IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of applications by Meridian Energy Limited to Manawatū-Whanganui Regional Council, Greater Wellington Regional Council, Tararua District Council and Masterton District Council for resource consents to enable the construction, operation, and maintenance of a new wind farm on Mount Munro, located approximately 5km south of Eketāhuna

SECTION 87F REPORT OF JOSHUA JAMES HUNT – LANDSCAPE

MANAWATŪ-WHANGANUI REGIONAL COUNCIL, GREATER WELLINGTON REGIONAL COUNCIL, TARARUA DISTRICT COUNCIL AND MASTERTON DISTRICT COUNCIL

15 March 2024

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A. OUTLINE OF REPORT

1 This report, required by section 87F of the Resource Management Act 1991 (**RMA**), addresses the issues set out in sections 104 to 112 of the RMA, to the extent that they are relevant to the applications lodged with the Manawatū-Whanganui Regional Council (**Horizons**), Greater Wellington Regional Council (**GWRC**), Tararua District Council (**TDC**) and Masterton District Council (**MDC**).

2 The resource consents applied for, by Meridian Energy Limited (**Meridian or the Applicant**), are required to authorise the construction, operation and maintenance and improvement of a new wind farm on Mount Munro, located approximately 5km south of Eketāhuna. The project is known as the Mt Munro windfarm project (the **Mt Munro Project or Project**).

3 In this report I address landscape and visual matters in relation to the resource consent applications lodged with Horizons and GWRC (the **Regional Councils**) and TDC and MDC (the **District Councils**).

4 While this report is pursuant to section 87F of the RMA, I have in accordance with section 42A(1A) and (1B) attempted to minimise the repetition of information included in the application and where I have considered it appropriate, adopt that information.

B. QUALIFICATIONS / EXPERIENCE

5 My name is Joshua James Hunt. I am a landscape Architect and Director of Narrative Landscape Limited which was established in 2019.

6 I hold the qualification of Bachelor of Landscape Architecture (Honours) from Lincoln University and have been a Registered Member of the New Zealand Institute of Landscape Architects Tuia Pito Ora (NZILA) since 2013. I have practised as a Landscape Architect for the past 13 years.

7 I specialise in landscape assessment, having undertaken assessments throughout New Zealand for both public and private clients on a variety of topics. In relation to experience relevant to the Mount Munro Project, I have undertaken a landscape feasibility study for a potential windfarm in

Northland, and have peer reviewed the Landscape Assessment accompanying the current Te Rere Hau Windfarm Aokautere Extension on behalf of the Palmerston North City Council. Additionally, I have experience assessing and reviewing landscape effects in relation to District-wide Outstanding Natural Landscape Assessments, solar farms, marine farms, retirement villages, and Regional Parks development.

8 I am familiar with the site and surrounding area. I visited the site along with other experts of the Regional Councils and District Councils on 19 June 2023, as well as travelling around the wider area of the site and the identified viewpoint locations.

C. CODE OF CONDUCT

9 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. This report has been prepared in accordance with that Code. In particular, unless I state otherwise, the opinions I express are within my area of expertise, and I have not omitted to consider material facts that might alter or detract from the opinions that I express.

10 I have all the information necessary to assess the application within the scope of my expertise and am not aware of any gaps in the information or my knowledge.

11 I acknowledge that I am not an expert in relation to the assessment of navigational lighting or cultural effects, however I have made comment on these aspects of the proposal where they overlap with potential landscape and visual amenity effects.

D. EXECUTIVE SUMMARY

12 The key conclusions of my report include:

(a) I agree with the methodology used by the Applicant to assess existing landscape levels, and to assess the effects of the Mt Munro Project on landscape and visual amenity values.

(b) Overall, the conclusion within the Applicant's Landscape Effects Assessment is considered to be well reasoned and appropriately reflects the overall degree of landscape and visual amenity effects.

(c) I agree with the assessment of effects on the landform and landscape character, which identified that there would be:

(i) Moderate adverse effects on the existing landform from construction.

(ii) Low adverse effects on the existing landform from operation.

(iii) Low to Moderate-High adverse effects on landscape character (based on proximity to the Project) from construction and operation.

(d) I agree with the assessment of visual effects for representative public viewpoints, which identified a range of adverse effects from High to Moderate-Low.

(e) I also agree with specific visual effects ratings on identified dwellings within 2km of the turbines. This results in a range of effects, with adverse effects on 28 dwellings (identified in Table 1) ranging between a High and Moderate-Low adverse effect, with 4 properties identified as having a high effect.

(f) In my opinion, confirmation of the final earthworks alignment should be undertaken in conjunction with a Landscape Architect to ensure that the roading alignment and fill disposal areas blend into the existing landform.

(g) One of the dimensions of landscape is the perceptual dimension. The Mt Munro Project will likely result in a negative perception for some of the residents who live close to Mount Munro, given they have expressed through submissions that they consider the proposed wind farm to be incongruous with the existing landscape.

Nonetheless, in my opinion, the scale of the proposal can readily be integrated into the productive rural landscape.

(h) A series of conditions are recommended to address potential adverse landscape and visual effects, with some of these having already been proffered by the Applicant.

E. SCOPE OF REPORT

13 My report focuses on issues related to landscape and visual amenity. It covers the following topics:

(a) Background Information;

(b) Assessment of Application:

(i) Boffa Miskell Landscape Effects Assessment;

(ii) RFIs and responses; and

(iii) Ground truthing the proposal against the Harapaki wind farm project.

(c) Submission points, including:

(i) Location of Turbines in the Rural Environment;

(ii) Simulations;

(iii) Turbine Colour;

(iv) Light Pollution;

(v) Cultural Component; and

(vi) Natural Character.

(d) Suggested Conditions.

14 I have reviewed and relied on the information provided within the Mt Munro Wind Farm Resource Consent Application, May 2023 (**the Application**), including:

(a) Appendix K: Mount Munro Wind Farm – Landscape Effects Assessment, Boffa Miskell (2023) (**the LEA**):

(i) Appendix 1: Landscape Effects Assessment Methodology;

(ii) Appendix 2: Statutory Provisions;

(iii) Appendix 3: Residential Visual Amenity Assessment; and

(iv) Landscape and Visual Effects Assessment – Graphic Supplement.

(b) Assessment of Environmental Effects (**AEE**) – Mt Munro Wind Farm Project, May 2023 including the Proffered Conditions (Section 8):

(i) Appendix A – Civil Design Plan Set;

(ii) Appendix C – Ecological Assessment;

(iii) Appendix I – Rangitāne o Tamaki nui-ā-Rua and Rangitāne o Wairarapa Cultural Values Assessment; and

(iv) Appendix J – Ngāti Kahungunu ki Tamaki nui a Rua Cultural Values Assessment.

(c) Response to the Mt Munro Proposed Wind Farm Resource Consent Application Section 92 Additional Information Request (7 September 2023) (**RFI#1 Response 1**):

(i) Appendix 1 – Landscape Memo (7 September 2023).

(d) Clarification of Meridian's Response to the Mt Munro Proposed Wind Farm Resource Consent Application Section 92 Additional Information Request (25 October 2023) (**RFI#1 Clarification Response**).

15 In preparing this report, I have relied on the expert advice from the following technical advisors:

(a) John McKensey - Lighting;

(b) Claire West – Shadow Flicker;

(c) Neil Crampton - Geotechnical;

(d) Kerry Pearce – Erosion and Sediment Control; and

(e) James Lambie - Terrestrial Ecology.

F. BACKGROUND

16 I have been engaged by Horizons, GWRC, TDC and MDC to provide a peer review of a LEA, prepared by Boffa Miskell Ltd, for the Mount Munro Project from Meridian Energy.

17 The purpose of this role has been to conduct a focused appraisal of the principal assessment, based on Te Tangi a te Manu (the Aotearoa New Zealand Landscape Assessment Guidelines) and not to undertake a parallel assessment. The key stages of involvement include;

(a) Assisting with the request for further information (landscape related) through the s92 process (**RFI#1**),[1] and its subsequent earthworks clarification request (**RFI#1 Clarification Request**);[2]

(b) Informing recommendations for notification of the Mount Munro Project;[3]

(c) Review of the LEA and related material provided on behalf of the Applicant in support of the Application; and

(d) Identifying potential information gaps and providing additional landscape and visual effects analysis where necessary.

1 Attachment 2 – S92 Review: Landscape (Joshua Hunt 29 – July 2023).
2 Attachment 3 – S92 Information Response (Joshua Hunt – 15 September 2023)
3 See Attachment 1 to S92 Information Response (Joshua Hunt – 15 September 2023).

G. ASSESSMENT OF APPLICATION

Boffa Miskell LEA

18 To begin, I confirm my view that the LEA has outlined an appropriate methodology for assessing landscape effects,[4] and that the Applicants landscape assessment has been carried out in accordance with their stated method, while following the principles outlined in Te Tangi a te Manu.[5]

19 I consider that the LEA has provided an appropriate description of the landscape context and application site,[6] while also identifying the suite of relevant statutory provisions which have an influence on landscape matters.[7]

20 The proposal has been described sufficiently to understand the proposed wind farm components.[8] However, it is noted that the inherent degree of flexibility being requested for delivery of the Project (e.g. turbine envelope approach and typical cut/fill cross-sections) has the potential to lead to effects greater than those currently identified, particularly if there are significant changes to the preliminary roading alignment. This is an aspect that will need to be considered further to ensure that the scale of location of turbines and scale of earthworks is appropriately managed.

21 The LEA Graphics Supplement provides useful mapping and analysis, and the visual simulations are considered to be technically accurate representations of the scale/location of the proposed turbines. In this instance, the 90^{o} field of view utilised by the panoramic photo/simulations is considered to provide a more useful context (due to the expansive setting) than that of a single 50mm lens (40^{o} field of view) photograph.

22 In my view the LEA has provided a generally comprehensive Assessment of Effects section[9] and I agree with the list of principal elements of the proposal

4 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 1.2 and Appendix 1.
5 Tuia Pito Ora/New Zealand Institute of Landscape Architects, June 2022.
6 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 2.
7 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 3.
8 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 4.
9 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 6.

that could give rise to landscape and visual effects.[10] The only addition to this list relates to the aviation lighting effects on night time amenity, which is considered further below.

23 The AEE has acknowledged consideration of alternative locations,[11] alternative arrangements[12] and the consideration of landscape and visual amenity values within the site selection process.[13]

Statutory Framework

24 In my view, understanding the policy framework, as it relates to landscape, is a critical component of the Project, as:

(a) The National Policy Statement for Renewable Energy Generation 2011 (**NPS-REG**) has directed regional and local authorities to have regard to a suite of enabling provisions when considering resource consent applications for renewable energy. In particular, there is an objective[14] and policy[15] to specifically provide for renewable electricity generation (i.e. wind generation) within district plans, while recognising[16] the physical (location) and technical constraints associated with these developments (proximity to renewable resource as well as connectivity to the national grid), while providing for mitigation opportunities.

(b) None of the relevant plans (Greater Wellington Natural Resources Plan, Horizons One Plan, Tararua District Plan (**TDP**) or Wairarapa Combined District Plan (**WCDP**) and Proposed Wairarapa Combined District Plan (**PWCDP**)) have identified the Mt Munro locality as either an Outstanding Natural Landscape (RMA, s 6(b)), or as a Significant Amenity Landscape (RMA, s 7(c)). The site is also not near

10 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 6.1.4
11 Assessment of Environmental Effects, Section 6.3.
12 Assessment of Environmental Effects, Section 6.4.
13 Assessment of Environmental Effects, Section 6.2 & 6.3.
14 National Policy Statement for Renewable Energy – Objective.
15 National Policy Statement for Renewable Energy – Policy E3.
16 National Policy Statement for Renewable Energy - Policy C1.

the coastline, which eliminates scrutiny under the New Zealand Coastal Policy Statement.

