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18 OCTOBER 2018

KAIMAI WINDFARM LIMITED
C/- VENTUS ENERGY
PRIVATE BAG 300987
ALBANY, AUCKLAND 0752

RE • SECTION 92 ADDITIONAL INFORMATION RESPONSE FOR THE KAIMAI WIND FARM PROJECT

Dear Sirs,

As instructed, please see additional information below and attached in response to both Hauraki District Council (HDC) and Waikato Regional Council's (WRC) requests for further information to support the resource consent applications for the Kaimai Wind Farm project, pursuant to Section 92 of the Resource Management Act, 1991. Consents are sought to enable the construction and operation of the proposed twenty-four (24) turbine Kaimai Wind Farm Project, located at 604 and 771 Rotokohu Road, Tirohia 3673, and 6356 State Highway 26, Tirohia 3673. This response relates to following resource consent application numbers:

- HDC land use consent – 202.2018.00000873.001
- WRC consent to undertake earthworks – AUTH139668.01.01
- WRC consent to remove, replace and upgrade culverts – AUTH139668.02.01
- WRC consent to place up to 780,000m^3 of cut to waste – AUTH139668.03.01
- WRC consent to divert stormwater – AUTH139668.04.01

We address the requests for further information from WRC and HDC in the order outlined in their respective letters, dated 24 July 2018 and 2 August 2018, with summary headings for each question. This information is also supported by revised preliminary civil design plans for the wind farm, attached to this letter, which reflect various amendments in response to this further information process. Note that the submitted long and cross-section design drawing packages remain unchanged. Plan amendments include:

- Refinements to the location and layout of identified and potential cleanfill sites throughout the project footprint;
- Three-dimensional designs for four indicative and representative cleanfill sites, demonstrating the potential area, volume, length and batter height/slope. This followed an iterative process of concept three-dimensional design work leading to the removal of several cleanfill sites.
- Clarification on the proposed indicative culvert works along the main access road (Road 1);
- Clarification on the likely extent of construction works along an approximate length of 900m of the main access road (Road 1) which extends into the Matamata Piako District Council (MPDC) boundary;
- Refinements to the potential layout of new transmission tower(s) that facilitate the national grid network connection for the wind farm;
- Clarification on the likely extent of quarry / mineral extraction activities adjacent to proposed Turbine 10 (see dwg 214);
- Preparation of detailed erosion and sediment control plan drawings and associated standards, as designed by Ridley Dunphy and presented through their report dated 18 October 2018, including an analysis of higher risk areas based on existing slopes greater than 25 degrees within the footprint of earthworks;
- Three-dimensional analysis of the potential rock cut interface with the preliminary earthworks design, leading to a conservative estimate of potential rock won through the general excavations. This analysis was based on a conservative homogeneous rock depth across the site of 7m, leading to a potential deep-rock cut volume in the order of 15,000m^3.
- Various other draughting refinements, including:
    - Amendments to and expanded information on predicted earthworks areas and volumes
    - Farm boundary outlines
    - Stream alignments based on data from the WRC Regional Maps
    - Refinements to several line-types and layer colours

Waikato Regional Council

1. *Statement 1.2 of the AEE…*
   Addressed by others.

2. *Compliance with Waikato Regional Plan (WRP) Permitted Activity Rule 3.5.11.4 in relation to the Discharge of Stormwater to Water from proposed quarry sites (regarded as mineral extraction sites)…*
   The WRP explains that Rule 3.5.11.4 allows the discharge of stormwater only from areas that are not likely to cause contamination, and that the nature of the catchment from which stormwater is derived is an important factor influencing the risk of adverse effects from discharges. The Rule provides for the discharge of stormwater to surface water (including geothermal water) as a permitted activity, subject to various conditions, including the need for an *interceptor system* for discharges from mineral extraction sites and compliance with the suspended solids standards in Section 3.2.4.6.

   The WRP defines an *interceptor system* as follows:

   > *Interceptor system:* For activities controlled by the rules in Section 3.5.11 'interceptor system' means a facility designed into a stormwater management system with the purpose of:
   > 1. preventing deliberate or accidental releases of any hazardous substances in the stormwater system, or
   > 2. in the event of stormwater contamination by a hazardous substance, reducing all such substances in the stormwater prior to discharge to concentrations that will not result in contamination of either water or sediments to such a degree that is likely to result in significant adverse effects on aquatic life or on the suitability of the waters for potable water supply.

