



Construction Traffic Management Plan

Ben Sca Wind Farm Redesign

Ben Sca Wind Farm Limited

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Basis of Report

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Table of Contents

Basis of Report	i
Acronyms and Abbreviations	iii
1.0 Introduction	1
1.1 Purpose and Scope.....	1
1.2 Key Considerations	1
2.0 Background	3
2.1 Proposed Development.....	3
2.2 Design Changes.....	3
2.3 Local Highway Network.....	4
2.3.1 Site Access	4
2.3.2 A850.....	4
2.3.3 A87 Trunk Road	4
3.0 Site Construction	5
3.1 Programme	5
3.2 Construction Staff.....	5
3.3 Hours of Working.....	5
3.4 Construction Access.....	5
3.5 Construction Traffic	6
3.5.1 HGV movements	6
3.5.2 HGV Routeing	6
4.0 Mitigation Measures	7
4.1 Delivery Management	7
4.2 Contractors.....	7
4.3 Signage.....	7
4.4 Abnormal Load Management	8
4.5 Adverse Weather Conditions	8
4.6 On-Site Management	9
4.6.1 On-Site Safety	9
4.6.2 Parking.....	9
4.6.3 On-Site Tracks	9
4.6.4 Site Traffic.....	9
4.6.5 Vehicle Cleaning	10
4.7 Driving and Speed Restrictions	10
5.0 Complaints And Enquiries Procedure	11
5.1 Checking and Corrective Action	11



Acronyms and Abbreviations

ALRA	Abnormal Load Route Assessment
ATC	Automatic Traffic Count
CTMP	Construction Traffic Management Plan
DfT	Department for Transport
EIAR	Environmental Impact Assessment Report
HGV	Heavy Goods Vehicle
IEMA	Institute of Environmental Management and Assessment
LGV	Light Goods Vehicle
MTC	Manual traffic count
PIA	Personal Injury Accident
THC	The Highland Council
RTC	Road Traffic Collision
WTC	Wind Turbine Components



1.0 Introduction

1.1 Purpose and Scope

This Construction Traffic Management Plan (CTMP) should be read in conjunction with the Transport Statement (**Technical Appendix 9.1**). This CTMP is prepared in order to support the application to amend the consented development, including changes to the turbine dimensions of the consented seven turbines of the Ben Sca Wind Farm (20/00013/FUL) and consented two turbines of the Ben Sca Extension Wind Farm (21/05767/FUL) and minor amendments to the associated infrastructure (the Ben Sca Wind Farm Redesign referred to as the Proposed Development).

The purpose of the CTMP is to manage and minimise the direct impacts of the construction traffic on the local roads and those that use the local roads. The CTMP will outline 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.

In particular, 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, given the constraints identified in the Abnormal Loads Route Assessment (ALRA) Report¹.

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 Proposed Development. This CTMP contains the following information:

Table 1-1 Key Topics Covered

Section	Topic
Section 2	Background to the Development
Section 3	Construction
Section 4	Mitigation Measures
Section 5	Complaints and Inquires 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;
- Management of the timing of deliveries;

¹ The ALRA undertaken for the adjacent proposed Balmeanach Wind Farm is considered to be wholly applicable to the Ben Sca Wind Farm Redesign due to turbines of the same dimensions as Balmeanach being proposed.



- abnormal load management;
- on-site management;
- adverse weather conditions; and
- driving and speed restrictions.



2.0 Background

Ben Sca Wind Farm Limited intends to apply to The Highland Council (THC) for planning permission to amend the consented development, including changes to the turbine dimensions of the consented seven turbines of the Ben Sca Wind Farm (20/00013/FUL) and consented two turbines of the Ben Sca Extension Wind Farm (21/05767/FUL) and minor amendments to the associated infrastructure (the Ben Sca Wind Farm Redesign referred to as the Proposed Development).

2.1 Proposed Development

Under the amended proposal, the development would consist of nine wind turbines with associated infrastructure including crane hardstandings, new and upgraded access tracks, underground cabling, control building and temporary construction compound, on land at Ben Sca, to the south of the A850 on the Isle of Skye.

2.2 Design Changes

As per the consented development, the Proposed Development would be accessed via the Ben Aketil Wind Farm track, a purpose-built track linking into the site from the A850 and so the access arrangements will not change from those already consented. It is proposed that the consented development is amended as follows:

- 7 Ben Sca turbines (20/00013/FUL) – increase blade tip height by up to 14.9m (from 135m to 149.9m);
- all 9 turbines (Ben Sca 20/00013/FUL and Ben Sca Extension 21/05767/FUL) – increase the rotor size by up to 23m (from 115m to 138m);
- 7 Ben Sca turbines (20/00013/FUL)– increase spacing to improve yield and efficiency, minor adjustment to locations, maximum up to 132m micro-siting from consented positions (Ben Sca Extension turbines remain in same locations as consented) with associated adjustments to the access tracks and crane hardstanding to accommodate the new locations;
- re-location of the onsite substation to the southern area of the site;
- addition of a second temporary construction compound;
- increase of generation capacity from consented 37.8MW to up to 40.8MW; and
- increase operational life from 30 years to 40 years.