(c) At the District Plan policy level, the TDP and WCDP and PWDCP all acknowledge the potential for wind farms in the rural zone.[17] Within TDP jurisdiction, the key amenity provision seeks *"To ensure a high level of environmental quality and amenity throughout the rural areas of the District"*.[18] Under the WCDP a similar provision seeks *"To maintain and enhance the amenity values of the Rural Zone…",*[19] while the PWCDP seeks to maintain and enhance the predominant character of the General Rural Zone.[20]

25 The LEA has appropriately identified the combination of direction from the NPS-REG, and of particular note, identified that the application site is not identified as an Outstanding Natural Landscape, Outstanding Natural Feature, Significant Amenity Landscape, or Coastal Landscape.

26 On review of the LEA, the relevant landscape related provisions, and my own assessment of the landscape following the site visit, I consider that a Wind Farm proposal would be consistent with the anticipated character of the rural environment. That is, the turbines are of a scale and function that are appropriately located in the Rural Zone.

Landscape Effects

27 As described in Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, landscape effects can be conceptualised in the following way:[21]

> A landscape effect is an outcome for a landscape value. While effects are consequences of changes to the physical environment, they are the outcomes for a landscape's values that are derived from each of its physical, associative, and perceptual dimensions.

17 TDP: Objective 2.8.4.1, and WCDP: 16.3.5 NUE2 Policies (c) & (d).
18 TDP: Objective 2.3.2.1.
19 WCDP: Section 4.3.1 Objective Rur1.
20 PWCDP: GRUZ-O2: Rural Character.
21 New Zealand Institute of Landscape Architects *Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines* (July 2022), Page 135, 6.01-6.03.

> Change itself is not an effect: landscapes change constantly. It is the implications of change for a landscape's values that is the effect.

28 Based on my site visit, discussion with the lead author of the LEA and review of the Application material, I agree with the LEA's identified level of landscape effect (separated out for both 'Construction' and 'Operation' phases).[22] These levels of effect are:

(a) Moderate adverse effects on the existing landform from construction;

(b) Low adverse effects on the existing landform from operation; and

(c) Low to Moderate-High adverse effects on landscape character (adverse based on proximity to the Project) from construction and operation.

29 In relation to the turbine layout, a series of 5 potential layout scenarios were developed for preliminary analysis and the LEA confirms that variations to the arrangement was practically limited due to the narrow ridgelines.[23]

30 It is my understanding that the width of the proposed Turbine Envelope Zone (120m wide) is intentionally narrower than the turbine blade diameter (136m wide) as, when considered in plan view (Figure 1a, 1b & 1c), the combination of a rotating turbine hub (to always follow the wind direction) and the 120m wide Turbine Envelope requires the turbine layout to be spaced out along the identified ridges (e.g. so that the turbine blades cannot hit an adjacent turbine). This has the benefit of limiting dense clustering and 'double stacking' so that the wind farm has a *"visually balanced layout which responds well to the topography".*[24]

[22] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Table 6-1. p23-24.
[23] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 4.1.7.
[24] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 8.1.2.

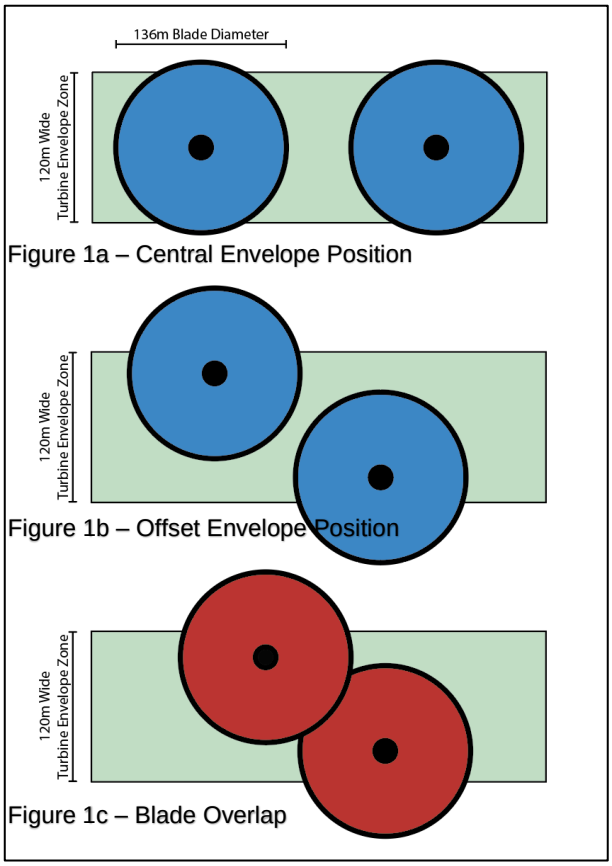

Figure 1: Turbine Envelope Zone enforces separation

31 I agree that the greatest degree of landscape character effect (identified as Moderate-High) will occur at locations within 2km of the Project, *"where the proposed turbines have the potential to be viewed as a prominent array of dynamic structural elements along a local area of skyline*".[25]

Visual Effects

32 Narrowing in, visual effects can be described as a subset of the overall landscape effects of a proposal:[26]

> A visual effect is a kind of landscape effect. It is a consequence for landscape values as experienced in views. Visual effects are a subset of landscape effects. A visual assessment is one method to help understand landscape effects.

[25] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 6.2.15.

[26] New Zealand Institute of Landscape Architects *Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines* (July 2022), Page 135, 6.08.

33 As such, while landscape effects and visual effects are related, they are assessed as different concepts. A series of three distance categories were identified in the LEA (<2km, 2km-5km, >5km)[27] to consider landscape character effects, with dwellings within the 2km buffer distance becoming the focus of much greater level of assessment detail.

34 Visual simulations were prepared from 10 representative public locations surrounding the Project Site, with their locations indicated on Figure 2 below (Source: Boffa Miskell Graphic Attachment – Figure 7).

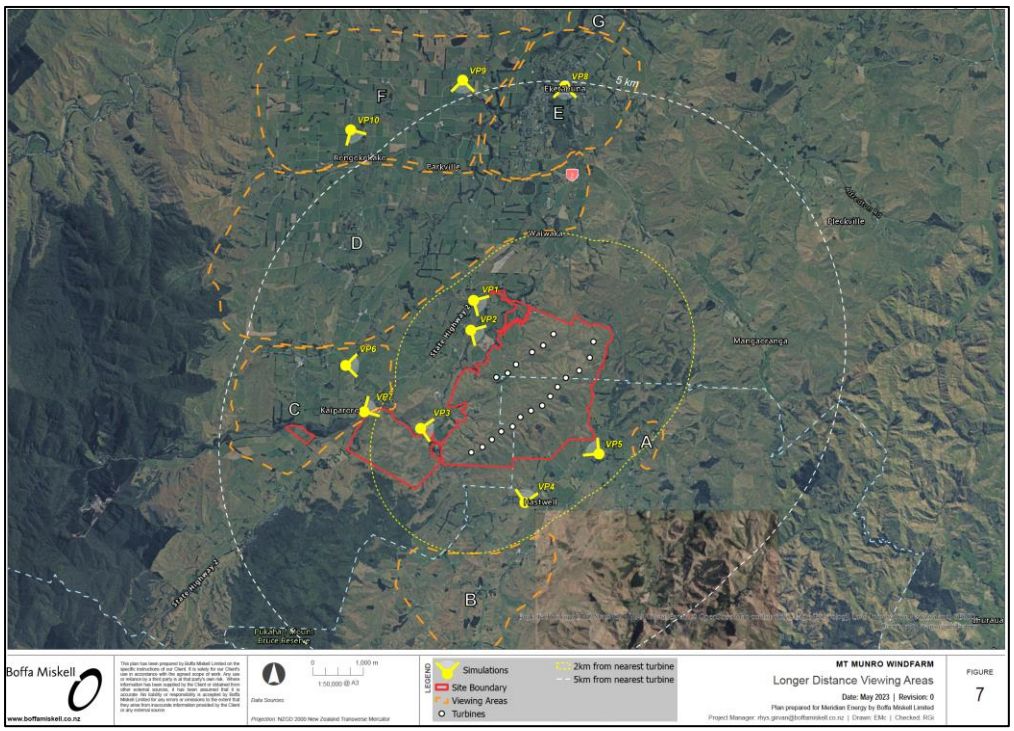

Figure 2: Public Viewpoint Locations

35 In relation to these 10 viewpoints, I agree with the LEA viewpoint analysis[28] and level of potential visual effects demonstrated by the simulations[29] which has identified:[30]

27 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Table 6-1. p23-24.

28 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 6.4.14 – 6.4.32.

29 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Graphic Supplement – VP1 to VP10.

30 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Table 6-2.

(a) Visual Effects during the construction/earthworks phase = Low adverse effect for VP1 to VP5 (public locations within 1.5km), and Very Low adverse effects from VP6 to VP10 (public locations between 2.2km and 5.7km);

(b) High adverse visual effect from VP2 – VP5;

(c) Moderate-High adverse visual effects from VP1;

(d) Moderate adverse visual effects from VP6;

(e) Low-Moderate Effects from VP7 & VP9; and

(f) Low adverse visual effects for VP8 & VP10.

36 The LEA author has also appropriately conducted a visual appraisal of the surrounding area, identified representative viewpoints, visited 17 of the nearby dwelling locations and has identified a 'Potential Visual Effect'[31] rating for the 36 dwellings considered to be most affected.[32]

37 To clarify the visual effect rating on surrounding properties, Figure 3 below identifies those properties within 2km of a proposed turbine which have a High (indicated in Red), Moderate-High (indicated in Yellow), or Moderate/Moderate-Low (indicated in Green) visual effects rating. The dwelling numbers below are based on those identified in the LEA Appendix 3 and have excluded properties within the Project site.

[31] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Appendix 3 – Residential Visual Amenity Assessment, Visual Effects from Dwellings within 2km of Nearest Turbine.

[32] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Graphic Supplement – Figure 6 (Dwellings).

