosion and sediment control, the earthworks and vegetation clearance phase of the development may result in significant discharge of sediment into receiving waterways. A s92 further information request was issued to the applicant to provide further details on the erosion and sediment control on site. The applicant provided two erosion and sediment control plans (one for turbines 1-6 and one for turbines 7-11 – WRC doc#16933196 and #16931482 respectively) and an erosion and sediment control report (WRC doc#16932982). Kerry Pearce (Land Management Consultant) provided a technical review of the erosions and sediment control documents which I have relied on for this assessment. His technical assessment can be found in WRC doc #16949686. Mr Pearce's summary states: *"Overall, the applicant's proposed erosion and sediment control methodology is considered to be appropriate for the scale of earthworks to be undertaken provided the above information is provided and certified by WRC prior to the commencement of earthworks. Provided that all erosion and sediment controls are constructed and maintained in general accordance with WRC Guidelines, it is considered that sediment laden flows will be treated to an appropriate standard prior to being discharged off site.* *It is also considered that provided the conditions of consent are complied with the resulting effects on the environment from sediment discharges during the earthworks will be appropriately managed. Recommendations to ensure this is the case have been included in this memorandum.* *In principle, the overall proposed earthworks and erosion and sediment control methodology is generally appropriate for this site."* Based on the technical review Mr Pearce has provided, I recommend conditions requiring a final erosion and sediment control plan, a flocculation management plan, and an earthworks construction management plan. I rely on Mr Pearce's review of the application and further information in a technical capacity and

consider, provided the earthworks and construction align with what is submitted in the application and supporting documents, that the effects of erosion and sediment control will be less than minor.

Dust Management: In the joint hearing report prepared by Peter Stevens (Environmental Consultant, PS Environmental Services) in 2014 an assessment of dust emissions has been documented. I consider that there are no changes in the effects of dust emissions from the 2004 assessment of the application compared to the assessment being undertaken in this report. This is due to the minimal change in the proposal other than the scale of the site (i.e 22 turbines is now proposed as 11 turbines).

I therefore have adopted the assessment from the 2004 joint hearing report (WRC DOC# 1059635):

"At earthworks sites, where areas of vegetation have been cleared, there is potential for significant exposure of the soil surface, which in turn can lead to the discharge of dust beyond the boundary of the work site. The risk and severity of dust generation and movement is determined by the influence of factors such as wind velocity, the moisture content of the soil, the percentage of fine soil particles, and the roughness of the soil surface (McClaren and Cameron 1996). Vehicle movements over dry bare soil surfaces can also generate nuisance dust emissions.

Adverse effects associated with the emission of dust relate to:

- *Potential health effects from breathing in dust particles;*
- *Soiling and amenity effects. Dust discharges can deposit on surfaces such as cars, window ledges and household washing. For most people the primary effect of dust nuisance is annoyance at the increased requirement for cleaning;*
- *Visibility effects. These effects are largely related to aesthetics and are usually only of concern in the immediate area of a specific activity;*
- *Effects on vegetation. Excessive dust deposits can adversely effect vegetation through reduced photosynthesis due to reduced light penetration through the leaves, increased incidence of plant pests and diseases (i.e. dust deposits can act as a medium for the growth of fungal disease), and reduced effectiveness of pesticide sprays due to decreased penetration.*

In my opinion the adverse effects at the proposed site, relating to the emission of dust, will be minor for the following reasons:

i.) The proposed development site is relatively isolated from nearby dwellings and built up areas.

ii.) The mitigation measures proposed by the applicant including minimising the area of bare soil exposed as well as retaining as much vegetation as possible and replanting throughout the site, will help to reduce emissions.

iii.) A series of conditions are recommended, which will help to avoid and/or minimise dust emissions at the site."

I agree with the above assessment and conclude that if resource consent conditions are complied with the effects of dust emissions will be no more than minor.

Effects on Indigenous Vegetation: The vegetation at the sites chosen for the wind turbines consists entirely of exotic pasture. The primary impact on vegetation from the proposal involve the upgrading of the access road. The existing area is currently heavily grazed heavily by stock, and contains only common species , almost all of them exotic according to the 2004 joint hearing report.

As the proposed road realignments follow the existing formed roads, effects on wildlife habitat and corridors for species with large home ranges is likely to be minor. Therefore, effort toward fauna habitat replacement is not considered to be necessary provided no nesting or roosting sites of

threatened species are found within the extension footprint during construction.

Machinery bought in from other areas increase the risk of new exotic weed species establishing in the area. Therefore, it is critical that all machinery is thoroughly cleaned before it is bought on site to remove any attached seed or plant matter. Ensure all machinery is thoroughly cleaned before being allowed on site to prevent the introduction of weeds.

Provided consent conditions are adhered to, I consider these effects would be no more than minor.

Effects on Waterways: No significant streams or wetlands would be directly affected by the proposed wind turbines or public road realignments. All the waterways in question are small, upper catchment, ephemeral and significantly impacted by agricultural practices.
A drainage channel will be formed between the toe of the uphill batter and the edge of the road. This will intercept any rainwater runoff, which will then be directed under the road via appropriately sized pipes or culverts into channels where available.
As the roading will be near to the main ridgelines, catchments serving the culverts will be small, and generally less than 0.5 ha. The culverts have been identified as a permitted activity.
However, there is still a risk that sediments from road works and turbine site construction could enter waterways and adversely affect aquatic macroinvertebrate or fish and their habitats downstream of the proposed works. Provided good practice silt control techniques are implemented during construction, these effects would be no more than minor, and appropriate resource consent conditions would ensure that these measures are implemented.

Further discharges to waterways could result from construction material, lubrication fluid or fuel spillage from machinery. In order to minimise the likelihood of discharges of this nature, I recommend that no refuelling of machinery occur near surface water or drainage systems.

Tangata Whenua values: The application states the following:
"In respect of Iwi, their issues were canvassed at the 2008 hearing (Joint hearing with Waitomo District Council). A representative of the Maniopoto Iwi Trust Board attended the hearing, as did a representative of the Marakopa Marae. Both generally supported the application. At that time Ventus agreed that a representative of Iwi would monitor the construction phase of the project and Ventus supports this still occurring. Ventus Energy supports appropriate conditions being applied if there are any cultural issues encountered on the project – for example an accidental discovery protocol applied in the event of any remains of significance being discovered during the earthworks phase."

I had requested in the s92 further information letter for any further communication about the updated proposal to be submitted to council as part of the application process.

Maniapoto representatives were contacted and sent the application documents to review.
Maniapoto responded with the following:
"Further to our discussion, Ngā Tai o Kāwhia are neutral towards the application as presented providing that there are appropriate conditions to:

1. *Manage environmental effects, including discharges to air, land and water, sediment and erosion controls, so that these effects will be less than minor.*
2. *Manage accidental discoveries of wāhi tapu and archaeological sites.*
3. *Invite at least two tāngata whenua representatives to monitor the construction phase of the project, including appropriately resourcing those representatives."*

Although there are no wahi tapu sites/archaeological sites in the vicinity, I recommend including a condition around the accidental discovery protocol and a condition that supports a representative of the Iwi groups being able to monitor the on-site works and accommodate for management of the environmental effects as proposed by iwi.

I consider, if conditions are complied with, that effects on Tangata Whenua Values will be less than minor.

Geotechnical Effects: The application document provides a geotechnical review for the proposed windfarm. They have concluded:

"This inspection has indicated many proposed turbine sites are located in close proximity to slopes affected by creep/ground movement on the basis of the walkover inspection and desktop study. All sites are considered geotechnically feasible and will require specific assessment at detailed design stage.

Setbacks will be needed from the steeper slopes. Foundations are likely to consist of a variety of large pad and piled systems. Some sites are likely to require inground protection walls. Specific subsurface investigation will need to be undertaken at each of the sites.

The access route to the site appears adequate, though may need to be locally widened. Such works are envisaged to be relatively minor.

A suitable aggregate could be sourced from a quarry north of the subject site."

As the exact locations of each turbine platform are yet to be determined, I recommend that a Land Stability Plan is prepared by a suitably qualified geotechnical engineer and submitted to the council prior to works commencing. The Land Stability Plan will include detailed geotechnical investigations for each turbine site and any required earthworks as well as for the stability of the overburden disposal areas.

In addition, I have recommended that an independent peer review of the Land Stability Plan be undertaken prior to works commencement.

Provided that the consent conditions are complied with, I consider that any potential adverse geotechnical effects will be minimised during and post construction.

The actual or potential adverse effects of the proposal on the environment will be, or are likely to be, minor or less than minor.

Step 4: Are there special circumstances that warrant public notification (s95A(9))?

There are no other matters or special circumstances that warrant public notification.

6.3 S95B: Determining whether the application should be limited notified

Step 1: Is there a Statutory Acknowledgment Area under s95E? (s95B(3)(a))

The activity is not on, or adjacent to, or might affect, any land that is the subject of a statutory acknowledgement nor is the person to who the statutory acknowledgment is made, considered affected under s95E.

Step 2: Is there a rule or NES that precludes limited notification? (s95B(6)(a))

There are no rules in the Regional Plan or national environmental standard relevant to this proposal that preclude limited notification.

Step 3: Are there persons who are affected to a "minor or more than minor" extent? (s95B(8))

(a) There are no rules in the Regional Plan or national environmental standard relevant to this proposal that permit an activity with this effect on a person. (s95E(2)(a))

(b) There are no controlled or restricted discretionary activities for which effects must be disregarded on persons as the effect does not relate to a rule in the Plan or NES which reserves control or restricts discretion.(s95E(2)(b))

(c) There are no persons who have given written approval (s95E(3)(a))

(d) There are no persons whose approval it is unreasonable to seek. (s95E(3)(b))

Step 4: Are there Special Circumstances? (s95B(10))

There are no special circumstances existing that warrant notification to any other persons not already determined to be eligible for limited notification.

7 SECTION 95 NOTIFICATION RECOMMENDATION AND DECISION UNDER DELEGATED AUTHORITY

It is recommended the application proceed on a **non notified** basis for the reasons discussed above:

Reporting Officer:

Emma Symes **Date: 18 August 2020**
Resource Officer
Resource Use Directorate

Approved By:

Jorge Rodriguez **Date: 20 August 2020**
Team Leader
Resource Use Directorate
Acting under authority delegated subject to the provisions of the RMA 1991 which at the time of decision had not been revoked.

8 SECTION 104

A decision was made under section 95 of the Act to process the application on a non-notified basis. An assessment of and decision on the application under section 104 of the Act is provided below.

9 SECTION 104(1)(a) - ACTUAL AND POTENTIAL EFFECTS ON THE ENVIRONMENT

9.1 Effects Disregarded

Section 104(2) states that when forming an opinion for the purposes of s104(1)(a) a council may disregard an adverse effect of the activity on the environment if the plan or a NES permits an activity with that effect (i.e. a council may apply the "permitted baseline").

Section 104(3)(a) states that when forming an opinion for the purposes of s104(1)(a) a council must not have regard to any effect on a person who has given written approval to the proposal, nor any effects of trade competition.

9.2 The following actual and potential effects are relevant to this proposal:

Section 104(1)(a) of the RMA provides that when considering a consent application, the consent authority must, subject to Part 2, have regard to the actual and potential effects on the environment of allowing the activity. Case law has determined that the "environment" must be read as the environment which exists at the time of the assessment and as the environment may be in the future as modified by the utilisation of permitted activities under the plan and by the exercise of resource consents which are being exercised, or which are likely to be exercised in the future. It does not include the effects of resource consents which might be sought in the future nor any past reversible effects arising from the consent being considered.

The assessment of adverse effects in the approved notification report is also relevant for the purposes of the assessment required under s104(1)(a).

Positive effects that have been identified in the application document have been copied below:

"The proposed earthworks will assist in facilitating the development of the wind farm project which will in turn lead to a greater amount of electricity being generated. Up to 47MW will be able to be produced, up from the output of the consented turbines. The power output from the proposed new machines demonstrates the significant improvements in wind power technology and the positive benefits such technology can bring to the wider community."

In summary, it is considered the actual and potential effects of the proposal are able to be avoided, remedied or mitigated through the imposition of conditions and are therefore acceptable.

10 SECTION 104(1)(b) - RELEVANT POLICIES & PLANS

10.1 National Environmental Standards for Electricity Transmission Activities

The National Environmental Standards for Electricity Transmission Activities (NES) are regulations made under the Resource Management Act 1991. The NES came into effect on 14 January 2010.

The National Environmental Standard for Electricity Transmission Activities is relevant to this proposal.

10.2 National Policy Statement for Fresh Water Management / Renewable Electricity Generation / Electricity Transmission/ NZ Coastal Policy Statement/Urban Development Capacity

The National Policy Statement for Renewable Electricity Generation 2011 (NPS REG) sets out the objective and policies for renewable electricity generation under the Resource Management Act 1991. The NPS REG came into effect on 13 May 2011.

This NPS REG will drive a consistent approach to planning for renewable electricity generation in New Zealand. It gives clear government direction on the benefits of renewable electricity generation and requires all councils to make provision for it in their plans.

The NPS REG is relevant to this proposal. Relevant policies within the NPS REG are:

- Policy A - Recognising the benefits of renewable electricity generation activities
- Policy B - Acknowledging the practical implications of achieving New Zealand's target for electricity generation from renewable resources
- Policy C1 - Acknowledging the practical constraints associated with the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities

The application provides an assessment on the relevant policies in the NPSREG. I agree with the applicant's assessment therefore will not repeat the assessment from the report here. Please refer to the application document, pages 14-15 for further details.

I consider the proposal is not inconsistent with the NPSREG.

10.3 Waikato Regional Policy Statement (RPS)

The RPS is a high-level broad-based document containing objectives and policies of which the purpose is to provide an overview of the resource management issues of the region and to achieve integrated management of the natural and physical resources of the Region.

RPS is relevant to this proposal. The application identifies individual objectives and policies:
Objective 3.5 - Energy
Objective 3.14 - Mauri and values of freshwater bodies
Objective 3.25 – Values of Soil
Policy 6.6 – Significant infrastructure and energy resources

Tangata Whenua Values are recognised and acknowledged in the application. I have identified relevant policies and objectives that relate to Tangata Whenua and the proposal in the RPS:
Objective 3.9 – Relationship of Tangata Whenua with the environment
Policy 4.3 – Tangata Whenua

I have also identified relevant policies in relation to the proposal which include:
Policy 14.1 - Maintain or enhance the life supporting capacity of the soil resource
Policy 14.3 – Soil Contaminants

I agree with the objectives and policies the application identifies.
I consider the proposal is not inconsistent with the RPS.

10.4 Waikato Regional Plan

The Waikato Regional Plan ("WRP") is operative. The purpose of regional plans is to help the Council carry out its functions under s30 of the RMA.
The application document identifies the objectives and policies below:

Chapter 5 – Land and Soil Module

Objective 5.1.2 – Accelerated soils
Policies under 5.1.3:

- *Policy 1 - Managing Activities that Cause or Have the Potential to Cause Accelerated Erosion and Encouraging Appropriate Land Management Practices*
- *Policy 2 - Use of Regulatory and Non-Regulatory Approaches of Management for Soil Disturbance/Vegetation Clearance Activities in High Risk Erosion Areas*
- *Policy 3: Promote Good Practice*
- *Policy 4: Approved Operators Approach*

Overall, I agree with the assessment in the application and consider that the proposal is not inconsistent with the Land and Soil module provisions of the Waikato Regional Plan.

11 SECTION 104(1)(c) – ANY OTHER MATTER CONSIDERED RELEVANT AND REASONABLY NECESSARY

11.1 Other Relevant Matters

The following policy initiatives, as per s104(1)(c) of the RMA are considered relevant to this assessing this application as they outline the higher-level strategic goals identified for New Zealand in achieving its goals for renewable energy:

- New Zealand Energy Strategy 2011–2021
- The Government's 100 per cent renewable electricity target by 2035
- Transpower's 2018 long-range planning report called "Te Mauri Hiko, Electricity Futures".

The application has been assessed against these policy documents and is not inconsistent with the above initiatives.

11.2 Iwi Environmental Plans

"The Maniapoto Environmental Management Plan is a direction setting document and describes issues, objectives, policies and actions to protect, restore and enhance the relationship of Maniapoto with the environment including economic, social, cultural and spiritual relationships." (Taken from Maniapoto Maori Trust Board Website.)

The applicant has been in contact with Maniapoto regarding the proposal.
The application states the applicant is happy to work with local iwi throughout the construction of the project.

12 PART 2 MATTERS

Section 104 of the RMA is subject to Part 2 of the Act:

- Section 5 of the RMA outlines the Act's purpose, the basic principle of which is sustainable management.
- Section 6 of the RMA outlines matters of national importance.
- Section 7 outlines the other matters for consideration.
- Section 8 concerns the principles of the Treaty of Waitangi.

I have established throughout my report that the activity will have a less than minor effect on the environment and is consistent with the policy intent of the relevant objectives and policies of the Waikato Regional Plan.

Overall, the application is considered to meet the relevant provisions of Part 2 of the RMA as the proposal achieves the purpose (section 5) of the RMA, being the sustainable management of natural and physical resources.

13 CONCLUSIONS

In considering the subject resource consent the main potential adverse environmental effects associated with the proposed works are considered to be erosion and sediment controls, dust management, effects on Indigenous Vegetation, effects on waterways and Tangata Whenua values.

However, for the reasons outlined in section 6 of this report, I am satisfied that these adverse effects can be avoided, remedied or mitigated such that the adverse environmental effects associated with the works are likely to be minor.

The overall proposal has been assessed in respect to their consistency with the objectives and policies of the Regional Council's policies and plans, and the statutory provisions of the RMA. Provided the activity is undertaken in accordance with the application for consent and subsequent supporting documentation, and the recommended consent conditions in the attached Resource Consent Certificate, I consider that the application will not be inconsistent with Council's policy and plans, or the statutory provisions of the RMA.

14 CONSENT TERM

The Applicant has requested a consent term of 15 years and a lapse period of 10 years.

In assessing the consent term, I have considered the following matters:

- certainty and security for the applicant given the substantial investment;
- Actual and potential adverse effects of the proposed activities on the environment; and
- Section 123 of the Resource Management Act.

I recommend a term be granted for 15 years with a lapse period of 10 years based on the above points.

15 MONITORING

The Waikato Regional Council has a statutory obligation under section 35 of the RMA 1991 to monitor the exercise of resource consents being carried out within the Waikato Region. Consequently, Waikato Regional Council staff or its authorised agents will monitor this site both during and after the works have been completed.

If resource consent is granted for the project, then I consider that monitoring requirements should be included as conditions of the consents. This monitoring should address issues such as:

- the quality of discharges from the construction site;
- the maintenance of erosion and sediment control devices;
- the performance of erosion and sediment controls.

16 RECOMMENDATION

I recommend that in accordance with s104B, and 108 resource consent application APP141827 be granted in accordance with the duration and conditions prescribed in the attached Resource Consent Certificate for the following reasons:

- The activity will have no more than minor actual or potential adverse effects on the environment
- The activity is not contrary to any relevant plans, policies or regulations
- The activity is consistent with the purpose and principles of the Resource Management Act 1991

Emma Symes **Date: 20 August 2020**
Resource Officer
Resource Use Directorate

17 DECISION

Jorge Rodriguez **Date: 20 August 2020**
Team Leader
Resource Use Directorate

RESOURCE CONSENT CERTIFICATE

Resource Consent: AUTH141827.01.01

File Number: 61 34 30A

Pursuant to the Resource Management Act 1991, the Regional Council hereby grants consent to:

Taumatatotara Wind Farm Limited
C/- VGA
PO Box 99983
Newmarket
Auckland 1149

(hereinafter referred to as the Consent Holder)

Consent Type: Land Use Consent

Consent Subtype: Land - disturbance

Activity authorised: Undertake earthworks totalling approx. 259,000m3 of excavation associated with the development of a wind farm including construction of tracks and wind turbine platforms.

Location: Taumatatotara West Road, Te Anga

Map reference: NZTM 1756000.0000 E 5768000.0000 N

Consent duration: This consent will commence on the date of decision notification and will expire on 25 August 2035

Lapse Period: This consent lapses ten years after the date it is granted unless the consent is given effect to or the Council extends the period after which the consent lapses.

Subject to the conditions overleaf:

General Conditions

1. The soil disturbance and construction related activities authorised by this resource consent shall be undertaken in general accordance with the application for this resource consent, and all associated information submitted in relation to this application, except where otherwise required in the resource consent conditions below, titled:

   Documents:
   - "Taumatatotara Wind Farm Application for Resource Consent for Bulk Earthworks." Prepared for Ventus Energy (NZ) Ltd and dated April 2020 (The Application).
   - "Taumatatotara Wind Farm Turbines T1-T11 EROSION AND SEDIMENT CONTROL PLAN 19142-EN-REP-001 Rev A". Prepared by Blue Wallace Surveyors Limited, dated 17 July 2020 (The Erosion and Sediment Control Plan).

   Plans:
   - Overall Site Plan. Drawing Number #1 Rev F.
   - Extents of Works Plan. Drawing Number #2 Rev F.
   - Erosion and Sediment Control Layout Plans. Drawing Numbers #13 through to #17 Rev F.
   - Sediment Control Pond Detail. Drawing Number #18 and #19 Rev F.
   - Decanting Earth Bund Detail. Drawing Number #20 Rev F.
   - Diversion Channel / Bund Detail. Drawing Number #21 Rev F.
   - Silt & Super Silt Fence Detail. Drawing Number #22 Rev F.

2. The consent holder shall be responsible for all contracted operations related to the exercise of this resource consent; and shall ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.

3. A copy of this consent shall be kept onsite at all times that physical works authorised by this resource consent are being undertaken and shall be produced without unreasonable delay upon request from a servant or agent of the Waikato Regional Council.

4. The consent holder shall notify the Waikato Regional Council as soon as practicable and as a minimum requirement within 24 hours of the consent holder becoming aware of any of the conditions of this resource consent being exceeded and/or of any accidental discharge, sediment control device failure, or other circumstances which are likely to result in the conditions of this resource consent being exceeded. The consent holder shall, within 7 days of the non-compliance, provide a written report to the Waikato Regional Council, identifying the non-compliance, possible causes, steps undertaken to remedy the effects of the incident and measures that will be undertaken to ensure future compliance.

Pre-Start Requirements

5. The consent holder shall inform the Waikato Regional Council in writing at least 10 working days prior to the commencement of activities of the start date of the works authorised by this resource consent.

6. Prior to activities commencing as authorised by this resource consent, the consent holder shall appoint a representative(s) who shall be the Waikato Regional Council's principal contact person(s) in regard to matters relating to this resource consent. The consent holder shall inform the Waikato Regional Council of the representative's name and how they can be contacted, prior to this resource consent being exercised. Should that person(s) change during the term of this resource consent, the consent holder shall immediately inform the Waikato Regional

Council and shall also give written notice to the Waikato Regional Council of the new representatives' name and how they can be contacted.

7. The consent holder shall arrange and conduct a pre-construction site meeting and invite, with a minimum of 10 working days' notice, the Waikato Regional Council, the site representative(s) nominated under condition 7 of this consent, the contractor, and any other party representing the consent holder prior to any work authorised by this consent commencing on site.

   The following information shall be made available at the pre-start meeting:
   - Timeframes for key stages of the works authorised under this consent
   - Resource consent conditions
   - Finalised Erosion and Sediment Control Plan
   - Flocculation Management Plan

   A pre-start meeting shall be held prior to the commencement of the earthworks activity in each period between October 1 and April 30 that this consent is exercised.

   Advice Note: *In the case that any of the invited parties, other than the site representative does not attend this meeting, the consent holder will have complied with this condition, provided the invitation requirement is met.*

8. Prior to exercising this consent the consent holder shall establish a sediment control team which is to be managed by an appropriately qualified person experienced in erosion and sediment control and associated environmental issues. The sediment control team shall consist of personnel who have clearly defined roles and responsibilities to monitor compliance with the consent conditions and will be available to meet with the Waikato Regional Council monitoring personnel on a weekly basis, or as otherwise agreed in writing, to review erosion and sediment control issues. The person managing the sediment control team shall: Be experienced in erosion and sediment control implementation and monitoring; Be recognised by his/her peers as having a high level of knowledge and skill as appropriate for the role; Have completed recognised training in erosion and sediment control; and, be approved in writing by the Waikato Regional Council.

Earthworks Design and Management Plan

9. The consent holder shall prepare an "**Earthworks Design and Management Plan"** and submit this to the Waikato Regional Council for written approval in a technical certification capacity no later than 20 working days prior to the commencement of any earthworks on the site.

   This plan shall include but not be limited to:
   a) The staging of works planned and the description of earthworks in each stage including general site plans;
   b) Outline the engineering controls, supervision and certification that will be applied to each stage;
   c) Outline the site specific design parameters and performance standards that will be applied to each stage, considering both static and seismic conditions;
   d) Outline stability analysis design procedures that will be used for each stage, including the method of determining turbine setback zones and stability of existing natural slopes loaded by the works;
   e) Outline engineering and management procedures for material sources, use, disposal and treatment, stockpiling, fill placement and disposal of unsuitable materials;
   f) Detail measures for groundwater control, including details of subsoil drainage, within disposal areas;

g) Confirm volumes of cut, fill and unsuitable material (based on available information at the time). A contingency of plus or minus 20% shall be added to the total excavation of 259,000m3 provided for in this consent, and for the access road to be up to 10m in width dependent upon the type of transporter chosen;
h) Detail measures for dealing with situations that do not conform at the time of construction with the design assumptions;
i) Outline the methods of site assessment by suitably qualified persons that will be used to determine the need for the installation of sub soil drainage systems to all earthworks activities that will be required during construction;
j) Such other procedures that will be employed to ensure land stability is not compromised by construction works.
k) The format of Producer Statements to be adopted for Design (PS1), Design Review (PS2), Construction (PS3) and Construction Review (PS4).

10. Any changes to the Earthworks Design and Management Plan shall be approved in writing by the Waikato Regional Council, acting in a technical certification capacity, prior to the implementation of any changes proposed.

11. The consent holder shall ensure that a copy of the certified ESCP, including any certified amendments, is kept onsite and this copy is updated within 5 working days of any amendments being certified.

12. The Consent Holder shall engage Chartered Professional Engineers with geotechnical and civil engineering experience to direct and supervise appropriate site investigations, and undertake design, peer review, supervision and certify the construction of all works in accordance with the procedures set out in the Earthworks Design and Management Plan. The peer review resources engaged by the consent holder shall be agreed in writing by the Waikato Regional Council.

13. Producer Statements as detailed in condition 9 above for Design and Design Review shall be submitted to the Waikato Regional Council no later than 10 days prior to subject works commencing.

    Advisory Note: The consent holder may at any time and with notification to the Waikato Regional Council (but without written approval) undertake minor works such as are required to carry out site investigations for the purposes of design, including the formation of minor access required for the same. It is expected that these activities will be undertaken in accordance with the permitted activity rules and associated criteria of the Waikato Regional Council.

14. The consent holder shall ensure that all cut and fill batters associated with access roads, borrow areas, and turbine platforms and pads (and associated hard stand) shall be re-contoured to visually reintegrate into the natural landform, and within 3 months of earthworks being completed in each of these areas shall be re-vegetated to visually integrate with surrounding vegetation patterns. This re-contouring and re-vegetation shall occur in a progressive manner on the site as earthworks have been completed.

15. The Consent Holder shall employ a suitably qualified geotechnical engineer to ensure that cut slopes and spoil disposal sites are individually and appropriately assessed for stability prior to, during and following individual cutting and filling operations, and to ensure that appropriate drainage is installed at each site.

Erosion and Sediment Control Plan

16. The consent holder shall provide the Waikato Regional Council with a finalised 'Erosion and Sediment Control Plan' (ESCP), at least 20 working days prior to the commencement of

earthworks for the activities authorised by this consent. The objective of the ESCP shall be to minimise sediment discharge from the site to the extent practicable over the earthworks period.

17. The ESCP shall be based on those specific principles and practices which are contained within the Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No. 2009/02 – dated January 2009), and including at least the following:

    a) Details of all principles, procedures and practices that will be implemented to undertake erosion and sediment control to minimise the potential for sediment discharge from the site;
    b) The final location of the turbines and subsequent design criteria and dimensions of all key erosion and sediment control structures. Final turbine locations may vary by up to 150m from those set out in the plans accompanying the application;
    c) A site plan of a suitable scale to identify:
        i. The locations of waterways
        ii. The extent of soil disturbance and vegetation removal
        iii. Any "no go" and/or buffer areas to be maintained undisturbed adjacent to watercourses
        iv. Areas of cut and fill
        v. Locations of topsoil stockpiles
        vi. All key erosion and sediment control structures
        vii. The boundaries and area of catchments contributing to all sediment retention structures
        viii. The locations of all specific points of discharge to the environment.
    d) Construction timetable for the erosion and sediment control works and the bulk earthworks proposed;
    e) Timetable and nature of progressive site rehabilitation and re-vegetation proposed;
    f) Maintenance, monitoring and reporting procedures;
    g) Rainfall response and contingency measures including procedures to minimise adverse effects in the event of extreme rainfall events and/or the failure of any key erosion and sediment control structures.

    The ESCP shall be approved in writing by the Waikato Regional Council, acting in a technical certification capacity, prior to commencement of any works authorised by this consent and the consent holder shall undertake these works in accordance with the approved ESCP.

18. Any changes proposed to the ESCP provided as part of the application shall be confirmed in writing by the consent holder and certified in writing by the Waikato Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.

19. The consent holder shall ensure that a copy of the certified ESCP, including any certified amendments, is kept onsite and this copy is updated within 5 working days of any amendments being certified.

20. Prior to bulk earthworks commencing, a certificate signed by a suitably qualified and experienced person shall be submitted to the Waikato Regional Council, to certify that the erosion and sediment controls have been constructed in accordance with the erosion and sediment control plan.

    Certified controls shall include the Decanting Earth Bunds, Dirty Water Diversions, and Clean Water Diversions. The certification for these subsequent measures shall be supplied immediately upon completion of construction of those measures. Information supplied if applicable, shall include:

a) Contributing catchment area;
b) Shape and volume of the structure (dimensions of structure);
c) Position of inlets/outlets; and
d) Stabilisation of the structure.

