



ESB Asset Development UK Limited

Chleansaid Wind Farm

Outline Construction Traffic Management Plan

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RSK GENERAL NOTES

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Author	<u>Jan Wasilewski</u>	Reviewer	<u>Jon Hassel</u>
Signature		Signature	
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1 BACKGROUND

1.1 Proposed Development

The Proposed Development is a renewable energy development that intends to make use of available technologies to maximise and optimise the renewable energy potential of the Site. For this consent application, the applicant intends to construct a variety of renewable energy technologies, including up to 16 three-bladed horizontal axis wind turbines up to 200 m to blade tip, with a combined capacity in excess of 50 MW. A battery energy storage system (BESS) would also be installed. The Proposed Development would provide a flexible balance of energy and enabling the delivery of the full potential of renewable energy to meet the demands of the National Grid.

On-site access tracks have been designed to use existing tracks as far as possible; whilst minimising cut and fill requirements in order to reduce the amount of ground disturbance, amount of material required for construction, loss of sensitive habitats and landscape and visual effects, particularly during construction.

The Proposed Development infrastructure would include:

- Up to 16 wind turbines of approximately 6 MW each, 12 with a maximum tip height of 200 m and four with a maximum tip height of 180 m;
- Hardstanding areas at the base of each turbine, with a permanent area of approximately 2156 sqm;
- One permanent meteorological mast and hardstanding areas for up to two permanent Lidars;
- Total length of access tracks is 17 km., of which 11.12 km is new access track with associated watercourse crossings and 5.9 km is existing access track and watercourse crossings which will need to be upgraded
- An operations control building with parking and welfare facilities;
- A substation compound;
- An energy storage facility;
- Telecommunications equipment;
- Up to 4 temporary construction compounds;
- 2 borrow pits, to provide suitable rock for access tracks, turbine bases and hardstandings; and
- Underground cabling linking the turbines with the substation.

2 INTRODUCTION

2.1 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 the construction traffic related to the Proposed Development, with particular reference to environmental safeguards and mitigation required to address impacts identified in the Environmental Impact Assessment (EIA) Report. **Chapter 12 Transport** of the EIA Report 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 Site construction. It would be used during the construction phase of the Proposed 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.

2.2 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 Proposed Development. This CTMP contains the following information outlined in **Table 2.1** below:

Table 12.2.1: Key CTMP Topics

Section	Topic
2	Introduction
3	Construction
4	Mitigation Measures
5	Complaints and Enquiries Procedure
6	Summary

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.

3 SITE CONSTRUCTION

3.1 Programme

It is anticipated that the Proposed Development would be constructed over a period of approximately 21 months.

It is anticipated that construction is likely to begin in the first quarter of 2024. The main construction works will be undertaken during months 3 to 16. The final two months of the construction programme would comprise a Wind Turbine Reliability Run and snagging followed by take-over activities.

Activities will include:

- off-site highway works;
- site establishment (construction compounds);
- 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.

3.2 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 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 13:00 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 the relevant stakeholders/consultees.

3.4 Construction Access

Access to the site will be provided via an existing opening from the A836 south of Feith Osdail Bridge, which forms a T-junction and currently provides access to Dalnessie Estate. The access will require minor upgrade to allow for access by construction traffic and abnormal load transporters from the south, specifically widening of the access road to accommodate vehicle overrun of the larger vehicles transporting the Wind Turbine Generator (WTG) component abnormal loads. Upgrade of the existing junction is to be undertaken in 2022 in connection with the approved Creag Riabhach Wind Farm (Planning Reference: 14/00004/S36).

The Site currently comprises 5.8 km of existing track. Approximately 11.12 km of new onsite access tracks would be required to provide access to the wind turbines, control building compound and construction compound.

The internal access tracks require several watercourse crossings, which are set out in **Chapter 10, Technical Appendix 10.5** of the EIA Report.