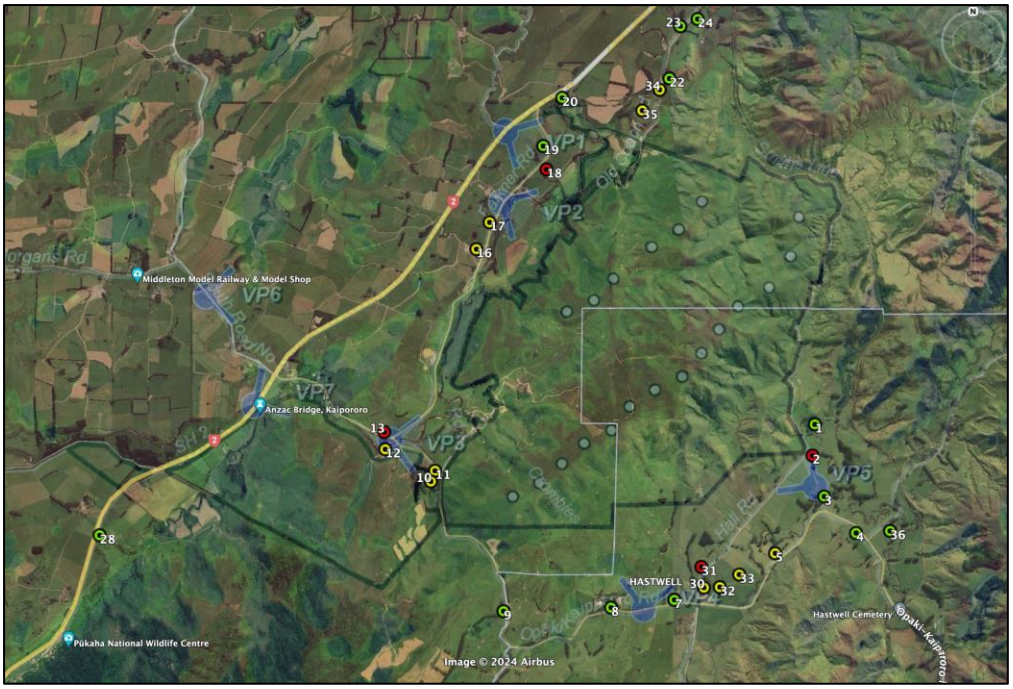

Figure 3: Dwelling Visual Effects (Red = High, Yellow = Moderate-High, Green = Moderate or Mod-Low)

38 Table 1, contained in Attachment 1 to this report identifies these dwellings in relation to dwelling number, and submitter number (where a landscape effect was identified).

39 I concur with the approach taken by the visual effects assessment contained in Appendix 3 of the LEA and consider that the sensitivity descriptions, magnitude of visual change and potential visual effect ratings[33] are a fair reflection of the Mount Munro Wind Farm proposal. It is also noted that the results of the Shadow Flicker Analysis[34] is acknowledged within Appendix 3.

40 The LEA Visual Effects assessment has identified 8 properties with either a Very High or High adverse effect, with 4 of these being associated with the Project Site. This leaves 4 properties (as identified in Table 1 to my report) with a High adverse effect, and the LEA has concluded that:[35]

33 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Appendix 3 – Residential Visual Amenity.

34 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Graphic Supplement, Figure 9.

35 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 8.1.6.

> For those closer dwellings orientated towards the Site with limited or absent screen planting enabling open primary views and consequent higher visual effects and where the landowner has an aversion to viewing the windfarm, landowners could be offered tree planting to establish or reinforce existing gardens and ameliorate the impacts of visible turbines within prominent views.

41 The trigger for offering mitigation planting is currently suggested as those properties with a High adverse visual effect[36] where existing screen planting is limited. I concur with this approach. While the High adverse effects may appear to be a 'high' threshold for offering mitigation, potential planting (such as shelter belts or stands of amenity trees) is only effective in providing a visual buffer (between an identified viewpoint and the proposed turbines) when the dwelling proximity and view orientation result in a high adverse effect.

42 The result of a High adverse visual effect equates to a 'Significant' effect. While I am supportive of the Applicants recommendation to offer planting on the relevant properties, I am not aware of any legal arrangements or authorisations providing the Applicant permission to enter land to undertake the works. In that case, I have not relied on planting for mitigation purposes beyond the Site on the following four neighbouring properties:[37]

(a) Dwelling No2 – Submitter 21/37.

(b) Dwelling No13.

(c) Dwelling No18)

(d) Dwelling No31 – Submitter 6/7.

43 Overall, the LEA provides an appropriate analysis of the potential landscape and visual effect with conclusions that are consistent with the content of the LEA and mitigation of views has been addressed where practicable. As I signal above, however, there remains a significant effect on four properties.

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36 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 7.1.3.

37 The dwelling numbers are identified on Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Appendix 3 – Residential Visual Amenity.

There are also a few discrete items that require additional consideration. I discuss these further below.

RFI Responses

44 There were three landscape matters for which further information through the s 92 process[38] was initially sought (included as Attachment 2 to this Report). These matters specifically related to:

(a) Scale of earthworks (relating to the road alignment);

(b) Boundary treatments (specifically the proposed site entrance and SH6 substation); and

(c) The concrete batching facility.

45 Subsequently a wider Council Team information request (from Neil Crampton - Geotechnical Expert) was made to the Applicant in relation to the Fill Disposal Area locations and quantities. This was also of interest to my review of the landscape and visual aspects of the Application.

Scale of Earthworks

46 Two issues arise in relation to the scale of earthworks. Firstly, the road alignment earthworks were noted in the LEA as not *"including feathered edge, drains, or removal of banks on the road shoulders to enable the transport of turbine blades".*[39] This was responded to by the LEA author[40] where, in my view, it was sufficiently demonstrated that the LEA earthworks effects conclusions were appropriately considered and understood.

47 Secondly, the Turbine Envelope Zone approach provides a degree of flexibility in the construction of the internal road network within the Turbine Consent Envelope Zone and Turbine Exclusion Zone, in particular that there is no maximum extent of earthworks modifications that could occur as a result of cut and fill. This issue was compounded when the Council Team

38 Mount Munro Proposed Windfarm Project – S92 Review Landscape (29 July 2023).
39 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 4.2.5.
40 RFI#1 Response 1 – Landscape (7 September 2023).

identified that the Fill Disposal Area calculations and locations also provided a degree of flexibility and a further round of information was requested.

48 I confirm that a conversation has taken place with the Applicant's landscape architect (Rhys Girvan – Boffa Miskell) and that I am comfortable with the approach outlined in the RFI#1 Clarification Response[41] requiring a maximum finished gradient (for the fill disposal areas) of 1(v):3(h). This will ensure that the fill area will be able to be returned to pasture, while also allowing for a gentler slope adjacent to the access road. I note the approach has been reflected in the proffered conditions.

49 I have considered potentially visible exposed cut faces associated with the roading alignment earthworks. Based on the information provided to me, I am comfortable that the roading alignment generally minimises the need for excessive cuts by following the landform contour. Furthermore, where there are cut batter slopes, these are almost always cut down into the landform on both sides of the carriageway (like a trench) which visually contains the cut batter slopes)

50 I remain of the view that there should be a condition included to ensure that the final earthworks design enables the roading alignment and fill disposal areas to blend into the surrounding landform. This would involve review of the final earthworks design being confirmed with a Landscape Architect.

Boundary Treatment (Site Entrance and SH6 Substation)

51 The boundary treatment adjacent to both the site entrance and along the substation boundary were also the subject of RFI#1. In particular, concerns were raised with regard to potential visibility of associated infrastructure (e.g. laydown area, site offices, substation, O&M Buildings). When compared to the scale/height of the proposed turbines, these two utility areas represent much more recessive components, however, there remains a degree of visual effect which should be address through boundary planting. As a result, the Applicant has proffered a condition which requires that a planting plan be prepared to address screen planting (for visual mitigation

[41] At page 2.

purposes) in these two locations. I consider this to be an acceptable response to ensure that the overall project landscape and visual amenity effects are consistent with the LEA.

Concrete Batching Facility Location

52 A key consideration, in relation to potential landscape amenity effects, is that the Concrete Batching Plant (**CBP**) is not located in close proximity to nearby neighbours while it is in existence, particularly due to the potential effects on the outdoor residential amenity. While noise limits are being addressed within the technical report of Mr Lloyd, it is noted that the facility is likely to have distinct and potentially disruptive sound. The CBP also represents an active construction element which may be visually prominent when viewed in close proximity.

53 The initial concern was that this may be located near the end of Old Coach Road, and subsequently have an amenity impact on the nearby Old Coach Road dwellings (dwellings 22, 34 & 35A) and the three dwellings east of the Mākākahi River within 1km of the site entrance (Dwellings 18, 19 & 20).

54 The Applicant has indicated that the CBP will likely *"be located within the Turbine Envelope Zone along the ridgeline, where it is closest to the turbine platforms"*[42] and proffered a condition which confirms that the CBP will not be located in the Construction Laydown Area. Therefore it will not be located in the vicinity of existing residence along Old Coach Rd or directly west of the site entrance. I consider this to be an appropriate response.

55 I also note that the likely ridgeline location will assist with mitigating potential visual amenity effects, as the overall scale of the CBP is likely to be a minimal component of views obtained from beyond the site boundary (if it is even visible) and will have a low visual effect. I also acknowledge that the CBP will not have a permanent landscape or visual effect as it will be removed once the wind farm is fully operational. The response by the

[42] RFI#1 Response 1, p3, Question 3.

Applicant's Landscape Architect[43] is considered acceptable with regard to the effects of the CBP.

Ground Truthing (Harapaki Wind Farm)

56 To enable a greater understanding of the potential landscape and visual effects associated with the Mt Munro Project, it was considered helpful to undertake a brief 'ground truthing' exercise with the Applicant's Harapaki Wind Farm that is currently under construction.

57 The Harapaki Wind Farm is located in northern Hawkes Bay, on the Maungaharuru Range, between Te Pōhue and Te Haroto, and has allowed additional consideration of the reliability of simulation, scale of turbines and implementation of lighting (specifically the aviation lighting). A map and series of photo comparisons is included in Attachment 4 to my report.

Visual Simulation

58 I had noted earlier in my report that the visual simulations are considered to be technically accurate representations of the scale/location of the proposed turbines. Attachment 4 Viewpoint A1 (Sheet 02) provides a comparison between the Boffa Miskell Simulation (as viewed from along SH5) with a photograph of the constructed view (which I captured in February 2024).

59 This clearly demonstrates the reliability of the simulation with regard to the turbine placement and scale on the landform. Additionally, it is noted that the constructed (real life) turbines appear much less stark than the simulated turbines.

Turbine Scale

60 The Harapaki turbines are of a similar scale to the proposed Mount Munro Project, which enables a visual comparison. The Harapaki turbines have an 85m hub height, blade diameter of 120m and tip height of 145m. In

[43] RFI#1 Response 1 – Landscape, p3, No.3

comparison, the Mount Munro turbines are marginally larger with a 92m hub height, 136m blade diameter and 160m tip height.

61 The top photographs included in Attachment 4 Viewpoint A2, B, C & D are all captured with a 50mm camera lens and include photo details which identify the distance from the photo location to the nearest turbine, along with the elevation change to the nearest turbine base. For example, Viewpoint A2 is located approximately 0.9km from the nearest turbine and has an elevation change of approximately 240m. This is considered to be comparable to the distance and elevation change of the Mount Munro Turbine 10 location and elevation change to the identified dwellings 1, 2 & 3 (72, 48 & 12 Smiths Line).

Lighting

62 The lighting component of the proposal was questioned in RFI#1 which resulted in the preparation of an Assessment of Environmental Effects for Proposed Lighting.[44] In relation to the influence of lighting on landscape amenity, it is noted that the LEA author responded in RFI#1 Response 1:[45]

> From a landscape perspective, I consider proposed temporary and limited permanent lighting concept designs will remain well integrated within this working rural environment and within which low-level lighting will not appear out of character. … Accordingly, I consider the findings of the lighting assessment are plausible and accept that any lighting effects will be no more than minor.

63 I have now reviewed that lighting effects assessment and in relation to landscape and visual amenity I agree with the discussion and conclusions around both the construction and operational lighting. The only exception is in relation to the Medium Intensity Aviation Warning Lights[46] where I felt I needed further information and understanding to inform my opinion.