Flocculation

21. Prior to the commencement of bulk earthworks, the consent holder shall undertake flocculent bench testing to determine the reactivity of soils to chemical treatment within those areas of the site where runoff is proposed to be treated by sediment retention ponds and decanting earth bunds.

22. If/where soils positively react to chemical treatment, the implementation of a flocculation treatment system shall be maintained as a contingency throughout the duration of earthworks and shall be implemented at the request of the Waikato Regional Council monitoring officer in accordance with the Flocculation Management Plan required by Condition 14.

23. Prior to the commissioning of any flocculation treatment system, the consent holder shall provide the Waikato Regional Council with a 'Flocculation Management Plan' (FMP), for the written approval of the Waikato Regional Council acting in a technical certification capacity. The FMP shall include as a minimum:
    a) Specific design details for the flocculation system;
    b) Monitoring, maintenance (including posts-storm) and including a record system;
    c) Details of optimum dosage (including assumptions);
    d) Results of any initial flocculation trial;
    e) A spill contingency plan; and
    f) Contact details of the persons responsible for the operation and maintenance of the flocculation treatment system and the organisational structure to which this person shall report.

24. The FMP required by Condition 14 shall be approved in writing by the Waikato Regional Council, acting in a technical certification capacity, prior to the commencement of bulk earthworks and the consent holder shall undertake all flocculation activities in accordance with the approved FMP.

25. Any changes proposed to the FMP required by Condition 14 shall be confirmed in writing by the consent holder and approved in writing by the Waikato Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.

Construction

26. The consent holder shall ensure that sediment losses to natural water arising from the exercise of this resource consent are minimised during the duration of the works and during the term of this consent. In this regard, erosion and sediment control measures shall be established and maintained in accordance with Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No. 2009/02 – dated January 2009).

27. All sediment retention ponds and decanting earth bunds implemented on site shall incorporate the following measures to ensure that treatment efficiencies are maximized over the duration of the earthworks activities:

    a) Reverse grading invert to maximise sediment capture at the front end of the device; and

b) Installation of silt fence baffles extending across the width of the device invert – single baffles for decanting earth bunds and double baffles for sediment retention ponds.
c) The minimum volume of sediment retention ponds and decanting earth bunds shall be 3 percent of the contributing catchment (300m^3 capacity for each hectare of contributing catchment).

28. Dirty water diversion drains shall incorporate sediment pits excavated at no greater than 50m intervals along the drains to allow for capture of gross sediment particles and minimise sediment loading on treatment devices.

29. All earthmoving machinery, pumps, generators and ancillary equipment shall be operated in a manner, which ensures spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any water body, ephemeral water body, or overland flow path, such that any spillage can be contained so that it does not enter surface water.

30. The consent holder shall ensure that, as far as practicable, all clean water run-off from stabilised surfaces including catchment areas above the site shall be diverted away from the exposed areas via a stabilised system to prevent erosion. The consent holder shall also ensure the outfall(s) of these systems are protected against erosion.

31. No vehicles or earth moving machinery shall enter any waterways on the subject site at any time. All machinery shall be operated from an appropriate distance beyond any waterways to avoid bank instability.

32. All activities undertaken on site shall be conducted and managed in a manner that ensures that all dust emissions are kept to a practicable minimum. To this end there shall be no discharge of dust as a result of the activities authorised by this consent that causes an objectionable or offensive effect beyond the boundary of the property that the activities are being undertaken on.

    Note: *For the purposes of Condition 23 of this consent, the Waikato Regional Council will consider an effect that is objectionable or offensive to have occurred if any appropriately experienced officer of the Waikato Regional Council determines it so after having regard to:*
    - *The frequency, intensity, duration, location and effect of the dust emission(s), and/or*
    - *Receipt of complaints from neighbours or the public, and/or*
    - *Where relevant written advice from an experienced officer of the Waitomo District Council or the Waikato District Health Board has been issued.*

Winter Works

33. The consent holder shall ensure that the site is appropriately stabilised by 30 April of each year unless otherwise approved in writing by the Waikato Regional Council. Stabilisation shall be undertaken by providing adequate measures (vegetative and/or structural and including, pavement, metalling, hydro-seeding, re-vegetation and mulching) that will minimise erosion of exposed soil to the extent practical.

34. Earthworks shall not be conducted during the period 1 May to 30 September inclusive during any year that this consent is current, apart from necessary maintenance works, unless agreed to in writing by the Waikato Regional Council.

35. Requests to undertake earthworks during the period 1 May to 30 September inclusive, for any year that this consent is current, shall be submitted in writing to the Waikato Regional Council

by 1 April and shall be in the form of amendments to the certified E&SCP in accordance with condition 16 of this consent.

Advice Note: *In considering a request for the continuation of winter earthworks, the Waikato Regional Council will consider a number of factors; including:*

- *The nature of the site and the winter soil disturbance works proposed;*
- *The quality of the existing/proposed erosion and sediment controls;*
- *The compliance history of the site/operator;*
- *Seasonal/local soil and weather conditions;*
- *Sensitivity of the receiving environment; and*
- *Any other relevant factor.*

Water Quality

36. The consent holder shall measure the suspended solids concentration and turbidity at the outlet of all stormwater retention structures approved in the Erosion and Sediment Control Plan.

37. Water sampling shall be undertaken where there is a rainfall event of greater than 25 millimetres in the preceding 24 hours and at a minimum of monthly intervals. The consent holder shall within twenty-four hours of the rainfall reading being taken, measure the suspended solids concentration and turbidity at the discharge points specified. Results shall be forwarded to the Waikato Regional Council within 7 days of analysis.

38. Additionally, if flocculants are being used and if recommended in the Flocculation Management Plan, water sampling at the respective sediment retention device/s shall include testing for pH, and soluble aluminium.

    Advice Note: *In the event that the sediment retention structures are not discharging when sampling is due, water sampling shall be undertaken at the next discharge event.*

39. The activity or discharge shall not result in the suspended solids concentration in the stormwater discharged from the site exceeding 80 grams per cubic metre, unless there is a rainfall event greater than 50mm in the preceding 24 hours in which case the activity or discharge shall not result in the suspended solids concentration in the stormwater discharged from the site exceeding 100 grams per cubic metre.

40. The consent holder shall ensure that the stormwater discharge shall not cause a conspicuous change in the colour or visual clarity of the receiving water body. If a conspicuous change to colour or visual clarity of the receiving water body is observed by the Consent Holder, the Waikato Regional Council shall be advised in writing within 24 hours.

41. Any sampling required by the conditions of this resource consent, the frequency of sampling, analyses and reporting may be altered or reduced with the written approval of the Waikato Regional Council if the applicant can demonstrate that its erosion and sediment control measures are effective in managing discharges from the site.

42. The consent holder shall ensure that all sediment laden run-off from the site is treated by sediment retention structures. These structures shall be fully operational before bulk earthworks commence and shall be maintained to perform at least at 80% of their operational capacity.

Dust

43. The consent holder shall manage the earthworks, filling and ancillary activities in such a manner to ensure that dust emissions are kept to a practicable minimum, including;
    a) Measures including, but not limited to, the use of water to suppress dust from the site and from access roads;
    b) The revegetation of disturbed land which is currently not being worked;
    c) The regrassing of topsoil stockpiles;
    d) The area of land open for stockpiling, load out and rehabilitation activities shall be kept to a practicable minimum.

44. There shall be no discharge of airborne particulate matter that causes an adverse effect beyond the boundary of the site.

45. Should airborne particulate matter resulting from the exercise of this consent generate a complaint, the consent holder shall provide a written report to the Waikato Regional Council within five (5) working days of the complaint being made known to the consent holder. The report shall specify:

    a) The cause or likely cause of the event and any factors that influenced its severity;
    b) The nature and timing of any measures implemented by the consent holder to avoid, remedy or mitigate any adverse effects; and,
    c) The steps to be taken in future to prevent recurrence of similar events.

    Advice Note: *Chapter 6.4 of the Waikato Regional Plan 2012 provides guidance on the assessment of the effect of odour and dust emissions.*

46. If so required by the Waikato Regional Council, the consent holder shall carry out immediate sealing of any problematic dust generating surfaces within the site using hydro-seed/hydro-mulch, polymer soil stabilisers or a similar dust control product to provide instant remediation of dust effects to the satisfaction of the Waikato Regional Council.

47. The consent holder shall ensure that an adequate supply of water for dust control and an effective means for applying that quantity of water, is available at all times during construction, and until such time as the site is fully stabilised unless otherwise agreed in writing with the Waikato Regional Council.

Monitoring and Maintenance

48. The consent holder shall ensure that all erosion and sediment control structures are inspected on a weekly basis and within 24 hours of each rainstorm event that is likely to impair the function or performance of the controls.

49. The consent holder shall carry out monitoring and maintenance of erosion and sediment controls in accordance with the conditions of this resource consent and shall maintain records detailing:
    a) The date, time and results of the monitoring undertaken; and
    b) The erosion and sediment controls that required maintenance; and
    c) The date and time when the maintenance was completed.

    These records shall be provided to the Waikato Regional Council at all reasonable times and within 72 hours of a written request to do so.

50. The consent holder shall provide to the Resource Use Group of the Waikato Regional Council, a report by 1 May each year a Compliance and Monitoring Report. As a minimum this report shall include the following:

a) earthworks and filling activities undertaken during the preceding 12 months and proposed to be carried out during the following 12 months;
b) any water quality data collected;
c) daily rainfall records;
d) a compliance audit of all consent conditions;
e) any reasons for non-compliance or difficulties in achieving compliance with all consent conditions;
f) recommendations on alterations to monitoring required by consent conditions;
g) any necessary updates to the management plans;
h) any other issues considered important by the consent holder;
i) Provision of any sediment discharge monitoring data; and discussion and interpretation of the monitoring results.

Site Restoration

51. The removal of any erosion and sediment control measure from any area where soil has been disturbed as a result of the exercise of this resource consent shall only occur after consultation and written approval has been obtained from the Waikato Regional Council acting in a technical certification capacity. In this respect, the main issues that will be considered by the Waikato Regional Council include:
    a) The quality of the soil stabilisation and/or covering vegetation;
    b) The quality of the water discharged from the rehabilitated land; and
    c) The quality of the receiving water.

52. The consent holder shall ensure those areas of the site which have been completed shall be progressively stabilised against erosion as soon as practically possible and within a period not exceeding 3 days after completion of any works authorised by this resource consent. Stabilisation shall be undertaken by providing adequate measures (vegetative and/or structural) that will minimise sediment runoff and erosion and in accordance with Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No. 2009/02 – dated January 2009). The consent holder shall monitor and maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any surface water.

53. Re-vegetation and/or stabilisation of all disturbed areas shall be completed in accordance with the measures detailed in Waikato Regional Council document titled "Erosion and Sediment Control – Guidelines for Soil Disturbing Activities" (Technical Report No. 2009/02 – dated January 2009).

Rehabilitation

54. As soon as practicable after the completion of any of the works authorised by this resource consent, the consent holder shall stabilise and re-contour all disturbed areas to limit/prevent sediment runoff and erosion. The consent holder shall maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any watercourse.

55. The consent holder shall undertake hydro-seeding of all cut slopes and batters, or other means of stabilisation as proposed by the consent holder in relation to turbine platforms, as soon as practicable after their formation to ensure rapid revegetation.

56. The consent holder shall undertake a maintenance programme to ensure rehabilitation of disturbed areas including weed control, to the satisfaction of the Waikato Regional Council. The

programme shall ensure the re-establishment of indigenous plant species on areas where soil is disturbed on Taumatatotara West Road.

Land Stability Plan

57. At least 20 working days prior to works commencement, the consent holder shall provide to the Waikato Regional Council a Land Stability Plan containing the following information for all works authorised by this consent:
    a) A detailed geotechnical investigation, including current site stability, slope stability, and potential risks;
    b) Road design including all crossings, stormwater, and erosion control measures;
    c) Measures that will be undertaken to avoid land instability and/or erosion;

    The Land Stability Plan shall be written by an appropriately experienced, and qualified geotechnical engineer.

58. The consent holder shall exercise this consent in accordance with the approved Land Stability Plan. Any subsequent changes to the Land Stability Plan shall only be made with the written approval of the Waikato Regional Council. In the event of any conflict or inconsistency between the conditions of this consent and the provisions of the Land Stability Plan, then the conditions of this consent shall prevail.

59. The consent holder shall ensure that a copy of the approved Land Stability Plan including any approved amendments, is kept onsite at all times that physical works authorised by this consent are being undertaken and the onsite copy of the Land Stability Plan shall be updated within 5 working days of any amendments being approved. The Land Stability Plan shall be produced without unreasonable delay upon request from a servant or agent of the Waikato Regional Council.

Peer Review

60. Prior to exercising this consent, the consent holder shall engage, at its own cost, an Independent Peer Reviewer(s) to review the Land Stability Plan required by condition 57 of this consent, to assess whether or not the design has been undertaken by appropriately qualified personnel in accordance with best practice.

61. The peer review required by condition 60 of this consent shall include review of the following aspects as a minimum:
    (a) Design
    (b) Site Stability
    (c) Construction methods
    (d) Hazards and hazard mitigation should the works result in erosion and/or slope failure

62. The Independent Peer Reviewer(s) shall be:
    (a) Independent of the planning, design, construction, management and monitoring of this site;
    (b) Experienced in road and earthworks design, construction, management and monitoring;
    (c) Recognised by his/her peers as having such experience, knowledge and skill;
    (d) Approved in writing by the Waikato Regional Council.

63. The Independent Peer Reviewer(s) shall report directly to the Waikato Regional Council in writing on all matters which are submitted to it for review, other than draft proposals submitted to it by the consent holder and which are superseded.

64. The consent holder shall provide the Peer Reviewer(s) with all records, plans, designs, etc, that the Peer Reviewer requests, and shall afford the Peer Reviewer full access to the site at all reasonable times.

Archaeological sites

65. The consent holder shall ensure that the exercise of this resource consent does not disturb sites of spiritual or cultural significance to Tangata Whenua. In the event of any archaeological remains being discovered, the works in the vicinity of the discovery shall cease immediately and the Waikato Regional Council shall be notified within 24 hours. Works may recommence on the written approval of the Waikato Regional Council after considering:

    (a) Tangata Whenua interests and values;
    (b) The consent holder's interests; and
    (c) Any archaeological or scientific evidence

Administration

66. The Consent Holder shall pay the Waikato Regional Council any administrative charge fixed in accordance with section 36 of the Resource Management Act (1991), or any charge prescribed in accordance with regulations made under section 360 of the Resource Management Act (1991).

Lapse Date

67. This consent shall lapse ten years after the date it is granted unless the consent is given effect to or the Council extends the period after which the consent lapses.

Appendix 4

Summary of submissions

RM200018 – Taumatatotara Windfarm Summary of Submissions Table

Table No. 1

Summary of Submissions

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
1	Te Waitere View Ltd, Chris Irons – Director, 84 Te Waitere Road, Taharoa tewaitereview@gmail.com 0274619680	Oppose	Reason(s) for submission: - Visual Pollution, - Noise impacts - Earthworks effects - Effects on waterways, - Effects on roading network, - Ecological effects - Inconsistent with the WRPS and Waitomo DP	Decline the application	Yes
2	David Galbraith 223 Coutts Road, Marokopa drgalbraith@xtra.co.nz 0274850156	Oppose	Reason(s) for submission: - Iwi consultation description (pg.16) is misleading and fails to mention that Ngaati Mahuta ki te Hauaauru located within 10km of the turbines are strongly opposed. - No description of what will happen with used turbine blades after they have been replaced. - How much energy will it take to construct the turbines given that 10,215 truck and trailer units will be used to make the turbines and then transport them and construct them.	Decline the application	Yes
3	Department of Conservation, Penny Nelson – Director-General of Conservation / Tumaki Aruhei) lwillimas@doc.govt.nz 027 615 4380	Oppose	Reason(s) for submission: - Insufficient information and the proposal does not adequately identify and address: a) The potential adverse effects on indigenous biodiversity, including but not limited to: o Terrestrial indigenous biodiversity, b) How the proposal will avoid, remedy, or mitigate potential adverse effects. c) The proposal does not give effect to s7(d) of the RMA as it does not assess potential effects on terrestrial indigenous biodiversity.	1. Decline the application. 2. Or impose conditions if consent is granted: i. The requirement of turbine curtailment protocols specific to Long-tailed bats present at the site; ii. Require ongoing monitoring and reporting to Council and the Department of	Yes

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
			- Increasing the height of the rotor diameter and the turbine blade tip will increase the surface area that is potentially available to bats and may result in greater harm to bats. The Director-General considers that the proposed mitigation measures are insufficient and do not adequately remedy or mitigate for the potential mortality of critically endangered bats from wind turbines.	iii. Conservation on bats at the site and to measure the success of the turbine curtailment protocols (based on international standards and best practice including carcass searching); iv. Provide for adaptive management where appropriate; and v. That the conditions are enforceable throughout the duration of the consent.	
4	Julie Maree Knight and Brett John Knight (Knight Family Trust) 158 Coutts Road, Marokopa knightsatcoast@gmail.com 07 876 7441	Oppose	Reason(s) for submission: - Council 2017 Lim Report for submitter's property did not identify consents for a windfarm. Submitters not identified as affected parties list despite Turbine 11 visible from their workplace. - No documentation to say that Applicant has any requirements or intentions to reinstate infrastructure. - No documentation on how wind turbine blades will be disposed. - "Red flashing lights of turbine 11 visible at night. Major effect of visual pollution - New landowners since original consent have not had the opportunity to voice concerns on that original consent. - Local Hapu from Taharoa and Marokopa were not involved in the consultation process, but Kawhia Hapu over 50km were.	Decline consent and revoke all consents regarding this project	Yes

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
			- No confirmation regarding noise levels on the submitter's property. Submitters unaware of any noise survey to be carried out on their property.		
5	Leslie Gaston kopakabana@xtra.co.nz 0272743190	Oppose	Reason(s) for submission: - Roading is in substandard condition as a result of weather in February 2022. The increase in heavy vehicle activity (10215 trips estimated) would put farming operations, local travel and tourist travel at hugely increased risk of accidents in the region. Existing roading is already narrow in some places. - The noise pollution created by heavy trucks descending the steep incline above the submitter's village would impact their peace and quiet.	Decline the windfarm turbine consent	No
6	Marokpa Paa Environmental Team (Natasha Willison) 5a Sloper Avenue, Frankton, Hamilton. takutaimarokopa@gmail.com 02102914094	Oppose	Reason(s) for submission: Environmental Impact: - Noise: What are the expected decibel levels and how will they impact residents and wildlife. - Wildlife: What species might be affected by the wind farm, and how will this be mitigated? Are there any threatened or endangered species in the area? - Visual Landscape: How will the wind farm impact the local visual landscape? - Water Quality: Are there any concerns about the wind farm affecting nearby water sources? How will these concerns be addressed? - Soil Stability: Are there any concerns about the impact of the wind farm on soil stability in the area, particularly given the height of the turbines? Community impact:	Yes	No

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
			- How is Matauranga Maori, local Iwi tikanga and history, Te Tiriti o Waitangi been considered and implemented? - What is the distance between the windfarm and nearby residences and how will their property values and quality of life be impacted? - Are there any safety concerns for the windfarm? Energy: - What is the expected output of the windfarm and how will it contribute to the regions energy diversity? - How reliable is wind power in the region? Economic Benefits: - How many jobs will the wind farm create, both during construction and ongoing operations? Who will benefit from this? - What will be the economic impact of the wind farm on the local community i.e. business opportunities and / or lower power costs? Compliance with Regulations: - Will the wind farm meet all environmental regulations and standards? Are there any potential environmental risks that have not been adequately addressed? Alternatives: - Have alternative sites for the wind farm been considered? - Are there any alternative technologies that could be used instead of wind turbines?		

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
			- Are there any potential mitigation measures that could address concerns about the wind farm while still allowing it to proceed? Cultural Impact Assessment: - Has a cultural impact assessment been conducted and if so whom by? Misc. - Has an archaeological assessment been carried out? - "What is the report from DoC and have they had input into the sites, plants, water, bird life and Bat life?" - There were 10 serious serious harm - incidents in the wind energy sector between 2014 and 2018. Is there any latest stats and if so what are they from are they from propeller dislocation? Or other issues? - What is the lifespan of wind turbines and what happens to them after they are no longer in use.		
7	Sumbission lodged by Ngahuia Herangi (tekooraha@gmail.com) on behalf of the following mana whenua marae and iwi entities within Ngaati Mahuta ki te hauaauru and the Tahaaroa area. - Maketuu Marae, o Roy Willison: willisonr@otocoll.school.nz	Oppose	Reason(s) for submission: - The submitters would like to engage with the applicant and seek to understand the amendments, potential effects and mitigation measures proposed, if any.	Oppose the proposed amendments to the consents.	Yes

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
	- Aruka Marae o Keith Kana: aruka.trustees.secretary@gmail.com o Tutemahurangi Desmond Te Uira: dtteuira@gmail.com - Te Kooraha Marae: o Taituwha King: taituwha.king@aut.ac.nz o Ngahuia Herangi: tekooraha@gmail.com - Tahaaroa Lakes Trust: o Tutemahurangi Desmond Te Uira: dtteuira@gmail.com - Te Ruunanga o Ngaati Mahuta ki te Hauaauru o Tania Bidois: tmtbidois@gmail.com				
8	Roimata Harmon 19 Trapski Drive, Otorohanga 022574665	Oppose	Reason(s) for submission: - The adverse effects on the environment/ecology are likely to be more than minor; - Unable to understand construction impacts as there is no report detailing the construction phase.	Decline consent application	No

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
			- What are the impacts on roading from traffic movements generated from the proposal? Will these be addressed by rate payers? - No traffic management plan to review. - No Monitoring plan (including kaitiaki representative, local monitors, accidental discovery protocols are not outlined clearly) - Nothing to address the holding site of earthworks material. - What water is required and where will it be sourced from? - Biodiversity/ ecology – bats habitat and impacts on coastal environment? - Duration of consent – an unlimited term of consent is concerning. - Decommissioning and remediation plan – how can the environment and land be restored? - What will the long term impacts for future generations be? - In the event of the consent proceeding, what are the benefits provided to community to off-set the impacts on the environment and disturbance caused? - There is no satisfactory effect to the Iwi Environmental management plan - The political/social/cultural landscape has changed since the original consent was granted.		
9	RC & SA Irons Family Trust (Susan Irons) 83 Te Waitere Road, Taharoa suerayirons@gmail.com 078767559	Oppose	Reason(s) for submission: - The farming operation on the submitter's property is in direct line of sight therefore the effects they anticipate from the turbine are "very high" - Lack of research on effects of wind turbines on animals - Wind Turbine Syndrome - The submitter is not listed as a Third Party in the Memorandum WASP Visual Landscape Assessment – Appendix 1: Consented Turbine Locations. The submitter questions why Taradale Farm marked as affected, despite it being located further from the proposed turbine locations than the submitter(s) property.	Decline the consent application. Not allow an extension to timeframes past 2024.	Yes

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
			- Volume of soil disturbance - Visual impacts of increase in turbine height - What benefits does the local community get from the proposal going ahead? -		
10	Te Nehenehui Samuel Mikaere (Group CEO) 49 Taupiri Street, PO Box 36, Te Kuiti, 3910 (LATE)	Oppose	Reason(s) for submission: - Not being formally engaged - Potential impacts to: iwi, hapu and whare, cultural, social, economic, and environmental interests - A Cultural Impact Assessment and Tangata Whenua Environmental Assessment Report towards Ko Tā Maniapoto Mahere Taiao (Maniapoto's Environmental Management Plan) were not included within the application proposal. -	Decline the consent application. In lieu of a decision: - That the applicant includes at a minimum, a Cultural Impact Assessment or Tangata Whenua Environmental Assessment Report from Te Nehenehenui and other iwi and hapu that have overlapping interests, as well as undertake direct engagement, so they can each understand what effects if any, that the proposal has on them.	Yes
11	Te Nehenehui Mia Morgan (Senior Strategy Advisor – Environmental Policy and Planning) 49 Taupiri Street, PO Box 36, Te Kuiti, 3910	Oppose	Reason(s) for submission: - Not being formally engaged - Potential impacts to: iwi, hapu and whare, cultural, social, economic, and environmental interests - A Cultural Impact Assessment and Tangata Whenua Environmental Assessment Report towards Ko Tā Maniapoto Mahere Taiao (Maniapoto's Environmental Management Plan) were not included within the application proposal.	Decline the consent application. In lieu of a decision: • That the applicant includes at a minimum, a Cultural Impact Assessment or Tangata Whenua Environmental Assessment Report from Te Nehenehenui and other iwi and hapu that have overlapping interests, as	Yes

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
				well as undertake direct engagement, so they can each understand what effects if any, that the proposal has on them.	
12	Trustees of the John David Keepa/Kupa Whaanau Trust Marree Kereru – Trustee & Secretary, 650A Mahia East Coast Road, RD8, Nuhaka 4198, 027 487 1010	Oppose	Reason(s) for submission: - The beneficiaries of the Trust will be impacted by the proposal. - No assessment of the impacts on this project against any of the surrounding Iwi's - EMP's or Iwi Management Plans's – Ngaati Maahuta, Ngaati Maniapoto Waikato/Tainui. - The application fails to address the construction phase of the project. - Concern over traffic impacts across the construction period considering the current state of the roads. - No traffic management plan provided. - No monitoring plan provided. - No accidental discovery protocol. - Concern over the requested duration of consent being lifelong. - Remediation of the site after the project comes to an end. - Impact on biodiversity and ecology.	Decline the consent application.	Yes
13	Virginnia Dawn Taia 7 Blucks Road, Otorohanga virginnia.grice@gmail.com 021 99 4587	Support	Reason(s) for submission: - The submission will benefit farmers directly, and other power users by default.	Grant the resource consent	No
14	Waikato Regional Council Lisette Balsom (Manager, Strategic Policy Implementation)	Oppose	Reason(s) for submission: - Boffa Miskell Ecological Assessment - Concern for the lack of understanding with regard to what species are present on-site, in particular knowledge of actual bird and bat activity at each of the turbine sites and their distribution across the site.	Decline the consent application.	No

Submitter No.	Submitter Details	Oppose/ Support	Submission themes/key issues	Relief Sought	Wish to be heard
			- There is a lack of mitigation methods submitted in this application to sufficiently support that birds and bats will not be adversely affected. - The applicant needs to investigate mitigation methods further so that it is clear as to whether birds and bats will be impacted and to what extent. - Insufficient assessment of bird migration and potential bat collisions and that further field surveys should be carried out before consent is granted to better understand any potential impacts on birds and bats.		
15	Yvonne Armstrong teong@gmail.com 021 99 4587 (LATE)	Oppose	Reason(s) for submission: - With regard to the separation distances of windfarms to 3rd party houses: A house holder (identified as no.23) at 245 Whakapirau Road has visual impact of the proposed additional height to the wind turbines. - Impact of trucks on for the proposal on the district's roads - Putting turbine blades in a landfill is not environmentally friendly or sustainable.	Obtain more information from the applicant around the disposal of the wind turbine blades, the PSI on delicate echo location systems of bats, water ways, water tables.	Yes

Appendix 5

Landscape and Visual Assessment

PROJECT MEMORANDUM

mansergh graham
LANDSCAPE ARCHITECTS

Project:	**TAUMATATOTARA WIND FARM - APPLICATION RM200019**	**Memo: 6**/R1	**Page:** 1 of 15
Topic:	Assessment of Landscape & Visual Effects– Review		
Date:	13 September 2023		
Attention:	Chris Dawson – Consultant Planner for Waitomo District Council		
From:	Dave Mansergh – Consultant Landscape Architect for Waitomo District Council		

INTRODUCTION

Ventus Energy (NZ) Ltd has applied to reduce the size of the consented Taumatatotara Windfarm (Consent RM050019) from 22 turbines to 11 turbines and increase the height of the remaining turbines from 110m to 172.5m.

This document has been prepared as part of an analysis of the content and adequacy of information relating to landscape and visual amenity effects identified within the resource consent application and assessment of environmental effects (AEE).

Mansergh Graham Landscape Architects Ltd has been engaged by Waitomo District Council to review the landscape effects assessment and landscape management plan associated with the above application and to provide advice to Council around any required conditions of consent (should consent be granted).

PURPOSE

This document has been prepared as part of an analysis of the content and adequacy of information relating to landscape and visual amenity effects identified within the resource consent application and assessment of environmental effects (AEE).

The purpose of this review is to determine the following:

a. If the level of detail provided in the application documentation corresponds with the scale and significance of the effects on the environment under Schedule 4 (2)(3)(c) of the RMA; and
b. If enough information is contained within relevant parts of the application documentation to allow a potentially affected person and/or the decision-maker to gain a clear and concise understanding of the nature and extent of effects that the development is likely to have on the landscape and visual amenity.
c. If the findings of the landscape and visual assessment are supportable.
d. The conditions of consent required (if consent was to be granted) to ensure that the landscape and visual effects identified in the application documentation are avoided, remedied or mitigated.

REVIEW APPROACH

The *Te Tangi a te Manu - Aotearoa New Zealand Landscape Assessment Guidelines* were adopted by the NZILA in May 2021, replacing the *NZILA Best Practice Note: Landscape Assessment and Sustainable Management 10.1 (NZILA BPN 10.1)*.

While not intended as a template for landscape, natural character and visual effect reports, the guidelines provide clear direction and guidance around the general structure and content requirements. A landscape, natural character and visual assessment report (LNCVA) that has been prepared within the recommended framework should be able to be reviewed and the findings verified, without the need for further independent assessment.

