Renantis UK Ltd

The Repowered and Extended Ben Aketil Wind Farm

Appendix 11.2: Construction Traffic Management Plan

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RSK GENERAL NOTES

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1 INTRODUCTION

1.1 Purpose and Scope

This outline Construction Traffic Management Plan (CTMP) provides information to The Highland Council (THC) and Transport Scotland (TS) in regard to the management of all Site traffic, with particular reference to environmental safeguards and mitigation required to address impacts identified in the Environmental Impact Assessment (EIA)**. Chapter 11: Traffic and Transportation** of the EIA Report (EIAR) has been referenced where relevant.

The purpose of the outline CTMP is to set out the areas for consideration when preparing the programme of works and when undertaking the Proposed Development construction. It would be used during the construction phase of the development and updated as necessary, acting as a 'live' document to ensure it is always current. Where the document is updated it will clearly be noted as a variation.

This CTMP will need to be updated by the Principal Contractor, with detailed traffic management measures for various sections of the construction route for the abnormal loads.

1.2 Key Considerations

This CTMP is the first stage of the requirement to manage and control all related traffic activity during the construction phase of the Development. This CTMP contains the following information outlined in **Table 1.1**

Table 1.1: Key CTMP Topics

Section	Topic
Section 2	Background to the Development
Section 3	Construction
Section 4	Mitigation Measures
Section 5	Complaints and Enquiries Procedure
Section 6	Summary and Closure

The principal mitigation measures that the CTMP will cover may be summarised as follows:

- Methods for accessing the Site;
- Site access improvements;
- Contractor responsibilities;
- Abnormal load management;
- On-site management;
- Adverse weather conditions; and

- Driving and speed restrictions.

2 BACKGROUND

2.1 Proposed Development

Ben Aketil Wind Farm is an existing 27.6 MW wind farm which comprises twelve 2.3 MW turbines located in the northwest of the Isle of Skye, approximately 5 km east of Dunvegan, within the Highland Council (THC) local authority area.

The Proposed Development is a renewable energy development that intends to make the best use of available renewable energy technologies to maximise and optimise the renewable energy potential of the Site. For this consent application, Renantis intend to repower the existing wind farm and add an extension. The Proposed Development would have 9 turbines of up to 200 m tip, with a total installed capacity of between > 50 MW (up to 65 MW). The Proposed Development infrastructure would include:

- decommissioning and removal of the twelve existing turbines and related infrastructure including hardstandings and the existing operational control building;
- erection of nine new turbines of approximately 5.6 to 6.6 MW each, with a maximum tip height of 200 m, a rotor diameter of approximately 155 m and hub height of approximately 115 to 122.5 m;
- hardstanding areas at the base of each turbine, each 3,820 m^2, with a maximum total area of 34,380 m^2;
- approximately 9 km of new track, of which 1.5 km will consist of floating track;
- approximately 2.3 km of upgraded track;
- two substations and associated compounds including parking and welfare facilities;
- an energy storage facility;
- up to six construction compounds (use of the existing hardstandings as small compound areas to reduce the amount of peat disturbance);
- two potential borrow pits, to provide suitable rock for access tracks, turbine bases and hardstandings; and
- underground cabling linking the turbines with the substations.

The proposed site access options are shown in **EIAR Figure 11.4** in **Appendix 1** and **EIAR Figure 11.5** of this CTMP. More details of the proposed access options are provided in **Section 3**.

2.2 Local Highway Network

2.2.1 A87

The A87 is a major road in the Highlands of Scotland. It runs west from its junction with the A82 road at Invergarry, along to Kyle of Lochalsh before crossing the Skye Bridge to Kyleakin, Broadford and Portree, before terminating at Uig in the north of the Isle of Skye. It runs for approximately 159 km and is a primary route for all of its length.