44 RFI#1 Response 1 – Landscape.
45 RFI#1 Response 1 – Landscape, pg 5.
46 RFI#1 Response 1 – Landscape , p21.

64 I have discussed this lighting with John McKensey who has also addressed this within his technical report[47] and he has reassured me that the design of the medium intensity aviation warning lights is very effective at directing their intensity to a horizontal 'beam'. Table 2 of the Stephenson & Turner Lighting Assessment (included below) outlines how the light intensity drops rapidly below the horizon.

Installation	West Winds Proposed Orga L550
0°(horizon)	2000 cd
-1.5°	800 cd
-3.0°	200 cd
-5.0°	60 cd

65 So while the horizontal beam is bright and can be seen from significant distances away (e.g. Attachment 4 Viewpoint E, Night-time, where the Harapaki Windfarm is readily visible from 42km away), anything close enough to be underneath the 5 degrees umbrella of the horizontal beam has a considerably reduced brightness.

66 One key factor identified during the night time site visit to the Harapaki Wind Farm was that the position of the viewer relative to the wind direction makes a notable difference. When located upwind of the turbines at night (e.g. Attachment 4, Viewpoints A2, B & C) the overall visibility of the aviation warning lights is extremely limited. The night time photographs up wind of the turbines had a 10 second shutter exposure and were similar in brightness to the brighter stars in the sky that night. Essentially the turbine hub and blades screen direct views of the aviation warning light. However, when downwind of the turbines (e.g. Attachment 4, Viewpoint D), the light emitted from the aviation warning light becomes notable as the blades pass through the red horizontal beam (e.g. the light catches the spinning blades). This effect is difficult to demonstrate with a static image, however I have

[47] Section 87F Report – Lighting (15 March 2024).

attempted to illustrate this point with Attachment 4 Viewpoint F, as the difference between the 1 second and 4 second shutter exposures allowed the camera to capture the blade as it passes through the horizontal beam.

67 Lastly, I note that not all of the turbines will have an aviation light position on them, with the suggested lighting layout including 9 of the 20 Turbines.

68 In summary, I agree that the design of the aviation warning lights will overall have a minor effect (as concluded by John McKensey), but it is noted that the most likely visibility will be due to the blades passing through the horizontal beam when observed from a downwind position. I do not consider this to be an illumination effect (i.e. not an exceedance of AS/NZS 4282:2019 glare limit), but rather it results in awareness of movement in the night sky.

H. SUBMISSIONS

69 I confirm I have read through the submissions which have identified either; landscape/natural character (19 submissions), visual (25 submissions), or cultural effects (6 submissions).[48] The majority of these submissions oppose the Mt Munro Project.

70 There are several key topics that have been identified through in the submissions and, for clarity, it is considered prudent to respond collectively on a topic basis. I note the Mount Munro Protection Society[49] has provided a comprehensive submission that identified most of the key issues and is generally echoed by many of the property owners in the nearby area.

Location of Turbines in the Rural Environment

71 The submissions reflect a sentiment around the 'why here?', with concerns around the proper consideration of alternative locations,[50]

48 Summary Table of Submissions, 30 January 2024.
49 Mount Munro Protection Society – Submission No.13.
50 Submission No.73 (Castle Hill Rd suggested alternative),

recommendations that it be located further away from town[51] and questions raised around the applicable planning provisions.[52]

72 Concerns raised over locating a wind farm in this location need to be weighed against the context of this rurally zoned environment, where the scale of the proposal can readily be integrated into an expansive productive/working rural landscape setting. I concur with the LEA statement that *"the site and surrounds will largely retain their existing productive rural character following construction of the windfarm*".[53]

73 I have considered these submissions against the 'Statutory Context'[54] and consider that alternate locations and the applicable planning provisions have been appropriately addressed in relation to landscape and visual amenity.

Simulations

74 The reliability of the Application Visual Simulations has been criticised, noting that *"The visual impact of the view is minimised by the problems with scale created by Meridian's A3 simulations with no 3D effect or movement."*[55] And, that *"Meridian's A3 width panoramic simulations alter how scale is perceived and thereby minimise the visual effect"*.[56]

75 I do acknowledge that the treatment of scale in simulations is difficult to balance. While a 50mm lens image (an approximately 40° Field of View) is commonly accepted, when reproducing a 50mm image at A3 (or larger) it restricts the overall context of what would be visible in that location. The simulations prepared for the Application have elected to stitch a series of 50mm photographs together (producing a 90° Field of View), to allow for the overall horizontal extent of the proposal to be better represented and communicated.

51 Submission No. 58 (location for such a windfarm should be further away from urban areas).
52 Submission No. 37.
53 Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 6.8.6.
54 At Part G of my report.
55 Submission No.34 – Glen Opel,
56 Submission No.13 – Mount Munro Protection Society (Point 10, p12).

76 The simulation methodology is appropriate in this situation and remains consistent with the NZILA direction for photo simulation.[57] The visual simulations are simply a visual tool enable professional judgement to be used, as well as assisting with communicating a proposal to the wider public. In my opinion the LEA has not attempted to minimise the adverse visual effects and the presentation of simulation material is appropriate.

Turbine Colour

77 Several submissions[58] have criticised the colour of the turbines, noting that the *"pale grey colour of the turbines and blades is a start and disturbing effect against the character of the green rural landscape",*[59] and have suggested that they be *"coloured to blend in with the environment".*[60]

78 However, the LEA notes that the *"light grey colour also assists with reducing landscape effects"*[61] and I concur with this statement. While there are specific atmospheric conditions where the grey will contrast the landscape setting, when considered across all environmental and lighting conditions (e.g., ranging between sun/rain/cloud and morning/noon/night), the light grey is considered to be an appropriate colour selection.

79 It is noted that the grey turbine colour and its components (blades, hub, nacelles etc.) is an industry standard which will be consistent with the appearance of other NZ turbines and have a low reflectivity (matte) finish that is *"the same colour and finish as used at Meridians's West Wind, White Hill, Mill Creek, Te Uku and Te Apiti Wind Farms".*[62]

80 In the event that the transformers are not contained in the base of the turbine, then any externally housed transformer units should be of a neutral and visually recessive colour (e.g. brown/green) so that they blend in with the landscape. Having the external transformer painted the same colour

57 NZILA Te Tangi a Te Manu, p154, and NZILA BPG 10.1 (Visual Simulation)
58 Submission No.13, No.24 & No.37.
59 Submission No.13 – p12.
60 Submission No.24 - Proposal Decision Sought, Point 7.
61 Boffa Miskell Landscape Effects Assessment, p23, 6.2.24.
62 Boffa Miskell Landscape Effects Assessment, p12, 4.1.9.

would reduce the visual simplicity of the large scale turbines and add unnecessary clutter on the ridgeline.

Light Pollution

81 The issue around light pollution has been raised numerous times,[63] generally in relation to disruption of night time amenity for neighbouring properties. The key concern appears to be the presence of "*flashing red aviation lights that will dull out the natural light"*.[64]

82 The lighting provided to meet Civil Aviation Authority requirements are to be located on top of the nacelles and are designed to limit light being emitted downward,[65] and the Applicant has confirmed that the lights will not exceed 8 lumens when measured at the site boundary.[66]

83 The 'Ground Truthing (Harapaki Wind Farm)' section earlier in my evidence has identified a specific situation where observers located downwind of the turbines will notice the aviation warning light being cast onto blades (as they rotate through the horizontal light plane). However, the overall adverse effect is limited by the design of the lights themselves.

Cultural Values

84 Cultural values and impacts are a relevant consideration of landscape assessment and form part of the associative dimension. The LEA has acknowledged the interests of local iwi,[67] however does not progress the conversation around cultural value. This is assumed to be because; firstly, the site is not recognised in any planning instruments as holding specific cultural heritage sites of significance, and secondly, the Applicant has relied on cultural value assessments it has lodged with the Application.[68]

63 Submissions No.13, No.21, No.34, No.35, No.37, No.41, No.56 & No.61.
64 Submission No.37.
65 Assessment of Environmental Effects, p128 – Aviation.
66 Assessment of Environmental Effects, p78, 4.6.5 Lighting.
67 Boffa Miskell Landscape Effects Assessment – 6.2.12.
68 Cultural Values Assessments – AEE Appendix I & Appendix J.

85 An interesting point raised in the Mount Munro Protection Society submission[69] is that within the Rangitāne o Tamaki Nui-ā-Rua Cultural Values Assessment they recommend that:[70]

> The turbines be brought down off the ridgelines … It is a skyline of importance, and the placement of turbines at such a height will effect the visual/aesthetic value of the range from all directions.

86 This statement, contained within the CVA appears to be inconsistent with the current proposal, which have intentionally sought placement close to the ridgelines of this landscape feature. On closer inspection of the CVA it is apparent that it is a resubmission of the CVA prepared in 2014 for the previous wind farm consent application, with a paragraph[71] noting support of the use of the 2014 CVA for the current application. It would be useful to know if Rangitāne o Tamaki Nui-ā-Rua have explicitly provided a letter/email of support for the current application.

69 Submitter No.13.

70 AEE Appendix I: Cultural Values Assessment, Rangitānu O Tamaki nui-a-Rua, p40, point 4.

71 AEE Appendix I: Cultural Values Assessment, Rangitānu O Tamaki nui-a-Rua, p2.

Natural Character

87 It has been suggested that the natural character will be ruined as a result of the proposal,[72] with other submissions referring to 'natural beauty',[73] 'natural landscape or natural qualities'.[74] My interpretation of these submissions is that the reference is primarily a 'landscape' issue and not a 'Natural Character' issue.

88 Natural Character is controlled within the various District/Regional Plans in relation to water bodies and their margins (e.g., wetlands). James Lambie has addressed the ecological aspect of Natural Character for the affected wetlands on the project site, noting that the existing wetlands have a low level of natural character and that effects on the natural character of the wetlands would be very low.[75] Dr Forbes has also addressed natural character in relation to water bodies (and their margins).[76] In relation to the experiential component of Natural Character, it is my opinion that this is unable to be appreciated from beyond the site boundaries and therefore would result in a Very Low adverse experiential effect on natural character.

I. CONDITIONS

89 I have reviewed the conditions proffered by the Applicant. I agree that there needs to be requirements managing the earthworks fills areas and roads and a landscape plan detailing planting to be provided.

90 In addition, I am of the view that further conditions are required to enable potential landscape and visual amenity effects are managed. The matters needing to be addressed through appropriately worded conditions include:

(a) The final earthworks design should be developed in conjunction with a Registered Landscape Architect to ensure that the fill disposal

72 Submission No. 73.
73 Submission No. 57.
74 Submission No. 13 & 8.
75 Section 87F Report: Mount Munro Windfarm Application, Prepared by James Lambie – Terrestrial Ecology.
76 Section 87F Report – Freshwater Ecology (15 March 2024).

areas are reinstated to reflect the natural landform and minimise visual impact.

(b) A Registered Landscape Architect must confirm that the final earthwork design ensures the activities blend in with the surrounding environment. Although I am comfortable with the intended approach for the fill disposal areas (being reinstatement of a gradient of 1V:3H, as outlined in the Boffa Miskell response), this condition would address my continuing concern over the potential for adverse effects relating to the scale of earthworks cut and fill along the ridgelines from and landscape effects perspective.

(c) The Applicant's LEA has recommended that mitigation planting (treed shelterbelt or amenity stands) is offered/provided to the 4 neighbouring properties which have been identified as having a 'high' adverse visual effect. As I note above, while supportive of this approach, it relies on third party permissions to access the land and carry out the planting. Without those permissions in place, the mitigation can not be relied on or imposed on a third party.