3.5 Construction Movements

3.5.1 HGV Movements

The maximum level of two-way trip generation would likely occur in month 3 and between months 7 to 12 of the 21-month programme, with a maximum of 336 HGVs when material would be imported for internal access track construction, the construction compound, turbine foundations and hardstandings and materials for the control buildings and substations. The case presented is a worst-case scenario and an unlikely one as it is expected that all materials with the exception of concrete would be extracted from the onsite borrow pits.

The routes for turbine components, which will arrive at Invergordon is illustrated by **Figure 12.1.1** appended to this Draft CTMP and described below.

The proposed access route to site is as follows:

- Turn right onto the B817 and proceed eastbound;
- At the junction with the road (unclassified and unnamed) linking the B817 with the C1063 Academy Road and turn left;
- Continue to junction with the C1063 Academy Road and turn right onto the C1063 Academy Road;
- Proceed northbound to the A9;
- At the C1063 / A9 junction, turn right and proceed northbound on the A9;
- At The Mound, loads will turn left and will proceed westbound to Lairg;
- In Lairg, loads will turn left and proceed north on the A836 to the Dalnessie Estate access track where the proposed access point is located.

Within the Site, loads would then proceed ahead to the turbine locations.

3.5.2 LGV Movements

Light vehicle trip generation would be a maximum of 50 two-way movements per day at the peak of construction, although likely to be much less with construction staff car sharing, as currently assumed 2 people per vehicle.

4 MITIGATION MEASURES

4.1 Contractors

Contractors with experience of the nature of the construction works proposed and of this type of renewables development, would be appointed following a tendering process. The applicant would appoint an independent Environmental Clerk of Works (ECoW) 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 ECoW 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 the Principal Contractor (e.g. use of banksmen, operatives carrying out works roadside).

The Principal Contractor's 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 Chapter 8 Traffic Signs Manual, Traffic Safety Measures and Signs for Road Works and Temporary Situations (2009 – 2020), and in consultation with THC and TS.

Any permanent signs and street furniture which are required to be relocated to allow abnormal loads to pass shall be identified in consultation with TS, 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.

4.3 Abnormal Indivisible Load Management

A preliminary Abnormal Load Route Assessment has been carried out for the proposed candidate WTG and sets 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 TMP) setting out the mitigation required to address the potential issues the detailed assessment and trial run carried out by an appointed specialist haulage Contractor 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, and will 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.

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; and
- **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 the working area would wear hi-visibility vest or jacket, head protection, safety footwear 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 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 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 site passing places and all drivers would accommodate other track users in a courteous manner. Reversing (other than to park) within the compound areas would not be 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 track to and from the A836, 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.

4.6 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.

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 General

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 TS 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 'live 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.

6 SUMMARY

This Outline CTMP has been specifically prepared to address the transportation needs of the Proposed Development through the following process:

- Desktop assessment of potential access route(s);
- On-site visual assessment of route(s) identified to establish potential constraints (during the EIA Report preparation phase).

The CTMP will be updated through the detailed design and construction stages as more specific details for the construction of the wind farm are understood. A trial run is required for the abnormal loads as this will help to supplement this document with information on specific sections along the complete proposed route that may require further investigation to determine modifications to road infrastructure. These investigations will be undertaken as part of the construction phase works and will involve a full assessment and detailed design of upgrades required and will be carried out by a competent civil engineering contractor.