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This review was carried out within the context of the requirements of the RMA, the findings, and recommendations of *Te Tangi a te Manu Aotearoa New Zealand Landscape Assessment Guidelines* and the Quality Planning website. The following factors have been considered:

a. If the assessment methodology used is consistent with the current accepted ("best practice") approach to landscape, natural character and visual assessment and has been applied consistently.
e. If the values and attributes of the existing landscape have been described in enough detail to convey a clear understanding of the existing landscape, and amenity baseline against which the assessment is undertaken. This should include any differences that exist between the existing physical environment, the consented environment, and the permitted baseline (where applicable).
f. If the proposal has been described in enough detail to convey how it will alter the existing landscape, natural character, and visual amenity.
g. If the effects of the proposal on the landscape (including its visual amenity) have been described and rated consistently and any relevant issues are identified.
h. The accuracy and usefulness of any attached plans, maps, graphics, and visualisations.
i. If the relevant statutory matters and provisions have been identified and addressed in sufficient detail.
j. The extent to which any proposed mitigation approach avoids, remedies and/or mitigates any unacceptable adverse effects on the landscape, natural character, and visual amenity values within an acceptable time frame.
k. If the conclusions and recommendations are supported by the analysis within the assessment.

This review is limited to determining whether the currently accepted approach to landscape, visual and natural character assessment has been followed by determining if it is likely that another experienced landscape architect would reach the same or similar conclusions, by applying the same methodologies given the information presented within the report.

The *Te Tangi a te Manu - Aotearoa New Zealand Landscape Assessment Guidelines* state:

> *A peer review is a focused appraisal of the principal assessment, not a parallel assessment.*

The structure and style of the assessment reports and plans are not assessed.

BACKGROUND

Ventus Energy initially received consent for a 22-turbine, 110m high wind farm at Taumatatotara West Rd, Te Anga in 2008. Subsequent amendments were approved: in 2011, an increase in the height of 11 northern turbines to 121.5m; and in 2016, an extension of the lapse date to 2024. Regional consents for earthworks have expired, and a new application is pending. The current application seeks to reduce the number of turbines to 11 and modify tip height conditions (Conditions 3 and 11) in the 2008 consent. Conditions 1 and 5 will also be updated to reference this new application. The financial viability of the site has improved due to advancements in wind energy technology and market conditions.

DOCUMENTS REVIEWED

The following documents have been reviewed:

a. *Proposed Variation to Consent Taumatatotara Wind Farm Ltd Landscape and Visual Assessment.* Ref 3-C2022.00. June 25, 2020. WSP.
b. *Proposed Variation to Consent Taumatatotara Wind Farm Ltd Waitomo District Graphic Attachments.* June 18, 2020. WSP.
c. *T4 Wind Farm ZVI Analysis.* Energy3 Services Ltd. 18 June 2020.
d. *T4 Wind Farm response to Mansergh Graham Project Memorandum 2 December 2019.* Energy3

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Services Ltd. 22 June 2020.

e. *Landscape and Visual Assessment Proposed Variation to Consent. Revision 3.* 22 March 2021. WSP.

f. *Waitomo District Council: Request for Clarification of Section 92 information – Application number RM200019 to amend conditions of the existing consent – Taumatatotara Wind Farm Limited.* Shearer Consulting. 26 August 2021.

Other documents read to provide background information and context:

g. *Taumatatotara Windfarm Waitomo District , Waikato Landscape Visual Assessment S92 (1) Response Information.* February 2012. Opus International Consultants Ltd.

SITE INSPECTION

The application site was inspected on 19 November 2019. All (public) viewpoints identified in the WSP landscape and visual assessment report (LVA) were visited.

NEW ZEALAND LANDSCAPE ASSESSMENT GUIDELINES

In April 2021 the *Draft Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines* were formally adopted by the New Zealand Institute of Landscape Architects as the recommended best practice guidelines, replacing the *NZILA Best Practice Landscape Assessment 10.1 V3*. The final version of the guidelines was published in July 2022.

While *Te Tangi a te Manu* was not formally adopted until after the final VLA for the application was prepared, a draft version was in wide circulation before its remit for adoption was confirmed at the AGM of the NZILA. The *Landscape and Visual Assessment Proposed Variation to Consent. Revision 3,* prepared by WSP on 22 March 2021 appears to have been prepared within the context of the draft guidelines.

While the draft and final versions of *Te Tangi a te Manu* are, for all intents and purposes, identical, a key difference between the two documents is the position of the minor threshold relative to the recommended seven-point rating scale identified in the figure below:

Figure 1: Recommended 7-point assessment scale contained in Te Tangi a te Manu (Page 151)

The draft version of the rating scale placed *LOW* and *LOW-MOD* entirely within the minor threshold of the RMA.

REVIEW OF THE LANDSCAPE & VISUAL EFFECTS ASSESSMENT (LEA)

It is understood that the most up-to-date version of the VLA is the *Landscape and Visual Assessment Proposed Variation to Consent. Revision 3. 22 March 2021. WSP.* This version is subsequently supplemented by the response to a request for further information received from Shearer Consulting on 26 August 2021.

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Methodology

Te Tangi a te Manu states:

> *While landscape assessment methods vary, they are all based on landscape character and values. Character is an expression of the landscape's collective attributes. Values are the reasons a landscape is valued. Values, though, are embodied in attributes. Effects are consequences for a landscape's values resulting from changes to attributes. The landscape's values are managed through managing such attributes.*[1]

A combination of the review of background information to identify key landscape features and attributes; relevant planning documents; and site investigations/observations have been used to identify the existing landscape context and assess the effects of the proposed industrial activities on landscape, natural character and visual amenity.

I have several concerns relating to the methodology. These were identified in Memorandums 4 and 5 and are repeated below. The memos stated:

> *The WSP LVE report appears to be largely based on desktop review and analysis of the original assessment prepared in 2012 (as stated in the methodology section) with limited ground truthing carried out in 2019 in support of this application. There also seems to be a disconnect between the view locations identified in the WSP LVE report and the photomontages prepared by Energy3 Ltd, suggesting that the photomontages have not been prepared from view locations identified by the author of the LVE report. While the LVE report identifies that a site visit was undertaken in 2019, many of the photographs contained within the graphic attachment were taken in 2012 and have not been. It is unknown if these locations were visited during the ground truthing visit. In addition, reliance appears to have been made on the Google Earth Street View tool for the assessment of effects from view location 22. In my opinion, limited reliance can be placed on this tool for analysis purposes.*
> *Because the ratings provided are not supported by any analysis or independent research that explains how a difference in size affects visual perception and ratings, I am unable to verify how the effect ratings provided have been determined and therefore their validity. Without this information, it is difficult to understand why a 58% increase in the size of the proposed turbine only results in either a "low" adverse effect, or when considered in conjunction with the removal of the southern turbines, a "low-moderate" to "high" positive effect.*

I also consider that while the VLA identifies the physical attributes of the site and surroundings that contribute to landscape character, it does not identify or assess the wider values attributed to the landscape.

Landscape assessment involves identifying and valuing the attributes contributing to landscape (and urban) character. This includes recognising the physical environment, associative meanings, and perceptual experiences associated with places.

The various concepts and relationships between people and the landscape, that contribute to its values are identified in the following diagram. The relationship between Western and Maaori world views on landscape/whenua is shown as the integration of the three dimensions of landscape—physical, associative, and perceptual—along with maatauranga. This understanding forms the basis of landscape assessment work according to the Te Tangi a te Manu Aotearoa New Zealand Landscape Assessment Guidelines.

[1] Page 105. Te Tangi a te Manu - Aotearoa New Zealand Landscape Assessment Guidelines

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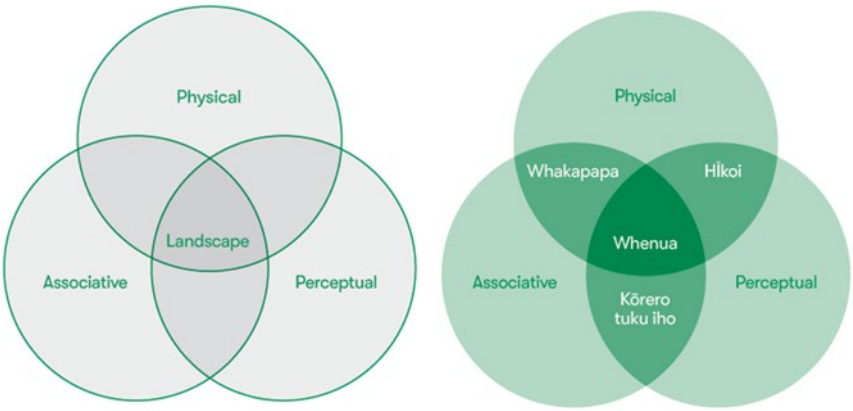

Figure 2: The integration of three dimensions of landscape—physical, associative, and perceptual—along with maatauranga from Te Tangi a te Manu

In my opinion, the LVA does not identify the existing landscape values or how the proposed increase in turbine height is likely to affect these values.

Effects Ratings

The LVA uses a seven-point scale for the rating of effects, consistent with the recommendations of the *Te Tangi a te Manu*. The LVA states:

> *The seven-point scale of effects[14] has been used in this LVA when assessing the potential adverse and positive landscape and visual effects arising from the change in turbine height. This effects scale ranges between: 'very low' to 'low' to 'moderate to low' to 'moderate' to 'moderate to high' to 'high' to 'very high' for both adverse and positive effects. It is generally understood that 'less than minor' adverse effects are equivalent to the 'very low' and 'low' adverse effects ratings (Appendix 3).*[2]

It is noted that the *minor* threshold adopted in the WSP reports differs from that contained in recommendations contained in the *New Zealand Institute of Landscape Architects Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines, April 2021.* The WSP memo states:

> *Between: 'Very Low' to 'Low' to 'Moderate to Low' to 'Moderate' to 'Moderate to High' to 'High' to 'Very High'. New Zealand Institute of Landscape Architects Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines, April 2021.* ***It is generally understood that 'less than minor' effects are equivalent to 'Very Low', and 'Low' effects are equivalent to 'minor' effects in an RMA 1991 context within the NZ Landscape Guidelines****, although the two scales do not align absolutely.* ***'Very Low' and 'Low' effects in this case are considered to be less than minor****.*[3] [Emphasis added]

As such, care should be taken when comparing the effects ratings and thresholds used in the LVA with those contained in the draft and final versions of *Te Tangi a te Manu*.

Project Description

The VLA identifies that resource consent has been granted for the installation of twenty-two 110m-high turbines, along with access roads and transmission lines. The new proposal seeks to modify the existing consent by reducing the number of turbines to eleven but increasing their maximum height to 172.5m. The eleven

[2] Page 8. Landscape and Visual Assessment Proposed Variation to Consent. Revision 3. 22 March 2021. WSP.
[3] Footnote 6, Page 3. WSP Memorandum 2. 23 August 2021

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turbines would retain their original locations and basic design. Construction methods and specifics for access roads and transmission lines will remain largely unchanged, complying with the current consent conditions.

The updated design introduces 'narrow blade' turbines that reduce shadow flicker and have a lower rotation frequency, deemed improvements over the original consent. The design changes are reported to have negligible impact on landscape and visual effects, with net improvements identified in some locations. The rationale for these changes is to adapt to advancements in windfarm technology since the original 2008 consent.

Identification of the Existing Site and Surrounding Landscape Context

The LVA describes the topography and land characteristics of the site where the wind turbines are proposed. The area features steep hills with well-defined ridgelines and narrow valleys to the north and south. Views are mostly contained by these natural formations. The highest peak nearby is Maungaakohe at 344m above sea level.

Land cover is mainly pastoral, with remnants of native vegetation on hill slopes and valleys. Exotic trees are scattered, mostly on hillside slopes to the south. Land use is also primarily pastoral, with rural residential buildings sparsely located, particularly in the sheltered, lower-lying areas away from the ridgelines.

The landscape to the north is highly modified and mostly open pastoral land, while to the south, a mix of native bush, forestry, and pastoral areas creates a more 'natural' appearance. Amenity value varies by dwelling, influenced by orientation, screening vegetation, and topography.

The landscape character is assessed to have a moderate amenity value and the LVA identifies that the assessment factors the existing consent to build a 22-turbine windfarm, as forming part of the baseline environment.

As identified above, the LVA does not identify or address other values that contribute to overall landscape value other than identifying that the site is not categorised as an outstanding natural feature or landscape in terms of s6b of the RMA.

Relevant Planning Provisions

The LVA assesses the proposal against the following provisions of the Regional Policy Statement (RPS):

Objective 3.20	*The values of outstanding natural features and landscapes are identified and protected from inappropriate subdivision, use and development.*
Objective 3.21	*The qualities and characteristics of areas and features, valued for their contribution to amenity, are maintained or enhanced.*
Objective 3.22	*The natural character of the coastal environment, wetlands, and lakes and rivers and their margins are protected from the adverse effects of inappropriate subdivision, use and development.*
Policy 12.3	***Maintain and enhance areas of amenity value*** *Areas of amenity value are identified, and those values are maintained and enhanced. These may include:* *a) areas within the coastal environment and along inland water bodies;* *b) scenic, scientific, recreational or historic areas;* *c) areas of spiritual or cultural significance;* *d) other landscapes or seascapes or natural features; and*

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e) areas adjacent to outstanding natural landscapes and features that are visible from a road or other public place.

In addressing the above provisions, the LVA identifies:

a. The site is not located within an outstanding natural feature or landscape.
b. The proposal aligns with this objective by reducing the number of turbines, thereby lessening the development impact. This results in fewer roads, less vegetation removal, and reduced land loss for traditional rural uses. The proposal will maintain a low level of effect on amenity values, consistent with the original 2005 wind farm proposal, where such effects were deemed acceptable. The increased height of the eleven remaining turbines is considered to have only a 'low' impact on amenity levels.
c. The site is not part of a coastal environment and does not include any wetlands, lakes or rivers.

The proposal is assessed against the following provisions of the Operative Waitomo District Plan (OWDP):

Objective 11 .3.8 — *To promote use of rural land in a manner which encourages maintenance and enhancement of amenity values of the rural environment, protects outstanding natural features and landscapes from inappropriate use and development, and preserves the natural character of the coastal environment, wetlands, lakes and rivers, and their margins.*

Objective 11 .3.9 — *To encourage maintenance and enhancement of rural visual character.*

In addressing these provisions, the LVA identifies:

a. The site is not part of an ONLF, within the coastal environment, or contain any wetlands.
d. 'Moderate' levels of rural amenity exist, requiring consideration.
e. The increased turbine height is expected to have 'low' adverse effects on rural amenity.
f. Reduction in the number of turbines will maintain some existing rural amenity values.
g. Overall visual effects range from 'low' adverse to 'very high' positive compared to existing consented wind farm.
h. Given the sites relative isolation, low population, and low visitor numbers, the proposal is considered appropriate.

The LVA does not address the following policies, relevant to amenity values:

Policy 11.4.12 — *To ensure that all rural activities, including extractive industries, are established and operated so as to avoid, remedy or mitigate adverse effects on amenity or on neighbours, or on significant karst features.* [Emphasis added]

Policy 11.4.17 — *To avoid, remedy or mitigate the adverse effects of rural buildings situated close to boundaries, and large non-farm buildings, on sunlighting, privacy, landscaping and amenity.* [Emphasis added]

It is unknown if the site contains limestone or karst features that would require further evaluation against other relevant objectives and policies contained within the OWDP.

Landscape Effects

The LVA defines landscape effects as encompassing the physical changes to the setting, including character and levels of amenity. In comparison to what was originally consented to in 2005, the proposed changes to the wind farm are assessed by the LVA as being within acceptable limits.

The LVA identifies that while the construction of fewer turbines will require less vegetation removal overall, certain areas will need more vegetation removal to make way for a wider access road. The width of the access roads at the corners is set to increase from 10m to 14m. While the number of turbines is halved, the turbines

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will be taller and require larger 18 x 18 m footings, compared to the originally consented 14 x 14 m. The report identified that the earthworks will be rehabilitated to reinstate natural grades and revegetated, as per the original consent conditions. Most of the site roading is planned along a ridgeline, limiting its visibility from public and private viewpoints. Therefore, any landscape effects relative to the original consent will be reduced, given the fewer number of turbines proposed and the subsequent reduction in the extent of physical interventions needed.

It is opined in the LVA that the change in height, combined with a reduction in the number of turbines, will have a positive impact on the landscape character and that any additional potentially adverse effects will be localized and confined close to the construction footprint. These include larger turbine footings, wider road bench widths, and the formation of taller cut and fill batters on either side of the road where required.

The LVA concludes that a reduction in the number of turbines from 22 to 11 will lead to reduced landscape effects. The project will require approximately 40% less roading overall, and the total area of turbine platforms will also decrease by 17%. Due to these reductions and the obscured location of the roading and turbine platforms, the earthworks' effects are assessed as being noticeably less than what has been previously consented. Overall, the landscape effects are conservatively assessed as 'moderate' positive.

In my opinion, the assessment of landscape and visual effects is not a simple numbers game. The removal of turbines that are yet to be built does not automatically negate the visual and landscape effects of replacing other turbines with much larger ones. While fewer turbines might imply less visual clutter, the increased size of the remaining turbines could introduce a new scale of impact that is more dominant and eye-catching. Taller turbines are likely to be visible from greater distances and could have a more pronounced effect on key viewpoints, altering the character and amenity of the landscape in a way that is not proportionately offset by the reduction in numbers. Therefore, both quantity and scale should be carefully considered when assessing visual and landscape impacts.

In my opinion, the LVA does not provide adequate support for its argument that the landscape effects will be “moderate” positive. It is strongly recommended that further support for this premise is presented in evidence at the consent hearing.

Visual Effects

The LVA states:

> *Levels of visual amenity are generally associated with how ‘natural’ a place is. The more natural or unmodified the place is, the higher the level of visual amenity will be, typically. The site context and the wider rural setting beyond it has been modified over time through vegetation clearance and land drainage practices to provide for pastoral farming activities (Attachments 1 – 1C and Cover). This has led to widespread erosion and unsightly scarring of the landscape - particularly on steeper slopes. As such, the landscape surrounding, and including the site cannot be considered as being a high-value landscape and is assessed as having a low to medium degree of ‘naturalness’.*
>
> *Given the extent of change that has occurred within the landscape discussed above, the area’s relative remoteness and low population, it is considered that the area including the site potentially has a high level of capacity to absorb change, including windfarms.*
>
> *In general, from public and most, if not all private viewpoints, there will be a positive change in the landscape and the visual amenity derived from the current proposal when comparing it with the consented twenty-two-turbine windfarm (Attachments 6-10). The visual effects generated by the increased height of the northern retained eleven turbines is offset, or at worst, evenly balanced by the halving in turbine numbers.* [4] [Emphasis added]

[4] Page 13. IBID

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In my opinion, the premise used to determine visual amenity is too narrow and is not supported by the current best practice approach. Best practice considers visual attributes and values associated with a landscape as a subset of landscape character and as such visual assessment is a specific tool which focuses on the effects of change on landscape character change from specific locations.

As with the wider landscape analysis, consideration needs to be given to the various attributes that contribute to the visual amenity of each location. In my opinion, this includes other physical, perceptual and experiential factors which may include the various cultural, historical, and social elements that contribute to the character and quality of an area for the viewer. This often includes built structures, land use, and other anthropogenic features that form the backdrop to people's lives and experiences. Therefore, assessments of visual amenity must consider a range of factors, from natural topography and vegetation to human-made elements and modifications and how they interact to influence landscape character from each view location identified.

Again, I do not support the approach taken within the documents that suggest that an increase in the adverse effects at one location can be discounted by a decrease in effects on another location to give an average effect. This is because each view location represents a different viewing audience, whose perspective and sensitivities to change may also differ. It is now best practice to identify such sensitivities where known and is common to differentiate between the sensitivities of public and/or transient views from views around a dwelling and views from less frequented parts of a property. It is however acceptable to identify that a range of effects may occur and to discuss the frequency of each magnitude rating.

Effects of Distance on Receptors

In discussing the effect of distance on visual effects the LVA identifies that the Zone of Theoretical Visibility (ZTV) analysis for the amended windfarm shows a small increase in the visibility of the proposed windfarm compared to the consented scheme. This increase is identified as mainly affecting the more sparsely occupied farm and forestry lands, and the adverse visual effect associated with the increase in turbine size will be low to very low.

The LVA states:

> *During the site visit and assessment process, it was determined that an additional 62.5 m turbine height will be difficult to discern for occupants of residences and the public for the following reasons:*
> — *Intervening topography and existing vegetation cover will screen or buffer views.*
> — *The distance between turbines and viewpoints will reduce any adverse visual effects through the diminishing effects of perspective.*
> — *The turbines are aligned along a north-south axis away from most residences.*
> — *Most of the residences are located to the south of the site who will be further from the proposed windfarm than they were from the consented windfarm.*[5]

Furthermore, the increased distance from properties to the south would help reduce any potential adverse visual effects. Wireframe images prepared by the Applicant were used as part of the assessment to help substantiate these points.

The VLA identifies that as the distance from the wind farm increases, adverse visual effects will lessen. The removal of eleven turbines near residential areas also contributes to an overall positive visual impact. Partial views may be possible from specific roads and villages, but given the considerable distance and the reduction in the number of turbines, the overall visual effects of the wind farm will be reduced, ranging from 'nil' to 'very

[5] Page 14. IBID

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high' positive depending on the viewpoint. Therefore, any change in visual effects due to increased turbine height will be largely unnoticeable from dwellings along specified roads and villages.

In my opinion, from a review perspective, the conclusion reached in the VLA that the effects will be positive, is not supported by sufficient analysis within the body of the report around the various premises considered in the assessment and how they have been applied and weighted. This is different from there being insufficient information contained within the VLA to understand the nature of the proposed development, which was addressed through the s92 process.

Visual Effects Arising from the Specifics of the Proposal

This section of the VLA discusses specific effects in relation to:

a. Zone of Theoretical Visibility (ZTV) Maps
b. Hub and Tower Height
c. Blade Tip Height (Overall Turbine Height)
d. Changes at Ground Level
e. Shadow Flicker; and
f. Visual Effects on Specific Identified Third-Party Dwellings in the Receiving Environment.

The ZTV maps indicate the theoretical visibility of the turbines within a 15 km radius. A digital comparison between the existing and proposed ZTVs by Energy3 shows no increase in the number of turbines visible from certain viewpoints, even with the increased height of eleven turbines. The maps also identify an area where visibility will decrease due to the removal of eleven southern turbines. However, it's important to note that these findings assume no intervening structures or vegetation, which could potentially significantly reduce visibility.

The hub height of the turbines will increase by 58%, from 60m to 95m, which is considered to have low adverse visual effects based on accurate visualizations provided by the Applicant. Changes in other dimensions of the turbine components, such as tower diameters and blade width, will increase between 22% and 40%. Despite these increases, the visual effects are considered acceptable and likely indiscernible from viewing distances, given that these changes are relatively small compared to the overall increase in turbine height.

These conclusions are not supported by the numerical data provided or a supporting analysis. While it is accepted that the proposed turbine will not be seen within the context of the existing consented design, in my opinion, it is an error of logic to conclude that the size increases will be indiscernible.

The VLA identifies that the blade tip height will increase by 58%, changing the turbine height from 110m to 172.5m. However, two mitigating factors will lessen the visual impact. First, the new 'narrow' blade design with a maximum width of 4m reduces the extent of the shadow flicker zone compared to the original design. Second, the larger turbines will have a slower maximum blade rotation speed of 12.5 rpm, compared to the consented 18 rpm, making the rotation appear 'calmer' and less visually intrusive. These factors partially compensate for the increased visual effects due to the overall height.

While I concur with the general analysis that a slower rotation speed will appear ‘calmer’, the LVA does not explain why or how the slower blade rotation speed affects levels of visual intrusion. Visual intrusion usually refers to the impact that a new structure has on the existing visual landscape, particularly when it is perceived as out of character or disruptive to its surroundings. The level of visual intrusion can depend on various factors such as the size, shape, colour, and location of the new elements, as well as the existing character of the landscape and how visible the new elements are from key viewpoints. Movement is likely to draw attention to an intrusive element, rather than being the cause of its intrusion.

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In terms of shadow flicker, the VLA states:

> *The extent of the shadow flicker zone is reduced by approximately 100 m compared with the consented turbines as the proposed turbines include 'narrow width' blades. Shadow flicker effects are determined by multiplying the maximum blade chord23 width by a factor of 26524. The maximum blade chord width is 4 m (or a radius of 1,060 m centred on each turbine). It is understood that no additional (recently constructed) dwellings are located within the potential shadow flicker zone compared with the consented windfarm. Shadow flicker effects are therefore not addressed further in this LVA.*

The shadow flicker zone is not identified in the VLA report, meaning that the conclusions reached around shadow flicker can not be independently verified through the review process.

The VLA assesses the effects of the proposal from public view locations representing the dwellings identified in Figure 1 of the attachments to the LVA (and shown in Figure 3 below):

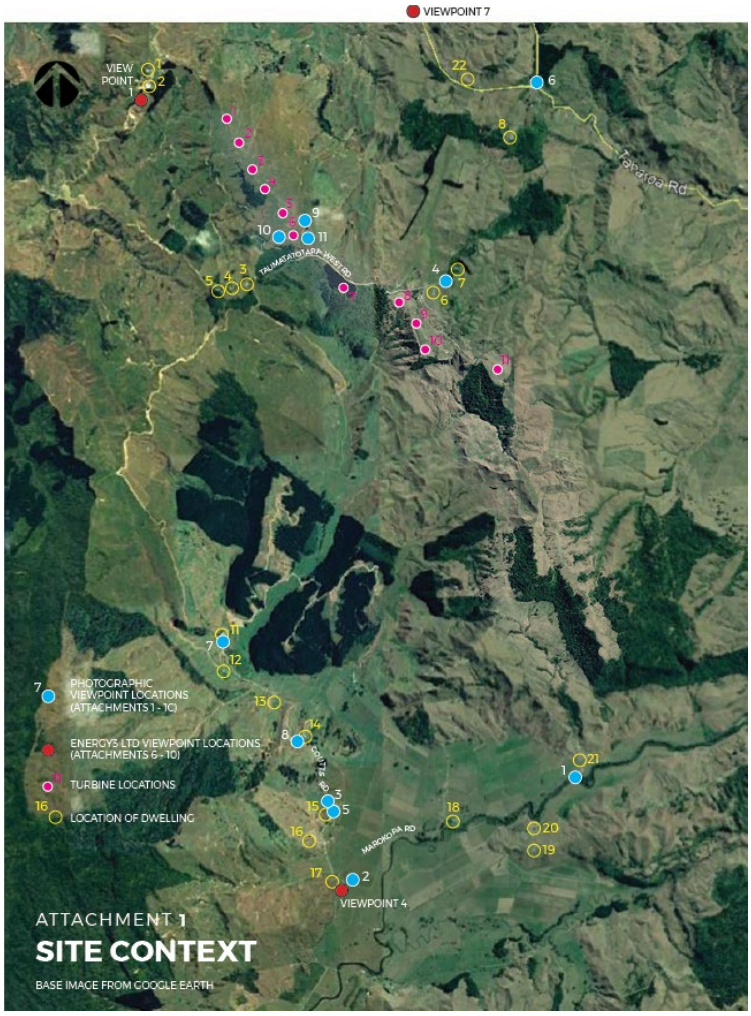

Figure 3: Attachment 1 from the LVA

The assessment of visual effects section of the LVA evaluates the visual effects of the proposed modification against those of the previously consented wind farm. The LVA identifies that the effects on visual amenity from the dwellings identified in Figure 3 (above) were considered and rated. ZTV mapping was used, supplemented by field-based observations and line-of-sight analysis, although some details like vegetation that could obscure views were not included.

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For each dwelling, the assessment compares the new proposal to the consented scheme:

a. Dwelling '22': Newer and not part of the original consent. Views were assessed from a nearby road. 10 of 11 new turbines are expected to be partially visible, compared to 4-6 in the original scheme.
b. Dwellings '18' and '21': Fewer but taller turbines will be visible, reducing overall visual impact.
c. Dwellings '19' and '20': 1-3 new turbines visible due to local topography, fewer than in the original scheme.
d. Dwellings '14' to '17': Reduced but still significant visibility. Effects considered 'low-moderate' positive.
e. Dwelling '13': Likely full screening by local topography and possible forestry, much reduced from the original scheme.

The LVA summarises the visual effects on the assessed dwellings as follows:

> *In summary, any adverse visual effects of the variation to increase the turbine heights by 62.5m is balanced by the surrendering of eleven turbines which were closer to the twelve potentially affected dwellings at that time. Dwelling '22' is a 'new' dwelling in the area which was not considered when the visual effects assessment was carried out for the previously consented scheme. Nonetheless any visual effects relative to this dwelling have been assessed - based on the consented windfarm forming part of the baseline environment. This dwelling is elevated on a high point at a similar elevation to the windfarm with 360-degree views, where most of the windfarm will be visible, which will generate potentially 'low' adverse visual effects. Relative to the other dwellings located within the site context, the proposal will have varying degrees of positive visual effects on these parties ranging between 'low-moderate' and 'high' positive on the seven-point scale of effects used throughout this LVA.*[6]

The effects are categorized as "low," "low-moderate," "moderate," or "high" and are based on the number of turbines visible, the distance from the turbines, the elevation of the dwelling, and other factors like intervening topography and vegetation. Effect ratings from the LVA, for each dwelling, are summarised in the following table:

Dwelling	Turbines Visible (Proposed)	Turbines Visible (Consented)	Distance to Closest Turbine	Visual Effect Rating (Positive/Negative)
22 (Taharoa Road)	10 of 11	4-6	Not Specified	*Low* Adverse
18 (Marokopa Road)	4-6	7-9	4.2 kms (closest)	*Low-Moderate* Positive
21 (Marokopa Road)	1-3	4-6	3.7 kms (closest)	*High* Positive
19 (off Marokopa Road)	1-3	4-6	5.2 kms (closest)	*Moderate* Positive
20 (off Marokopa Road)	1-3	4-6	Not Specified	*Moderate* Positive
14-17 (Coutts Road)	10-11	19-22	3,850 m (closest)	*Low-Moderate* Positive
13 (Coutts Road)	1-6	13-15	3,700 m (closest)	Not Specified

The effects on other dwellings to the north are addressed in the s92 response from Shearer Consulting Ltd (26 August 2021) states:

> *Overall, there are few dwellings to the north of the 11 turbine windfarm outside of the wind farm landowners. One of these have signed an affected party form. One has a view that is not significantly different from the existing consented environment. The other two dwellings on Te Waitere Road are some distance from the wind farm, with the furthest being able to view more turbines, and the effects assessed as being 'moderate' using the NZLI Assessment Guidelines, and the other 'low'. However overall, the previous landscape assessment for the variation proposal identified the effects of the proposed variation as being 'low'.*[7] [Emphasis added]

It is unknown if these dwellings were assessed or reviewed by the author of the WSP report. This should be clarified at the hearing.