Through Kyle of Lochalsh, the A87 changes to Station Road, a single carriageway road subject to a 30-mph speed limit. From the Port of Kyle of Lochalsh, travelling westbound, the carriageway is bound by commercial units. Pedestrian footpaths and street lighting are present on each side of the carriageway. Formal pedestrian crossings are located approximately 120 m west of the junction between the Port of Kyle of Loachalsh and Station Road. As Station Road returns to the A87 when leaving Kyle of Lochalsh from the west, passing the Co-operative Supermarket, a shared pedestrian footpath/cycleway runs along the southern edge of the carriageway, while street lighting remains on both sides. Directly west of the junction to the Co-operative Supermarket, the A87 changes to a 40-mph speed limit and the dedicated pedestrian footpath/cycleway continues to run alongside the southern edge of the carriageway. Pedestrian footpaths are located either edge of the carriageway as the A87 crosses the Skye Bridge, before returning to the southern edge at the southern end of the Skye Bridge.

As the A87 continues to run northwest from Kyleakin to Sligachan, the A87 is subject to the national speed limit, with this limit dropping to 30/40mph in areas with residential properties bounding the carriageway. Pedestrian footpaths are often present in these more residential areas, either along one or both edges of the carriageway.

As the A87 runs north from Sligachan to Portree, it is bound by agricultural fields and wildland, continuing to be subject to the national speed limit for the majority of the route. Approximately 4.5 km south of Portree, there is a priority controlled, single lane bridge over Varragill River.

Through Portree, the A87 is subject to a 30-mph speed limit, with a pedestrian footpath located on the eastern edge of the carriageway until Portree Guest House. At Portree Guest House, the A87 becomes Viewfield Road, and the road is bounded by residential properties. Pedestrian footpaths and street lighting appear on either side of the Viewfield Road carriageway.

The A87 then continues northwest, leaving Viewfield Road and becoming Dunvegan Road. Dunvegan Road is also subject to a 30-mph speed limit, with pedestrian footpaths and street lighting located on either side of the carriageway. There are formal pedestrian crossings located along this section of the A87.

When leaving Portree, Dunvegan Road becomes the A87 again, subject to a 40-mph speed limit, and the pedestrian footpath returns to the eastern side of the carriageway until Broom Place where the pedestrian footpath ends again. Directly north of the access to Portree Recycling Centre, the A87 returns to the national speed limit travelling northbound.

2.2.2 A850

The A850 is one of the principal roads of the Isle of Skye, connecting Dunvegan Castle, the town of Dunvegan and the north of the island with the A87, running for approximately 31 km.

At the junction with the A87, the A850 is a single carriageway road subject to the national speed limit, bounded by agricultural fields and moorland. Occasionally, accesses to residential properties are located along the A850. Through Carbost, a pedestrian footpath is located along the northern edge of the carriageway.

A pedestrian footpath begins again at Skeabost Bridge, located on the southern edge of the carriageway. About 110 m north of Keepers Cottage, the pedestrian footpath changes to the northern edge of the carriageway, now separated from the road by shrubbery, running for approximately 300 m.

The A850 continues at a 60-mph speed limit, with no dedicated pedestrian or cycle infrastructure until Flashader, where the A850 is subject to a 50-mph speed limit and a pedestrian footpath is located along the northern edge of the carriageway. This section of the A850 is largely bounded by residential properties. The pedestrian footpath ends and the A850 returns to the national speed limit as it leaves Flashader, travelling in a southwesterly direction.

As the A850 approaches Edinbane, a 750 m long pedestrian footpath is located on the eastern edge of the carriageway to provide access to a group of residential properties.

In the vicinity of the northern site access, the A850 is subject to the national speed limit. No dedicated pedestrian footpaths or cycle ways are present on this section of A850. No street lighting is present on the A850 in the vicinity of the northern site access.

2.2.3 A863

The A863 is one of the principal roads of the Isle of Skye, connecting the town of Dunvegan and the north-west of the island with the A87 at Sligachan. The A863 is approximately 37 km in length. The A863 is a single carriageway that is bounded by agricultural fields and moorland and is subject to the national speed limit.

The A863 is subject to a 40-mph speed limit as it runs through Struan. There is a pedestrian footpath is located on the northern edge of the carriageway. There is a school safety zone located in the vicinity of Struan Primary School, where the A863 is subject to a 20-mph speed limit during specific hours. Just north of Struan Primary School, the pedestrian footpath ends and the A863 returns to the national speed limit as it continues in a north-westerly direction.

