# **TECHNICAL APPENDIX 12.2**

# FRAMEWORK CONSTRUCTION TRAFFIC MANAGEMENT PLAN

**Kirkton Energy Park** Prepared for: Kirkton Wind Farm Ltd

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# DOCUMENT REFERENCES

Figure 12.2.1: Site Location Plan Figure 12.2.2: Turning Area Locations

# 1.0 Introduction

#### 1.1 Purpose and Scope

This document takes the form of a Framework Construction Traffic Management Plan (CTMP), providing information to The Highland Council (THC) 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 12 of the EIA Report (Site Access, Traffic and Transport) has been referenced where relevant.

The purpose of the CTMP is to 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 development and updated as necessary, acting as a 'living' document to ensure it is always current. Where the document is updated it will clearly be noted as a variation.

## 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:

#### Table 1: Key Topics Covered

Section	Торіс
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;
- Abnormal load management;
- Onsite management;
- Adverse weather conditions; and
- Driving and speed restrictions.

# 2.0 Background

## 2.1 Proposed Development

The proposed development would consist of eleven wind turbines with associated infrastructure including crane hardstandings, new and upgraded access tracks, underground cabling, control building, battery storage, permanent met mast and temporary construction compound. It is proposed that the tip height of the turbines would be up to 149.9m. The Energy Park has been designed with an operational life of 30 years at the end of which it would be decommissioned.

Access to the site is proposed from the A836 making use of an existing road to Kirkton Farm, referred to in this report as the Kirkton Farm road. Road enhancements would be made to the existing network in order to accommodate turning onto the Kirkton Farm road and access to the site. The location of the site is shown on **Figure 12.2.1**.

## 2.2 Local Highway Network

The site (as defined by the application boundary) is located within the administrative boundary of THC, approximately 2.1km south of the settlement of Melvich in Sutherland and can currently be accessed from the A836 via the road leading to Kirkton Farm. The new site entrance would be located to the south of the Kirkton Farm were the public road ends.

#### 2.2.1 A836

A major road connecting settlements along the Northern coast of mainland Scotland. The A836 is the main link from the communities based on coast to reach the A9 trunk road which originates in Thurso, the largest settlement in the area, and heads to southern Scotland. The A836 is also part of the promoted North Coast 500 tourist route and provides access to John O'Groats to the east. While being a major road the A836 does not currently witness high volumes of traffic due to its remote location and small number of communities in the area. The section of the A836 to the north of the Kirkton Farm road is subject to a 30 miles per hour (mph) speed limit while travelling through Melvich which ends 300m north of the Kirkton Farm road; the remaining route of the A836 is un-restricted. The rural setting of the A836 around the Kirkton Farm road means there is no streetlights or pedestrian provision near to the site access junction. Opposite the existing junction onto the Kirkton Farm road is a quarry which is likely to generate additional HGV usage on the network.

#### 2.2.2 A897

The A897 is a north/south orientated road which connects with the A836 via a priority junction 800m east from the Kirkton Farm road; from here the A897 provides an alternative route to the A9 trunk road joining at Helmsdale and linking southern Scotland. Whilst being a shorter route to the south, the A897 would not often be used for travel from the A836 to southern Scotland due to it being mostly a single lane road and travelling through more remote areas.

#### 2.2.3 Kirkton Farm Road

The existing road will be used for access to the site. The road links Kirkton Farm to the A836 with Kirkton Farm lying 1.6km south of the A836. The site access is a further 600m south-east of Kirkton Farm. Between Kirkton Farm and the A836 to the north there is one small quarrying site which also uses the Kirkton Farm road. The Kirkton Gravel Pit, operated by John Gunn & Sons, also has access directly from the A836; HGVs travelling to the gravel pit may also use Kirkton Farm road.

# 3.0 Site Construction

# 3.1 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 at weekends. 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 Highland Council. The duration of the construction works would be approximately 18 months.

## 3.2 Construction Access

It has been proposed that a new junction and internal access track are provided for construction, to be used by all construction traffic. It is proposed that the abnormal load vehicles would continue north-west along the A836 past the Kirkton Farm road junction and through Melvich to one of two potential turning sites, outlined in **Figure 12.2.2**. These turning sites would allow the abnormal load vehicles to turn onto Kirkton Farm road in a southerly direction and remove the need for further junction adaptation to accommodate the wide turning splays which would have been required should the loads be making the sharp turning from the A836 onto the Kirkton Farm road while travelling from the east. Additionally, approximately 5.5km of new onsite access tracks would be constructed.

## 3.3 Construction Movements

As identified in Chapter 12 of the Environmental Impact Assessment Report, the majority of construction activities would incur HGV trip generation which would be spread over the period defined in the construction programme. The maximum level of two-way trip generation would likely occur in months 12 to 18 when deliveries for various elements of the construction phase coincide, resulting in the largest number of HGV trips.