[6] Page 21. IBID
[7] Page 2. p.Waitomo District Council: Request for Clarification of Section 92 information – Application number RM200019 to amend conditions of the existing consent – Taumatatotara Wind Farm Limited. Shearer Consulting. 26 August 2021.

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As identified previously in this memorandum, I am concerned by the “balancing” approach taken in the analysis of effects within the assessment.

From the surrounding public roads, the LVA rates the effects of the modified wind farm as ranging between conservatively 'low' adverse to 'very high' positive. The primary viewpoints are located on the local roads, where visibility is often limited due to winding routes, roadside vegetation, and topography. Several factors contributed to the assessment:

a. The number of turbines is now half of what was previously consented to, reducing overall visibility.
b. The area's remoteness and its already modified character increase its capacity to absorb further change, such as additional turbines.
c. The wind farm's north-south orientation and its setback from busier roads like Coutts Road and Marokopa Road minimize visibility.
d. The use of narrow turbine blades reduces shadow flicker effects compared to wider blades that were previously consented.
e. Winding roads often pass through areas where the view is obstructed by cuttings or vegetation.
f. Existing vegetation patterns, including forestry, further limit the visibility of the wind farm from various viewpoints.
g. The slower rotational speed of the turbine blades, compared to previously consented turbines, lessens their visual impact.
h. Given these mitigating factors, the report concludes that the increase in turbine height will not significantly alter the visual impact, maintaining it within a range of 'low' adverse to 'very high' positive.

In general, I concur with the approach taken for the assessment of public views, which are mostly transient and are expected to have lower viewer sensitivity.

Conclusions

The key points contained within the conclusions are:

a. The size of the turbines, whether 110 m or 172.5 m, are all very large, and the height difference is not easily discernible without a side-by-side comparison.
b. The assessment aims to evaluate the differences in visual and landscape effects between the consented and proposed turbine attributes.
c. The proposed changes will have at worst, 'low' adverse visual effects. For most potentially affected parties, the effects range from 'low-moderate' to 'very high' positive.
d. Landscape effects are assessed as 'moderate' positive, and they will be less than the consented effects due to halving the number of turbines.
e. The site is remote with low permanent occupancy and is not a tourist hotspot.
f. Several dwellings near the proposal are owned by landowners who have consented to have turbines on their properties.
g. The site is suitable for renewable energy and has been significantly modified for farming, affecting its physical landscape negatively.
h. The proposal seeks to halve the consented number of turbines, and the remaining turbines are in similar locations to those originally consented.
i. The slower rotational speed of the new blade design will offset any additional visual effects due to the increased height.

As identified previously, I do not consider the findings to be adequately supported by the analysis and therefore from a review perspective, it is difficult to understand how the various ratings have been determined.

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Recommendations

The LVA makes the following recommendations:

> *Avoidance of effects has been primarily achieved through locating the proposed retained turbines to the north, away from the more settled areas located along Coutts Road and Marokopa Road. Other avoidance techniques are no different to what has been consented to date which includes locating most of the access roading along the ridgeline - avoiding more visible and potentially erodible slope faces.*
>
> *No mitigation measures are proposed, nor considered feasible or effective. It is acknowledged that mitigation was not proposed in the original consent application.*
>
> *As previously discussed, and no different to what has been consented to date, remediation includes the careful battering back of cut and fill slopes to natural grades where possible in areas where the access roading corridor is proposed. These exposed cut and fill areas will be fully revegetated to reduce erosion and prevent landscape scarring.*[8]

I concur with the above and agree that it is unlikely that any additional mitigation measures could be imposed on the development that would lessen its effects (from a landscape and visual amenity perspective).

Plans and Graphics

Relevant maps and graphics contained in the VLA and Attachments include:

a. Site Context Plan (Attachment 1): This plan identifies the location of the proposed turbines, viewpoints, and dwellings. Photographs from each viewpoint are included in the attachment. The photographs are not presented in a manner consistent with the recommendations of the *NZILA Best Practice Visual Simulations 10.2.*
b. Zones of Theoretical Visibility Mapping (Attachment 2): ZTV analysis plans, which identify the theoretical zone of visibility surrounding the application site, are provided for the consented scheme, the proposed development, net visible increase and the visibility variance. The ZTV analysis is colour-coded to indicate the relative visibility of features within the area subject to the consent application.
c. Photomontages: Photomontages and wireframe terrain models with turbines for each view location point identified by Energy3 Services Ltd are included. The photomontages are presented in general accordance with the *NZILA Best Practice Visual Simulations 10.2.* An explanation of the approach used in the preparation of the photomontages is contained in *T4 Wind Farm Response to Mansergh Graham Project Memorandum 2nd December 2019.* It is noted that the photomontage view locations sometimes differ from the view location points identified within the LVA.

REVIEW OF SUBMISSIONS RECEIVED

Of the 15 submissions received, 14 are in opposition with the remaining 1 in support. Submissions relating to landscape, visual or amenity effects comprise 6 of the total submissions, indicating that it is a prominent issue. Relatively little detail is presented in the submissions beyond raising the issue.

The key issue raised in the submissions relates to concerns over:

a. Adverse effects on landscape character and/or visual amenity (Submissions 1, 4, 6, 9, 15)
b. Adverse effects on the cultural Landscape (Submission 8)
c. The effects of the flashing lights at night (Submission 4)

[8] Page 8. Landscape and Visual Assessment Proposed Variation to Consent. Revision 3. 22 March 2021. WSP.

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FINDINGS

As identified above, while I consider that the LVA report (and supporting information) prepared by WSP provides sufficient information to understand the nature of the application and the effects that are likely to arise from it, I remain concerned that the premises and weighting applied during the assessment mean that the effects of the increase in the size of the proposed turbines are underestimated.

In my view, evaluating landscape and visual effects goes beyond a numerical approach. Eliminating yet-to-be-built turbines doesn't necessarily counterbalance the effect of installing larger turbines as replacements.

Although having fewer turbines may reduce the visual effects within the southern part of the visual catchment of the consented wind farm, it does not necessarily negate the effects of the larger turbines on the visual catchment in the north, which are likely to be more noticeable and dominant within that part of the landscape. Additionally, the larger turbines are likely to be visible over greater distances and could disproportionately influence key viewpoints, thereby changing the character and overall quality of the landscape. Consequently, both the number and the size of turbines should be thoughtfully weighed in assessing their visual and landscape impact.

From a review perspective, it is not clear how the various effects ratings have been determined as the effect ratings lack supporting analysis or independent research on how turbine size impacts visual perception. Consequently, the validity of the ratings is questionable, making it hard to understand how a 58% increase in turbine size results in minimal adverse effects or even positive effects when combined with other factors.

This does not necessarily mean that the conclusions reached in the LVA are incorrect, rather it means that the conclusions reached are not sufficiently supported to allow an independent reviewer to apply the same approach and reach the same conclusions.

The WSP LVE report largely relies on a desktop review and a 2012 original assessment, with minimal on-site verification done in 2019. In addition, the focus of the assessment is on the southern (Marokopa) end of the consent activity, with less analysis undertaken in the northern part of the visual catchment.

There's a discrepancy between the report's identified view locations and the photomontages by Energy3 Ltd. Although a site visit was reported in 2019, many included photos date back to 2012, and it's unclear if these locations were revisited. The report also relies on Google Earth Street View for assessing effects from one view location, which is not a reliable tool for in-depth analysis.

It is strongly recommended that further evidence is presented at the resource consent hearing to address these concerns.

RECOMMENDED CONDITIONS OF CONSENT

I have reviewed the conditions of consent contained in the s42A report and support the inclusion of the landscape conditions, should consent be granted.

Dave Mansergh
DipP&RM(Dist), BLA(Hons), MLA. Registered ANZILA
Director

PROJECT MEMORANDUM

mansergh graham
LANDSCAPE ARCHITECTS

Project:	TAUMATATOTARA WIND FARM - APPLICATION RM200019	Memo: 7/R1	Page: 1 of 3
Topic:	Assessment of Landscape & Visual Effects– Review		
Date:	27 September 2023		
Attention:	Chris Dawson – Consultant Planner for Waitomo District Council		
From:	Dave Mansergh – Consultant Landscape Architect for Waitomo District Council		

BACKGROUND

Since undertaking my peer review of the landscape and visual assessment report prepared in support of an application to vary the consent granted for the Taumatatotara Windfarm, the applicant has further amended the application as follows:

(a) A further reduction in the number of turbines from 11 to 8 (removing turbines 2, 4 and 9);
(b) A minor increase in the maximum diameter of the rotor area from 155m to 163m for the remaining 8 Turbines (an increase of 5%);
(c) A corresponding minor increase in tip height of the turbines from the proposed 172.5m to 180.5 m. This represents a 5% increase in tip height compared to the Variation Application. This is to allow the ground clearance of 17.5m, as proposed by the Variation Application, to be maintained.

CHANGE OF THE LANDSCAPE CONSULTANT

It appears that WSP Ltd, who prepared the landscape and visual assessment report assessed in Memo 6, are no longer engaged, and Mike Moore Landscape Architect has been engaged by Taumatatotara Wind Farm Ltd to provide landscape evidence in support of the application.

Mr Moore produced a Memorandum on 13 September identifying that, while he had not provided advice concerning the application, he had reviewed the application and had undertaken an assessment of the landscape (including visual) effects of the variation on the consented environment.

The memorandum was produced on a “will say” basis to inform the s42A report. In summary, the Moore memorandum identifies the following:

a. The Waitomo District Plans (operative or proposed) do not identify the site as having significant landscape values. The plans focus on the rural character, influenced by low construction density, openness, and natural surroundings.

b. The new wind farm design will have a smaller footprint, now affecting 3.5km of ridgeline compared to the initial 6.2km. The turbine count will drop from twenty-two to eight, but these turbines will be approximately 42% larger. Access roads will be shorter with no additional widening, and despite the bigger turbines needing larger bases, the total excavation will be less.

c. In terms of visual effects, the wind farm is likely to detract from the area's rural amenity due to the size of the turbines. From the south, the new design is viewed as better because of a reduced ridgeline impact and more space between turbines. However, from the north, the new design may appear more prominent. Despite the size increase, the overall adverse effects of having fewer taller turbines is seen as being less than having more, shorter turbines. Generally, the visual effects of the new proposal are viewed as positive because of this.

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In his memo, Mr Moore identifies that consultation has revealed that there are concerns about the effects of the proposed variation from the following locations, and provides the following "tentative" findings (paraphrased) while he finalizes his assessment:

a. Taharoa Village: Low impact. Any visible turbines in the new design will seem larger, leading to a slight negative effect.

b. 158 Coutts Road: The new proposal shortens the visible length of turbines, resulting in a positive/moderate effect.

c. 227 Coutts Road: Landform barriers mean only a few turbines from the original design would be visible. The new design's turbines remain hidden, resulting in a positive/moderate effect.

d. 11 Taumatatotara Road West and 83 Te Waitere Road: Neither design is visible, so the visual impact is neutral.

e. 84 Te Waitere Road: The original design has most turbines visible, while the new design reduces this visibility but has larger turbines. The visual impact is negative/low.

f. 176 Te Waitere Road: Evaluation for this location is still pending.

The Moore memorandum concludes:

> *Overall, it is my assessment that the landscape effects of the Variation Application and the Updated Variation Application will be positive. My preliminary assessment is that where there are adverse effects arising from the difference between the existing consent, and either the Variation Application or the Updated Variation from those places assessed, these effects will be no greater than adverse / low (minor).*
>
> *Further details will be provided in my brief of evidence to be provided in accordance with the evidence exchange timetable.*

PEER REVIEW OF THE INFORMATION CONTAINED IN THE MOORE MEMORANDUM

In terms of its recommendations for peer reviews, Te Tangi a te Manu identifies that:

> *6.57 A peer review is an evaluation of an assessment by someone with similar competencies.171 Its weight relies upon the reviewer being impartial and having sufficient expertise and experience with respect to the subject of the principal assessment.*
>
> *6.58 A peer review is a focused appraisal of the principal assessment, not a parallel assessment.*
>
> *6.59 Peer reviews should be consistent with the professional role described in Chapter 2: The purpose is to assist decision-makers (and others) by checking an assessment's method and findings. Peer reviews should:*
> - *be succinct and to the point*
> - *focus on the principal assessment*
> - *provide reasons to support the review.*
>
> *6.60 No two landscape assessors are likely to carry out an assessment in precisely the same way. It is not helpful for a peer reviewer to demonstrate how they might have carried out the assessment differently or to dwell on unimportant details. However, if the reviewer considers the assessment method is not sound, or the assessment does not follow its stated method, or the findings are not credible, or there are gaps that are germane to findings, then additional assessment of part (or all) of the principal assessment may be warranted. Make clear where that is the case, explain the reasons for further assessment, and ensure that the additional assessment is reasoned and transparent.*

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The differences in findings between the peer reviewer and principal assessment in such situations should be clear and reasoned.

6.61 A peer reviewer will typically review the assessment report, make a site visit, and write a short report confirming (or not) that the assessment:

- *follows a sound methodology and method for the purpose*
- *considers the relevant statutory provisions and any relevant 'other matters'*
- *accurately describes, interprets, and evaluates the relevant landscape character and values*
- *analyses the effects on landscape values (for proposal-driven assessments) in a balanced and reasoned way*
- *reaches credible findings supported by reasons*
- *makes appropriate recommendations with respect to findings (depending on the type of assessment).*

While it is recognised that the Moore memorandum is a "will say" document and that Mr Moore had not completed his assessment at the time of writing, from a peer review and reporting perspective, the memorandum does not contain sufficient information or detail to allow the "tentative" findings identified to be reviewed and independently reviewed or verified.

It is therefore strongly recommended that Mr Moore provides sufficient detail and analysis of the various landscape and visual assessment factors identified in *Te Tangi a te Manu* in his evidence (including sufficient detail to allow the matters identified in section 6.61 above to be independently reviewed). It is also recommended that he confirms the extent to which he has relied on the assessment undertaken by WSP.

If you have any questions, please contact me.

Dave Mansergh
DipP&RM(Dist), BLA(Hons), MLA. Registered ANZILA
Director

Appendix 6

Noise Assessment

CONSULTANT ADVICE

MARSHALL DAY Acoustics

Project:	Taumatatotara Wind Farm	**Document No.:**	Ca 004		
To:	Bloxam Burnett & Olliver	**Date:**	25 September 2023		
Attention:	Chris Dawson	**Cross Reference:**			
Delivery:	email	**Project No.:**	20191042		
From:	Siiri Wilkening	**No. Pages:**	5	**Attachments:**	No
Subject:	S42A Report Input – Noise and Vibration				

Chris,

You engaged us to undertake a review of the acoustic assessment undertaken, and the noise conditions proposed, for the proposed Taumatatotara Wind Farm. The Wind Farm has gone through several iterations since the lodgement of the amendment application in 2019 and while we have reviewed the documentation throughout, this advice only discusses the latest proposal from September 2023.

We have reviewed the following documentation relevant to the final proposal of the Taumatatotara Wind Farm:

(a) Letter "Update on Progress – Taumatatotara Windfarm Ltd (T4) Consent Variation Application, from Gilliam Chappell, dated 15 September 2023

(b) Appendices to Ms Chappell's letter, including a brief noise memo by Altissimo, dates 15 September 2023

(c) Proposed updated conditions of consent.

In addition to these documents, the following documents are also relevant in relation to the proposal:

(d) Letter "Taumatatotara Wind Farm – Noise questions from Waitomo District Council", by Altissimo Consulting, dated 7 April 2021

We are now satisfied that the proposed wind farm can comply with the relevant noise limits, and that the effects would be insignificant, and generally inaudible, at most of the closest dwellings from which written approval has not been obtained.

Layout and receiver locations

The wind farm is proposed to consist of 8 turbines (reduced from the previous 11 turbines), with a maximum tip height of 180.5 m above ground level and a hub height of 99 m above ground level. The location of the proposed turbines is identified the figure "Taumatatotara Separation Distance 1.1C (A3)", which formed part of the bundle discussed above. The figure still contains Turbines 2, 4 and 9, which have now been removed. The only turbines proposed are now Turbines 1, 3, 5, 6, 7, 8, 10 and 11.

The closest receivers surrounding the turbines have been identified on the figure, both on the aerial photo and via coordinates in a table on the same figure. The receivers include dwellings from which written approval has been obtained, dwellings on the wind farm site as well as dwellings where noise effects must be assessed.

The closest dwellings at which effects must be assessed are more than 2 km from the closest wind turbine. Those are dwellings 22 to 25 on Taharoa Road and Taumatatotara West Road. We understand that written approval has been obtained from the Stokes family (835 Taharoa Road) and the Smith family (189 and 313 Te Waitere Road) and therefore the effects on these dwelling must not be taken into consideration.

We are satisfied that all turbines and receivers are clearly identified to enable a review of the Altissimo assessment.

Predicted noise levels

The assessment by Altissimo (item (d) in the list above) includes noise level predictions of turbine layout scenarios:

- 11 turbines with a hub height of 95m and a sound power level of 103.9 dB L_{AW} (a previous iteration not relevant now)
- 11 turbines with a hub height of 95m and a sound power level of 107.2 dB L_{AW} (the consented sound power level and previous layout)
- 22 turbines with a hub height of 65m and a sound power level of 107.2 dB L_{AW} (the consented sound power level and originally consented layout/height) (the original proposal from 2006)

Of the above scenarios, the closest to the proposed 8-turbine, 99m hub height layout, is the 11-turbine scenario with the 95m hub height, with the proposed sound power level of 107.2 dB L_{WA}. For this scenario, the noise levels at all receivers are below 35 dB $L_{A90(10\ min)}$. Such noise levels are within the most stringent noise limit of NZS6808, which is 40 dB $L_{A90(10\ min)}$ or the background noise level L_{A90} + 5 dB, whichever is the higher.

With the proposed 8 turbines, with slightly higher hub height and the same sound power level, the noise levels would be the same or lower than predicted at all dwellings.

The highest predicted noise levels are at house 22 (the Martin dwelling) at 32 dB $L_{A90(10min)}$, with all other dwellings predicted to receive noise levels below 30 dB $L_{A90(10min)}$.

This means that the wind farm will likely be largely inaudible, and only intermittently audible when there are still conditions at the dwelling location and windy conditions at the wind farm site.

Ambient sound level surveys

In accordance with NZS6808, where a predicted noise level is 35 dB $L_{A90(10\ min)}$ or above, background sound level measurements should be undertaken to determine the applicable noise limit. The conditions require noise level surveys at all dwellings where the predicted wind farm sound level is higher than 30 dB $L_{A90(10\ min)}$.

Currently, only one location (Martin) shows a predicted wind farm noise level above 30 dB L_{A90}, of 32 dB L_{A90}. Therefore, ambient measurements are required to be undertaken at this location prior to the construction of the wind farm.

The proposed conditions require two ambient sound level surveys, therefore, another position in addition to the Martin house will need to be undertaken. This should be at one of the houses labelled 23 to 25 in the figure referenced above.

Submissions

I have reviewed the submissions received as they relate to noise and/or vibration. Of the 15 submissions received on the application, only four raise noise issues. I address each of these submissions below.

<u>Te Waitere View Ltd</u>

The submitter is concerned with noise from construction and operation of the wind farm. The concern is that wind farm noise will be at a level so that the submitter loses *"the ability to hear the sea in the morning and evening"*.

The submitter is approximately 3 km from the closest wind turbine and just under 8 km from the coast. At the distance from the closest turbine, I consider that the wind farm noise level would be around 25 dB $L_{A90(10min)}$ and, while potentially at times audible, will generally be inaudible and should not interfere with the ambient noise environment. I do not consider that the wind farm will result in the effects the submitter is concerned about.

During construction, I do not consider that noise levels will have adverse effects as at the distance and the shielding afforded by the intervening terrain (e.g. where materials are transported along the road), noise

levels will be well less than 35 dB L_{Aeq} and therefore, while potentially audible at times outside, will be generally inaudible.

Knight Family Trust

The submitter seeks to understand the noise levels from the wind farm at their property and comments that no noise level survey has been undertaken. Noise level surveys only need to be undertaken where the predicted noise level from the wind farm is 35 dB L_{A90} or higher.

The submitter property appears to be about 4 km from the closest wind turbine. I estimate that the noise levels at this property would be less than 25 dB L_{A90} which will be largely inaudible. Based on this noise level, I consider that the wind farm will have negligible noise effects on this property.

Leslie Gaston

The submitter is concerned with the noise pollution from trucks on the public roads when delivering the wind farm components. I understand that delivery will occur via Te Anga Road rather than through Marokopa.

Trucks on the public road are not governed by noise limits in the District Plan. Nevertheless, it is important to apply the best practicable option to reduce noise effects as far as practicable. This means that deliveries should only occur during daytime to avoid night-time noise impacts, ensuring that roads and trucks are well maintained and drivers are careful and mindful of neighbouring dwellings, to reduce noise generation.

I do note, however, that traffic on the public road is intended to and permitted to use the roads and that audibility is not an appropriate design criterion for traffic on the road.

Marokopa Paa Environmental Team

The submitter queries the noise levels from the turbines. It is unclear if this information is sought for the environment as a whole or at a specific location in relation to the Marokopa Paa.

As discussed, any receiver more than 2km from the closest wind turbine is likely to receive noise levels below 35 dB L_{A90} which is a relatively low level that is unlikely to cause adverse effects on the environment. Any locations further away will receive lower noise levels, and therefore negligible effects where the wind turbines will be largely inaudible.

Conditions

The latest bundle of documentation received after 15 September 2023 included suggested conditions for the wind farm. Altissimo, in their letter included in document (d) above, recommends updates to the noise conditions. We have accepted the proposed changes and provide some slight amendments (in ~~strikethrough~~ and underline, with our comments in *[…]*). With these changes in place, we agree with the proposed conditions as set out below.

Note that we have replaced the word “sound” with “noise” as it is the noise of the wind turbines that is being assessed. Noise has a specific meaning and that is also reflected in the title of the relevant New Zealand Standard ‘NZS 6806 Acoustics – Wind Farm Noise’.

“Noise

Operational Noise

7. The consent holder shall ensure that ~~sound~~ noise from sources on the site other than those within the scope of conditions 8 and 12 does not exceed the following noise limits:

7.00am to 7.00pm	45 dB $L_{Aeq(15min)}$
7.00pm to 7.00~~pm~~am	35 dB $L_{Aeq(15min)}$
	60 dB L_{AFmax}

Noise ~~Sound~~ shall be measured in accordance with NZS 6801:2008 and assessed in accordance with NZS 6802:2008.

8. The consent holder shall ensure that, at the specified assessment positions, at any wind speed, wind farm noise ~~sound~~ levels ~~d~~o not exceed 40 dB $L_{A90(10\,min)}$. Wind farm noise ~~sound~~ shall be measured and assessed in accordance with NZS 6808:2010. The Assessment Positions shall be outside at the locations marked 22, 23, 24 and 25 on Site Plan [x].

[We note that at present Site Plan [x] is not currently shown in the conditions offered and will need to be provided.]

9. Prior to ~~installation of the turbines~~ commencing any development of the wind farm, background sound level measurements shall be undertaken at any Assessment Position within the 30 dB L_{A90} contour. Measurements shall be ~~measured~~ undertaken in accordance with Section 7.4 of NZS 6808:2010 Acoustics – Wind Farm Noise. If no Assessment Positions have predicted noise ~~sound~~ levels above 30 dB L_{A90}, measurements shall be performed at two of the Assessment Positions to the satisfaction of Council's Manager, Policy and Planning. A report of measured noise ~~sound~~ levels shall be prepared in accordance with Section 8.2 of NZS 6808:2010 and submitted to the Council's Manager, Policy and Planning.

[We consider that the background sound level survey must be undertaken prior to activity on site. Construction noise can affect ambient noise level measurement, particularly in a currently relatively low noise environment. Therefore, we do not agree that the surveys should be undertaken prior to installation of turbines but should be done prior to activities on site. There is no intensive forestry or similar in the area that could lead to a significant change in background sound should the survey be done 12 months or longer before wind farm development. While for some wind farm sites that may be an issue, it is unlikely to be a risk factor here.]

10. Prior to installation of the turbines, a prediction report shall be submitted to the Council's Manager Policy and Planning, in accordance with Section 8.4.2 of NZS 6808:2010. That prediction ~~should~~ shall be based on the highest sound power level of the turbine to be installed, and include results for both NZS 6808:2010 and IoA GPG methods.

11. The wind turbines shall not have a sound power level of greater than 107.2 dB L_{WA}. A certificate confirming the sound power level shall be included in the prediction report required by Condition 10.

Construction Noise

12. Noise from all construction and decommissioning work including (but not limited to):

    a. Public road upgrades between SH37 and the site;

    b. Site works;

    c. Wind turbine generator assembly and placement;

    d. Concrete placement;

    e. Wind turbine removal; and

    f. Land reinstatement

    ~~S~~shall be measured and assessed in accordance with the requirements of NZS6803:1999 Acoustics – Construction Noise~~.~~ and shall comply with ~~T~~the noise limits ~~shall be those set out~~ in the Table ~~2 of NZS6803 for works of "long term" duration (the levels for long term construction work are reproduced in the table below)~~.

Time	Weekdays		Saturdays		Sundays	
	L_{Aeq}	L_{AFmax}	L_{Aeq}	L_{AFmax}	L_{Aeq}	L_{AFmax}
0630-0730	55 dB~~A~~	75 dB~~A~~	45 dB~~A~~	75 dB~~A~~	45 dB~~A~~	75 dB~~A~~
0730-1800	70 dB~~A~~	85 dB~~A~~	70 dB~~A~~	85 dB~~A~~	55 dB~~A~~	85 dB~~A~~
1800-2000	65 dB~~A~~	80 dB~~A~~	45 dB~~A~~	75 dB~~A~~	45 dB~~A~~	75 dB~~A~~
2000-0630	45 dB~~A~~	75 dB~~A~~	45 dB~~A~~	75 dB~~A~~	45 dB~~A~~	75 dB~~A~~

[Following the site visit and gaining a better understanding of the works required to be undertaken on the local roads to enable the wind farm to be constructed, we consider that construction works directly related to the construction of the wind farm should also be made to comply with the relevant standards above. This specifically relates to potential night-time works to upgrade bridges. The remainder of the condition has been simplified.]

13. – 15. *[No changes]*

Noise Monitoring

16. Within six months of the wind farm becoming fully operational ~~commencement of operation~~, wind farm noise ~~sound~~ levels shall be measured at all Assessment Positions where, in the report of Condition 10, predicted noise ~~sound~~ levels ~~were~~ are greater than 30 dB L_{A90}. If no Assessment Positions have predicted noise ~~sound~~ levels above 30 dB L_{A90}, measurements shall be performed at two locations agreed with Council. A compliance assessment report shall be submitted to the Manager Policy and Planning, Waitomo District Council in accordance with Section 8.4.1 of NZS 6808:2010. If no Assessment Positions have predicted noise ~~sound~~ levels above 30 dB L_{A90}, measurements shall be performed at same locations measured in Condition 9. If access is denied, alternate ~~at~~ locations are to be ~~proposed to the satisfaction of~~ agreed with Council's Manager, Policy and Planning ~~Waitomo District Council~~ in accordance with section 8.4.1 of NZS 6808:2010."

[We consider that the final survey should be undertaken when all turbines are operational as operations may commence with only part of the turbines in place which does not reflect the worst case noise levels.]

Appendix 7

Ecology Assessment

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Memo.

Ecology Technical Report to inform the S42a report for the Taumatatotara Wind Farm	**To:** Chris Dawson BBO
	From: Dr Leigh Bull
Date: 12 October 2023	**Project No.:** BG2301

1. The purpose of this memorandum is to provide a technical report in relation to ecological matters to assist with the preparation of a Section 42a report for the proposal to vary the existing consents for the Taumatatotara Wind Farm.
2. This memorandum provides a brief summary of the results of the earlier ecological assessments[1,2,3] for the Taumatatotara wind farm, as well as the information that has been requested from the Applicant and received for the latest proposal to vary the consents.
3. A site visit was undertaken on 22 June 2023 to familiarise the author with the site, as well as the ecological features present.

2006 and 2011 Taumatatotara Ecological Effects Assessment

4. The ecological assessments[1,2,3] on which the original resource consents (2006) and subsequent variation (2011) were granted did not undertake any extensive or targeted field investigations. Rather, they identified *Threatened* or *At Risk* species that may occur on the site based on the habitat available or their known presence in the wider landscape, stating[1,2]:

    a) "*While the regular occurrence of NZ falcon within the study area is unlikely, this species has been recorded as being present in the locality in the past (Moynihan, 1986). The foraging behaviour of the NZ falcon and its flying characteristics in relation to wind turbines (flight height, distance of flying birds to turbines and turbine blades, and frequency of perching on turbine structures) are unknown and may or may not make this species susceptible to*

[1] Kessels & Associates Ltd (2004). Ecological Assessments of Proposed Wind Farms, Taumatatotara West Rd, Taharoa. Report prepared for Ventus Energy Ltd, dated 17 December 2004.
[2] Kessels & Associates Ltd (2005). Proposed Wind Farm Turbine Sites 18-22: Assessment of Ecological Effects. Report prepared for Ventus Energy Ltd, dated December 2005.
[3] Kessels & Associates Ltd (2011). Ecological effects of the proposed tip height extension Taumatatotara (T4) wind farm. Letter from Gerry Kessels to Glenn Starr (Ventus Energy Ltd) dated 27 November 2011.

collisions. Nonetheless, combined with the birds rarity and threatened status, even occasional mortalities may be significant."

b) *"It is likely that long-tailed bats exist in the Aorangi Scenic Reserve and possibly in the forest on the cliffs adjacent to the Taumatatotara site (Moynihan, 1986). It is possible that bats could hunt at night for insects in the vicinity of the turbines. However, bats are extremely agile and have the assistance of echolocation to help them to capture prey and avoid obstacles, so the risk of them hitting the structures, blades or power lines is considered to be extremely low.*"

5. As was the case for most ecological assessments at the time of the original consent, the actual level of effect on those species as a result of the wind farm was never specifically quantified.