In the vicinity of the southern access, the A863 is subject to the national speed limit. No dedicated pedestrian footpaths or cycleways are present on the A863 in the vicinity of the southern access. No street lighting is present on the A863 in the vicinity of the southern access.

3 VEHICLE ROUTING AND ACCESS

3.1 Construction Programme

The applicant is considering two alternative construction phasing options, as follows:

- Option 1 proposes that the construction of the extension turbines and the construction of the repowering turbines is undertaken at the same time.
- Option 2 proposes that the four extension turbines are constructed first, followed by the decommissioning of the existing, operational Ben Aketil Wind Farm, followed by construction of the five repowering turbines.

Activities will include:

- Off-site highway works;
- Site establishment (Construction Compounds);
- Establishment and quarrying of borrow pits;
- Forestry felling and export (northern borrow pit);
- Construction of access tracks and crane pads;
- Turbine Foundation Construction;
- Substation civil and electrical works;
- Cable delivery and installation;
- Turbine delivery and erection;
- Site Commissioning; and
- Reinstatement/Restoration.

3.1.1 Option 1

It is anticipated that, under Option 1, the Proposed Development would be constructed over a period of approximately 18 months.

It is assumed that construction is likely to begin in 2025. The main construction works will be undertaken during months 1 to 15; turbine delivery, erection and commissioning between months 15 and 18. The final two months of the construction programme would comprise site restoration, turbine fit out and grid connection and turbine commissioning activities.

3.1.2 Option 2

In Option 2, it is the Proposed Development would be constructed under a phased construction programme. In Phase 1, construction of the four extension turbines would take approximately 1 year. There would then be a delay of no more than 5 years in between the completion of construction of Phase 1 and the start of construction of Phase 2. Following decommissioning of the existing turbines during months 2 and 3 of Phase 2, construction of the five repowering turbines would take approximately 1 year. In total, the completion of both phases would take no more than 7 years.

It is assumed that construction of Phase 1 is likely to begin in 2025. The main construction works will be undertaken during months 1 to 10; turbine delivery, erection and commissioning between months 11 and 12. The final two months of the construction programme would also comprise site restoration, turbine fit out and grid connection and turbine commissioning activities.

In Phase 2 of Option 2, the main construction works will be undertaken during months 1 to 9; turbine delivery, erection and commissioning between months 10 to 12. The final two months of the construction programme would also comprise site restoration, turbine fit out and grid connection and turbine commissioning activities.

3.2 Construction Staff

The number of people employed during the construction period would vary depending on the stage of construction and the activities ongoing on site.

It is anticipated that the peak workforce requirement would be 50 permanent construction staff.

3.3 Hours of Working

The construction working hours for the proposed development would be 07:00 to 19:00 Monday to Friday and 08:00 to 17:00 on Saturdays. It should be noted that out of necessity some activity, for example abnormal load deliveries, during large concrete pours and also during the lifting of the turbine rotors, may need to occur outside the specified hours stated, although they would not be undertaken without prior approval from THC.

3.4 Construction Access

For the purposes of the traffic and transport assessment, access from both the north and the south of the existing wind farm has been analysed to accommodate both construction programme options. Scenario 1 assesses the traffic and transport impacts and effects of the use of the northern access by all construction traffic. Scenario 2 assesses the impacts and effects of the use of the southern access by all construction traffic. However, the ideal scenario would be to make use of both accesses throughout the construction programme. This would reduce the identified traffic impacts of the proposed development on the routes assessed in the traffic and transport assessment.

In Scenario 1, it has been proposed that the existing northern access track (providing access to the Site from the A850 in the north) would be used primarily for the delivery of wind turbine components, general construction traffic and site access for construction workers. No permanent upgrades to the existing northern access are required. The junction of the northern access track with the A850 will be modified to take the formation of a bell mouth to facilitate access for turbine component deliveries.

In Scenario 2, it has been proposed that a hybrid between the southern access and crofters' track (providing access to the Site from the A863 in the south) would be used primarily for the delivery of wind turbine components, general construction traffic and site access for construction workers. The junction of the southern track with the A863 will be modified to take the formation of a bell mouth to facilitate access for turbine component deliveries.

New access tracks, some which will be of floating construction, will be required to provide access to the proposed turbine locations, Substation and BESS. Approximately 9 km of new track, of which 1.5 km of floating track, will be required.