Joshua James Hunt

15 March 2024

J. ATTACHMENTS

Attachment 1: Visual Effects Ratings on nearby Dwellings

Attachment 2: S92 Review – Landscape

Attachment 3: S92 Response – Landscape

Attachment 4: Harapaki Ground Truthing

Attachment 1:

Table 1: Visual Effects Ratings on nearby Dwellings

Dwelling No.	Visual Effect	Sub No.
2	High	21 & 37
13	High	
18	High	
31	High	6 & 7
5	Moderate-High	34
10	Moderate-High	
11	Moderate-High	61
12	Moderate-High	10
16	Moderate-High	
17	Moderate-High	
30	Moderate-High	9
32	Moderate-High	11
33	Moderate-High	45
34	Moderate-High	
35	Moderate-High	50
1	Moderate	40
4	Moderate	38
7	Moderate	8 & 16
20	Moderate	
23	Moderate	3
36	Moderate	38
3	Low-Moderate	34

Dwelling No.	Visual Effect	Sub No.
8	Low-Moderate	71
9	Low-Moderate	
19	Low-Moderate	
22	Low-Moderate	
24	Low-Moderate	
28	Low-Moderate	
29	N/A	34

Attachment 2

Mount Munro Proposed Windfarm Project

S92 Review: Landscape

Document(s) reviewed	Appendix K – Landscape Effects Assessment (Boffa Miskell)
Document version/date	12 May 2023
Reviewer name	Joshua Hunt
Role, company	Landscape Architect, Narrative Landscape Limited
Date reviewed	29 July 2023

Introduction

1. Narrative Landscape has been engaged to provide a peer review of a Landscape Effects Assessment (LEA), prepared by Boffa Miskell Ltd (BML), for the Mount Munro Windfarm application from Meridian Energy. The proposal location straddles the boundary between the Horizons Regional Council and Greater Wellington Regional Council, which correlates to the Tararua District Council and Masterton District Council boundaries respectively. Prior to the site visit, a detailed review of the LEA was undertaken. The Mount Munro application documents were provided, with Appendix K of the Final Consent Application containing the Boffa Miskell landscape assessment. This included;

    - Mount Munro Wind Farm – Landscape Effects Assessment (May 2023)
    - Appendix 1: Landscape Effects Assessment Methodology
    - Appendix 2: Statutory Provisions
    - Appendix 3: Residential Visual Amenity Assessment
    - Landscape and Visual Effects Assessment – Graphic Supplement

2. It is also noted that other discrete parts of the application have been reviewed in order to understand potential overlaps with landscape related matters. In particular, the following Appendices were utilised;

    - Assessment of Environmental Effects – Mt Munro Wind Farm Project
    - Appendix A – Civil Design Plan Set
    - Appendix C – Ecological Assessment
    - Appendix I – Rangitāne o Tamaki nui-ā-Rua and Rangitāne o Wairarapa Cultural Values Assessment
    - Appendix J – Ngāti Kahungunu ki Tamaki nui a Rua Cultural Values Assessment

3. The purpose of this initial peer review is to conduct a focused appraisal of the principal assessment, and not to undertake a parallel assessment, so that potential further information required by the applicant can be identified through the s92 process. Te Tangi a te Manu, the Aotearoa New Zealand Landscape Assessment Guidelines, was published in July 2022 and provides the framework for landscape assessments, as well as a structure for Peer Reviews. I provide the following comments based on my initial review of the LEA, in conjunction with considerations made during the site visit on 19 June 2023.

Overall Review

4. I confirm that the LEA has outlined an appropriate methodology[1] and that the subsequent assessment has been carried out in accordance with their stated method, while following the principles outlined in Te Tangi a te Manu.

5. I consider that the LEA has provided an appropriate description of the landscape context and application site[2], while also thoroughly identifying the suite of relevant statutory provisions[3] which have an influence on landscape matters. Of particular note, the application site is not located within any landscape overlays which would afford a higher level of effects mitigation (e.g. not identified within an Outstanding Natural Landscape, Significant Amenity Landscape, Coastal Landscape or Cultural Landscape).

6. The proposal description[4] has been described sufficiently to understand the proposed wind farm components and I do not consider that anything has been intentionally omitted. However, there are a few instances where the specific information is not yet available, or the inherent degree of flexibility being requested does not sufficiently address the potential for adverse effects. This will be elaborated on in the section below.

7. I confirm that the LEA has provided a comprehensive landscape effects section. Based on my site visit, discussion with the lead author of the LEA and review of the application material, it is my opinion that the identified level of landscape effect (separated out for both 'Construction' and 'Operation' phases) can generally be supported. It is noted that, in relation to the turbine layout, a series of 5 potential layout scenarios were developed for analysis and the LEA author has confirmed that variations to the arrangement had a limited influence on the overall landscape effect. Furthermore, it is my understanding that the width of the Turbine Envelope is intentionally narrower than the turbine blade diameter, so that the layout requires the turbines to be spaced out along the identified ridges.

8. The LEA author has also appropriately conducted a visual appraisal of the surrounding area, identified representative viewpoints, visited 17 of the nearby dwelling locations and has identified a 'Potential Visual Effect' rating for the 36 dwellings most affected dwellings[5]. While I would not necessarily reach the exact same effects level conclusions, I do consider that the descriptions of visual change[6] and the assessment of visual effects text[7] provide enough detail to support/defend these visual effects ratings. In my opinion, the LEA has not attempted to diminish the level of Potential Visual Effect arising from the proposal.

9. The Graphics Supplement provides useful mapping and analysis, and the visual simulations are considered to be technically accurate representations of the scale/location of the proposed turbines. In this instance, the 90^{o} field of view utilised by the panoramic photo/simulations is considered to provide a more useful context (due to the expansive setting) than that of a single 50mm lens photograph.

10. Overall, the LEA provides a credible analysis of the potential landscape and visual effect with conclusions that are consistent with the content of the LEA. However, there are a few discrete items that warrant additional consideration and these ore outlined below.

[1] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 1.2 and Appendix 1
[2] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 2
[3] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 3
[4] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 4
[5] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Graphic Supplement – Figure 6 (Dwellings)
[6] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Appendix 3 – Residential Visual Amenity
[7] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 6.4

What further information is required to assist us to have a good understanding of the proposal and to assess the likely environmental effects of the proposal?

Potential Issue

11. One potential issue is that there is (understandably) a degree of flexibility provided for the construction of the internal road network within the Turbine Consent Envelope and Turbine Exclusion Zone.

12. The roading alignment included in the Tonkin + Taylor Indicative Roading Section Plan[8] essentially adopts an alignment that is positioned central to the Turbine Consent Envelope and Turbine Exclusion Zone corridors. It is considered that the effects conclusions made within the LEA, in relation to the earthworks associated with the construction of the internal road network, are credible based on the demonstrated alignment and prepared visual simulations.

13. However, there is the potential for a considerably larger scale earthworks within these consent corridors, particularly when it is noted that the specified road width *"don't include feathered edges, drains, or removal of banks on the road shoulders to enable the transport of turbine blades"*[9].

14. This is a difficult issue to balance. At a minimum, the alignment should be developed in conjunction with the landscape assessor to ensure that the final internal road network does not exceed the assessed degree of landscape effects.

Minor Omissions

15. Additional information on the boundary treatment (for mitigation purposes) with the immediately adjacent properties along Old Coach Road (Figures 1 & 2) would be helpful. These two properties are in close proximity to the proposed site access, which is the beginning of the new internal access road and the location of the laydown area (including temporary site offices, amenities, security, parking, and potentially a permanent Services/O&M building).

Figure 1 – View near the site entrance to the West (across the corner of Dwelling ID35 - Coppieters)

[8] Appendix A – Civil Design Plan Set (Tonkin + Taylor); DWG No. 1016884.1000-008

[9] Appendix K - Landscape Effects Assessment (Boffa Miskell 2023); Section 4.2.5

Figure 1 – View near the site entrance to the East (across the K Farms Ltd boundary)

16. The proposed on-site concrete batching plant is considered to be an activity that warrants its own effects considerations. It is difficult to understand the potential level of landscape and visual effect associated with this activity in the absence of a defined location.

17. The potential visual effect of the Terminal Substation adjacent to State Highway 6 should be commented on, noting that this location may also house the Services/O&M Building. While this area is well screened by the existing roadside shelterbelt when travelling south, when travelling north (**Figure 2**) there will be a reasonably open view toward the proposed substation footprint. This aspect of the proposal provides for a main envelope up to 7m in height and poles/gantries up to 18m in height), and likely security style fencing. Consideration of potential mitigation (likely a planted buffer area) should be included.

Figure 3 – View from SH6 toward the Terminal Substation

18. Cultural values form part of the landscape considerations under the associative dimension. While it is my impression from the application that 'Rangitāne o Tamaki nui-ā-Rua and Rangitāne o Wairarapa' and 'Ngāti Kahungunu ki Tamaki nui a Rua' (both provided a Cultural Values Assessment) are generally in support of the application, it is noted that one of the recommendations[10] is;

> *That the turbines be brought down off the ridgelines. As with other Wind Farm projects we have asked for the Turbines to be brought down off of their ridgelines,*

[10] Appendix I - Rangitāne o Tamaki nui-ā-Rua and Rangitāne o Wairarapa Cultural Values Assessment: p40 - bullet point 4.

due to its value to Rangitāne. It is a skyline of importance, and the placement of turbines at such a height will affect the visual/aesthetic value of the Range from all directions.

19. From a landscape assessment perspective, the proposed arrangement of turbines is considered to retain the landform silhouette of the skyline, by utilising the flatter available land along the ridges. However, confirmation of iwi support for the application would resolve this potential inconsistency.

Any potentially affected parties?

20. There are several properties identified within the 2km radius of the proposed windfarm which would be considered affected parties. However, it is my understanding that the Meridian has requested that the application be Publicly Notified, which negates the need to identify individual property owners.

What questions should be posed to the applicant when a further information request is made?

21. How can we be assured that the scale of earthworks (cut/fill), associated with the final alignment of the internal road layout, is consistent with the level of effect assessed in the LEA?

22. Can you provide more information on the proposed boundary treatment that will be implemented to mitigate effects on the properties neighbouring the site entrance and laydown area?

23. Where is the proposed concrete batching facility going to be located, and what landscape mitigation measures are required to accommodate this facility?

24. What mitigation measures are proposed for the Terminal Substation location, particularly in relation to views obtained when travelling north along State Highway 6.

Attachment 3

Mount Munro Proposed Windfarm Project

S92 Information Response: Landscape

Document(s) reviewed	1 BM210418 - Mount Munro Landscape s92 Response 20230907 14 Appendix J – Concrete Batching Plan Management Plan Harapaki
Document version/date	s92 Response Package (provided 8 September 2023)
Reviewer name	Joshua Hunt
Role, company	Landscape Architect, Narrative Landscape Limited
Date reviewed	15 September 2023

Introduction

1. Narrative Landscape provided an initial peer review of the Landscape Effects Assessment (LEA), prepared by Boffa Miskell Ltd (BML), for the Mount Munro Windfarm application from Meridian Energy. This letter outlines the consideration of the supplied landscape response, along with identification of potentially affected parties in the nearby vicinity (to conservatively identify which neighbouring properties need to be sent a notification letter).

S92 Information Response

2. There were an additional four queries around potential landscape/visual effects included within the s92 request for further information. The 'Mount Munro Landscape s92 Response (Boffa Miskell)' has responded to each of these queries, as well as addressing questions relating to lighting and shadow flicker (which were raised by other experts).