   The suspended solids standards in Section 3.2.4.6 include several parameters that must be achieved for permitted activity discharges, including a 100 grams per cubic metre discharge concentration for suspended solids, leading to no more than a 10 percent increase in suspended solid concentrations in the receiving waters, and together with targeted limits in respect of three specific receiving water classes.

   The comprehensive erosion and sediment control plan developed by Ridley Dunphy and dated 18 October 2018 presents a detailed framework of measures for the overall project, including interceptor systems for the mineral extraction activity, comprising a grass buffer zone, dirty water diversion bunds, and a specifically-designed decanting earth bund. Collectively, these systems have been specified and designed, and will be implemented to achieve the suspended solids standards in Section 3.2.4.6 of the WRP. On this basis, discharges of stormwater from the proposed mineral extraction activity on site can be considered as a permitted activity under Rule 3.5.11.4.

3. *Cleaning of machinery and plant…*
   Addressed by others.

4. *Information requirements in relation to cleanfill activities under Rule 8.1.4.3…*
   This matter is addressed in tandem with the additional geotechnical response by KGA Geotechnical Ltd through their letter dated 17 October 2018, as well as the erosion and sediment control plan report by Ridley Dunphy dated 18 October 2018. This collectively addresses the following points of relevance, with reference to the revised package of preliminary civil design plans attached, and summary paragraph below:
   - *The volume, area, length and batter height of the various cleanfill areas proposed as part of the activity.*
   - *The proposed start and completion times of the activity.*
   - *The potential effects on soil erosion, slope stability (including the potential to exacerbate pre-existing deep seated land instability), adjacent water bodies and water quality,*
   - *The extent to which the activity will affect sites of significance to tangata whenua as Kaitiaki,*
   - *The design and construction methods to be used.*
   - *Methods to control water and sediment run-off from the site.*
   - *The characteristics and sources of the material to be received at the site, and the measures to ensure that the material meets the definition of cleanfill or overburden in the Waikato Regional Plan.*
   - *An assessment of the acid drainage potential of the material.*
   - *Methods to control airborne particulate matter.*
   - *Any measure necessary to rehabilitate the land following the completion of activity.*

The cleanfill sites remain in a concept form and are subject to detailed design processes and considerations in future. However, the information presented in support of the concept cleanfill designs for thirty (30) fill sites – four being subject to three-dimensional designs at this point, demonstrate adequate capacity on site to manage the anticipated excess cut volume from the earthworks operations to enable the wind farm. These cleanfills would be undertaken progressively and in tandem with the earthwork operations, and can be managed to avoid, remedy and/or mitigate soil erosion and sediment discharges during the works, and designed to ensure long-term stability and erosion control.

5. *Broader geotechnical and civil engineering matters…*
   As above, this matter is addressed in tandem with the additional geotechnical response by KGA Geotechnical Ltd through their letter dated 17 October 2018, as well as the erosion and sediment control plan report by Ridley Dunphy dated 18 October 2018. In addition, we provide the following responses to specific bullet points:

   Point 2 (aggregate volumes)
   The proposed quarry / mineral extraction sites have been refined and concentrated to a specific area (approximately 20,000m^2 in footprint area) adjacent to 'Proposed Road 3' and the Turbine 10 platform (refer to drawing reference 214 and others for context). This area has been identified as a likely successful zone for rock extraction (with rock visible at the surface) and is in a suitable location for this activity – being centrally located on site, largely contained by surrounding ridgelines from an off-site visual perspective, and concentrated along an isolated ridge with no upslope contributing catchments. The extraction activity can be undertaken as a continuation of the cut and road/turbine formation on the western side of the ridgeline, with the cut continuing beyond the Turbine 10 platform, eastward into the slope. The indicative quarry footprint to a depth aligned with the road and turbine platform level is likely to provide for a significant rock volume (conservatively estimated at more than 50,000m^3), and is anticipated to a achieve a suitable aggregate quality for road and turbine platform formations.