Tracks used by construction vehicles would be retained throughout the lifetime of the wind farm for use by maintenance vehicles. The minimum width of the tracks would be approximately 4.5 m, although there may be some localised widening. The track surface will have a cross fall for the runoff to drain into ditches on the downhill side of the track where necessary. Lateral and cross drains will also be installed, with erosion protection, where required.

3.5 Construction Movements

3.5.1 Abnormal Indivisible Loads

The proposed delivery route for abnormal indivisible loads (AILs) would follow one of two routes:

- Accessing from the north:
    - loads would depart the port and turn left onto the A87 before crossing onto the Isle of Skye via the Skye Bridge;
    - loads would continue north on the A87 before turning left onto the A850 at Borve; and
    - loads would continue west on the A850 and proceed to the site access west of Edinbane.

The proposed delivery route for AILs in Scenario 2 is detailed below:

- Accessing from the south:
    - loads would depart the port and turn left onto the A87 before crossing onto the Isle of Skye via the Skye Bridge;
    - loads would continue north on the A87 before turning left onto the A863; and
    - loads would continue north on the A863 until Feorlig where they would turn right into a new site access junction.

An Abnormal Load Road Assessment (ALRA) is included in **Technical Appendix 11.1** of the EIAR.

3.5.2 Heavy Goods Vehicle Movements

For Scenario 1A, the maximum level of daily two-way trip generation would occur in months 3-5 of the 18-month programme, with a maximum of 232 daily two-way HGV movements when material would be imported for internal access track and hardstanding construction. In the more realistic scenario, when material from on-site borrow pits is utilised for such activities, the maximum level of daily two-way trip generation would occur

in month 8, with a maximum of 124 daily two-way HGV movements (Scenario 1B in the EIAR).

For Scenario 2A, the maximum level of daily two-way trip generation would occur in months 3-5 of the phase 1 of the construction programme with a maximum of 232 daily two-way HGV movements when material would be imported for internal access track and hardstanding construction. In the more realistic scenario, when material from on-site borrow pits is utilised for such activities, the maximum level of daily two-way trip generation would occur in month 8, with a maximum of 124 daily two-way HGV movements (Scenario 2B in the EIAR).

3.5.3 Cars / Light Goods Vehicle Movements

Light vehicle trip generation would be a maximum of 100 two-way movements per day at the peak of construction activity for both construction programme options. For Scenario 1, it has been assumed that LGVs can arrive from both the east and west of the site's northern access via the A850. For Scenario 2, it has been assumed that LGVs can arrive from both the north and south of the site's southern access via the A863.

4 MITIGATION MEASURES

4.1 Contractors

Contractors with experience of the nature of the construction works proposed and of this type of development, would be appointed following a tendering process. Renantis would appoint an appropriately qualified and experienced Environmental Manager who would liaise with the Contractor to ensure that all activities on site comply with appropriate construction methods, relevant planning conditions and protection of the environment. The Environmental Manager would act as the first point of contact for any concerns.

All Contractors would be required to supply detailed method statements which would incorporate all planned mitigation methods. All Sub-Contractors are required to read, understand and adopt all procedures outlined within the final CTMP.

Sub-Contractors who formulate a CTMP for their work activity must issue it to the Principal Contractor for approval and acceptance prior to site issue. Any traffic management procedures required to secure a work area or safeguard Sub-Contractor operatives must be co-ordinated with Renantis (e.g. use of banksmen, operatives carrying out works roadside).

The Principal Contractors Site Management must be informed of any planned site activity and movement of site traffic; the issue of this information must be received within a suitable and agreed timescale to allow co-ordination of other site activities.

4.2 Road Signs

Any signage required on the public highway would be erected and positioned in accordance with the requirements of the Traffic Signs Manual Chapter 8, Road Works and Temporary Situations (2009), in consultation with THC and Transport Scotland.

Any permanent signs and street furniture which are required to be relocated to allow abnormal loads to pass shall be identified in consultation with THC and through the trial run.

Warning signage on the Site must always be complied with. The two most important signs are “no entry” and “no unauthorised vehicles”. In order to proceed beyond these signs, vehicle drivers must stop and contact the ganger/ foreman in control of the area to be escorted through the local area.