3. Each of the supplied responses has been commented on below.

Earthworks Scale/Effects

4. An updated earthworks model (prepared by Tonkin + Taylor) has further informed the LEA and the author has confirmed that the scale of earthworks, and their associated level of landscape effect, has allowed for earth worked batters beyond the specified road widths. This response is acceptable.

Additional Boundary Treatment (Old Coach Road)

5. In relation to the property located to the east of the Old Coach Road Site Entrance (owned by K Farms Ltd.), it is accepted that there are no residential views in question and that boundary mitigation planting may not be necessary.

6. In relation to the property located to the west of the Old Coach Road Site Entrance (owned by the Coppiters), the level of effect identified by the LEA (assessed as dwelling ID35 – LEA Appendix 3) is considered to be a fair reflection of visual effects associated with the turbines. However, as noted in the s92 request, this property (and it's potential future dwelling location) requested additional boundary treatment considerations due to the neighbouring property being "*in close proximity to the proposed site access, which is the beginning of the new internal access road and the location of the laydown area (including temporary site offices, amenities, security, parking and potentially a permanent services/O&M building".*

7. It is the proximity to the entrance and lay down area that potential mitigation planting should be implemented for, not the visibility of turbines a further distance away to the south.

8. Despite this, my reading of the s92 response is that the LEA author anticipates engagement with the Coppiters to result in an agreed upon planting plan. This is considered acceptable and can be addressed through conditions of consent. However, it is noted that the timeframe for planting should be in the planting season following consent, not following commencement of the construction works.

Concrete Batching Facility

9. As a result of the s92 request querying the location/effects of the Concrete Batching Facility, the Applicant has identified the likely placement of the facility and its associated (temporary) infrastructure. The updated commentary and consideration of landscape and visual effects is acceptable and sufficient to understand the scale and nature of this component of the proposal. Appendix J of the s92 Response (Concrete Batching Plan Management Plan Harapaki) includes an example of the likely components and layout of this facility which is very helpful.

10. It is however noted that the effects consideration is based upon a likely location situated in the vicinity of Turbine 7, which although elevated, is relatively central to the application site and provides a sizeable separation distance from the nearest offsite dwelling (1.2km). In the event of the Concrete Batching Facility being located somewhere else (e.g. not in the vicinity of Turbine 7), then consideration to the potential effects will need to be revised. A condition of consent would be an acceptable approach to address this.

Terminal Substation

11. Further consideration of potential visual effects associated with the Substation and associated infrastructure has been undertaken. It has been proposed that an additional planted buffer be included along the southern (it is interpreted that this should be south-western boundary), consisting of species that will achieve a fast-growing screen. This addresses initial concerns and is an appropriate response.

Possible Information Gap

12. A query has been raised in relation to the 'Fill Disposal Area' potential effects, following the s92 information request response. This specifically relates to the Tonkin + Taylor (T+T) Drawing (1016884.1000-016) which was supplied as part of the s92 Response and suggests that a significant quantity of fill (approximately 1.2M m^3) may be disposed of in relatively visible locations and at up to depths of around 5m.

13. While the s92 landscape response acknowledges that T+T provided Boffa Miskell with an earthworks model, which informed the Visual Simulations (in particular the Viewpoint 'B' Series of earthworks highlighted and earthworks included), it is not clear that the visual simulations included the 'Fill Disposal Area' earthworks extent in their modelling. Confirmation of this earthworks extent and a greater level of detail around the integration of this 1.2M m^3 of fill onto the landform (within the Turbine Envelope Zone) would be useful in understanding potential adverse effects.

14. Despite this potential gap in information, the resulting earthworks are likely able to be accommodated within the site, provided that there is an intention (consent condition) to

blend the Fill Disposal Area earthworks into the existing landform (e.g. ensure that there are not a series of highly visible, engineered/geometric fill edges/faces that are incompatible with the character of the landscape).

Notification

15. The Consenting Authority is required to identify potentially affected parties. Based on the information contained within the Boffa Miskell LEA, the following commentary outlines the method that has been applied in determining which neighbouring properties should be sent a notification letter.

16. It is understood that notification is required if a person has potential effects that are either 'minor' or 'more than minor', (in relation to s95E(1) of the RMA). The 7-point effects scale[1] used by the LEA, considers that an adverse effect of Low-Moderate equates to a 'minor' effect, while 'Moderate' adverse effects (and higher) equate to 'more than minor' effects.

17. Table 6-1[2] of the LEA identifies the level of Landscape Character Effects, for both the construction and operation phase of the proposal, based on varying distances from the proposed turbines. These broad effects groupings include:

- Within 2km (Moderate-High adverse effect);
- Between 2km and 5km (Low to Moderate adverse effect); and
- Beyond 5km (Low adverse effect).

18. Essentially, within 2km there is potentially an effect which would require notification, beyond 5km the effect has diminished as to not require notification, and between 2km and 5km there are some locations which would warrant notification.

19. In order to determine which properties/dwellings within the 2km to 5km range need to be notified, further consideration of the level of visual effect associated with the grouped 'Viewing Areas' identified within Figure 7 of the LVA Graphic Supplement has been undertaken. The potential effects associated with the viewing areas (Figure 1) are identifed in the following table, with commentary on these areas included within the LEA[3].

AREA	POTENTIAL ADVERSE EFFECT
A	Low
B	Low
C	Moderate
D	Moderate
E	Low-Moderate
F	Low-Moderate to Low
G	Very Low

Table 1 – Viewpoint Area Groupings (potential adverse effects)

[1] Boffa Miskell Ltd, Mount Munro Windfarm, Landscape Effects Assessment – 12 May 2023. Appendix 1, p6.
[2] Boffa Miskell Ltd, Mount Munro Windfarm, Landscape Effects Assessment – 12 May 2023, p23.
[3] Boffa Miskell Ltd, Mount Munro Windfarm, Landscape Effects Assessment – 12 May 2023, 6.4.8 – 6.4.15.

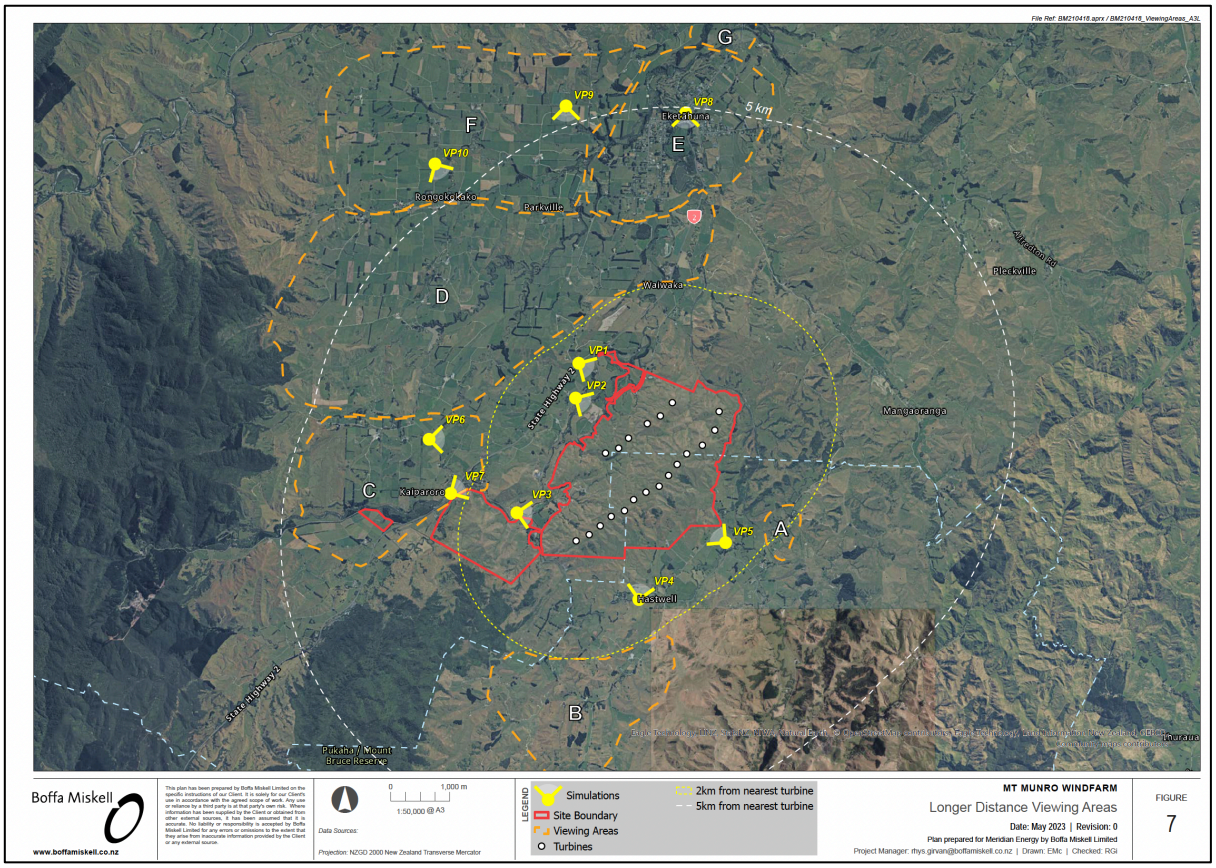


Figure 1: Longer Distance Viewing Areas (Ref: Boffa Miskell LEV – Graphic Supplement, Figure 7)

20. The notification map (Attachment 1) has been produced based on identifying all properties within a 2km buffer distance from the proposed turbines, as well as including properties in the identified Longer Distance Viewing Areas between 2km and 5km.

21. The only additional refinement to properties within the 5km buffer distance has occured within Group E (Ekatahuna township). Upon closer inspection, it is considered that many properties within the Ekatahuna Township have a much lower sensitivity to the proposed windfarm due to limited view opportunities (towards the wind farm), as well as being within a much more urban context. The properties located along the southern side of Alfredton Road or located on the lower terrace west of the Makakahi River are the only properties within Ekatahuna township that may experience a potential adversed effect on landscape/views to a degree that would require notification. Commercial Zone properties were also not considered affected to a degree that would warrant specific notification.

22. It is considered that private properties that are identified within the notification overlay, displayed on Attachment 1, should be sent a notification letter.