The majority of HGV trips and including abnormal loads will be travelling to the site westbound on the A836 as detailed in the Local Highway Network.

#### 3.3.1 Light Vehicle Trips

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 approximately 30 construction staff. Light vehicle trip generation would be a maximum of 24 trips per day during the erection of the wind turbines and associated infrastructure.

#### 3.3.2 HGV Trip Distribution

All construction vehicles would enter the site from the east, having travelled along the A836. It is anticipated that all HGVs and deliveries will travel from further afield via the A9 to the A836, with no construction traffic travelling from the west. In addition, it is assumed that the A897, which extends south from the A836 at Melvich to the A9 at Helmsdale, is not suitable for HGVs and so this route is not included.

Abnormal load deliveries will continue westbound along the A836 past the Kirkton Farm Road access road where they will utilise one of the two blade transfer/ tower turning locations before turning back onto the A836 and travelling eastbound to turn right onto Kirkton Farm Road for access to the site.

Light vehicle trip generation would see a maximum of 48 two-way trips each day during the worst-case months. It has been assumed that the majority of light vehicles will travel to the site via the A9 and the A836, however a small number may travel along the A897 to the A836 and may also travel west along the A836. As such, it is

assumed that 90% of light vehicles will travel along the A836 to the A9, with 5% heading west from the site along the A836 and 5% heading east before heading south onto the A897.

# 4.0 **Mitigation Measures**

### 4.1 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. Wind2 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 method, 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 Wind2 (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.

#### 4.2 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 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.

# 4.3 Abnormal Load Management

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. 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 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.

# 4.5 Onsite Management

#### 4.5.1 Onsite 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.

#### 4.5.2 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 Wind2 and the Principal Contractors requirements.

#### 4.5.3 Onsite Tracks

Access tracks would be monitored on a daily basis to identify any deterioration of the track condition. Nonemergency 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.

#### 4.5.4 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 onsite 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.

#### 4.5.5 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.

## 4.6 Driving and Speed Restrictions

All vehicles (cars, LGVs, HGVs and ALs) 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 operatives 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 Inquiries Procedure**

It is important that members of the public or interested parties are able to make valid complaints or inquiries 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 inquiries 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 inquiries 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; 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.

# 6.0 Summary and Conclusions

This Framework Construction Traffic Management Plan (CTMP) would be introduced in the interests of highway safety to control traffic activity associated with the construction phase of Kirkton wind farmEnergy Park. The CTMP also includes reference to environmental safeguards and mitigation required to address impacts identified in the Environmental Impact Assessment (EIA).

The intention of the CTMP is to detail how construction works for the Energy Park would be undertaken and managed in accordance with contractual and legislative requirements and construction industry best practice.

The following provides a brief summary of the mitigation measures that would be implemented in order to minimise disruption caused by the construction phase, both to the existing site operation and local highway network in terms of operation or safety:

- Consider a wide range of options for communication (e.g. notices in local shops, local radio, tweets etc.). A process for complaints and enquiries would be established in order to identify any areas for improvement. Corrective action and monitoring procedures would ensure that any issues highlighted are resolved satisfactorily.
- Provide a liaison officer role with which residents can discuss anything traffic and construction related.
   Offer to form a Construction Liaison Committee to ensure a free flow of information with local residents and address any concerns;
- Provide a point of contact with the nearby quarry so that information can be exchanged with regard to anticipated activities at both the construction site and the quarry.
- Undertake a full condition survey of the sections of A836 to be used during construction with regular monitoring throughout the construction period. Remedial works, as necessary as a result of construction traffic, would be undertaken as appropriate, and as agreed with THC;

- Consider a construction staff travel plan to ensure that staff travel to site is properly managed and impose a 20mph reduced speed limit for all construction traffic along, enforced through the use of signs, with any issues to be reported to the liaison officer;
- Propose a breakdown procedure for vehicles on A836;
- Control delivery, as far as possible, to avoid peak network hours (AM and PM peaks). Manage the release
  of vehicles from site during peak construction periods to prevent convoys; Noisy activities and Heavy
  Goods Vehicle (HGV) deliveries would be restricted to the hours of 0700 to 1900 Monday to Friday and
  0700 to 1600 at weekends. However turbine delivery may need to take place outside of these
  days/times, subject to agreement with THC;
- Wheel washing facilities would be provided and used to prevent mud and spoil from vehicles leaving the site during the building works being deposited on public highway; and
- Carefully manage onsite waste in order to minimise collections.

It is considered that the proposed measures are deemed appropriate to mitigate as necessary the impact on the surrounding local highway network and the immediate site operation posed by works undertaken during the construction phase.

It is intended for the CTMP to be a 'living document' which can be updated periodically as and when required, therefore the above list may be expanded upon. The content of this CTMP would ensure that the impact upon the environment is kept to a minimum.

# **FIGURES**



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