A temporary reduced speed limit will be required in the vicinity of the access points used either on the A850 or A863. Signage indicating the works access(es) will be required (including, for example, Diagram 7001 “Road Works” warning triangle – “Slow” – Vehicles Turning – Diagram 7306 “Works Access Only” direction and distance – Diagram 7301 “Works Access” – Diagram 7001 “Road Works” with supplementary plate “End”) for traffic in both directions approaching the existing (modified) access junctions. It should be noted that construction vehicles and AIL will approach/leave in the southerly direction.

4.3 Abnormal Invisible Load Management

An Abnormal Loads Assessment would set out the key points and issues associated with the selected route for the abnormal loads, to verify that the route is feasible for the selected turbine delivery, subject to physical and operational mitigation works.

Detailed abnormal load delivery traffic management measures would need to be identified and included in the final CTMP (or provided as stand-alone report) setting out the mitigation required to address the potential issues the Abnormal Loads Assessment might identify.

Prior to the movement of abnormal loads, extensive public awareness is required to allow residents to plan and time their journeys to avoid disruption. The haulage Contractor shall remain responsible for obtaining all necessary permits from the relevant road and bridge authorities along the access route.

The movement of abnormal loads will be timed to avoid periods of heavy traffic flow to minimise disruption to the public. Specific timing restrictions imposed by the police or local authority have not been determined at this stage.

Through urban areas temporary parking restrictions may be necessary to guarantee a clear route for the abnormal loads, and these need to be arranged in advance through the appropriate local authority. The parking restrictions would need to be locally enforced.

Due to the size of vehicles required to transport these loads, escorts would be required for the entire route to control oncoming and conflicting traffic.

4.4 Adverse Weather Conditions

All works would be forward planned wherever practicable considering the forecast weather conditions. At the start of the day, the Site foreman would assess the weather conditions prior to permitting their operatives to access the Site.

Due to the location and topography of the Site the weather can be severe, resulting in an adverse effect on visibility. The weather would be constantly monitored and if necessary, all plant / vehicle movements would be stopped / suspended by the Site foreman if they deem it is unsafe for work to continue.

The site foreman would assess the track and site conditions at the start of each day to determine if conditions are suitable to allow access to plant or vehicles.

During winter or poor weather, a separate procedure would be introduced to allow the track conditions to be communicated to all parties accessing the Site. An assessment would be carried out every morning by the general foreman or the foreman in control of site operations which would then be communicated to the gatehouse.

Contractors should contact the Principal Contractor's general foreman to find out the situation at the Site prior to arrival to the Site, if required.

An example of how the day-to-day track conditions would be advised to all visitors is via a display board situated at the Site compound and the track condition would be rated as either:

- **Condition Red:** The access track is closed to all vehicular traffic.

- **Condition Amber:** The access track is open to 4x4 vehicles only (operating in full 4x4) and is not suitable for delivery vehicles.
- **Condition Green**: The main Site access track is considered open to all permitted vehicles.

All Contractors would be required to make their own assessment of track conditions during access or egress from the Site and take appropriate action determined during their assessment. Over the course of the day, and in the event of weather conditions deteriorating, the Principal Contractor would notify the nominated personnel from the Contractors on site to the present condition.

Contractors would be reminded that they have a duty to consider the weather and track conditions throughout the day and take appropriate action to ensure their safety.

4.5 On-Site Management

4.5.1 On-Site Safety

All personnel entering an area of construction activity would wear hi-visibility vest or jacket, head protection, safety footwear, eye protection and gloves at all times when out with the vehicle.

Everyone required to work within the Site would be made aware that they have a responsibility for the safety of themselves and others. All site operatives and visitors have a “duty of care” to themselves and others and need to be conscious of the surroundings and ongoing activities locally. In the event of an emergency, right of way to all emergency services would always be given. Emergency services and control of access would be carried out in compliance with the Site emergency procedures.