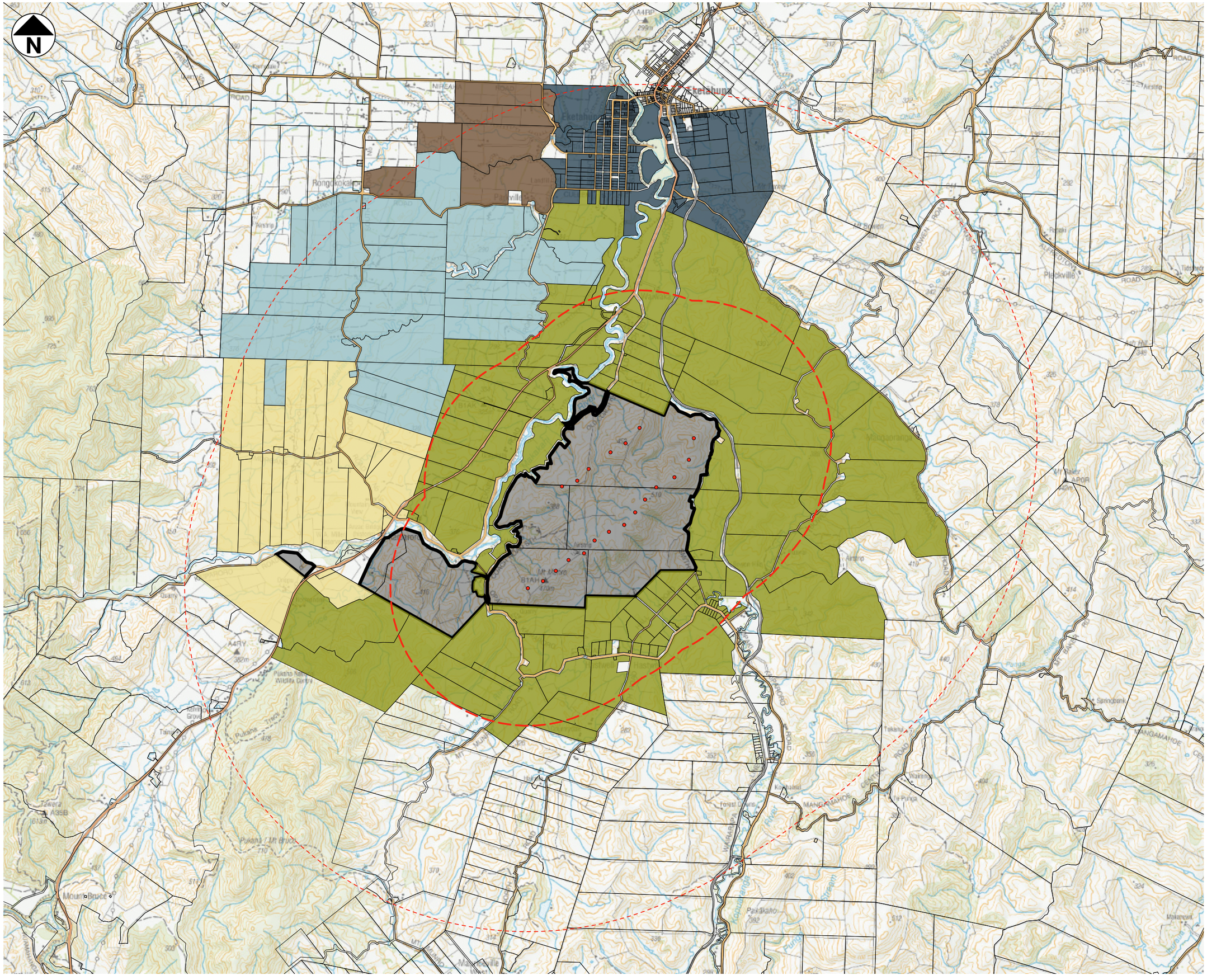
23. While landscape character effects and visual effects are related/similar, they are assessed as different concepts. The distance categories identified above (<2km, 2km-5km, >5km) are based on landscape character effects, however the LEA has also gone into a much greater level of assessment detail in relation to individual visual effects from a series of 35 dwellings within the 2km buffer distance. As such, all properties that potentially have a degree of visual effect which would warrant notification are considered to have been encapsulated within the landscape character effect identification (e.g. are within the 2km buffer distance).

24. Lastly, the extent of properties identified by this notification approach is considered to be conservative, as this will also allow for properties (within range of the proposed wind farm) that don't currently have a dwelling to also be notified. It is also noted that the applicant has requested that the entire resource consent application will be publicly notified, giving the entire community an opportunity to prepare a submission.

Summary

25. It is considered that in relation to landscape and visual effects related information:

- All additional information that was requested through the s92 process has been provided;
- All properties within a 2km radius of the proposed turbines are considered to be potentially affected, along with a selection of additional residential properties within a 2km to 5km distance of the proposed turbines. These properties have been mapped within Attachment 1; and
- The only additional information is in relation to clarification of the Fill Disposal Area effects and method of integrating these earthworks with the existing landform.



LEGEND

- Site
- Turbine Locations
- 2km Buffer Distance
- 5km Buffer Distance

Properties to Notify

- <2km
- Group C (<5km)
- Group D (<5km)
- Group E (<5km)
- Group F (<5km)

Narrative LANDSCAPE

Mount Munro Wind farm

Attachment 1
Notification Overlay

Revision:

Sheet 01
of **1**

Print at A3

Scale	1:50,000
Date	15/09/23
Job No.	#2307
Drawn	JH

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Mount Munro - Wind Farm Application

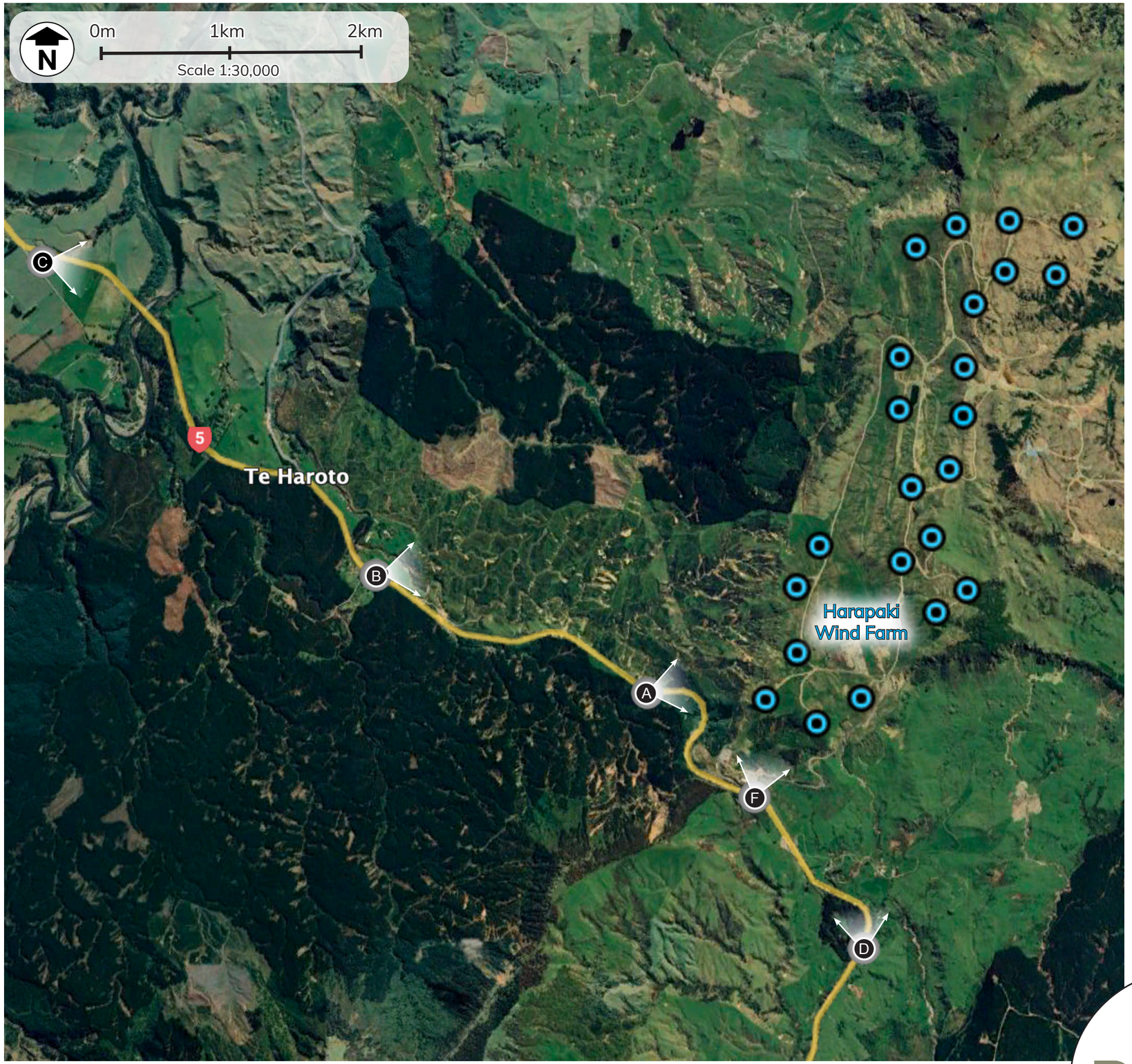
s87F Landscape Evidence - Joshua Hunt

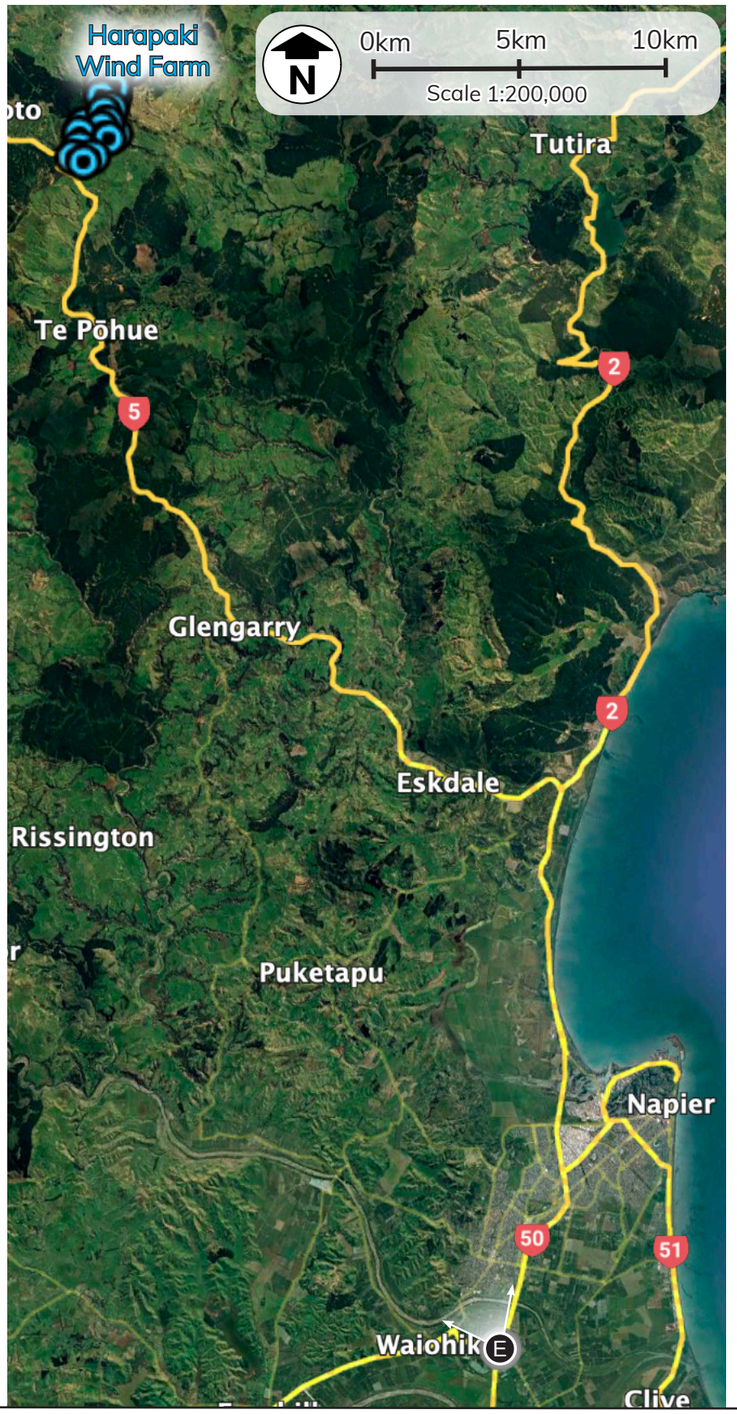
Prepared for
Horizons Regional Council, Greater Wellington Regional Council, Masterton District Council and Tararua District Council

March 2024

ATTACHMENT 4 - HARAPAKI GROUND TRUTHING

Narrative LANDSCAPE





NOTE: This document (Attachment 4) is a brief Ground Truthing Analysis of the Meridian Harapaki Wind Farm, located in Northern Hawkes Bay, on the Maungaharuru Range between Te Pōhue and Te Haroto. The Harapaki Wind Farm is currently under construction and is considered to be a useful comparative study for the reliability of simulations, scale of turbines and implementation of aviation lighting used at the Mount Munro Project.