The Proposed Development changes which are likely to result in a change to the traffic generation during the construction phase are summarised as follows:

- Larger turbines - the length of the potential turbine blade to be used for the Proposed Development would be slightly longer than that previously assessed for the consented development. While the number of turbines is not going to change from that consented, the increase in tip height requires an updated review of impacts associated with the transport of the wind turbine components (WTC).
- Increased hardstanding area – the area taken up for the newly proposed crane hardstanding and laydown areas for the proposed turbines is proposed to be greater than previously consented to enable the turbines to be constructed safely in accordance with manufacturer requirements. It should be noted that the Blade Storage and Crane Assembly Areas will be temporary additions to the site layout, and will be retired on completion of the works.



- Increased lengths of tracks - the length of track required would also increase slightly due to the minor alterations to the placement of the turbines.
- Second temporary construction compound – there would be extra aggregate required for the construction of the additional compound.

The site will be accessed from the A850, approximately 2km to the west of Edinbane, as per the previous consent. A site access road already exists, which serves the neighbouring Ben Aketil Wind Farm. The location of the site entrance is shown on Drawing 001.

2.3 Local Highway Network

2.3.1 Site Access

The site (as defined by the application boundary) is located within the administrative boundary of THC, approximately 2km to the south west of Edinbane and approximately 7km to the east of Dunvegan and is accessed via a purpose built track from the A850 which is situated approximately 365 metres east and opposite the road to Greshornish.

2.3.2 A850

The A850 is a principal road on the Isle of Skye between Dunvegan and the A87 Trunk Road. It is single carriageway road subject to a 60mph speed limit.

2.3.3 A87 Trunk Road

The A87 is a strategic route on the trunk road network between the A82 road at Invergarry to Uig, in the north of the Isle of Skye. Along its route, the A87 passes along the north shores of Loch Garry and Loch Cluanie, then down through Glen Shiel and along Loch Duich to Kyle of Lochalsh before crossing the Skye Bridge to Kyleakin, Broadford, and Portree, before terminating at Uig.



3.0 Site Construction

3.1 Programme

The Proposed Development would be constructed over a period of approximately 18 months. The construction of the internal access tracks would be completed within the first nine months of the construction period.

The construction period is anticipated to extend through the spring and summer months, when the Isle of Skye experiences a significant increase in visitor numbers and therefore higher traffic flows.

Activities will include:

- Offsite 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.
- Wind farm commissioning.
- Reinstatement/Restoration.

Depending on the weather conditions the site may be shut down for short periods during the winter season.

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 no more than 40 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 07:00 to 16:00 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

It has been proposed that the existing junction and access track for construction, workforce and maintenance traffic would be used from the A850, to the north of the site. From the existing Ben Aketil Wind Farm access track, 4.5km of new onsite access track will be constructed with a 5m running width (wider at bends and at junctions) to access the proposed infrastructure.

There is one existing watercourse crossing on the Ben Aketil access track (WX01) at NGR 132003, 849956. A new spur would be taken from the existing access track for the Ben Aketil Wind Farm to provide access to turbine 9 (BSX-02). This would require the crossing



of an existing drainage ditch located on the western side of the Ben Aketil access track at NGR 132057, 849852. A new pipe culvert is proposed to be installed to ensure drainage is maintained.

3.5 Construction Traffic

3.5.1 HGV movements

The key construction activities would occur during a 12 month period with HGV trip generation associated with the aggregate imports during months 3 – 9 and 12 – 16 as defined in the construction programme. The final two months would predominantly comprise light vehicle trips for snagging and restoration activities, followed by takeover (month 18).

It has been confirmed that the changes associated with the Proposed Development would see a likely maximum of 70 two-way HGV movements per day. The maximum traffic generation would occur 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 wind turbines components would be delivered as eight abnormal indivisible loads (AILs): three blades, three tower sections, the nacelle and the generator. The remaining turbine components and required plant would not be considered to be classified as AILs, these however would be delivered at a similar time. These movements would be on articulated low loaders and would be moved under suitable traffic management procedures.

If the 72 components AILs were to be delivered in convoys of three, the deliveries could be completed over 24 days. Over the three month period allocated for the erection of the turbines (final three months of 'Erection of Turbines'), this would equate to two delivery days on most weeks.

3.5.2 HGV Routeing

All construction vehicles would enter the site from the east having travelled the length of the A850 from the junction with the A87. Should all of the aggregates be sourced from outside of the site, the material would be transported from existing quarries. Other construction vehicles will travel via the A87 to the A850, where they will head west to the site access.