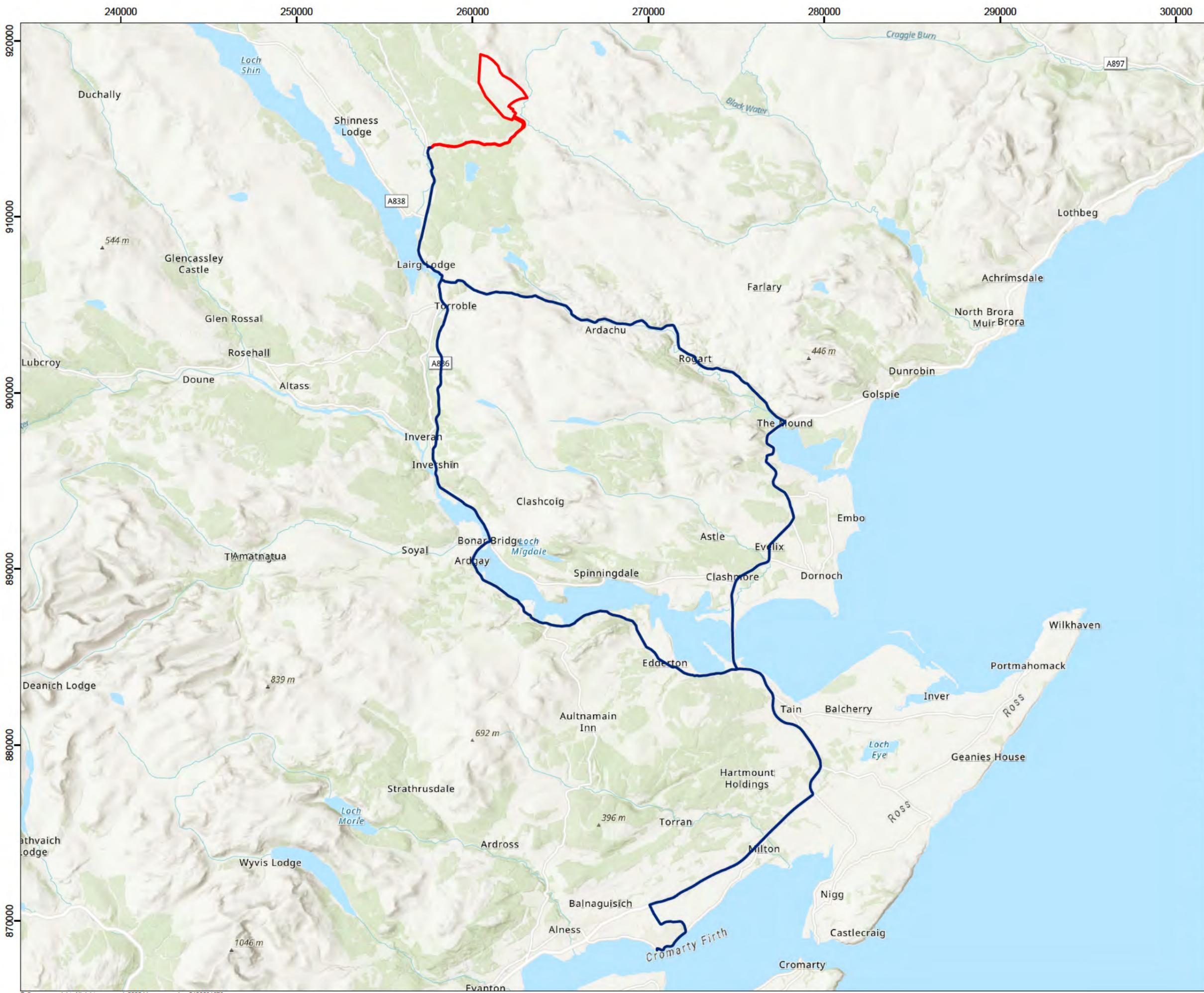
Management measures have been identified for both the delivery of abnormal loads, HGV vehicles and general construction traffic, which when implemented will help to ensure that the route to site remains a safe environment and disruption to local traffic flows are kept to a minimum.

Signage will be deployed along the route to warn other road users of potential hazards.

Prior to the transportation of any abnormal loads, the turbine supplier will ensure that all necessary permits are in place and that the accommodations works have been carried out to a satisfactory standard.

APPENDICES

FIGURE 12.2.1



Legend:
 Application Boundary
 Proposed Access Routes

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drm	Chk	App
00	03/03/2022	First Draft	NH	JW	JW

Chleansaid Wind Farm



TITLE: **Figure 12.1.1:
 Construction Access Routes**