   In addition, the three-dimensional analysis of cut depths across the overall site earthworks has identified that a significant volume of rock is also likely to be winnable through these activities, further indicating that adequate volumes of aggregate can be resolved on site without the need for off-site importation. This analysis was conservatively based on a homogenous rock depth of 7m across the site (whereas rock is likely to be encountered at shallower depths, particularly in the western, lower slopes from Turbine 1 to 14), indicating a potential rock volume in the order of 15,000m^3 (not including the specific quarry / mineral extraction area).

   Point 7 (access road batter slopes)
   The preliminary civil engineering design plans are typically based on the recommended maximum batter slope gradient of 1(v):2(h), as presented in the geotechnical report by KGA Geotechnical. However discrete sections of the preliminary design increase that slope to a maximum 1(v):1.5(h) or 1(v):1(h) where the up and downslope topography prevents a 1(v):2(h) batter slope. The future detailed design process, including comprehensive geotechnical investigations in tandem with finalisation of specific turbine, crane and construction parameters, will refine the road alignment design and supporting batter slope parameters, with consideration given to engineered slope stability measures if and where necessary. The presented earthworks areas and volumes are based on the current preliminary design footprint.

6. *ESCP…*
   This matter is addressed through the erosion and sediment control plan report by Ridley Dunphy dated 18 October 2018.

7. *Civil Engineering Review…*
   The consistency matters identified through the Civil Engineering Peer review have been addressed through the various technical reports and additional information supplied as part of the overall application.

8. *Concrete trucks and processes…*
   Addressed by others.

9. *Water takes…*
   Addressed by others.

10. *Ecological information…*
    Addressed by others.

Hauraki District Council

P26 *Interpretation of excavations and placement of fill…*

We agree that the proposed quarry or mineral extraction activities on site, intended to win rock for use in roading and turbine platform aggregates, aligns with the HDC District Plan definition for surface mining and the associated activities align with the definition for mining operations. Collectively, these activities are identified as discretionary under Rule 5.1.4.4 D14 of the HDC District Plan. Accordingly, we provide the following additional, supplementary information and assessment relative to applicable criteria and matters identified through the HDC District Plan. This is further supported by the associated assessments presented through the additional geotechnical response by KGA Geotechnical Ltd dated 17 October 2018, erosion and sediment control plan report by Ridley Dunphy dated 18 October 2018, and supplementary landscape assessment by Mike Moore.

For clarity, the Kaimai Wind Farm proposal includes a discrete mining operation within the site and during the construction phase of the project. The proposed quarry area is located on the property boundary between Rotokohu Farms and the Denize Brothers, and along the ridgeline adjacent to Proposed Road 3 and the platform for Turbine 10. The mining operation would be an extension to the road and platform construction activity in this area, continuing these earthworks into the localised ridgeline at a depth whereby quality rock is likely to be encountered. The potential footprint for the quarry is estimated at up to 20,000m^2, and based on the potential cut depths, a rock volume of more than 50,000m^3 appears viable. The rock won through this process would be crushed and processed through a dry and mobile crusher plant to achieve suitable aggregate supplies for the road and turbine platform formations.

The proposed quarry area has been identified as a likely successful zone for rock extraction (with rock visible at the surface and an anticipated shallow overburden) and is in a viable location for this activity. The area is centrally located within the overall site, largely contained by surrounding ridgelines from an off-site visual perspective, and is concentrated along an isolated ridge with no upslope contributing catchments.

5.1.7.1 General Assessment Criteria (Rural Zone)

(1) The degree to which buildings, other structures and activities will adversely affect the rural landscape characteristics, particularly in relation to the open rural character.
Comment: The proposed quarry area is situated along an isolated ridgeline within the site at approximate RL 245m, with surrounding ridges to the west, north and east-southeast of the quarry area being elevated above this level (>RL 250m) and visually containing the quarry from off-site views. A narrow offsite view shaft to the quarry area occurs from the southwest, and the impacts of this are considered by Mike Moore. However, the works are temporary in nature and will be rehabilitated on completion, and earthworks/aggregate abstraction activities are not unexpected in the rural landscape. The works will coincide with the wider earthworks activities for the proposed wind farm, and these have been assessed by Mike Moore in terms of the effects on visual, landscape and rural character effects. The proposed mining areas would not inherently alter the overall conclusions of that assessment.