Advancement in Wind Farm Ecological Effects Assessments

6. Since the original granting of consents, the practice of undertaking ecological assessments for wind farm developments has progressed significantly, both in New Zealand and internationally. Notably, AUSWEA (2018) produced best practice guidelines for ecological assessments for wind farms, which recommends the following approach:

    a) a desktop review of available information to identify any potential issues that may prevent the project being approved;

    b) field surveys to map the vegetation and identify flora and fauna species;

    c) species-specific studies to obtain more information about significant flora and fauna (particularly birds and bats) that may be at risk from the development or to avoid them or develop mitigation strategies;

    d) development of avoidance, mitigation and offset strategies to minimise impacts on species if required; and

    e) development and implementation of monitoring programs for the construction and operational phases of the wind farm development.

7. Given the earlier Taumatatotara ecological assessments pre-dated these guidelines, they did not follow the above approach. In particular, there was a lack of targeted surveys for Threatened and At Risk species that were identified as possibly present on the site or in the wider area (e.g. long-tailed bat and NZ falcon). As such, species presence, abundance, distribution and patterns of movements across the wind farm site were largely unknown, and therefore the effects were not quantified in a meaningful way.

8. Our understanding of potential effects of wind farms on bats has also increased, with the identification of both direct collisions and barotrauma being identified as causes of deaths.[4,5,6]

9. Furthermore, for several years the New Zealand Department of Conservation (DOC) has been developing an advice note on 'Bats and windfarms in New Zealand', which summarises current understanding of the potential impacts of windfarms on New Zealand bats and the potential management responses. The Department has released numerous draft iterations of the advice

[4] Baerwald et al. (2008). Barotrauma is a significant cause of bat fatalities at wind turbines. *Current Biology 18*
[5] Zimmerling & Francis (2016). Bat mortality due to wind turbines in Canada. *Journal of Wildlife Management 80*: 1360-1369
[6] Lawson et al. (2020). An investigation into the potential for wind turbines to cause barotrauma in bats. *PlosOne 15:* e0242485

note over the ensuing period; however a final version[7] of the advice note is now available for ecologists and wind farm developers.

Technical Review of the Ecological Effects Assessment for the proposed variation

10. An ecological assessment[8] was submitted with the current application to reduce the number of turbines on the wind farm by 50%, but increase the overall RSA[9] by 20%. Despite the lack of targeted field studies for the earlier assessments, and the recommendation of the AUSWEA (2018) guidelines for such studies, no field surveys were undertaken to inform this assessment. Nevertheless, the assessment concluded that "*the potential adverse ecological effects of increasing the maximum turbine tip height from 110m to 172.5m and increasing the rotor diameter from 100m to 155m are likely to be negligible at most. While bird and bat fatalities are unlikely to change with increased blade tip height and rotor diameter, the 50% reduction in turbine numbers is highly likely to reduce fatalities, which would be a positive ecological benefit overall*."

11. The premise of the resulting Section 92 further information request for ecology[10] was that in order to be able to assess potential ecological effects, it is critical to first have an understanding of what species are present and how they are utilising the sites (i.e. as per the AUSWEA (2018) best practice guidelines).

12. The assessment of ecological effects undertaken for the application to vary the Taumatatotara wind farm did not follow these best practice guidelines, and did not contain the necessary information to be able to effectively determine the impacts of the proposal. As such the additional information was requested primarily related to the *Threatened* and *At Risk* species previously identified as potentially on site.

13. The applicant provided separate responses to this request for avifauna[11] and bats[12], in which it was concluded that the proposal would not have a measurable effect on bird, and highly likely to reduce bat fatalities. However, it remained unclear how it could be determined that this was the case when again no field investigations had been undertaken to even identify exactly what Threatened or At Risk species were present on the site, let alone how they were using the site.

14. In relation to bats, a key basis for the conclusion was the comparison of existing potential habitat at turbines 12-22 vs 1-11. The report[12] stated "*What is immediately obvious from aerial image mapping is that the intact native forestry fragments (which is likely to provide relatively high quality areas of bat habitat) are much larger around the (consented) Turbine 12 – 22 turbine block which is proposed to be surrendered as part of this application (Appendix 1). There is also cliff and rocky outcrops along the western flank of turbines 17 to 22 which may form attractive bat habitat. Comparisons of habitat strongly suggest that current or future bat habitats are more likely adjacent to turbine block 12 to 22*."

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[7] New Zealand Bat Recovery Group Information Sheet – "Bats and wind farms in New Zealand". Version 5.0 dated October 2023

[8] Ecology New Zealand (2020). Taumatatotara (T4) wind farm: Ecological assessment of increased turbine height, increased rotor diameter and reduced number of turbines. Report prepared for Ventus, dated 30 June 2020.

[9] Rotor sweep area

[10] Boffa Miskell (2020). Taumatatotara wind farm Ecology Assessment – Further request for information. Memorandum prepared for Waitomo District Council, dated 7 August 2020.

[11] Appendix 4A: Ecology – Avifauna (Dr John Craig)

[12] Appendix 4B: Ecology – Bats (Ecology NZ, memorandum dated 9 December 2020)

15. In response to the request to undertake bat surveys on the site, the report[12] stated "*Rather than collecting bat monitoring data (which is of limited use in collision risk modelling) as requested in the s92 request, I would favour instead applying a condition of consent requiring the use of bat detection and deterrent technology (e.g., NRG Bat Deterrent System)*". In addition, the report recommended that *"consent condition that requires that the applicant establish a pest control programme over a minimum area commensurate with the scale of the project (e.g., 200 hectares of native forest habitat) with the primary objective of protecting key bat habitats on-site and possibly adjoining properties with suitable habitat for protection*."

16. Based on the information provided by the applicant's ecologists, it remained my opinion that there was still insufficient site-specific information on which to determine the ecological effects of the proposed turbine changes on avifauna and bats that may be present on the site. As such, a further request[13] was made to collect the following data:

    a) For bats, the presence or absence of activity at each of the turbine sites; and
    b) For avifauna, presence/absence of species, and their distribution across the site in relation to preferred habitats.

17. In addition to requesting the collection of data, concerns were raised (and expanded below) regarding:

    a) the proposed use of technology which hasn't been trialled in New Zealand as a means to mitigate potential bat collisions; and
    b) the basis on which it had been determined that the proposed pest control programme over 200 ha, presumably as an offset measure, was adequate to address any potential effects on bats. Given no data had been collected regarding bats on the site, and therefore at risk of collision, how was it possible to determine if the scale of the proposed offset is appropriate, or even required?

18. In terms of bat detection and deterrent technology (e.g. NRG Bat Deterrent System), while it could be an attractive option, it would depend on if New Zealand's bat species are susceptible to the method. I am aware of a number of studies[14,15] evaluating the effectiveness of bat deterrent systems that report highly species-specific differences, with reductions in bat fatalities only being reported for some species. Such deterrent systems have not been used or tested on New Zealand bats, and as such there is no information or evidence regarding their effectiveness for this Nationally Critical species. Furthermore, acoustic deterrent technology has not eliminated all fatalities for any of the susceptible species. I therefore consider that the application of this technology would be experimental only, with a risk that it is ineffective. These points are also raised in DOC's draft and final[7] advice note on bats and wind farms in New Zealand.

19. Avifauna and bat field surveys were then conducted by the applicant's ecologists, and the results provided[16]. In regard to birds, point count data was collected but no targeted falcon surveys were

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[13] Boffa Miskell (2020). Taumatatotara wind farm Ecology Assessment – Further request for information. Memorandum prepared for Waitomo District Council, dated 7 August 2020.
[14] Weaver, S. P., Hein, C. D., Simpson, T. R., Evans, J. W., & Castro-Arellano, I. (2020). Ultrasonic acoustic deterrents significantly reduce bat fatalities at wind turbines. Global Ecology and Conservation, e01099.
[15] Arnett, E. B., Hein, C. D., Schirmacher, M. R., Huso, M. M., & Szewczak, J. M. (2013). Evaluating the effectiveness of an ultrasonic acoustic deterrent for reducing bat fatalities at wind turbines. PloS one, 8(6), e65794.
[16] Ecology New Zealand (2021). Taumatatotara (T4) Wind Farm – Further s92 response - Bats. Memorandum prepared for Ventus, dated 30 10 April 2021.

conducted. For bats, 17 bat recorders (ABMs) were deployed across the site, two of which malfunctioned. The results of that monitoring record bat activity at 12 of the 15 sites, with varying abundances (ranging from an average of 12.7 to 0.1 passes per night). Nevertheless, the report concluded that "*Rather than indicating any further assessment or design work is required, the findings in relation to bats support the package of mitigation (i.e., use of bat deterrent technology at turbine sites), monitoring (of the local bat population), and compensation (i.e., predator control in adjacent bush blocks; Appendix 2) measures put forward by the applicant*."

20. It is my professional opinion that with the data presented, the above conclusions for bats are not supported by the data.

21. Furthermore, the data was collected for a maximum period of 19 nights from 23 February 2021 to 15 March 2021. This represents a very short monitoring period which only covers one period of bat activity. DOC's advice note[7] states "*To determine presence of bats, developers should undertake a minimum of three surveys to cover spring, summer and autumn, which may need to be over several years, because habitat use patterns and flight ranges vary over time. Absence of bats in one season does not mean that they will not be present in others*."

22. On reviewing[17] the results of the avifauna field surveys, it was my professional opinion that observations made while undertaking other ecological investigations over a period of two days were both insufficient in survey effort and lacking in targeted methodology to adequately assess the implications of the proposed wind farm variation on NZ falcon. As such, I have recommended several consent conditions to address these concerns.

23. In regard to bats, I remained in disagreement with the Applicant's Ecologist regarding the potential level of effects on bats resulting from the proposed variation. Of particular concern was the finding that the highest levels of bat activity were not recorded at the sites previously identified by the Applicant's ecologist as most likely containing bats (refer to paragraph 13 above); rather two of the highest levels of bat activity were recorded within the northern part of the wind farm, where it is proposed to increase the RSA by 20%. These findings serve to highlight the importance of undertaking field investigations to validate (or otherwise) assumptions.

24. Furthermore, I disagreed with the continued approach to move directly to an offset / compensation package for any such effects. It appeared from the information provided that no consideration had been given to the potential use of curtailment protocols to reduce the potential to disturb, kill or injure bats. I note DOC recommends the consideration of curtailment in their draft and final advice note[7] on bats and wind farms in New Zealand.

25. In addition to not following the effects management hierarchy, insufficient evidence was provided regarding the appropriateness of the "mitigation package" that was being offered; that being the use of bat deterrent technology at turbine sites, monitoring of the local bat population and predator control in adjacent bush blocks for a limited period of time (refer to paragraph 14 above).

[17] Boffa Miskell (2021). Taumatatotara wind farm – Review of additional ecological surveys. Memorandum dated 6 May 2021.

26. The Applicant then provided a further ecological assessment[18] using the data previously collected, the conclusions of which were unchanged from those provided in earlier reports. However, the following three measures were proposed to be added to the existing consent conditions:

    a) Monitoring and deterrent devices – Placement of bat detectors on four turbines (1, 4, 7 and 11) for 12 months. Following that, one bat deterrent device shall be deployed to the turbine that recorded the highest bat activity and operated for a period of 2 years.
    b) Bat population survey – A principal sum of **up to** $10,000 per year for 5 years to support an investigation of bat populations in the geographical area running from Marokopa, Te Anga, Te Waitere and Taharoa.
    c) Pest control – Over a minimum of 20 ha of the two larger forest areas in the surrounding landscape to create biodiversity gains.

27. Notably, the area over which pest control was proposed decreased from 200 ha (originally reported in Ecology NZ, memorandum dated 9 December 2020[12]) to 20 ha, but with no explanation as to the reason for this. Given the Applicant's Ecologists had not changed their conclusions in regard to the level of effects, it was unclear what this change is based on, and as such this query was put to the Applicant as part of a further[19] s92.

28. In his response[20] to that s92, the Applicant's Planner stated "*It was not offered as a remedy to reduce adverse effects because we don't believe there are any*". This statement adds further confusion given this measure is specifically identified in Section 7.2 of the most recent Ecological Assessment[18] as a measure to remedy, whereas it had been called mitigation and an offset in other communications.

29. Furthermore, in his response, the Applicant's Planner notes that TWFL had met with DOC and have agreed to consider different techniques the project could contribute to for improving/maintaining the population of long tailed bats. These techniques include:

    - Surveys to determine localised prevalence of bats;
    - Detection at each turbine;
    - Deterrent mechanisms;
    - Curtailment;
    - Pest control.

30. While it is pleasing to hear that TWFL had started these discussions with DOC, as noted by the Applicant's Planner, "*The exact nature and scope of these techniques have not yet been discussed and agreed but we believe these could provide a win-win for any local bat population and if so such measures could lead to some agreement with DOC*."

31. Most recently[21], further changes to the Taumatatotara wind farm layout and rotor dimensions have been proposed by the Applicant[22], with the removal of three more turbines (2, 4 and 9), an increase in rotor diameter from 155 m to 163 m, and a corresponding increase in tip height from 172.5 to 180.5 m (while still maintaining 17.5 m ground clearance).

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[18] Taumatatotara wind farm ecological assessment of the existing 22 turbine consented activity plus the proposed tip height variation in response to s92 requests. Prepared by Dr John Craig and Simon Chapman, dated 10 August 2021.
[19] Letter from WDC to Glenn Starr dated 3 July 2023.
[20] Letter from Craig Shearer to Alex Bell dated 6 July 2023.
[21] 'Update on progress – Taumatatotara Windfarm Limited (T4) consent variation application'. Letter from Gillian Chappell to Chris Dawson dated 15 September 2023
[22] Outlined in a letter from Gill Chappell dated 15 September 2023.

32. In addition, the Applicant is proposing the removal of acoustic deterrent devices on the basis that these were negatively viewed by DOC.[23]

33. The Applicant's Ecologist prepared a memo[24] reviewing the proposed changes, concluding that "*the reduction in number of wind turbines and their total rotor sweep will further avoid and minimise the effects of the Taumatatotara Wind Farm beyond the Variation Application currently being assessed*".

34. However, given no further details were provided at that stage, a request was made to the Applicant for a map showing the locations of the bat survey sites, turbine locations and distances of turbines from the Significant Natural Areas (SNAs) in order to better understand the prosed changes in an ecological context; this map was provided on 29 September 2023 and is included in Appendix 1 of this report. Information in the table on that map is replicated below and ordered based on highest to lowest average number of bat passes. The turbines which are proposed to be removed are identified in red text, and do not include the turbines at which the highest levels of bat activity were recorded (those being turbines 1, 11 and 7).

35. Furthermore, while curtailment was previously identified in s92 response letter[20] from the Applicant's Planner as a technique that the project would consider, there was no mention of this method in the most recent information provided. As reported in DOC's advice note[7] "*To date, overseas strategies that curtail turbine activity when bats are present, or predicted to be present, only reduce mortality of bats rather than stopping it. Some curtailment strategies have been successful at reducing bat mortality by c.50 – c.85%. However, successful strategies are often species, site, or even turbine, specific",* while acknowledging that "*No-one has tested curtailment strategies for New Zealand bats, but the rich overseas literature shows us there are options for curtailment to reduce risk to bats*."

Turbine	Distance (m) to SNA	Bat detector	Bat detect distance (m)	Ave passes / night
6	127	4	151	Failed
1	469	1	245	8.75
11	104	9	108	6.15
7	19	5	40	0.94
2	**220**	**2**	**124**	**0.93**
3	49	2	128	0.93
4	**38**	**3**	**145**	**0.73**
5	98	3	88	0.73
10	125	8	217	0.54
8	86	6	100	0.4
9	**267**	**7**	**159**	**0**

Summary

36. The original (2006 and 2011) assessments only alluded to bats being present in the wider area, furthermore they considered the risk of bats hitting the structures, blades or power lines was extremely low.

[23] Refer to letter from Glenn Starr to Waitomo District Council dated 14 September 2023.
[24] Ecology New Zealand (2023). Taumatatotara (T4) wind farm. Report prepared for Ventus Energy (NZ) Ltd, dated 15 September 2023.

37. The first ecological assessment for the current application only undertook a desktop approach (no field data) which then elicited my initial s92 recommendations.

38. Through the s92 process, long-tailed data has been collected showing the presence of this species across the site. However, the survey was only undertaken during one of the key periods of bat activity.

39. Still no appropriate / targeted NZ falcon surveys have been undertaken.

40. In addition, studies arising since the time of the original assessment have shown that bats populations can be impacted by wind farm developments.

41. It remains my opinion that effects to bats and falcon of the proposed changes to the windfarm cannot be appropriately judged, and that the effects management regime cannot be adequately considered. On this basis, turbine curtailment should be given due consideration as a requirement to manage potential effects on bats.

Recommendations

Adequacy of information

42. The actual level of effect on Threatened and At Risk species associated with the original 2006 consents and 2011 variation for the Taumatatotara wind farm were never specifically quantified (refer to paragraph 4 above).

43. Through the s92 process, long-tailed data (albeit limited) have been collected for the Taumatatotara site, with the results showing the presence of this species across the site in varying abundances.

44. As such, it was expected that the Applicant's Ecologist would use these data to quantify the level of effect on bats as a result of the original consented wind farm design in order to then compare it to the level of effect on bats associated with the current proposal. This analysis would then allow a quantifiable comparison of effects between the consented and proposed wind farms. Rather, the information provided to date has made generic and unsubstantiated statements about the level of effects and benefits arising from the current proposal.

45. While targeted baseline data is yet to be collected for NZ falcon, I believe this can be dealt with via a consent condition as outlined below.

Proposed consent conditions

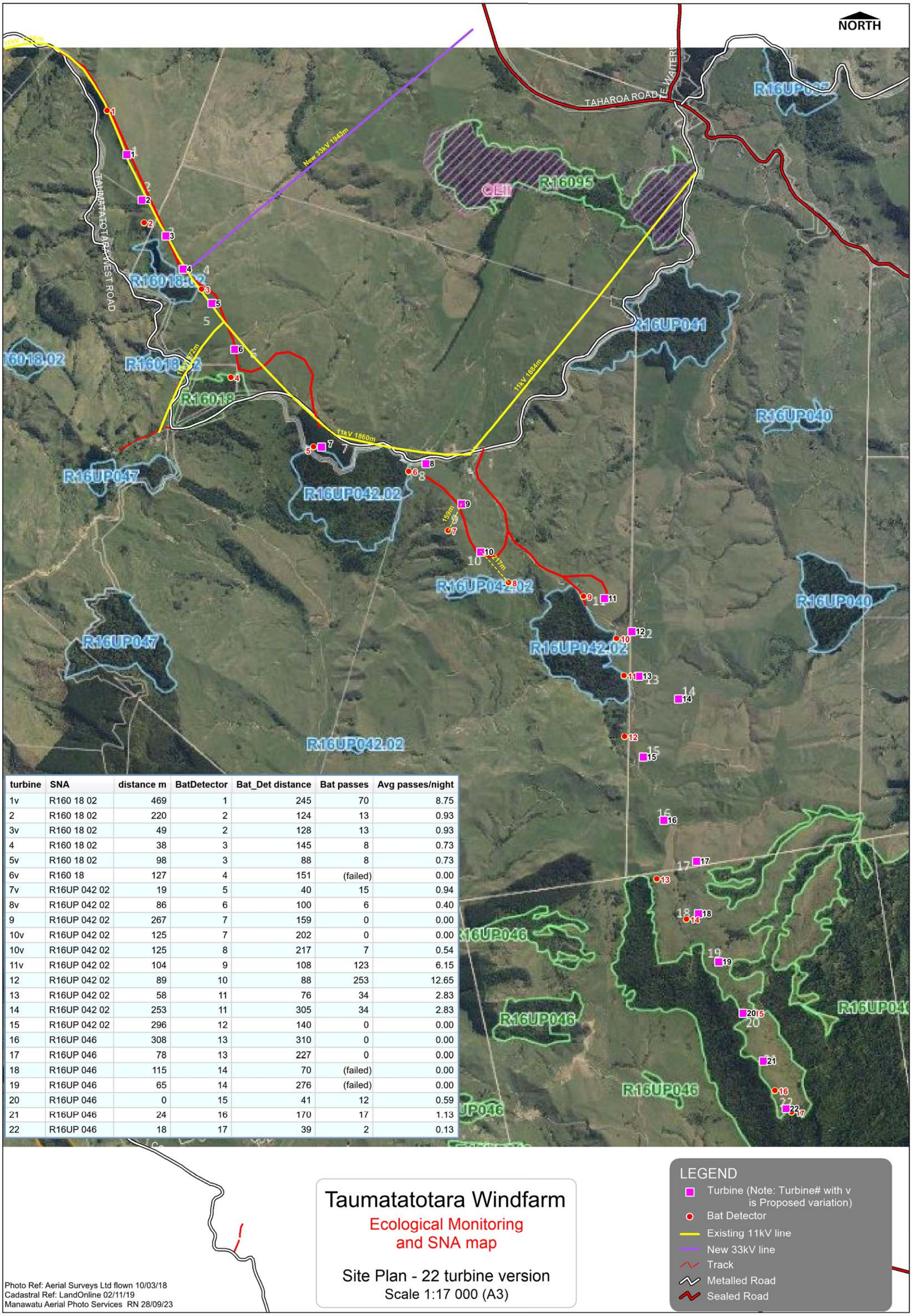
46. The latest set of proposed consent conditions, dated 15 September 2023, were put forward by the Applicant in their most recent changes (refer to paragraph 29 above). Given the residual uncertainty around the level of potential effect on both NZ falcon and bats at the site, I do not agree in full with the Applicant's proposed conditions on the following basis:

    a) They do not include a baseline study for NZ falcon.
    b) They do not include the collection of baseline data for bats over the three key activity periods (spring, summer and autumn):
    c) They do not provide for a standardised post-construction mortality monitoring, rather just ad-hoc observations of bird and bat strike.
    d) They exclude the option for any modification or restriction of the operations of the wind turbines, even if a significant adverse effect is detected. Therefore, they do not allow for

the possibility of the application of turbine curtailment to minimise potential effects on bats.

47. Accordingly, I provided specific recommendations pertaining to the individual conditions directly into the condition set to address the above listed concerns.

Appendix 1 – Ecological Monitoring and SNA map



turbine	SNA	distance m	BatDetector	Bat_Det distance	Bat passes	Avg passes/night
1v	R160 18 02	469	1	245	70	8.75
2	R160 18 02	220	2	124	13	0.93
3v	R160 18 02	49	2	128	13	0.93
4	R160 18 02	38	3	145	8	0.73
5v	R160 18 02	98	3	88	8	0.73
6v	R160 18	127	4	151	(failed)	0.00
7v	R16UP 042 02	19	5	40	15	0.94
8v	R16UP 042 02	86	6	100	6	0.40
9	R16UP 042 02	267	7	159	0	0.00
10v	R16UP 042 02	125	7	202	0	0.00
10v	R16UP 042 02	125	8	217	7	0.54
11v	R16UP 042 02	104	9	108	123	6.15
12	R16UP 042 02	89	10	88	253	12.65
13	R16UP 042 02	58	11	76	34	2.83
14	R16UP 042 02	253	11	305	34	2.83
15	R16UP 042 02	296	12	140	0	0.00
16	R16UP 046	308	13	310	0	0.00
17	R16UP 046	78	13	227	0	0.00
18	R16UP 046	115	14	70	(failed)	0.00
19	R16UP 046	65	14	276	(failed)	0.00
20	R16UP 046	0	15	41	12	0.59
21	R16UP 046	24	16	170	17	1.13
22	R16UP 046	18	17	39	2	0.13

Taumatatotara Windfarm

Ecological Monitoring and SNA map

Site Plan - 22 turbine version

Scale 1:17 000 (A3)

Photo Ref: Aerial Surveys Ltd flown 10/03/18
Cadastral Ref: LandOnline 02/11/19
Manawatu Aerial Photo Services RN 28/09/23

LEGEND

- Turbine (Note: Turbine# with v is Proposed variation)
- Bat Detector
- Existing 11kV line
- New 33kV line
- Track
- Metalled Road
- Sealed Road

Appendix 2 - Reviewer Qualifications & Experience

The author of this memo holds the following relevant qualifications and experience appropriate to undertake this review:

- Bachelor of Science (Zoology), MSc with Honours (Ecology) and PhD (Ecology), with specialisation in the area of ornithology.
- 20 years of working as a practicing ecologist, including within the Biodiversity Recovery Unit of the Department of Conservation (DOC).
- Co-author of the DOC New Zealand threat classification list (2007[25]) as well as reviewing and production of a number of DOC threatened species recovery plans.
- Undertaken a number of ecological scoping exercises for Meridian Energy Ltd for potential wind farm sites.
- Field investigations to inform ecological assessments for Mt Munro, Titiokura, Hawkes Bay, Central Wind and Waipipi wind farms.
- Preparation of ecological assessments for the resource consent applications for Mt Munro and Central Wind wind farms.
- Preparation of ecological assessments for consent variations for Titiokura and Hawkes Bay wind farms.
- Design of construction avifauna monitoring programme for Titiokura and Hawkes Bay wind farms.
- Design and implementation of post-construction avifauna monitoring and mortality searches for West Wind, Te Uku and Waipipi wind farms.
- Lead author of a scientific journal article[26] which was the first published record of post-construction avifauna monitoring at a New Zealand wind farm site.

[25] Hitchmough, R., Bull, L.S., Cromarty, P. (2007). New Zealand Threat Classification System lists-2005. DOC stand-alone publication 236. Department of Conservation, Wellington. 194p.
[26] Bull, L. S., Fuller, S., & Sim, D. (2013). Post-construction avian mortality monitoring at Project West Wind. New Zealand Journal of Zoology, 40(1), 28–46.

Appendix 8

Traffic Assessment

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Memo

To	Chris Dowson
From	Thato Mariti
Date	5 October 2023
Job No.	123391-103
Job name	Taumatatotara Wind Farm
Subject	**Taumatatotara Wind Farm - Transport Effects Peer Review**

1. Introduction

Bloxam Burnett & Oliver (BBO) were asked by Waitomo District Council (WDC) to review the transport information submitted by Taumatatotara Wind Farm Limited (TWF)[1] for the proposed wind farm. An initial consent was granted to for wind turbines with tip heights of 110m. In 2011, WDC granted an approval to increase the turbine tip height of the northern 11 turbines to 121.5m. A lapse date extension was granted in 2016 extending the implementation and completion of the project to June 2024.

TWF is currently pursuing the project completion and seeking to change Conditions 1, 2, 3 and 11 of the current resource consent as follows:

- Reduce the number of turbines consented from 22 to 11 (Conditions 1 and 2), including reducing the on-site roading proposed. The proposal is to provide for 11 turbines (in the same location as turbines 1-11 in the original consent). The applicant has further reduced the number of turbines from 11 to 8.
- Increase the tip height of the 11 northern turbines to 172.5m, with rotor diameter increasing from 110m to 155m.
- If the application is approved then Condition 5, relating specifically to turbines 19 – 22, will no longer be relevant and can be deleted.

WDC has requested a peer review of the transportation effects of the proposal, and whether these have been adequately addressed by the applicant. This review primarily concentrates on the transportation effects of decreasing the quantity of wind turbines while simultaneously increasing their height.

2. The Subject Site

The proposed windfarm site is 10km south of Taharoa Village and above the Taumatatotara Gorge in the Waitomo District, and is located on farms owned by three separate landowners. According to WDC online map, the subject site is zoned Rural with several rural residential properties located in the vicinity of the site. Figure 2.1 refers.

[1] Previous ownership was for Ventus Energy (NZ) Ltd (Ventus).

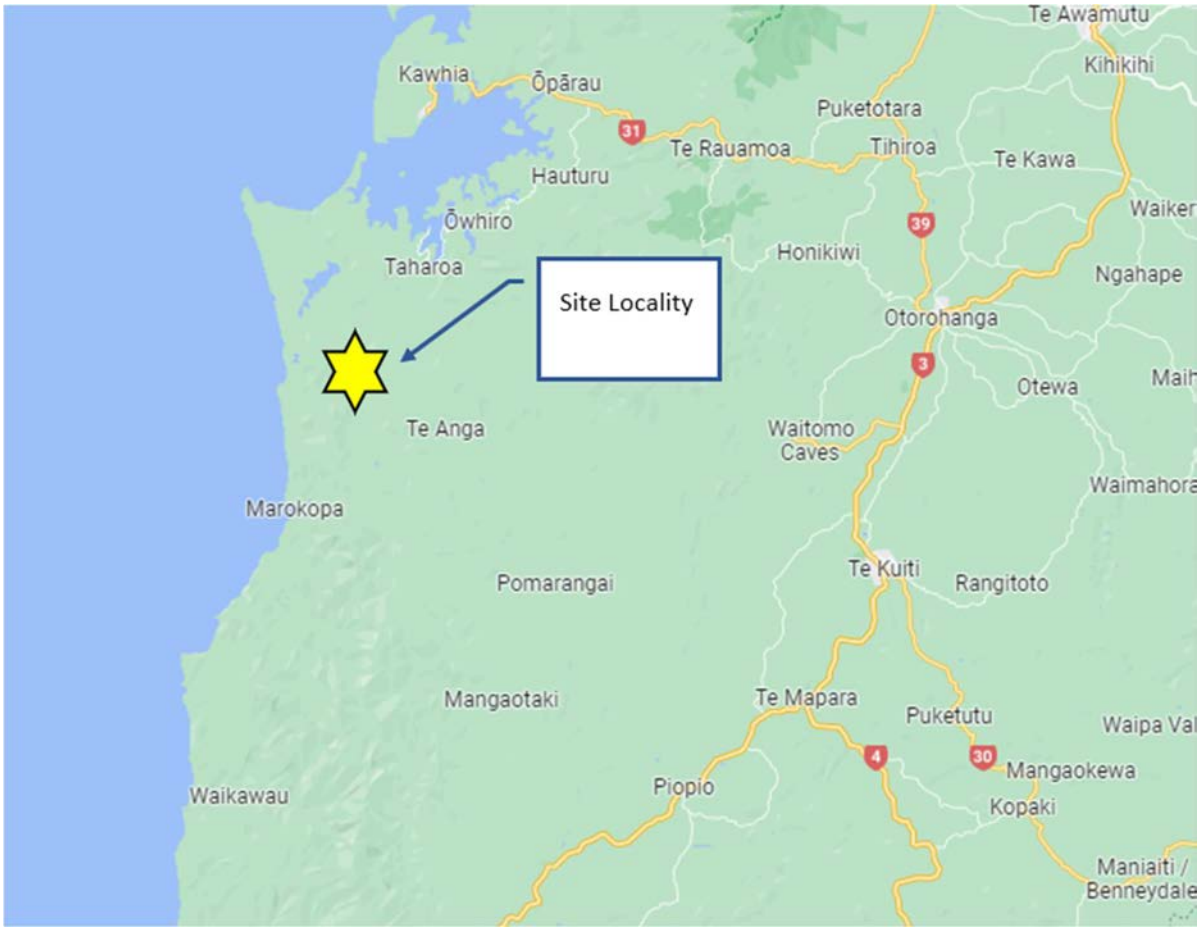

Figure No. 2.1

3. Proposed Wind Farm Peer Review

The structure of this peer review is as follows:

Section	Description
Overview of proposal	Summary of transport-related information received
Adequacy of provided information	Review of the transportation documents submitted to WDC
Submitters	Summary of transport-related concerns raised by Submitters
Conclusion and recommendations	Recommend further information be requested or conditions of consent to mitigate potential effects.
Appendix A	Summary of transport related submissions

4. Overview of Proposal

A comprehensive broad ITA report has not been submitted in support of the application. Instead, the applicant has only submitted Memos with summaries of the proposal and high-level transport assessment information. In response to s92 requests, the applicant has declined to provide an ITA and instead wishes to do so at a later stage of the project following approval of the S127 condition changes.