The route for turbines components, which will arrive at Kyle of Lochalsh Port, will be:

1. Exit the port onto Station Road.
2. Turn left onto A87 at the Harbour exit.
3. Take the 3rd exit at the Kyleakin roundabout and stay on the A87.
4. Turn left onto Dunvegan Rd/A87 with Portree.
5. Continue on the A87 and take the 2nd exit at the Dunvegan Rd / Woodpark Road roundabout.
6. Turn left onto the A850.
7. Turn left from the A850 onto the Ben Sca Wind Farm site entrance.

Within the wind farm site, loads would then proceed ahead to the turbine locations.

For the duration of the construction period, light vehicle trips would provide a maximum of 64 vehicle two-way movements per day.



4.0 Mitigation Measures

4.1 Delivery Management

All deliveries will be undertaken at appropriate times, to be discussed and agreed with THC and the police as necessary. The aim will be to minimise the effect of the construction traffic on the local road network. The following measures will be implemented during the construction phase through the CTMP:

- Avoidance of HGV transit through rural communities and residential areas during the arrival and departure times of schools;
- All HGV construction traffic will follow the designated route from the A87 to the A850 to the site;
- All delivery schedules will be managed to avoid the peak hours during the busy tourist season;
- Police escorts will be utilised for the movement of abnormal loads with the aim of having several vehicles in convoy to minimise the disruption caused to road users. The delivery of abnormal loads will be scheduled to avoid the peak month during busiest tourist season and the busy times of day; and
- The timing of deliveries will be managed to ensure that they do not coincide with peak construction periods for other wind farms.

4.2 Contractors

Contractors with experience of the nature of the construction works proposed and in this type of environment would be appointed following a tendering process. The applicant would appoint an Environmental Clerk of Works (EnvCoW) 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 natural heritage interests. The EnvCoW 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 this construction traffic management plan.

Sub-contractors who formulate a construction traffic management plan 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 subcontractor operatives must be co-ordinated with the applicant (e.g. use of banksmen, operatives carrying out works roadside etc.).

The Principal Contractor 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.

4.3 Signage

Any signage required on the public highway would be erected and positioned in accordance with the requirements of the Traffic Signs Manual and Safety at Street Works and Road Works – A Code of Practice, and in consultation with the THC.

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 site must be complied with at all times. 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.

4.4 Abnormal Load Management

The Abnormal Load Management Plan in Section 4 of the Abnormal Loads Report (WYG, July 2019), which was produced for the consented development, includes traffic management measures that could help reduce the impact of the abnormal load convoys, which are to be agreed with Transport Scotland prior to construction.

It is noted that a new abnormal load study has been undertaken which is applicable to the transport of the longer turbine components for the Proposed Development (**Annex 9.1B of Technical Appendix 9.1: Transport Statement**), but the same traffic management measures would apply.

In general terms, 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 would need to be timed to avoid periods of heavy traffic flow to minimise disruption to the public. These include the normal daily rush hour periods, Saturdays and major public events. Measures to mitigate any impacts during the busier peak season would include the transport of abnormal loads during the night, coordination with the police to ensure optimum management of deliveries and the use of a lay-down area or lay down areas. 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.

4.5 Adverse Weather Conditions

All works would be forward planned wherever practicable taking into account the anticipated 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 Contractors general foreman to find out the site status prior to arrival on site if required.

The day-to-day track conditions would be advised to all visitors via a display board situated at the site compound; 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 etc. 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. During 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 come back down off the hillside if they feel unsafe at any time.

4.6 On-Site Management

4.6.1 On-Site Safety

All personnel entering the working area 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 area 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 be given at all times. Emergency services and control of access would be carried out in compliance with the site emergency procedures.

4.6.2 Parking

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 applicant and the Principal Contractors requirements

4.6.3 On-Site Tracks

Access tracks would be monitored on a daily basis 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 through the use of towed dust suppression systems.

4.6.4 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 on a daily basis with faults immediately reported to the Foreman Fitter who would assess and repair any damage etc. to the plant. Management would ensure that all loads are covered fully to limit the loss of material in transit.

4.6.5 Vehicle Cleaning

A wheel and body wash would be operated within the site to ensure materials from the site are not transferred onto the highway, and road cleaning would take place when required to remove any deposits that are carried from the site.

4.7 Driving and Speed Restrictions

All vehicles (cars, LGVs, HGVs and AILs) shall be driven in a safe and defensive driving manner at all times within 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.



5.0 Complaints And Enquiries Procedure

It is important that members of the public or interested parties are able to make valid complaints or enquiries about the transport elements of the construction works. Such complaints and inquiries 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, who in turn would provide feedback to the site contractor.

Contact details for the site contractor and THC, would be made clearly visible at the site entrance.

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

5.1 Checking and Corrective Action

Traffic Monitoring would be undertaken and would feedback into the content of this CTMP. 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.

The 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
- 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.