(3) Whether the activity should be located so that any actual or potentially productive land is not prejudiced from being used for purposes directly related to the inherent productive capability of the land.
Comment: The proposed mining area does not prejudice the future use of the land for purposes that are directly related to the inherent productive capability of the land. The quarry footprint will be rehabilitated to enable pastoral and productive land use activities on completion.

(4) Whether traffic movements resulting from the activity will have any significant impact on the safe and efficient operation of any road. Pertinent matters for consideration in this regard are:
(a) the carrying capacity, standard and status in the roading hierarchy of the road concerned;
(b) the ability of the site to accommodate the activity requirements for on-site parking, loading and manoeuvring areas;
(c) the means by which any likely adverse traffic effects can be avoided, remedied or mitigated;
(d) the access, parking and loading standards for Permitted Activities which shall be used as a guideline in assessing applications for Discretionary Activities;
(e) the comments of New Zealand Transport Agency on the possible adverse effects on the safe and efficient operation of the state highway network.

Comment: The mining activity will positively impact the environment and surrounding road network by significantly reducing the truck movements that would otherwise be required for importing aggregate to site. The proposed mining works would not require any additional on-site parking, loading, or manoeuvring areas, beyond those that are necessary for the wind farm establishing works.

(14) The extent to which the activity is self-contained, with regard to stormwater drainage, effluent disposal and water supply, within the boundaries of the site on which the activity is located (except where reticulated services are provided).
Comment: The mining operation would be self-contained with regards to the above matters. Stormwater drainage would not be adversely affected, while discharges from the operation can be appropriately managed through interceptor systems, and the dry mobile crusher would not require water supply.

(15) The extent to which wastes, spoil, sawdust, effluent etc are to be disposed of so as to avoid, remedy or mitigate nuisance for surrounding residents, damage to property, and pollution of the environment.
Comment: Mining operations have the potential to generate sediment-laden runoff and dust to the receiving environments and neighbouring sites. In this case, the quarry scale is well contained, and through the proposed construction management procedures, any associated effects will be resolved on site.

(16) Whether the nature of the activity has the potential to create nuisance and health and safety effects, which cannot effectively or practically be controlled by mitigation measures.
Comment: Any nuisance and health and safety effects can be appropriately controlled and mitigated within site boundary.

(17) The extent to which exterior storage areas of vehicles, equipment, machinery, materials, waste etc is located, or suitably screened from neighbouring properties and any public road or place, to avoid, remedy or mitigate any detriment to amenity.
Comment: The supporting plant required to facilitate the mining operation will be well-contained to the quarry area in the site with limited detrimental impacts to amenity.

(18) Whether the hours of operation are appropriate having regard to those persons likely to be affected by the activity.
Comment: The hours of operation for the mining activity aligns with the hours of operation that are sought for the earthworks activity which are consistent with the District Plan provisions.

(19) The adequacy of management and rehabilitation plans to ensure the long term stability of any disturbed/excavated area including waste disposal areas (including the possible use of performance bonds or other mechanisms designed to ensure long term stability).
Comment: The excavated areas will be re-contoured and reinstated as grass, following detailed design processes and under the direction of geotechnical specialists to ensure the long-term stability of the area.

(20) Whether access to known mineral deposits will be compromised by the proposal concerned.
Comment: We are not aware of any known mineral deposits that will be compromised by this proposal.

5.1.7.8 Underground Mining, Surface Mining, Mining Operations, Exploration and Landfills

(1) Whether public safety and security are adequately provided for.
Comment: The mining area is located centrally within the site and there is limited potential for impacts relative to public safety and security. Construction workers will adhere to health and safety plans to ensure the operation is safe to those working on site.

(2) Whether acceptable plans for the rehabilitation of all the disturbed areas, once earthworks have ceased, have been provided, including implementation programmes.
Comment: The mining excavations will be re-contoured and reinstated with grass on completion. This aligns with the larger earthworks proposed for the site, which will be undertaken concurrently.

We trust this has collectively addressed the relevant questions raised by WRC and HDC, but please let us know if you require anything further in this regard.

Yours sincerely,

Jack Turner • BE(Civil) MRP(Hons)
Director • Engineer • Planner
Tektus Consultants Ltd

Attached:
Amended and supplementary preliminary civil engineering drawings