The following documents and items were submitted by the applicant and reviewed as part of this process:

1. **Taumatatotara Wind Farm Application to change conditions of consent (July 2020**):
   This document contains proposed changes to the conditions of consent for the wind farm due to changes in both size and number of wind turbines.
2. **Transportation of Turbine Components for Taumatatotara Wind Farm Memo (July 2020):**
   This memo details the transportation logistics for the turbine components in support of change of conditions application.
3. **Transportation Response to s92 – Taumatatotara Wind Farm – RM200019 (December 2020):**
   This memo was a response addressing specific transport relates information that was requested by WDC and submitters after reviewing document 1na d 2 above.
4. **Transportation Response to s92 – Taumatatotara Wind Farm – RM200019 (February 2021):**
   Similar to the previous response, this document was a response to additional information requested from the applicant.
5. **Bridge Review – Taumatatotara Wind Farm (April 2022):**
   This document involves a review of bridges within WDC on the route that will be used for wind turbine transportation.
6. **Turbine Dimensions:**
   This information details the dimensions of the wind turbines that will be installed for TWF.
7. **Taharoa C Tower Test Run (July 2009):**
   This document presents the results of a tower test run conducted for the Taharoa C Wind Farm. The test was conducted to assess the ability of roads and bridges along between Waitomo Village and Taharoa Township to accommodate the oversized vehicles including the live weights of the rubines components.

The following additional information has submitted for illustration and guidance purposes:

8. **Vestas Transport Guidelines:**
   These guidelines may outline specific transportation requirements and best practices related to Vestas wind turbines.
9. **Special Transporter Wind blade adapter:**
   This item describes a special transport truck that could be used for transporting wind turbine blades.

5. Adequacy of Applicants Documents relating to Transport Planning

5.1 Taumatatotara Wind Farm Application to change conditions of consent (July 2020):

Section 4.4 of the TWF application to change conditions of consent briefly addresses the transportation effects of the proposed wind farm. The applicant mentions that:

- The amended proposal for the wind farm includes larger and heavier wind turbine components. However, it is expected that transportation will be made easier due to technological advancements in fabrication and transportation techniques.

  I agree with the applicant regarding the potential benefits of employing advanced technology for facilitating the transportation of wind turbine components. Nevertheless, the applicant has yet to provide a clear plan on how they intend to further disassemble the turbine components. While the proposed change of conditions will have fewer turbines, the new turbines will rather have large components; and the applicant has mentioned that these will be broken into smaller components which effectively result in more generate traffic movements. Consent 23.

- It is not anticipated that any road widening beyond that which was previously approved for the existing consent will be necessary. This suggests that the existing road infrastructure should suffice for transportation.

  The current condition of Taumatatotara West Road is characterized by its narrowness and the presence of sharp curves. Therefore, the applicant shall adhere to the existing condition 23 and 24 for road widenings and alignment on this road.

- Together with application for over dimension and overweight permit, the applicant will submit a detailed route assessment including trailer tracking, road closures, timing, and other logistics to ensure safe and efficient transportation of the wind turbine component.

  It should also be noted that the component sizes will also be governed by the bridge capacities which is discussed in the section 5.4 below.

  I agree that the applicant should conduct a comprehensive route assessment, inclusive of detailed tracking curves, to demonstrate that the transportation of tower, nacelle, and blade components can be successfully accomplished without adverse effects on the environment per Conditions 22, 23 and 24.

5.2 Transportation of Turbine Components for Taumatatotara Wind Farm Memo (July 2020):

I consider the applicant reiterates the use of technology and proposes to make use of narrow blade design and a cantilevered transporter in the Memo.

The applicant now mentioned that the anticipated port of entry will be from Maungatapu Port in Tauranga. Additional information pertaining to route test run from Maunt Mount Maunganui Port to Taharoa Township has been submitted for review.

The route test report identified a need for the following mitigation measures within WDC roads:

- Widening of a roundabout circulating lane on Te Anga Road / Tumutumu Road outside of Waitomo Caves, by 8m.
- Road widening at some isolated corners along the route to allow the passage of oversized loads.
- Transportation route may have a potential impact on some power lines along Taharoa Road.
- Highlighted the need for assessments and widening of few bridges on Te Anga Road to ensure that these bridges can safely accommodate the weight and dimensions of wind turbine components.

I acknowledge that the submitted reports adequately address the effects of transportation of large tower components along the route between port of entry and Taharoa Township. However, it's worth noting that these reports were conducted over 15 years ago and do not account for any changes that have potentially occurred along the mentioned route in the intervening years.

I therefore recommend that an updated assessment of a tower test route be conducted prior to turbine component transportation to address any changes that may have occurred along the preferred route since the initial reports were produced. This updated assessment should take into consideration any route alterations for the intended purpose. Any mitigation measures required (if any) should clearly demonstrated to the satisfaction of WDC. This is adequately documented in condition 22 – 24.

It's worth noting that the current Tauranga Port route differs from the initially preferred one originating from New Plymouth Port. Ideally, the applicant should have conducted a high-level analysis of various ports of entry and the route options, highlighting the associated challenges and considerations for each. The mitigation measures for the preferred route would then be dealt with in a detailed assessment prior to the application for transportation permits.

I acknowledge that the existing road network from Waitomo Village to Taharoa Road intersection can accommodate over dimensioned vehicles and that the identified roading issues such as power lines are consistent with the report. The applicant has not yet addressed any mitigation measures for the identified risk locations. I recommend a route test run once the vehicle size has been confirmed and detailed route assessment conducted; any mitigations measures required should be addressed to the satisfaction of WDC Condition 24.

5.3 Transportation Response to s92 (TES)

Two letters from Traffic Engineering Solutions Limited (TES), Transportation Response to s92 – Taumatatotara Wind Farm – RM200019, dated 18 February and 17 December 2020 were submitted to WDC. The following are extracts from the information provided in the letters:

- Trip generation data for turbine delivery and construction incorporating the impact of reducing the number of wind turbines from 22 to 11.
- Discussion of the two proposed access points on Taumatatotara West Road, considering safety aspects such as sight lines and road width to accommodate anticipated traffic movements.

It is important to note that the letter did not cover sightline or road geometry adequacy at the intersection of Taharoa Road and Taumatatotara West Road. I therefore recommended that these issues be addressed in the detailed assessment and designs of the transportation route including improvements to the geometric design to enhance safety, particularly for unloaded over dimensioned trucks at this intersection to the satisfaction of Condition 24.

5.4 Bridge Review Report

The applicant has provided structural review by KINA Consulting Engineers dated 14 April 2022, along Te Anga Road and Taharoa Road. Feedback was given on the following critical bridges:

- Bridges 4,5,6, 7, 8 on Te Anga Road and
- Bridge (9) on Taharoa Road.

Figure 5.1 refers.

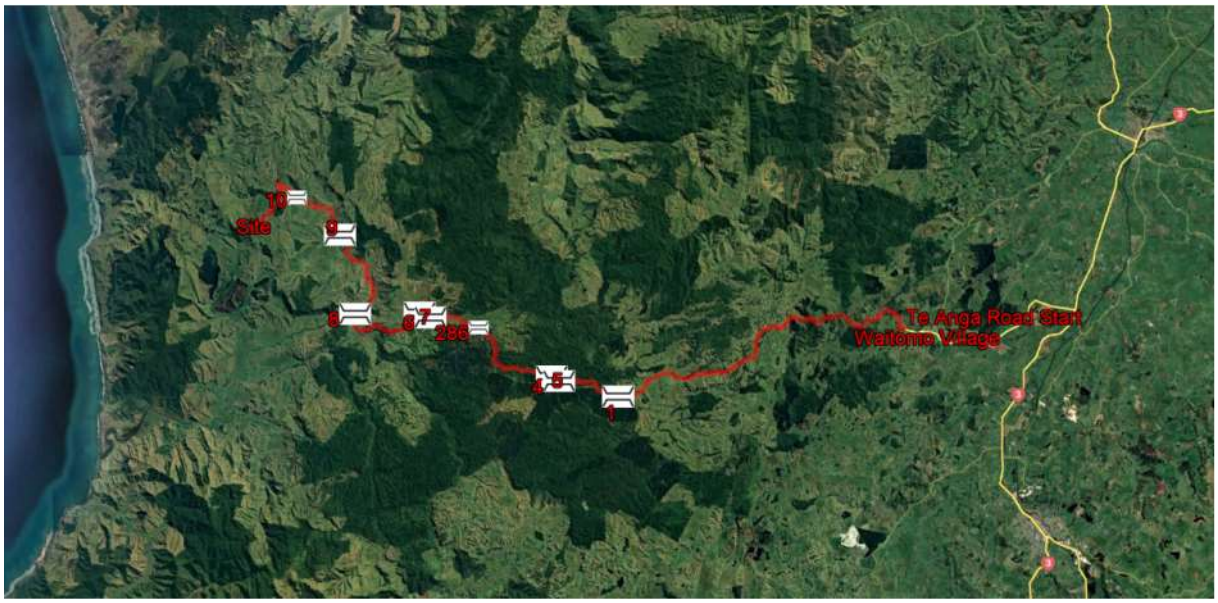

Figure No. 5.1

A bridge load ratio (BRL) methodology was used to assess the capacity of the bridges along the route. This assessment compared the proposed transport loading likely to be associated with the transportation of wind turbine components, against the current capacity of each bridge. The assessment employed the following threshold for oversize truck permit approval over the bridge:

- For bridge loading ratios exceeding 175%, the permit issuing officer needs to notify the approving engineer.
- In cased where BLRs exceeds 200%, it is likely a detailed engineering assessment will be required.

Based on the findings from the bridge review report:

1. **Bridge 6** had a bridge load ratio (BLR) of 182%, which exceeds the threshold of 175%, but falls below the 200% threshold. As a result, the report concluded that the use of Bridge 6 will ultimately be left to the discretion of the Waitomo District Council (WDC) engineer, who will assess the safety and feasibility of allowing oversize trucks to pass over this bridge.

2. **Bridges 7 and 8** on the other hand, had BLRs that exceeded the 200% threshold. Consequently, the report concluded that a detailed engineering assessment is necessary for these bridges. Additionally, the report recommended the exploration of a bypass route as a potentially safer alternative, citing uncertainties about the condition and capacity of bridge 7 in particular. Figure 5.2 and Figure 5.3 refer.

Figure No. 5.2 – Bridge 7: Te Anga Road (Source: Google Earth)

Figure No. 5.3 – Bridge 8: Te Anga Road (Source: Google Earth)

3. **Bridges 4, 7 and 9** require widening to accommodate the over dimension trucks.

I acknowledge that most of the bridges along this route are single lane bridges, and by visual observation during the site visit appears very narrow to accommodate over dimensioned vehicles.

I recommend that a detailed bridge assessment as required by WDC be conducted to determine the necessary works to strengthen the bridges. The assessments should evaluate the structural integrity and capacity of these bridges and determine any necessary strengthening or modifications required to ensure their safe use for over-dimension and overweight loads, with specific reference to the related weights of the proposed wind turbine components. Full details of the required inspections and assessments are adequately described in Condition 23.

6. Submitters Transportation-related Concerns

A total of 15 submissions were received, approximately 6 of them were related to transportation effects. Table No.1 below summaries the key transportation concerns by the submitters. Overall, all submitters are opposing TWF and five of the submitters wish to be heard if there will be a hearing commission for this project.

Table No. 1

Summary of Submitters and key concerns			
Concerns Submitted	**No. of Submitters**	**Oppose/Support**	**Wish to be heard**
Lack of a Traffic Management Plan for review	2	Oppose	1
Insufficient Earthworks information is available for reviewing.	2	Oppose	1
No information about the impact of trucks on WDC roads	6	Oppose	5
Absence of documentation outlining the applicant's plans to reinstate road infrastructure affected by the project.	2	Oppose	1

6.1 Traffic Management Plan

Submitter number 8 and 12 identified concerns about the lack of a Construction Traffic Management Plan (CMTP) for both delivery and construction periods.

I agree that a CTMP is required and should be adhered to for the safety of all users of the affected district roads. A condition of consent is recommended to ensure an appropriate CTMP is submitted to WDC for review and certification as acceptable prior to any works commencing on site. The requirements for CTMP are adequately outlined and covered under Condition 19.

6.2 Nothing to review of earthworks

Submitter number 1, 8, and 12 identified concerns about the lack of assessment of construction related effects and earthworks.

The applicant has provided the expected site generated traffic during the construction phase. I acknowledge that the applicant would have no knowledge of construction traffic and the effects thereof at this stage.

I recommend that detailed information about earthworks and construction activities (construction phase) be submitted to WDC in line with the CTMP detailed under Conditions 19-21.

6.3 Impact of trucks on WDC roads

Submitter number 1, 5, 8, 12, and 15 stated that they are unable to understand the impact of trucks on the local road network due to a lack of information concerning the construction phase.

I acknowledge that the applicant has provided the anticipated trip generation during both delivery and construction phase. I agree that the applicant should submit a detailed route assessment addressing all

potential impacts of TWF on WDC roads prior to any turbine deliveries or construction. The applicant has also stated in Transportation Response s92 that a detailed route assessment will be conducted at a later stage following approval of the S127 condition changes. Requirements related to this submission are adequately discussed under Conditions 19-25 of the existing consent.

6.4 Reinstate of WDC road infrastructure

Submitter number 4 is concerned about the lack of information on how the applicant intends to reinstate the road infrastructure in particular the pavement and bridge structures after the completion of the project.

I agree that the applicant has not submitted information regarding maintenance and reinstating of roading and infrastructure on WDC roads. I recommend that the applicant should conduct investigations including pavement deflection measurements and bridges review both before and after the construction period and make the necessary improvements (if any) to all the infrastructure. This is covered under condition 26 of the existing consent.

It is worth noting that a bond of $86,000 was initially stipulated under the 2006 conditions. Given the advancements in environmental processes and the significant rise in construction costs due to inflation, I would recommend that the bond amount be adjusted to current 2023 costs of the anticipated road maintenance.

7. Conclusions and Recommendations

Below are the primary conclusions and recommendations from the review of transportation information provided by TWF:

- The information submitted by the applicant, which are high-level Memos of TWF transportation effects on WDC roads, suggests that the current WDC road infrastructure is largely sufficient to accommodate the transportation of turbines, including construction-related activities for TWF, pending a detailed route assessment.
- There is no comprehensive transport assessment report provided for the proposed activity. This should be provided prior to any turbine component deliveries or construction activities and should cover the following at the very least:
    - A current route feasibility assessment for the proposed transporters to be used for the proposed size of wind turbine components. A report from 2009 for different sized components is not adequate to confirm the likely impacts of the haulage activities to site.
    - Detailed design for all required road works along WDC to accommodate the over dimension trucks. Detailed design for the necessary road and bridge works should be in line with the existing Conditions 22, 23, 24 and 27.
    - A comprehensive bridge assessment along the proposed route on WDC roads should be conducted to the satisfaction of Conditions 23, 25 and 26.
- Construction Traffic Management Plan for both turbine component deliveries and construction phase should adequately satisfy Conditions 19-21 of the existing consent.
- Maintenance plan on WDC roads during both the construction period and post construction should be addressed by the applicant per Conditions 22, 25 and 26 of the existing consent. The applicant should comment on the 2006 bond amount under Condition 26 in relation to the 2023 construction and maintenance costs against the anticipated regular maintenance.
- The submitters concern about the impact of TWF transport effects including the CTMP and WDC roads maintenance should be adequately addressed by the applicant through the detailed route assessment and CTMP prior to commencement of any project work.

Yours sincerely
Bloxam Burnett & Olliver

Thato Mariti
Transportation Engineer
07 834 7096
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Appendix 9

Separation Distance Map

Taumatatotara Windfarm

Separation distances to 3rd Party Houses

house	east.NZMG	north.NZMG
01	2,664,096	6,331,881
02	2,664,189	6,331,709
03	2,665,004	6,329,881
04	2,664,901	6,329,850
05	2,664,787	6,329,811
06	2,666,736	6,329,780
07	2,666,932	6,329,985
08	2,667,445	6,331,124
11	2,664,685	6,326,648
12	2,664,691	6,326,315
13	2,665,096	6,326,065
14	2,665,443	6,325,682
15	2,665,655	6,324,897
16	2,665,557	6,324,645
17	2,665,667	6,324,334
18	2,666,814	6,324,867
19	2,667,541	6,324,563
20	2,667,533	6,324,740
21	2,667,997	6,325,423
22	2,667,043	6,331,741
23	2,667,732	6,331,515
24	2,668,044	6,331,385
25	2,668,185	6,331,265

250 0 250 500 750

metres

Scale: 1:20 000 (A3)

Map Version 1.1C
Photo Ref: Aerial Surveys Ltd flown 10/03/18
Coordinates in NZMG (NZGD1949)
Cadastral Ref: LandOnline 02/11/19
Manawatu Aerial Photo Services RN 27/10/20

Appendix 10

Applicant's draft conditions

Appendix 10

Draft consent conditions – Taumatatotora Consent Variation Application

Applicant's version 15 September 2023

In consideration of Section 104, and pursuant to Sections 104B and 108 of the Resource Management Act 1991, the Waitomo District Council grants consent to Ventus Energy (NZ) Limited to construct and operate a utility scale wind farm comprised of a maximum of 22 horizontal axis turbines and associated substation buildings, earthworks and access roads and activities as described in Conditions (1) and (2) below for the purpose of generating electricity, on a Rural Zoned site located at Taumatatotara West Road, Taharoa, legally described as:

- Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Certificate of Title 141077;
- Section 3 Block IX Kawhia South Survey District comprised in Certificate of Title SA28A/586;
- Section 1 Survey Office Plan 58558 comprised in Certificate of Title SA47A/876;
- Section IA Block V Kawhia South Survey District comprised in Certificate of Title SA37A/25;
- Section 12 and Section 22 Block V Kawhia South Survey District comprised in Certificate of Title SA31C/23;
- Section 2 Block V Kawhia South Survey District comprised in Certificate of Title SA37A/26; and
- Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Certificate of Title SA48B/494;

subject to the following conditions:

General

1. The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005 except as otherwise amended by the s 127 application dated 21st November 2011 and the further information response dated 28th February 2012 [and reference updated application documents]. The application documentation comprises of:

   (a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 - Main

Report, dated March 2005;

(b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 - Book of Figures, dated March 2005.

(c) Further information received 30th January 2005 and 8th March 2005.

(d) Further Information provided in respect of the revised proposal approved as part of the change to the conditions of consent in accordance with Section 127 of the Resource Management Act 1991, namely:

i. Report dated 21st November 2011; titled 'Taumatatotara Windfarm Assessment of Environmental Effects for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;

ii. Further information response dated 28th February 2012; titled 'Taumatatotara Windfarm Further Information for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;

iii. Report dated 24th February 2012; titled 'Taumatatotara Wind Farm Landscape and Visual Assessment for S 92(1) Further Information Request', prepared by Opus International Consultants Ltd.

iv. [Relevant documents to be included]

1A. Where there is conflict between earlier and later information provided, the more recent information prevails; and where there is conflict between the general condition and specific conditions, the latter prevail.

Commented [GC1]: This condition is added for clarity / certainty

2. For the purposes of this consent and for avoidance of doubt the activities authorised by this consent include:

(a) the installation, operation and maintenance of no more than eight (8) ~~twenty two (22)~~ horizontal axis wind turbines ("turbines");

Commented [GC2]: Amendments to this condition reflect the Updated Variation Proposal

(b) An underground fibre optic network connecting each turbine to the central control system in the on-site operations building(s);

(c) Tracking and placement of an underground network of 33kV transmission lines delivering electricity from each turbine to the two on-site substations;

(d) Overhead or underground powerlines connecting the on-site wind farm substations to the two existing 33kV lines that traverse the eastern edge of the landholding;

(e) A fenced compound to house the on-site control building and sub-station equipment;

(f) Earthworks associated with the creation of the turbine building platforms, access roads and other facilities described in items a) toe) above.

(g) Widening and/or realignment works along parts of Taumatatotara West Road to

enable the safe passage of the oversized wind farm components to the site.

3. The turbines shall have a maximum height measured from the ground to the top of the vertically extended blade tip as follows:

   (a) Turbines 1, 3, 5, 6, 7, 8, 10 and ~~to~~ 11 inclusive - maximum height of ~~121.5~~ 180.5 metres.

   ~~(b) Turbines 12 to 22 inclusive - maximum height of 110 metres.~~

4. Each turbine shall be located within a turbine contingency zone of no greater than 100 metre radius from the turbine locations specified in the application. The turbine contingency zones shall avoid locations closer to external property boundaries, significant indigenous vegetation and significant habitats of indigenous fauna.

5. ~~Prior to construction, the consent holder shall submit to the Manager Policy and Planning, Waitomo District Council for approval a plan specifying the final proposed locations of turbines 19 to 22 and a report outlining the reasons for the final locations. The locations of these turbines shall be chosen so that they are located as far as practicable back from the western ridgeline, taking into account geotechnical and other such location requirements, so as to minimise their visual impact as viewed from the west and south~~.

6. The consent holder shall submit to the Manager Policy and Planning, Waitomo District Council an as-built plan confirming the locations of all constructed turbines, access roads, entranceways, excess material fills, the substations and control building, the spare turbine component storage area, electricity transmission lines, and road upgrading/realignment works. The Plan shall also include but is not limited to:

   (a) The finished line of cut and fill batters;

   (b) The finished edge line of pavement and seal widening works;

   (c) The location and dimensions of site entrances;

   (d) The finished level of access road centrelines;

   (e) The location, size and extent of all new stormwater drains or culvert extensions;

   (f) The location of all subsoil drains, sumps and manholes; and

   (g) Any underground services installed or altered as part of the works.

   This plan shall be certified by a registered surveyor as to the accuracy at the completion of the work and is required to be submitted to Council within 6 months of the completion of construction of the wind farm.

Noise

[Drafting Note: the noise conditions have been updated based on the recommendations of the noise experts. For the avoidance of doubt, the Applicant does not consider that changes to the conditions arise because of the Variation Application. However, it is prepared to accept the

Commented [GC3]: Amendments to this condition reflect the Updated Variation Proposal

Commented [GC4]: This condition is now redundant as it relates to turbines 19-22 which are deleted

updating of the conditions on the basis of good practice and using an Augier approach]

Operational Noise

7. The consent holder shall ensure that sound from sources on the site other than those within the scope of conditions 8 and 12 does not exceed the following noise limits:

   7.00am to 7.00pm 45 dB $L_{Aeq(15min)}$

   7.00pm to 7.00pm 35 dB $L_{Aeq(15min)}$

   60 dB L_{AFmax}

   Sound shall be measured in accordance with NZS 6801:2008 and assessed in accordance with NZS 6802:2008

   ~~The noise from all other activities on the site (other than wind turbine generator operation and construction activities) shall not exceed the following limits when measured in accordance with the requirements of NZS 6801:1991 Measurement of Sound and assessed in accordance with the requirements of NZS 6802:1991 Assessment of Environmental Sound:~~

   ~~7.00am to 7.00pm 45dBA L10~~
   ~~7.00pm to 7.00am 35dBAL10~~
   ~~7.00pm to 7.00am 60dBA Lmax~~

8. The consent holder shall ensure that, at the specified assessment positions, at any wind speed, wind farm sound levels do not exceed 40 dB $L_{A90(10\ min)}$. Wind farm sound shall be measured and assessed in accordance with NZS 6808:2010. The Assessment Positions shall be outside at the locations marked 22, 23, 24 and 25 on Site Plan [x].

   Commented [GC5]: See Memo of 15 Sept 23 from Altissimo proposing specific assessment positions

   ~~The noise from the wind farm shall comply with the requirements of NZS6808:1998, Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators in relation to any dwelling existing at the date of the granting of this consent, except:~~

   ~~(a) Any dwelling on any site that forms part of the wind farm; and~~

   ~~(b) The dwellings labelled as H1, H2, H2A, H3, and H4 on the approved plans.~~

9. Prior to installation of the turbines ~~commencing any development~~ of the wind farm, background sound level measurements ~~detailed ambient noise monitoring~~ shall be undertaken at any Assessment Position ~~within the notional boundary of any dwelling~~ within the 30dBA noise contour ~~(other than the dwellings specifically referred to in (a) and (b) of condition 8 above) by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council. The monitoring~~ Measurements shall be measured ~~undertaken to determine the existing background sound in terms of the requirements of~~ in accordance with Section 7.4 of NZS6808:~~1998~~ 2010 Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators. If no Assessment Positions have predicted sound levels above 30 dB L_{A90}, measurements shall be performed at two locations ~~Sufficient field measurements shall be undertaken to demonstrate~~ to the satisfaction of Council's Manager, Policy and Planning. A report of

   Commented [GC6]: See Memo of 15 Sept 23 from Altissimo proposing a further minor change for best practice reasons

measured sound levels shall be prepared in accordance with Section 8.2 of NZS6808:2010 and submitted to the Council's Manager, Policy and Planning, Waitomo District Council. ~~, that the best fit regression curve gives an accurate representation of the existing noise environment~~.

10. Prior to installation of the turbines ~~commencing any development~~ ~~of the wind farm~~, a prediction report shall be submitted ~~the consent holder shall prepare a noise report to demonstrate,~~ to the ~~satisfaction of~~ Council's Manager, Policy and Planning, in accordance with Section 8.4.2 ~~that the wind farm will comply with the requirements~~ of NZS6808:~~1998~~ 2010. That prediction should be based on the highest sound power level, and include results for both NZS 6808: 2010 and IoA GPG method. ~~This report shall be prepared by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council~~.

Commented [GC7]: Refer above comment

11. The wind turbines shall not have a sound power level of greater than 107.2 dB Lwa. A certificate confirming the sound power level shall be included in the prediction report required by condition 10. ~~exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or sound power will still comply with the requirements of NZS6808:1998~~.

Construction Noise

12. Noise from all construction and decommissioning work including (but not limited to):

    a. Site works;

    b. Wind turbine generator assembly and placement;

    c. Concrete placement;

    d. Wind turbine removal; and

    e. Land reinstatement

Shall be measured and assessed in accordance with the requirements of NZS6803:1999 Acoustics - Construction Noise. The noise limits shall be those set out in Table 2 of NZS6803 for works of "long term" duration (the levels for long term construction work are reproduced in the table below).

Time	Weekdays		Saturdays		Sundays	
	L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}
0630-0730	55dBA	75dBA	45dBA	75dBA	45dBA	75dBA
0730-1800	70dBA	85dBA	70dBA	85dBA	55dBA	85dBA
1800-2000	65dBA	80dBA	45dBA	75dBA	45dBA	75dBA
2000-0630	45dBA	75dBA	45dBA	75dBA	45dBA	75dBA

13. No concrete trucks shall be permitted to enter the site before 7.00am or leave the site after

7.00pm.

14. Prior to the commencement of construction, a Construction Noise Management Plan shall be prepared to the satisfaction of the Manager, Policy and Planning, Waitomo District Council. The Construction Noise Management Plan shall demonstrate how the requirements of condition 12 will be achieved.

15. The Construction Noise Management Plan shall address, amongst other things, the potential noise effects of construction traffic on the roads and techniques to minimise these effects. Any night time (10.00pm - 7.00am) traffic movements must be included in the evaluation.

Noise Monitoring:

16. Within six months of the commencement of operation, ~~of the~~ wind farm ~~, the noise~~ sound levels shall be measured at all Assessment Positions where predicted sound levels were greater than 30 dB L_{A90}. If no Assessment Positions have predicted sound levels above 30 dB L_{A90}, measurements shall be performed at the same locations measured in condition 9. If access is denied, alternate locations are to be proposed to the satisfaction of the Manager, Policy and Planning, Waitomo District Council. A compliance assessment report shall be submitted to the Manager, Policy and Planning, Waitomo District Council in accordance with section 8.4.1 of NZS 6808:2010. ~~and results provided to the Manager, Policy and Planning, Waitomo District Council~~.