4.5.2 Vehicle Parking

Vehicle parking areas located at the Site construction compound would have safe and secure barriers to segregate all personnel from site plant and vehicle routes. All signage within designated car parking areas must be followed, with no vehicles parked in a way which restricts either vision or access. No parking whatsoever would be allowed on public roads; all cars that are directed to the Site car park would be required to reverse park to comply with Renantis and the Principal Contractors’ requirements.

4.5.3 On-Site Tracks

Access tracks would be monitored daily to identify any deterioration of the track condition. Non-emergency remedial works to the track would be carried out at times outside peak times of usage and significant emergency repairs would be undertaken immediately and adjacent track sections would be restricted from use as required to safely accommodate works.

All routes would be monitored for dust and control or suppression methods would be deployed as appropriate using towed dust suppression systems.

4.5.4 Site Traffic

All traffic visiting the Site would be required to report to site security where they would obtain clear instructions, before further movement is acceptable. If applicable an induction would be completed, vehicle permits would be issued, and the Site rules & emergency procedure would be explained.

All traffic would use the signed site passing places and all drivers would accommodate other track users in a courteous manner. Reversing (other than to park) within the compound areas is not permitted.

Full time site traffic (vehicles/plant situated on-site for majority of construction phase) that requires re-fuelling would follow the instructions supplied at their induction and also the guidelines within their method statement for the works.

Heavy site traffic would be equipped with audible reversing warning with additional visual aids e.g. reversing cameras, mirrors utilised on all plant. All safety features must be inspected daily with faults immediately reported to the Foreman Fitter who would assess and repair any damage to the plant. Management would ensure that all loads are covered fully to limit the loss of material in transit.

4.5.5 Vehicle Cleaning

Given the length of the access tracks to and from the A850 and A863, it is likely that most loose materials will not be deposited onto the highway. Should there be evidence of this following the commencement of construction, suitable measures would be implemented within the Site to ensure materials are not transferred onto the highway, and road cleaning would take place if required to remove any deposits that are carried from the Site.

4.5.6 Driving and Speed Restrictions

All vehicles (cars, LGVs, HGVs and AILs) shall always be driven in a safe but defensive driving manner, within posted speed limits. A zero-tolerance policy shall be adopted by all Contractors, such that any infringement results in that person not returning to site.

All cars and drivers of site operative vehicles used for commuting to and from site must be road worthy and legally compliant. All commercial vehicles and drivers must be road worthy and legally compliant.

5 COMPLAINTS AND ENQUIRIES PROCEDURE

5.1 Procedure

It is important that members of the public or interested parties can make valid complaints or enquiries about the transport elements of the construction works. Such complaints and enquiries can provide a valuable feedback mechanism which helps reduce potential impacts on sensitive features and would also allow the construction techniques to be refined and improved.

It is anticipated that the complaints and enquiries procedure can be made either directly to the Site Contractor or via THC and Transport Scotland as applicable, who in turn would provide feedback to the Site Contractor.

All complaints and enquiries would be logged promptly by the Site Contractor and kept on site for review by THC upon request.

5.2 Checking and Corrective Action

As outlined above, it is intended for the CTMP to be a 'living document' which is updated periodically as and when required.

The Contractor would be responsible for establishing a programme of monitoring, the results of which shall be fed back for inclusion within the CTMP if necessary.

Any checking or corrective action required would also be monitored. This methodology would ensure that the construction activities are being undertaken in accordance with the CTMP and that the Contractors are held to account.

A procedure for addressing non-conformance/compliance and ensuring that corrective actions are undertaken is outlined below:

- **Completion of a Non-Conformance Report** – this would record any traffic related incident and work that has not been carried out in accordance with the CTMP or Method Statement;
- **Completion of a Corrective Action Report** – this would record any identified deficiency as a result of monitoring, inspection, surveillance and valid complaint; and
- **Action** – any necessary actions identified as a result of the above would be allocated to a responsible person, along with a timescale for the action to be undertaken.

Records of the above would be retained by the Contractor throughout the construction process. The records would be maintained either in hard copy or electronically in such a manner that they are readily identifiable, retrievable and protected against damage, deterioration or loss.

APPENDIX 1
NORTHERN SITE ACCESS DETAILS (EIAR FIGURE 11.4)

APPENDIX 2
SOUTHERN SITE ACCESS DETAILS (EIAR FIGURE 11.5)