Narrative LANDSCAPE

MOUNT MUNRO WIND FARM

Evidence of Joshua Hunt

Attachment 4:

Viewpoint Location Map

SHEET 01

Print @ A3	
Scale	1:30,000 & 1:200,000
Date	15/03/2024
Job No.	#2307
Drawn	JH

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SIMULATION

PHOTO DETAILS
Visual Simulation Prepared for Consent Application (Source: Boffa Miskell)

CONSTRUCTED

PHOTO DETAILS
Date: 23/02/2024
Time: 4:15pm

Lattitude: 39°12'9.27" S
Longitude: 176°40'35.184" E

Distance to Closest Turbine: 0.9km
Elevation Change to Turbine Base: 240m

Shutter Speed: 1/320 Seconds

Narrative LANDSCAPE

MOUNT MUNRO WIND FARM

Evidence of Joshua Hunt

Attachment 4: Viewpoint A1

Simulation vs. Constructed

SHEET 02

Print @ A3

Scale	N/A
Date	15/03/2024
Job No.	#2307
Drawn	JH

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PHOTO DETAILS

Date: 23/02/2024
Time: 4:15pm

Lattitude: 39°12'9.27" S
Longitude: 176°40'35.184" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 0.9km
Elevation Change to Turbine Base: 240m

Shutter Speed: 1/320 Seconds

PHOTO DETAILS

Date: 7/03/2024
Time: 9:44pm

Lattitude: 39°12'9.27" S
Longitude: 176°40'35.184" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 0.9km
Elevation Change to Turbine Base: 240m

Shutter Speed: 10 Seconds

Narrative LANDSCAPE

MOUNT MUNRO WIND FARM

Evidence of Joshua Hunt

Attachment 4: Viewpoint A2

Day Vs Night

SHEET 03

Print @ A3

Scale	N/A
Date	15/03/2024
Job No.	#2307
Drawn	JH

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PHOTO DETAILS
Date: 23/02/2024
Time: 4:07am

Lattitude: 39°11'42.186" S
Longitude: 176°39'14.934" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 3km
Elevation Change to Turbine Base: 392m

Shutter Speed: 1/200 Seconds

PHOTO DETAILS
Date: 7/03/2024
Time: 10:11pm

Lattitude: 39°11'42.186" S
Longitude: 176°39'14.934" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 3km
Elevation Change to Turbine Base: 392m

Shutter Speed: 10 Seconds

Narrative LANDSCAPE

MOUNT MUNRO WIND FARM

Evidence of Joshua Hunt

Attachment 4: Viewpoint B

SHEET 04

Print @ A3

Scale	N/A
Date	15/03/2024
Job No.	#2307
Drawn	JH

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PHOTO DETAILS

Date: 23/02/2024
Time: 3:59pm

Lattitude: 39°10'29.058" S
Longitude: 176°37'39.786" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 6km
Elevation Change to Turbine Base: 466m

Shutter Speed: 1/250 Seconds

PHOTO DETAILS

Date: 7/03/2024
Time: 10:03pm

Lattitude:39°10'27.864" S
Longitude: 176°37'31.968" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 6km
Elevation Change to Turbine Base: 466m

Shutter Speed: 10 Seconds

Narrative LANDSCAPE

MOUNT MUNRO WIND FARM

Evidence of Joshua Hunt

Attachment 4: Viewpoint C

SHEET 05

Print @ A3

Scale	N/A
Date	15/03/2024
Job No.	#2307
Drawn	JH

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PHOTO DETAILS
Date: 23/02/2024
Time: 4:19pm

Lattitude: 39°13'8.136" S
Longitude: 176°41'38.322" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 2.4km
Elevation Change to Turbine Base: 264m

Shutter Speed: 1/320 Seconds

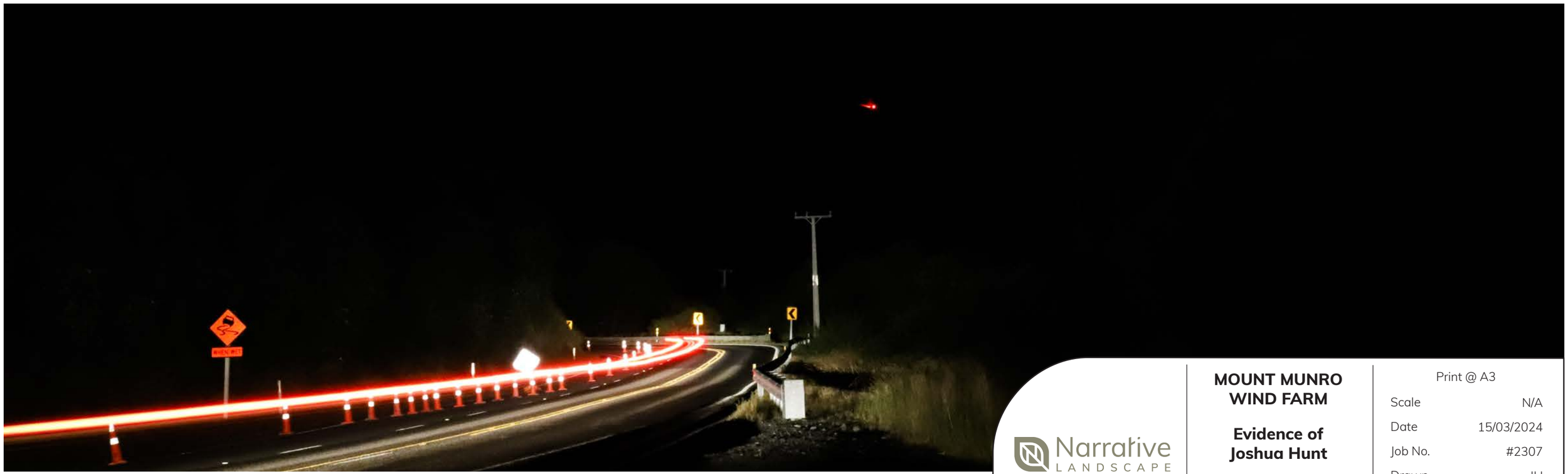

PHOTO DETAILS
Date: 7/03/2024
Time: 9:24pm

Lattitude: 39°13'8.136" S
Longitude: 176°41'38.322" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 2.4km
Elevation Change to Turbine Base: 264m

Shutter Speed: 13 Seconds

Narrative LANDSCAPE

MOUNT MUNRO WIND FARM

Evidence of Joshua Hunt

Attachment 4: Viewpoint D

SHEET 06

Print @ A3

Scale	N/A
Date	15/03/2024
Job No.	#2307
Drawn	JH

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PHOTO DETAILS

Date: 9/03/2024
Time: 9:50am

Lattitude: 39°33'50.652" S
Longitude: 176°51'7.77" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 42km
Elevation Change to Turbine Base: 877m

Shutter Speed: 1/4000 Seconds

PHOTO DETAILS

Date: 7/03/2024
Time: 11:32pm

Lattitude: 39°33'50.652" S
Longitude: 176°51'7.77" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 42km
Elevation Change to Turbine Base: 877m

Shutter Speed: 1/3 Seconds

Narrative LANDSCAPE

MOUNT MUNRO WIND FARM

Evidence of Joshua Hunt

Attachment 4: Viewpoint E

SHEET 07

Print @ A3

Scale	N/A
Date	15/03/2024
Job No.	#2307
Drawn	JH

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PHOTO DETAILS

Date: 23/02/2024
Time: 6:30am

Lattitude: 39°12'32.61" S
Longitude: 176°41'6.192" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 0.7km
Elevation Change to Turbine Base: 166m

Shutter Speed: 1 Seconds

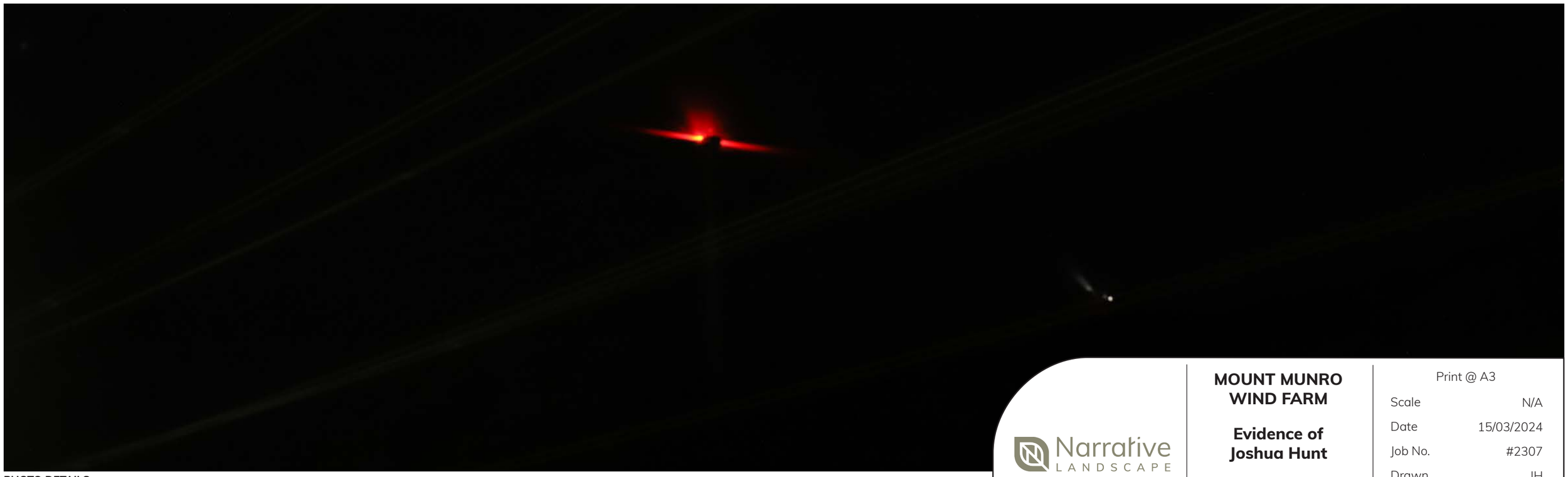

PHOTO DETAILS

Date: 7/03/2024
Time: 4:45am

Lattitude: 39°12'32.61" S
Longitude: 176°41'6.192" E

Camera/Lens: Canon 6Dmkii/50mm
Reading Distance: 560mm (@A3)

Distance to Closest Turbine: 0.7km
Elevation Change to Turbine Base: 166m

Shutter Speed: 4 Seconds

Narrative LANDSCAPE

MOUNT MUNRO WIND FARM

Evidence of Joshua Hunt

Attachment 3: Viewpoint F

SHEET 08

Print @ A3

Scale	N/A
Date	15/03/2024
Job No.	#2307
Drawn	JH

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