17. The consent holder shall pay all costs associated with noise compliance measurements, monitoring and reporting.

Traffic and Roading

Construction Programme

18. A Construction Programme shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Construction Programme shall include the following:

    a. The hours of construction work on Taumatatotara West Road and other Waitomo District Council administered roads shall be between 7.00am and 7.00pm Monday to Saturday (excluding public holidays), unless written approval is otherwise obtained from the Manager, Policy and Planning, Waitomo District Council to work outside of these hours;

    b. Provision shall be made to maintain adequate and safe access to and from individual properties along Taumatatotara West Road and other Waitomo District Council administered roads while transportation movements are undertaken; and

    c. The consent holder shall arrange to hold a copy of all Resource Consents on site at all times during construction.

Traffic Management Plan

19. A Traffic Management Plan shall be prepared by the consent holder and submitted to the

satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Traffic Management Plan shall be prepared in accordance with the latest edition of the Transit New Zealand Code of Practice for Temporary Traffic Management and shall include but not be limited to:

a. The transport route (in general accordance with the route proposed in the application);

b. Times and locations when deliveries are prohibited;

c. Piloting and traffic management procedures;

d. Contingency plans for breakdowns, bridge or pavement failure, severe weather conditions, accidents or roadworks;

e. Provisions for co-ordination with other parties, including emergency services;

f. Provisions to maintain adequate and safe access to and from individual properties along Taumatatotara West Road and other Waitomo District Council administered roads while transportation movements are undertaken; and

g. A construction timetable, detailing vehicles movements to and from the site, and the hours that the trucks will operate.

20. The Traffic Management Plan shall be designed to ensure that at all times during construction, all Waitomo District Council administered roads shall be kept open. In exceptional circumstances a request may be sought for short term road closures. Any road closures shall be approved by the Manager, Policy and Planning, Waitomo District Council.

21. If traffic control measures are not carried out in accordance with the Traffic Management Plan and the Transit New Zealand Code of Practice for Temporary Traffic Management, the Waitomo District Council reserves the right after notifying the consent holder or contractors either verbally or in writing, to instruct the consent holder or contractors to cease all work until the requirements of this Plan and Code of Practice are met. Alternatively the Manager, Policy and Planning, Waitomo District Council, may arrange for the traffic management to be carried out by others, the costs of which will be borne by the consent holder.

Roading Design

22. The consent holder shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, pavement deflection data for relevant sections of Waitomo District Council roads that are to be utilised for transportation of construction materials and turbine components both before and after the construction period. The pavement deflection measurements shall be carried out using either Falling Weight Deflectometer or Benkelman Beam testing techniques.

23. The consent holder shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, bridge inspection findings and details of axle loadings resulting from the transportation of the turbine components, to verify that all Waitomo District

Council bridges are able to accommodate the transportation of these loads without resulting in any damage. If the Manager, Policy and Planning, Waitomo District Council considers it to be necessary, Council may require the consent holder to provide an appropriate level of supervision of heavy loads across Waitomo District Council bridges.

24. Detailed roading design plans for internal site access roads, Taumatatotara West Road, and any other Waitomo District Council roads that are subject to upgrading or realignment works, shall be developed in accordance with appropriate construction standards and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing. The detailed design shall include:

    a. Geotechnical investigation and interpretation report;

    b. Comer widening design (including cut/fill batters details);

    c. Taumatatotara West Road/ Taharoa Road intersection design;

    d. Pavement design;

    e. Surfacing details;

    f. Shoulder feather-edge details;

    g. Drainage (surface water channels and culverts);

    h. Safe stopping sight distance; and

    i. Minimised cut earthworks for the construction of the internal access roads.

Road Maintenance

25. A maintenance regime covering all Waitomo District Council roads and bridges to be utilised for transportation of construction materials and turbine components shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The maintenance regime shall cover the full construction period and may be developed in partnership with an ongoing maintenance programme (shared with the Waitomo District Council's own Network Maintenance Contractors). The maintenance regime shall ensure the following:

    a. During the construction period, the consent holder shall undertake any necessary works to ensure that the roads and bridges utilised for transportation of construction materials and turbine components are maintained at a quality no less than the quality of the road and bridges prior to construction commencing.

26. A bond of $86,000 shall be paid to Council to secure the ongoing performance of condition 25 with regard to Taumatatotara West Road maintenance only, pursuant to section 108(2)(b) and section 108A of the Resource Management Act 1991. The bond applies to regular maintenance only, not pavement rehabilitation and shall be refunded to the consent holder at such a time as the Manager, Policy and Planning, Waitomo District Council is satisfied that the objectives of the maintenance regime required by condition 25,

as it relates to Taumatatotara West Road, has been met. Should the Manager, Policy and Planning, Waitomo District Council consider the consent holder is not meeting the objectives of the maintenance regime with regard to the maintenance of Taumatatotara West Road, the bond will be utilised to undertake the work.

Access

27. Detail of vehicle access points and permanent entranceways along Taumatatotara West Road shall be provided prior to construction works commencing. The details will include allowances for:

    a. Pavement widening to a minimum 6.5 metre sealed width;

    b. Bellmouth radii to a minimum 15 metres;

    c. Entranceway culverts to a minimum 300mm diameter; and

    d. Pavement surfacing to a minimum 70 metres at full width, with matching in tapers at 1 in 10.

28. All internal access roads shall be a minimum of 5 metres in width.

Landscaping and Visual

29. Prior to construction commencing the consent holder shall submit to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, a Landscape Mitigation Plan prepared by a suitably qualified Landscape Architect. The Landscape Mitigation Plan shall detail the visual mitigation and landscape restoration strategies that will be undertaken and shall include but not be limited to:

    a. A plan showing details of planting and landscaping to be undertaken around the substation, control building and spare turbine part storage area;

    b. The height and location of any earth bunds or mounds created for visual, noise, or mitigation purposes;

    c. Topsoil stockpile and management plan for all topsoil stockpiled for more than six months from the time of stripping;

    d. The restoration strategy for any disturbed landforms including:

        i. Permanent earthworks, including all road cuttings;

        ii. Temporary earthworks, including construction pads; and

        iii. Topsoil restoration.

    e. The restoration shall integrate the new landform into the natural contours, and revegetate (with either pasture or planting) so it appears homogenous with the surrounding landscape;

f. An implementation strategy identifying when the mitigation works will be undertaken;

g. A maintenance schedule.

30. The colour of the turbines shall be selected to minimise the visual impact. Due consideration will be given to the predominant ambient background sky colour in selection of the final colour. Low reflectivity finishes shall be used on the turbines and the turbine blades where practicable.

31. All "dead" turbines and turbine components shall be removed within one month from the time that they ceased to function, unless exceptional circumstances exist and written approval is obtained from Manager, Policy and Planning, Waitomo District Council.

32. Upon decommissioning of the wind farm, all visible structures (including turbines, substations and hard stand areas) shall be removed from the site. All foundations shall be buried under a minimum of two metres of soil and revegetated, unless otherwise approved by the Manager, Policy and Planning, Waitomo District Council.

Air Safety

33. One month prior to commencing installation of the turbines the consent holder shall provide a copy of a determination from the Civil Aviation Authority (CAA) authorising construction of the windfarm to the maximum tip height to the Manager, Policy and Planning, Waitomo District Council for certification. ~~The consent holder shall comply with the Civil Aviation Authority (CAA) Determinations issued to Ventus Energy Limited dated 7 February 2006 and 23 August 2011~~.

Commented [GC8]: This condition is modified as updated CAA determinations are appropriate

34. Those turbines identified as numbers 1, 5, and 10, and any other turbines as identified by the CAA ~~18 and 22 on the approved plan (and~~ identified below~~)~~ shall be lit with a medium intensity obstacle light located on the highest practicable point, sufficient to indicate to aircraft the general location of the wind farm.

Commented [GC9]: This condition to reflect the changes to condition 33 and the removal of turbines 18-22

Turbine ID	Easting	Northing	Attitude
1	2664848	6331439	251m AMSL
5	2665338	6330549	322m AMSL
10	2666640	6329258	319m AMSL
~~18~~	~~2667836~~	~~6327401~~	~~367m AMSL~~
~~22~~	~~2668272~~	~~6326391~~	~~321m AMSL~~

35. The medium intensity obstacle lights shall:

- be red; and
- have an effective intensity of not less than 1600 cd of red light;
- be visible to aircraft approaching the wind farm from any direction; and
- shall be installed and operated in a way that minimise their visibility to persons on the ground while meeting CAA requirements.

Geotechnical

36. In accordance with the recommendations of the geotechnical review prepared by Riley Consultants, and submitted with the application (Appendix K of Volume One), the consent holder shall undertake subsurface geotechnical investigation and engineering geological mapping for the wind farm area, to ensure that all of the turbine sites are geotechnically feasible, and provided with stable building platforms. The results of these investigations and detailed design of the proposed geotechnical foundation works for each of the turbines shall be provided for the approval of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing.

Effects on Wildlife

Register

37. The consent holder shall keep a register of observations of effects of the wind farm activities on wildlife. This will include evidence of turbine strike (with species, date, weather conditions and other relevant observations), notes of avoidance behaviour observed, and other observed interaction of wildlife with the wind farm. Ground inspections with nil results should also be recorded. The register shall be maintained for the life of the consent, and shall be made available to Council within 2 working days of its request.

Inspections

38. In accordance with Condition 37 above, all wind farm personnel will inspect the area around the turbine bases when visiting or passing by a turbine, throughout the life of the consent, for evidence of wildlife mortality.

39. The consent holder shall undertake dedicated inspections of all turbine bases for evidence of wildlife mortality at monthly intervals for the first two years of operation. If construction is staged, later turbines shall also continue to be inspected for a full two years.

39A The consent holder shall record and report any evidence of bird strikes detected postconstruction. Should a bird species listed in the Department of Conservation's most current threat classification system as Threatened or At Risk at the time be found injured or dead at the site, the Director General of Conservation and the Waitomo District Council is to be notified immediately and the bird provided to the Director General of Conservation or its nominated agent for autopsy or rehabilitation.

40. If no significant adverse effects on wildlife are evident following the first two years of operation then dedicated inspections shall be discontinued, with the prior approval of the Manager, Policy and Planning, Waitomo District Council.

If, in the opinion of a suitably qualified avifauna expert (SQEP), any monitoring required under Condition [ ] finds a significant adverse effect ~~is found~~ (through dedicated monitoring or other monitoring) then monthly inspections shall continue in the interim and a plan developed, in conjunction with a SQEP to the satisfaction of the Manager, Policy and Planning, Waitomo District Council and in consultation with the Department of Conservation, acting reasonably, to address the effects. Such a plan shall propose a monitoring regime and identify methods and options to avoid, remedy or mitigate the

adverse effects. Specifically excluded from a plan will be any modification or restriction on the operation of the wind turbines.

40A. The consent holder shall forward bat records to the Department of Conservation.

Advice Note: Condition 39A, 40A and amendments to condition 40 have been offered by the Consent Holder and it has agreed to be bound by those in accordance with the principle in Augier.

Reporting:

41. An annual report, detailing the information required in conditions 37 - 40 above shall be provided to Waitomo District Council and the Department of Conservation. Any unidentified species remains recovered shall be referred to the Department of Conservation for identification as soon as is practicably possible following their discovery.

Bird Perches

42. No telecommunications devices or signs shall be connected/attached to any part of the turbines and/or the accessory structures.

43. With the exception of the transmission lines connecting the substation to the existing transmission lines, all other intra project lines within the wind farm shall be underground.

44. The turbine towers shall be tubular in design.

Detection

44A. Immediately prior to turbine operation, the consent holder shall attach and commission automated bat detectors to turbines 1, 7 and 11 at a height of at least 15m. Results are to be analysed in relation to wind speed when 12 months of data is available.

Advice Note: Condition 44A has been offered by the Consent Holder and it has agreed to be bound by it in accordance with the principle in Augier.

Compensation

44C. The consent holder will commit the sum of $25,000 per year for 5 years from the commission of the turbines to support an investigation of bat populations in the geographical area running from Marokopa, Te Anga, Te Waitere and Taharoa. This will be offered by the consent holder through a University research scholarship or other equivalent mechanism in consultation with the Waitomo District Council and the Department of Conservation. The consent holder will provide to the Waitomo District Council evidence of the offer of the scholarship or other equivalent mechanism on the anniversary of the commissioning of the turbines for the duration of this condition.

Advice Note: Condition 44C has been offered by the Consent Holder and it has agreed to be bound by this in accordance with the principle in Augier. If the scholarship or other

mechanism is not taken up by a third party the consent holder will have complied with this condition, provided the scholarship or equivalent mechanism has been offered.

Ecological Effects

Native Vegetation

45. The clearance and trimming of native vegetation associated with the wind farm activities shall be restricted to the minimum area required to undertake the road realignment works, and any realignments of the power line routes. In particular, the consent holder shall avoid the removal of pole stand Rimu where practicable.

46. The consent holder shall develop and implement a weed control programme for the site and access roads, to the satisfaction of Council and for the first 2 years of operation.

Communications

47. In the event that the wind farm activities result in any disruption to free to air (not satellite) television, Broadband Wireless access licenses and/or microwave path operators at those properties in the area surrounding the wind farm site, the consent holder shall assist those parties to obtain reception comparable to the pre-construction quality, to the satisfaction of Council. The consent holder shall advise the Manager Policy and Planning, Waitomo District Council of the agreed mitigation measures in writing.

Complaints Register

48. The consent holder shall appoint a representative who shall be the Waitomo District Council's principal contact person in regard to matters relating to this resource consent. The consent holder shall inform the Manager Policy and Planning, Waitomo District Council of the representative's name and how they can be contacted prior to this resource consent being commenced.

49. The consent holder shall maintain a complaints register for the wind farm activities. The register shall record all complaints received and shall include:

a. The date, time and duration of the incident that has resulted in the complaint;

b. The location of the complainant;

c. The cause of the incident where appropriate;

d. Any corrective action undertaken by the consent holder in response to the complaint.

The register shall be available to Council within 2 working days of its request.

Implementation, Review and Monitoring

50. Pursuant to sections 128 to 130 of the Resource Management Act the Waitomo District Council may undertake a review of conditions of consent, within twelve months of the commencement of operation of the wind farm and thereafter on an annual basis for the

following purpose:

a. to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent (in particular the potential adverse environmental effects in relation to noise, vegetation removal, earthworks, and the visual, landscape and amenity effects), and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or

b. to address any adverse effect on the environment which has arisen as a result of the exercise of this consent; or

c. if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment; or

d. to review the adequacy of and the necessity for monitoring undertaken by the consent holder.

The Council will undertake the review in consultation with the consent holder. The consent holder shall pay the actual and reasonable costs of the review.

51. The consent holder shall pay all costs associated with the implementation of this consent in order to achieve and demonstrate compliance with the consent conditions therein.

52. Pursuant to section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Council when monitoring the conditions of this consent.

Lapse Period

53. This consent shall lapse eight years after the date of it being granted, unless the consent is either given effect to before that lapsing date, or unless the Waitomo District Council fixes a longer period pursuant to section 125 of the Resource Management Act 1991.

Advisory Notes

1) The consent holder shall also ensure compliance with conditions of the Waikato Regional Council resource consent. Conditions related to matters covered by that consent have been omitted from this consent to avoid duplication.

2) All on-site works shall comply with the requirements of the Health and Safety in Employment Act 1992.

3) This consent covers road widening and realignment works associated with Taumatatotara West Road only. The consent holder shall obtain any other resource consents required for road widening, including any resource consents required from Waikato Regional Council.

4) The consent holder will need to consult with and meet the requirements of all road controlling authorities affected by the transportation of the turbine components, including Transit New Zealand.

5) The consent holder will need to consult with the Manager, Policy and Planning, Waitomo District Council in order to facilitate proceeding with the establishment of a turbine viewing area on Marokopa Road.

6) If the transmission lines connecting the substation to the existing electricity transmission lines are located above ground, they shall be designed and located so that they are a permitted activity in accordance with Rule 15.5.1 of the Proposed Waitomo District Plan and the NZ Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).

7) ~~For the purposes of condition 11, a height greater than 110 metres will be approved for turbines 1 to 11 inclusive subject to the necessary confirmation being provided in respect of compliance with NZS6808:1998. Condition 3 also requires that the maximum height of turbines 1 to 11 inclusive must not exceed 121.5 metres and that the maximum height of turbines 12 to 22 inclusive must not exceed 110 metres~~.

Commented [GC10]: This advice note is redundant

Appendix 11

S42A report draft conditions

Draft consent conditions – Taumatatotora Consent Variation Application

S42A Draft 13 October 2023

In consideration of Section 104, and pursuant to Sections 104B and 108 of the Resource Management Act 1991, the Waitomo District Council grants consent to Ventus Energy (NZ) Limited to construct and operate a utility scale wind farm comprised of a maximum of 22 horizontal axis turbines and associated substation buildings, earthworks and access roads and activities as described in Conditions (1) and (2) below for the purpose of generating electricity, on a Rural Zoned site located at Taumatatotara West Road, Taharoa, legally described as:

- Part Section 10 Block V Kawhia South Survey District and Section 3 Survey Office Plan 53968 comprised in Certificate of Title 141077;
- Section 3 Block IX Kawhia South Survey District comprised in Certificate of Title SA28A/586;
- Section 1 Survey Office Plan 58558 comprised in Certificate of Title SA47A/876;
- Section IA Block V Kawhia South Survey District comprised in Certificate of Title SA37A/25;
- Section 12 and Section 22 Block V Kawhia South Survey District comprised in Certificate of Title SA31C/23;
- Section 2 Block V Kawhia South Survey District comprised in Certificate of Title SA37A/26; and
- Part Section 24 Block V Kawhia South Survey District and Section 2 Survey Office Plan 53968 comprised in Certificate of Title SA48B/494;

subject to the following conditions:

General

1. The wind farm development shall be constructed, operated and maintained in general accordance with the information, plans and drawings submitted with the application and received by Council on 23rd December 2005; and the additional information received on 30th January 2005 and 8th March 2005 except as otherwise amended by the s 127 application dated 21st November 2011 and the further information response dated 28th February 2012, Application To Change Consent Conditions dated 5 July 2020, further information response dated 10 December 2020, further information response dated 10 December 2020, further information response dated 10 December 2020, clarification of section 92 information dated 12 April 2021, clarification of section 92 information dated 26 August 2021, clarification of section 92 information dated 6 July 2023, and the Consent Variation Application dated 15 September 2023.

2. The application documentation comprises of:

(a) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 1 - Main Report, dated March 2005;

(b) Taumatatotara Windfarm Assessment of Environmental Effects, Volume 2 - Book of Figures, dated March 2005.

(c) Further information received 30th January 2005 and 8th March 2005.

(d) Further Information provided in respect of the revised proposal approved as part of the change to the conditions of consent in accordance with Section 127 of the Resource Management Act 1991, namely:

i. Report dated 21st November 2011; titled 'Taumatatotara Windfarm Assessment of Environmental Effects for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;

ii. Further information response dated 28th February 2012; titled 'Taumatatotara Windfarm Further Information for a Turbine Tip Height Increase', prepared by Ventus Energy (NZ) Ltd;

iii. Report dated 24th February 2012; titled 'Taumatatotara Wind Farm Landscape and Visual Assessment for S 92(1) Further Information Request', prepared by Opus International Consultants Ltd;

iv. Report dated 5th July 2020; titled 'Application To Change Consent Conditions', prepared by Taumatatotara Wind Farm Limited;

v. Further information response dated 10 December 2020; titled 'S92 Requests and Responses', prepared by Shearer Consulting Limited;

vi. Further Information Response dated 12 April 2021; titled 'Clarification questions arising from s92 information package - Taumatatotara Wind Farm Limited', prepared by Shearer Consulting Limited;

vii. Further information response dated 26 August 2021; titled 'Request for Clarification of Section 92 information', prepared by Shearer Consulting Limited;

viii. Further information response dated 6 July 2023, titled 'S92 Questions and Responses', prepared by Shearer Consulting Limited;

ix. The letter dated 15 September 2023, titled Update On Progress – Taumatatotara Windfarm Limited (T4) Consent Variation Application, prepared by Gillian Chappell – Foundry Chambers.

1A. Where there is conflict between earlier and later information provided, the more recent information prevails; and where there is conflict between the general condition and specific conditions, the latter prevails.

Commented [GC1]: This condition is added for clarity / certainty

3. For the purposes of this consent and for avoidance of doubt the activities authorised by this consent include:

(a) the installation, operation and maintenance of no more than eight (8) ~~twenty-two (22)~~ horizontal axis wind turbines ("turbines");

(b) An underground fibre optic network connecting each turbine to the central control system in the on-site operations building(s);

(c) Tracking and placement of an underground network of 33kV transmission lines delivering electricity from each turbine to the two on-site substations;

(d) Overhead or underground powerlines connecting the on-site wind farm substations to the two existing 33kV lines that traverse the eastern edge of the landholding;

(e) A fenced compound to house the on-site control building and sub-station equipment;

(f) Earthworks associated with the creation of the turbine building platforms, access roads and other facilities described in items a) toe) above.

(g) Widening and/or realignment works along parts of Taumatatotara West Road to enable the safe passage of the oversized wind farm components to the site.

4. The turbines shall have a maximum height measured from the ground to the top of the vertically extended blade tip as follows:

(a) Turbines 1, 3, 5, 6, 7, 8, 10 and ~~to~~ 11 inclusive - maximum height of ~~121.5~~ 180.5 metres.

~~(b) Turbines 12 to 22 inclusive - maximum height of 110 metres.~~

5. Each turbine shall be located within a turbine contingency zone of no greater than 100 metre radius from the turbine locations specified in the application. The turbine contingency zones shall avoid locations closer to external property boundaries, significant indigenous vegetation and significant habitats of indigenous fauna.

6. ~~Prior to construction, the consent holder shall submit to the Manager Policy and Planning, Waitomo District Council for approval a plan specifying the final proposed locations of turbines 19 to 22 and a report outlining the reasons for the final locations. The locations of these turbines shall be chosen so that they are located as far as practicable back from the western ridgeline, taking into account geotechnical and other such location requirements, so as to minimise their visual impact as viewed from the west and south.~~

7. The consent holder shall submit to the Manager Policy and Planning, Waitomo District Council an as-built plan confirming the locations of all constructed turbines, access roads, entranceways, excess material fills, the substations and control building, the spare turbine component storage area, electricity transmission lines, and road upgrading/realignment works. The Plan shall also include but is not limited to:

Commented [GC2]: Amendments to this condition reflect the Updated Variation Proposal

Commented [GC3]: Amendments to this condition reflect the Updated Variation Proposal

Commented [GC4]: This condition is now redundant as it relates to turbines 19-22 which are deleted

(a) The finished line of cut and fill batters;

(b) The finished edge line of pavement and seal widening works;

(c) The location and dimensions of site entrances;

(d) The finished level of access road centrelines;

(e) The location, size and extent of all new stormwater drains or culvert extensions;

(f) The location of all subsoil drains, sumps and manholes; and

(g) Any underground services installed or altered as part of the works.

This plan shall be certified by a registered surveyor as to the accuracy at the completion of the work and is required to be submitted to Council within 6 months of the completion of construction of the wind farm.

Noise

[Drafting Note: the noise conditions have been updated based on the recommendations of the noise experts. For the avoidance of doubt, the Applicant does not consider that changes to the conditions arise because of the Variation Application. However, it is prepared to accept the updating of the conditions on the basis of good practice and using an Augier approach]

Operational Noise

8. The consent holder shall ensure that noise from sources on the site other than those within the scope of conditions 8 and 12 does not exceed the following noise limits:

7.00am to 7.00pm 45 dB $L_{Aeq(15min)}$

7.00pm to 7.00am 35 dB $L_{Aeq(15min)}$

7.00pm to 7.00am 60 dB L_{AFmax}

Noise shall be measured in accordance with NZS 6801:2008 and assessed in accordance with NZS 6802:2008

~~The noise from all other activities on the site (other than wind turbine generator operation and construction activities) shall not exceed the following limits when measured in accordance with the requirements of NZS 6801:1991 Measurement of Sound and assessed in accordance with the requirements of NZS 6802:1991 Assessment of Environmental Sound:~~

~~7.00am to 7.00pm 45dBA L10~~
~~7.00pm to 7.00am 35dBAL10~~
~~7.00pm to 7.00am 60dBA L_{max}~~

8. The consent holder shall ensure that, at the specified assessment positions, at any wind speed, wind farm noise levels do not exceed 40 dB $L_{A90(10\ min)}$. Wind farm noise shall be measured and assessed in accordance with NZS 6808:2010. The Assessment Positions shall be outside at the locations marked 22, 23, 24 and 25 on Site Plan [x].

Commented [GC5]: See Memo of 15 Sept 23 from Altissimo proposing specific assessment positions

~~The noise from the wind farm shall comply with the requirements of NZS6808:1998, Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators in relation to any dwelling existing at the date of the granting of this consent, except:~~

~~(a) Any dwelling on any site that forms part of the wind farm; and~~

~~(b) The dwellings labelled as Hl, H2, H2A, H3, and H4 on the approved plans.~~

9. Prior to ~~installation of the turbines~~ commencing any development of the wind farm ~~commencing any development~~ of the wind farm, background sound level measurements ~~detailed ambient noise monitoring~~ shall be undertaken at any Assessment Position ~~within the notional boundary of any dwelling~~ within the 30dBA noise contour ~~(other than the dwellings specifically referred to in (a) and (b) of condition 8 above) by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning,~~

Commented [SW6]: Disagree with this one. Prior to installation of turbines comes establishment of roads on site and concrete pads - all noisy activities that can affect the background noise levels at the survey location. I would prefer that the surveys be undertaken prior to development on site.

Commented [GC7]: See Memo of 15 Sept 23 from Altissimo proposing a further minor change for best practice reasons

~~Waitomo District Council. The monitoring~~ Measurements shall be ~~measured~~ undertaken ~~to determine the existing background sound in terms of the requirements of~~ in accordance with Section 7.4 of NZS6808:~~1998~~ 2010 Acoustics - ~~The Assessment and Measurement of Sound from~~ Wind Farm Noise ~~Turbine Generators~~. If no Assessment Positions have predicted noise levels above 30 dB L_{A90}, measurements shall be performed at two of the Assessment Positions ~~locations~~ ~~Sufficient field measurements shall be undertaken to demonstrate~~ to the satisfaction of Council's Manager, Policy and Planning. A report of measured noise levels shall be prepared in accordance with Section 8.2 of NZS6808:2010 and submitted to the Council's Manager, Policy and Planning, Waitomo District Council.~~, that the best fit regression curve gives an accurate representation of the existing noise environment~~.

10. Prior to installation of the turbines ~~commencing any development of the wind farm~~, a prediction report shall be submitted ~~the consent holder shall prepare a noise report to demonstrate,~~ to the ~~satisfaction of~~ Council's Manager, Policy and Planning, in accordance with Section 8.4.2 ~~that the wind farm will comply with the requirements~~ of NZS6808:~~1998~~ 2010. That prediction ~~should~~ shall be based on the highest sound power level, and include results for both NZS 6808: 2010 and IoA GPG methods. ~~This report shall be prepared by a person suitably qualified and experienced in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council~~.

Commented [SW8]: The report can be done prior to installation of turbines, but surveys (8 above) need to be done before development.

Commented [GC9]: Refer above comment

11. The wind turbines shall not have a sound power level of greater than 107.2 dB Lwa. A certificate confirming the sound power level shall be included in the prediction report required by condition 10. ~~exceed a rotor tip height of 110 metres above ground level and a sound power of 107.2dBA unless it can be demonstrated by a person specialising in acoustics and accepted by the Manager, Policy and Planning, Waitomo District Council that higher turbine heights or sound power will still comply with the requirements of NZS6808:1998~~.

Construction Noise

12. Noise from all construction and decommissioning work including (but not limited to):

    a. Public road upgrades between SH37 and the site;
    b. Site works;
    c. Wind turbine generator assembly and placement;
    d. Concrete placement;
    e. Wind turbine removal; and
    f. Land reinstatement

shall be measured and assessed in accordance with the requirements of NZS6803:1999 Acoustics – Construction Noise and shall comply with the noise limits in the Table.

Time	Weekdays		Saturdays		Sundays	
	L_{Aeq}	L_{AFmax}	L_{Aeq}	L_{AFmax}	L_{Aeq}	L_{AFmax}
0630-0730	55dB	75dB	45dB	75dB	45dB	75dB
0730-1800	70dB	85dB	70dB	85dB	55dB	85dB
1800-2000	65dB	80dB	45dB	75dB	45dB	75dB
2000-0630	45dB	75dB	45dB	75dB	45dB	75dB

13. No concrete trucks shall be permitted to enter the site before 7.00am or leave the site after 7.00pm.

14. Prior to the commencement of construction, a Construction Noise Management Plan shall be prepared to the satisfaction of the Manager, Policy and Planning, Waitomo District Council. The Construction Noise Management Plan shall demonstrate how the requirements of condition 12 will be achieved.

15. The Construction Noise Management Plan shall address, amongst other things, the potential noise effects of construction traffic on the roads and techniques to minimise these effects. Any night time (10.00pm - 7.00am) traffic movements must be included in the evaluation.

Noise Monitoring:

16. Within six months of the wind farm becoming fully operational ~~commencement of operation, of the~~ wind farm ~~, the noise~~ noise levels shall be measured at all Assessment Positions where, in the report of Condition 10, predicted ~~sound~~ noise levels are greater than 30 dB L_{A90}. If no Assessment Positions have predicted noise levels above 30 dB L_{A90}, measurements shall be performed at the same locations measured in condition 9. If access is denied, alternate locations are to be proposed to the satisfaction of the Manager, Policy and Planning, Waitomo District Council. Within one months of completion of the surveys, a compliance assessment report shall be submitted to the Manager, Policy and Planning, Waitomo District Council in accordance with section 8.4.1 of NZS 6808:2010. ~~and results provided to the Manager, Policy and Planning, Waitomo District Council~~.

17. The consent holder shall pay all costs associated with noise compliance measurements, monitoring and reporting.

Traffic and Roading

Construction Programme

18. A Construction ~~Programme~~ Management Plan (CMP) shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The CMP shall include the following:

    a. The hours of construction work on Taumatatotara West Road and other Waitomo District Council administered roads shall be between 7.00am and 7.00pm Monday

to Saturday (excluding public holidays), unless written approval is otherwise obtained from the Manager, Policy and Planning, Waitomo District Council to work outside of these hours;

b. Provision shall be made to maintain adequate and safe access to and from individual properties along Taumatatotara West Road and other Waitomo District Council administered roads while transportation movements are undertaken; and

c. The consent holder shall arrange to hold a copy of all Resource Consents on site at all times during construction.

Traffic Management Plan

19. A Traffic Management Plan shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The Traffic Management Plan shall be prepared in accordance with the latest edition of the Transit New Zealand Code of Practice for Temporary Traffic Management and shall include but not be limited to:

a. The transport route (in general accordance with the route proposed in the application);

b. Times and locations when deliveries are prohibited;

c. Piloting and traffic management procedures;

d. Contingency plans for breakdowns, bridge or pavement failure, severe weather conditions, accidents or roadworks;

e. Provisions for co-ordination with other parties, including emergency services;

f. Provisions to maintain adequate and safe access to and from individual properties along Taumatatotara West Road and other Waitomo District Council administered roads while transportation movements are undertaken; and

g. A construction timetable, detailing vehicles movements to and from the site, and the hours that the trucks will operate.

20. The Traffic Management Plan shall be designed to ensure that at all times during construction, all Waitomo District Council administered roads shall be kept open. In exceptional circumstances a request may be sought for short term road closures. Any road closures shall be approved by the Manager, Policy and Planning, Waitomo District Council.

21. If traffic control measures are not carried out in accordance with the Traffic Management Plan and the Transit New Zealand Code of Practice for Temporary Traffic Management, the Waitomo District Council reserves the right after notifying the consent holder or contractors either verbally or in writing, to instruct the consent holder or contractors to cease all work until the requirements of this Plan and Code of Practice are met. Alternatively the Manager, Policy and Planning, Waitomo District Council, may arrange for the traffic management to be carried out by others, the costs of which will be borne by the

consent holder.

Roading Design

22. The consent holder shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, pavement deflection data for relevant sections of Waitomo District Council roads that are to be utilised for transportation of construction materials and turbine components both before and after the construction period. The pavement deflection measurements shall be carried out using either Falling Weight Deflectometer or Benkelman Beam testing techniques.

23. The consent holder shall provide, to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, bridge inspection findings and details of axle loadings resulting from the transportation of the turbine components, to verify that all Waitomo District Council bridges are able to accommodate the transportation of these loads without resulting in any damage. If the Manager, Policy and Planning, Waitomo District Council considers it to be necessary, Council may require the consent holder to provide an appropriate level of supervision of heavy loads across Waitomo District Council bridges.

24. Detailed roading design plans for internal site access roads, Taumatatotara West Road, and any other Waitomo District Council roads that are subject to upgrading or realignment works, shall be developed in accordance with appropriate construction standards and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing. The detailed design shall include:

    a. Geotechnical investigation and interpretation report;

    b. Comer widening design (including cut/fill batters details);

    c. Taumatatotara West Road/ Taharoa Road intersection design;

    d. Pavement design;

    e. Surfacing details;

    f. Shoulder feather-edge details;

    g. Drainage (surface water channels and culverts);

    h. Safe stopping sight distance; and

    i. Minimised cut earthworks for the construction of the internal access roads.

Road Maintenance

25. A maintenance regime covering all Waitomo District Council roads and bridges to be utilised for transportation of construction materials and turbine components shall be prepared by the consent holder and submitted to the satisfaction of the Manager, Policy and Planning, Waitomo District Council prior to any construction works commencing. The maintenance regime shall cover the full construction period and may be developed in partnership with an ongoing maintenance programme (shared with the Waitomo District

Council's own Network Maintenance Contractors). The maintenance regime shall ensure the following:

a. During the construction period, the consent holder shall undertake any necessary works to ensure that the roads and bridges utilised for transportation of construction materials and turbine components are maintained at a quality no less than the quality of the road and bridges prior to construction commencing.

26. A bond of $86,000 shall be paid to Council to secure the ongoing performance of condition 25 with regard to Taumatatotara West Road maintenance only, pursuant to section 108(2)(b) and section 108A of the Resource Management Act 1991. The bond applies to regular maintenance only, not pavement rehabilitation and shall be refunded to the consent holder at such a time as the Manager, Policy and Planning, Waitomo District Council is satisfied that the objectives of the maintenance regime required by condition 25, as it relates to Taumatatotara West Road, has been met. Should the Manager, Policy and Planning, Waitomo District Council consider the consent holder is not meeting the objectives of the maintenance regime with regard to the maintenance of Taumatatotara West Road, the bond will be utilised to undertake the work.

Access

27. Detail of vehicle access points and permanent entranceways along Taumatatotara West Road shall be provided prior to construction works commencing. The details will include allowances for:

a. Pavement widening to a minimum 6.5 metre sealed width;

b. Bellmouth radii to a minimum 15 metres;

c. Entranceway culverts to a minimum 300mm diameter; and

d. Pavement surfacing to a minimum 70 metres at full width, with matching in tapers at 1 in 10.

28. All internal access roads shall be a minimum of 5 metres in width.

Landscaping and Visual

29. Prior to construction commencing the consent holder shall submit to the satisfaction of the Manager, Policy and Planning, Waitomo District Council, a Landscape Mitigation Plan prepared by a suitably qualified Landscape Architect. The Landscape Mitigation Plan shall detail the visual mitigation and landscape restoration strategies that will be undertaken and shall include but not be limited to:

a. A plan showing details of planting and landscaping to be undertaken around the substation, control building and spare turbine part storage area;

b. The height and location of any earth bunds or mounds created for visual, noise, or mitigation purposes;

c. Topsoil stockpile and management plan for all topsoil stockpiled for more than six

months from the time of stripping;

d. The restoration strategy for any disturbed landforms including:

   i. Permanent earthworks, including all road cuttings;

   ii. Temporary earthworks, including construction pads; and

   iii. Topsoil restoration.

e. The restoration shall integrate the new landform into the natural contours, and revegetate (with either pasture or planting) so it appears homogenous with the surrounding landscape;

f. An implementation strategy identifying when the mitigation works will be undertaken;

g. A maintenance schedule.

30. The colour of the turbines shall be selected to minimise the visual impact. Due consideration will be given to the predominant ambient background sky colour in selection of the final colour. Low reflectivity finishes shall be used on the turbines and the turbine blades where practicable.

31. All "dead" turbines and turbine components shall be removed within one month from the time that they ceased to function, unless exceptional circumstances exist and written approval is obtained from Manager, Policy and Planning, Waitomo District Council.

32. Upon decommissioning of the wind farm, all visible structures (including turbines, substations and hard stand areas) shall be removed from the site. All foundations shall be buried under a minimum of two metres of soil and revegetated, unless otherwise approved by the Manager, Policy and Planning, Waitomo District Council.

Air Safety

33. One month prior to commencing installation of the turbines the consent holder shall provide a copy of a determination from the Civil Aviation Authority (CAA) authorising construction of the windfarm to the maximum tip height to the Manager, Policy and Planning, Waitomo District Council for certification. ~~The consent holder shall comply with the Civil Aviation Authority (CAA) Determinations issued to Ventus Energy Limited dated 7 February 2006 and 23 August 2011~~.

Commented [GC10]: This condition is modified as updated CAA determinations are appropriate

34. Those turbines identified as numbers 1, 5, and 10, and any other turbines as identified by the CAA ~~18 and 22 on the approved plan (and~~ identified below~~)~~ shall be lit with a medium intensity obstacle light located on the highest practicable point, sufficient to indicate to aircraft the general location of the wind farm.

Commented [GC11]: This condition to reflect the changes to condition 33 and the removal of turbines 18-22

Turbine ID	Easting	Northing	Attitude
1	2664848	6331439	251m AMSL

5	2665338	6330549	322m AMSL
10	2666640	6329258	319m AMSL
~~18~~	~~2667836~~	~~6327401~~	~~367m AMSL~~
~~22~~	~~2668272~~	~~6326391~~	~~321m AMSL~~

35. The medium intensity obstacle lights shall:

- be red; and
- have an effective intensity of not less than 1600 cd of red light;
- be visible to aircraft approaching the wind farm from any direction; and
- shall be installed and operated in a way that minimise their visibility to persons on the ground while meeting CAA requirements.

Geotechnical

36. In accordance with the recommendations of the geotechnical review prepared by Riley Consultants, and submitted with the application (Appendix K of Volume One), the consent holder shall undertake subsurface geotechnical investigation and engineering geological mapping for the wind farm area, to ensure that all of the turbine sites are geotechnically feasible, and provided with stable building platforms. The results of these investigations and detailed design of the proposed geotechnical foundation works for each of the turbines shall be provided for the ~~approval~~ certification of the Manager, Policy and Planning, Waitomo District Council prior to construction commencing.

Effects on Wildlife

Baseline studies

37. The Consent Holder shall complete a pre-construction avifauna baseline study for Threatened and At Risk avifauna species that will include methods for monitoring NZ falcon (Sept to Feb) and cryptic marshbirds (Sept to Nov). The methodology for survey and monitoring shall be developed in consultation with the Director General of Conservation.

38. A pre-construction bat survey shall be undertaken to capture the key periods of bat activity. This survey will include the placement of bat recorders at each turbine location. The methodology for survey and monitoring shall be developed in consultation with the Director General of Conservation.

Post-construction monitoring

39. The results of the pre-construction baseline avifauna study required by Condition 37 shall determine (in consultation with the Department of Conservation) if there are any Threatened or At Risk bird species that may require post-construction mortality monitoring. If it is determined that post-construction mortality monitoring is required, an Avifauna Mortality Monitoring Plan will be prepared by the consent holder in consultation with the Department of Conservation, and certified by Waitomo District Council. The post-construction avifauna mortality monitoring shall be for a minimum period of two years commencing immediately after the wind farm becomes fully commissioned.

40. If, in the opinion of a suitably qualified avifauna expert (SQEP), any monitoring required under Condition 39 finds a significant adverse effect ~~is found~~ (through dedicated monitoring or other monitoring) then monthly inspections shall continue in the interim and a plan developed, in conjunction with a SQEP to the satisfaction of the Manager, Policy and Planning, Waitomo District Council and in consultation with the Department of Conservation, acting reasonably, to address the effects. Such a plan shall propose a monitoring regime and identify methods and options to avoid, remedy or mitigate the adverse effects. ~~Specifically excluded from a plan will be any modification or restriction on the operation of the wind turbines~~.

41. Prior to the commencement of the wind farm operation, a post-construction Bat Mortality Monitoring Plan will be prepared by the consent holder in consultation with the Department of Conservation, and certified by Waitomo District Council. The duration of the monitoring programme will be for two years and the results provided to the Department of Conservation and Waitomo District Council.

42. If the post-construction bat mortality monitoring required under Condition 41 identifies a significant adverse effect from the operation of the wind farm on the local population of bats, the consent holder shall discuss the findings with the suitably qualified bat expert and, if necessary, determine and implement a reasonable course of action to mitigate or offset those effects. The consent holder shall consult with the Department of Conservation and report to the Waitomo District Council regarding this condition.

43. Any unidentified species remains recovered shall be referred to the Department of Conservation for identification as soon as is practicably possible following their discovery.

Register

44. The consent holder shall keep a register of observations of effects of the wind farm activities on wildlife. This will include evidence of turbine strike (with species, date, weather conditions and other relevant observations), notes of avoidance behaviour observed, and other observed interaction of wildlife with the wind farm. Ground inspections with nil results should also be recorded. The register shall be maintained for the life of the consent, and shall be made available to Council within 2 working days of its request.

~~*Inspections*~~

~~45. In accordance with Condition 37 above, all wind farm personnel will inspect the area around the turbine bases when visiting or passing by a turbine, throughout the life of the consent, for evidence of wildlife mortality.~~

~~46. The consent holder shall undertake dedicated inspections of all turbine bases for evidence of wildlife mortality at monthly intervals for the first two years of operation. If construction is staged, later turbines shall also continue to be inspected for a full two years.~~

39A The consent holder shall record and report any evidence of bird strikes detected postconstruction. Should a bird species listed in the Department of Conservation's most current threat classification system as Threatened or At Risk at the time be found injured or dead at the site, the Director General of Conservation and the Waitomo District Council is to be notified immediately and the bird provided to the Director General of Conservation

or its nominated agent for autopsy or rehabilitation.

47. Any unidentified species remains recovered shall be referred to the Department of Conservation for identification as soon as is practicably possible following their discovery.

~~48. If no significant adverse effects on wildlife are evident following the first two years of operation then dedicated inspections shall be discontinued, with the prior approval of the Manager, Policy and Planning, Waitomo District Council.~~

40A. The consent holder shall forward bat records to the Department of Conservation.

Advice Note: Condition 39A, 40A and amendments to condition 40 have been offered by the Consent Holder and it has agreed to be bound by those in accordance with the principle in Augier.

Reporting:

49. An annual report, detailing the information required in conditions ~~37 – 40~~ 39 - 44 above shall be provided to Waitomo District Council and the Department of Conservation. ~~Any unidentified species remains recovered shall be referred to the Department of Conservation for identification as soon as is practicably possible following their discovery.~~

Bird Perches

50. No telecommunications devices or signs shall be connected/attached to any part of the turbines and/or the accessory structures.

51. With the exception of the transmission lines connecting the substation to the existing transmission lines, all other intra project lines within the wind farm shall be underground.

52. The turbine towers shall be tubular in design.

Bat Detection

44A. Immediately prior to turbine operation, the consent holder shall attach and commission automated bat detectors to turbines 1, 7 and 11 at a height of at least 15m. Results are to be analysed in relation to wind speed when 12 months of data is available.

Advice Note: Condition 44A has been offered by the Consent Holder and it has agreed to be bound by it in accordance with the principle in Augier.

Compensation

44C. The consent holder will commit the sum of $25,000 per year for 5 years from the commission of the turbines to support an investigation of bat populations in the geographical area running from Marokopa, Te Anga, Te Waitere and Taharoa. This will be offered by the consent holder through a University research scholarship or other equivalent mechanism in consultation with the Waitomo District Council and the Department of Conservation. The consent holder will provide to the Waitomo District

Council evidence of the offer of the scholarship or other equivalent mechanism on the anniversary of the commissioning of the turbines for the duration of this condition.

Advice Note: Condition 44C has been offered by the Consent Holder and it has agreed to be bound by this in accordance with the principle in Augier. If the scholarship or other mechanism is not taken up by a third party the consent holder will have complied with this condition, provided the scholarship or equivalent mechanism has been offered.

Ecological Effects

Native Vegetation

53. The clearance and trimming of native vegetation associated with the wind farm activities shall be restricted to the minimum area required to undertake the road realignment works, and any realignments of the power line routes. In particular, the consent holder shall avoid the removal of pole stand Rimu where practicable.

54. The consent holder shall develop and implement a weed control programme for the site and access roads, to the satisfaction of Council and for the first 2 years of operation.

Communications

55. In the event that the wind farm activities result in any disruption to free to air (not satellite) television, Broadband Wireless access licenses and/or microwave path operators at those properties in the area surrounding the wind farm site, the consent holder shall assist those parties to obtain reception comparable to the pre-construction quality, to the satisfaction of Council. The consent holder shall advise the Manager Policy and Planning, Waitomo District Council of the agreed mitigation measures in writing.

Complaints Register

56. The consent holder shall appoint a representative who shall be the Waitomo District Council's principal contact person in regard to matters relating to this resource consent. The consent holder shall inform the Manager Policy and Planning, Waitomo District Council of the representative's name and how they can be contacted prior to this resource consent being commenced.

57. The consent holder shall maintain a complaints register for the wind farm activities. The register shall record all complaints received and shall include:

    a. The date, time and duration of the incident that has resulted in the complaint;

    b. The location of the complainant;

    c. The cause of the incident where appropriate;

    d. Any corrective action undertaken by the consent holder in response to the complaint.

The register shall be available to Council within 2 working days of its request.

Implementation, Review and Monitoring

58. Pursuant to sections 128 to 130 of the Resource Management Act the Waitomo District Council may undertake a review of conditions of consent, within twelve months of the commencement of operation of the wind farm and thereafter on an annual basis for the following purpose:

    a. to review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent (in particular the potential adverse environmental effects in relation to noise, vegetation removal, earthworks, and the visual, landscape and amenity effects), and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or

    b. to address any adverse effect on the environment which has arisen as a result of the exercise of this consent; or

    c. if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment; or

    d. to review the adequacy of and the necessity for monitoring undertaken by the consent holder.

    The Council will undertake the review in consultation with the consent holder. The consent holder shall pay the actual and reasonable costs of the review.

59. The consent holder shall pay all costs associated with the implementation of this consent in order to achieve and demonstrate compliance with the consent conditions therein.

60. Pursuant to section 36 of the Resource Management Act 1991 the consent holder shall pay the actual and reasonable costs incurred by the Council when monitoring the conditions of this consent.

Lapse Period

61. This consent shall lapse eight years after the date of it being granted, unless the consent is either given effect to before that lapsing date, or unless the Waitomo District Council fixes a longer period pursuant to section 125 of the Resource Management Act 1991.

Advisory Notes

1) The consent holder shall also ensure compliance with conditions of the Waikato Regional Council resource consent. Conditions related to matters covered by that consent have been omitted from this consent to avoid duplication.

2) All on-site works shall comply with the requirements of the Health and Safety in Employment Act 1992.

3) This consent covers road widening and realignment works associated with Taumatatotara West Road only. The consent holder shall obtain any other resource consents required for

road widening, including any resource consents required from Waikato Regional Council.

4) The consent holder will need to consult with and meet the requirements of all road controlling authorities affected by the transportation of the turbine components, including Transit New Zealand.

5) The consent holder will need to consult with the Manager, Policy and Planning, Waitomo District Council in order to facilitate proceeding with the establishment of a turbine viewing area on Marokopa Road.

6) If the transmission lines connecting the substation to the existing electricity transmission lines are located above ground, they shall be designed and located so that they are a permitted activity in accordance with Rule 15.5.1 of the Proposed Waitomo District Plan and the NZ Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).

7) ~~For the purposes of condition 11, a height greater than 110 metres will be approved for turbines 1 to 11 inclusive subject to the necessary confirmation being provided in respect of compliance with NZS6808:1998. Condition 3 also requires that the maximum height of turbines 1 to 11 inclusive must not exceed 121.5 metres and that the maximum height of turbines 12 to 22 inclusive must not exceed 110 metres~~.

Commented [GC12]: This advice note is redundant

Appendix 12

Notification decision

23 September 2021

In reply please quote: RM200019
If calling please ask for: Alex Bell

Digitally Delivered

Taumatatotara Wind Farm Limited
157 Woodlands Park Road
Titirangi
Auckland 0604

Dear Glenn,

Notification Decision

I have read the application, the Assessment of Environment Effects (AEE) including all further information provided to the Council, the Applicant's notification report, as well as the documents and correspondence provided to me in relation to this application (including the previous consents granted, the associated consent conditions and the Council's peer reviews of the Applicant's Assessment of Environment Effects (AEE) and the notification report and recommendation on the application for resource consent by Mr Dawson, consultant planner (reporting planner) to the Council. I am satisfied that I have sufficient information to consider the matters required by the Resource Management Act 1991 (RMA) and make a decision under delegated authority on notification.

It is my decision the application needs to be processed on a publicly notified basis. The reasons for this are set out below. It is my finding, contrary to the position of the Applicant and reporting planner, that in terms of section 95A(8)(b) the activity will have or is likely to have adverse effects on the environment that are more than minor. This means the application must proceed on the basis of public notification.

Notification decisions are made in terms of the provisions of sections 95 to 95G of the RMA (and in particular 95A(8)(b) in terms of this decision) which requires an assessment and determination of the 'adverse effects on the environment'. Any positive effects arising from an activity, as referred to in the application and other material provided by the Applicant, cannot be considered in relation to notification. I accept that the reduction in potential adverse effects arising from this proposal, essentially due to the reduction in the number of wind turbines, is relevant to a notification determination. However, I consider that, notwithstanding the reduction in potential adverse effects, this proposal will have or is likely to have adverse effects on the environment that are more than minor. I address these below.

Cultural Effects

The Applicant consulted with Mana Whenua - Ngaati Mahuta ki te Tai Hauaauru (Ngaati Mahuta). Ngaati Mahuta's response to the wind farm proposal was recorded in statement from the Hui held on 4 May 2021. Ngaati Mahuta opposed the proposal, and stated (in part):

After very careful consideration, and robust discussion of the Pro's and Con's we decided collectively and unanimously to refute and categorically object to any idea that a wind farm within reach of our mana whenua Ngaati Mahuta ki te Tai Hauaauru could be advocated for.

We cannot support the change of wind turbine size, an extra 62.5 metres in height, nor do we see a reduction in turbine numbers as a mitigating factor to lessening the impact of junk/ scrap metal, zero waste, visual effects and all of what was up for discussion. With hand on heart we are not confidently assured that the environmental and cultural impact, the ecological –dirty footprint, biodiversity of indigenous, the health and wellbeing of lives and environment present and in the future has been addressed adequately.

While the statement is not couched in RMA terms (eg less than minor, minor or more than minor), it is clear to me from the statement that Ngaati Mahuta as Mana Whenua do not support the proposal; and that it will have or is likely to have adverse cultural and other effects ("*cultural impact, ecological...., biodiversity of indigenous, the health and wellbeing of lives")* on the environment that are more than minor.

While I note that Mr Dawson has recommended Ngaati Mahuta be 'limited notified', the limited notified provisions only apply <u>once</u> it has been determined that the requirements of section 95A(8)(b) do not apply (i.e. the proposal will not have or is not likely to have adverse effects on the environment that are more than minor). As set out it is my finding that in terms of section 95A(8)(b) the proposal will have or is likely to have adverse cultural effects on the environment that are more than minor.

<u>Visual Amenity/Landscape effects</u>

The Applicant's and Council's landscape architects have addressed the effects of the proposal in terms of visual amenity/landscape effects. Mr Dawson has addressed these effects in his notification report under the heading <u>Effects on landscape character and amenity</u>. He states:

The uncertainties associated with this approach led Mr Mansergh to express some concerns over the assessment methodologies adopted and the subsequent effects ratings provided. He particularly noted that the methodology adopted by WSP was to consider effects ratings of both "very low" and "low" as less than minor. However, in his opinion it was preferable to adopt the notification threshold ratings identified in the New Zealand Institute of Landscape Architects Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines, April 2021 and that these be adopted rather than those adopted by WSP.

On the basis of using the NZILA ratings of "very low" to equal less than minor effects and "low" to equal minor effects, he concluded that the potential adverse visual effects were considered to be low or moderate at House 26 and House 28 (Te Waitere View Limited), House 22 (Martins) and property SA1051/182 (Irons). These are set out in Table 3 below.

Table 3: Visual Affected parties

Legal Description	*Landowner/occupier*	*Status*
Section 13 & Part Section 9, Block V Kawhia South SD	*Christopher, Raymond and Susan Irons*	*No written approval provided*
Lot 1 DP 332845 in CT 134566	*Greg and Leslie Martin House #22*	*No written approval provided*
SA30D/453	*Te Waitere View Limited * House #26*	*No written approval provided*
SA42C/698	*Te Waitere View Limited * House #28*	*No written approval provided*

Relying on Mr Mansergh's assessment, Mr Dawson recommended those parties in table 3 be (limited) notified.

Mr Shearer, the Applicant's planner set out in his "Notification Assessment" the following:

> *The Council requested a Visual Assessment be undertaken from a number of dwellings on the Taharoa Road (north) side of the proposed wind farm to determine the severity of visual effects upon them. Two property owners –Tim and Mary Stokes, and Alan and Sue Smith, signed affected party forms. Therefore, the effects on them can be discounted. Many of the dwellings represented are owned by the site owners and are covered under existing written approvals.*
>
> *Two properties owned by Te Waitere View Limited adjacent to Te Waitere Road – dwellings 28 and 26 (see 11 Turbine Layout map), were evaluated by WSP in terms of the visual effects of the proposal on them. The adverse visual effects on house 26 were evaluated as being 'moderate' using the NZILA criteria, equivalent to 'minor' in RMA terms. Property 28 was assessed as being 'low', or 'less than minor'.*
>
> *One other property, owned by Greg and Lesley Martin, not identified in the Mansergh Graham report, is located on Taharoa Road and is the closest non-owner dwelling to the wind farm (2,087m). Their property has not been evaluated but it is safe to say the effects on them is minor as they will have a good view of several of the turbines.*

Mr Shearer's overall conclusion was:

> *As a result of the above assessment, it is concluded that the application to change the conditions of consent is able to be processed with notification limited to three persons as follows:*
>
> - *Te Waitere View Limited –house 26*
> - *Greg and Lesley Martin –house 22*

For the purpose of considering whether or not the visual amenity effects are more than minor, it needs to be determined which properties are excluded under section 95D (a) (ii) of the RMA. The Irons' property is adjacent (directly adjoining) the wind farm site, and is therefore excluded under section 95D (a) (ii). However, the other three properties set out in table 3 above are not adjacent to the wind farm site in terms of section 95D (a) (ii).

Mr Mansergh has concluded that the potential adverse visual effects are low or moderate at House 26 and House 28 (Te Waitere View Limited), and House 22 (Martins). In coming to this position he has applied the New Zealand Institute of Landscape Architects *Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines, April 2021*. Those guidelines state in terms of visual effects at paragraph 6.37 – the following:

> *....'More than minor' can be characterised as 'moderate' or above.*

The footnote attached to that paragraph states:

> *Statements such as 'moderate is equivalent to minor in RMA terms' are incorrect (Okura [2018] NZEnvC 78, para 557).*

Given the above, it is my finding that this proposal will have (at least) adverse effects on the environment, including in relation to those properties containing houses 22, 26 and 28 set out in Table 3 above, which are more than minor.

While I note that Mr Dawson has recommended a number of properties be limited notified, as I set out in relation to the cultural effects, the limited notified provisions only apply once it has been determined that the requirements of section 95A(8)(b) do not apply (ie the proposal will not have or is not likely to have adverse effects on the environment that are more than minor). As set out, it is my finding that in terms of section 95A (8)(b) the proposal will have or is likely to have adverse visual amenity effects on the environment that are more than minor.

Aviation

There has been little or no assessment (other than comments about the separate Civil Aviation Authority process) about the potential impact of the larger (and higher) wind turbines on aviation. There is little or no information of any potential effects or impact on commercial (eg top dressing operations) or recreational craft (eg privately owned planes, gliders and/or hang gliders).

Given the lack of information, it is not possible to definitively determine that there will or will not be adverse effects on the environment which are more than minor. Accordingly, it is my finding that there is at least the potential that there will be adverse aviation effects on the environment which are more than minor.

Ecological Effects

There is a considerable difference of opinion on the potential or likely effects in relation to ecological matters between the relevant ecological and planning experts, particularly in relation to birds and bats. These differences of opinion, given the complexity of the issues addressed (and the positive ecological effects opined by the Applicant's experts[1]), cannot easily be addressed 'on the papers'. They need to be addressed in expert evidence and considered as part of the substantive evaluation under section 104 of the RMA.

[1] I have already set out that I am not able to consider positive effects as part of the notification decision.

Accordingly, I am not in a position to make a definitive finding that, for the purpose of notification, the adverse ecological effects are or are likely to be no more than minor; there is at least the potential for more than minor adverse ecological effects on the environment. This is an additional reason for public notification. It will also enable anybody who has concerns about the ecological effects of the proposal (positive or adverse) to lodge a submission (noting that notification is already required due to the other reasons set out above).

Overall Finding and Decision

For all of the reasons set out above, I have concluded that the proposed activity will have or is likely to have adverse effects on the environment that are more than minor. It follows that public notification is required.

In addition to the public notice, the following parties, in addition to those that the Council deems necessary to directly notify, shall be directly notified:

Legal Description of property	Landowner/Party
Section 13 & Part Section 9, Block V Kawhia South SD	Christopher, Raymond and Susan Irons
Lot 1 DP 332845 in CT 134566	Greg and Leslie Martin
SA30D/453	Te Waitere View Limited
SA42C/698	Te Waitere View Limited
NA	Department of Conservation
NA	Ngaati Mahuta

Special Circumstances

Given my decision that the application needs to proceed on a publicly notified basis, I am not required to determine if there are Special Circumstances that would otherwise require public notification under s95A(9) of the RMA. However, I wish to record that had I found that the application did not need to be publicly notified for any other reason, I would likely have found that there were special circumstances warranting the public notification of the application. Those reasons are briefly set out below.

Special circumstances have been defined by the Court of Appeal as those that are unusual or exceptional, but they may be less than extraordinary or unique.[2] Moreover, in *Murray v Whakatane District Council*,[3] Elias J stated that circumstances which are "special" will be those which make notification desirable, notwithstanding the general provisions excluding the need for notification. In determining what may amount to "special circumstances" it is necessary to consider the matters relevant to the merits of the application as a whole, not merely those considerations stipulated in the tests for notification and service.

In this case the consent was originally granted in 2006, with a variation to that consent granted in 2011 and an application to extend the lapse date granted in 2016. While I accept the consent does not lapse until 2024, no physical development has commenced on the site since the proposal was first granted consent in 2006. Given this length of

[2] *Peninsula Watchdog Group (Inc) v Minister of Energy* [1996] 2 NZLR 529.
[3] [1997] NZRMA 433.

time, it is likely that many members of the public may not be aware that the wind farm has been consented. The public, or those considered affected, may want the opportunity to submit (supporting, neutral or opposing) on the wind farm proposal.

Furthermore, since the granting of the original consent it is likely that environmental concerns and the impact of wind farms (positive or adverse) have changed, with assessment methodologies developed such that those employed at the time of the earlier Council decisions (on the original consent, subsequent changes to conditions and extension of the lapse period) may no longer be appropriate, reliable or relevant.

Moreover, there have been more recent and new statutory planning documents introduced and made operative. This includes the National Policy Statement for Renewable Electricity Generation (2011) and the Waikato Regional Policy Statement (notified in 2010 and made operative in 2016). The provisions in these documents will now need to be assessed in relation to this latest application but did not exist when the original resource consent, which this latest application proposes to change, was decided in 2006.

Given the above, I consider that special circumstances may well have applied to this proposal if I had not otherwise already concluded that public notification was required for other reasons.

Greg Hill

Hearing Commissioner

Dated:23 September 2021