



**ARCUS**

**APPENDIX 9: FRAMEWORK TRAFFIC MANAGEMENT PLAN**

**BAILLIE GREENER GRID PARK  
LAND WITHIN BAILLIE WIND FARM, WEST OF THURSO**

**FOR STATKRAFT UK LTD**

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## **1 INTRODUCTION**

### **1.1 Background**

This Framework Traffic Management Plan ('the TMP') has been prepared to accompany a planning application ('the Application'), submitted to the Highland Council ('the Council') by Arcus Consultancy Services Ltd ('Arcus'), on behalf of Statkraft UK LTD('the Applicant') for the development of a Greener Grid Park ('the Development'), to support the flexible operation of National Grid and decarbonisation of electricity supply by balancing electricity supply and demand.

This Site comprises an area of approximately 1.99 hectares (ha) and is located at land within the Baillie Wind Farm site, west of Thurso ('the Site'). The site is located approximately 1 kilometre (km) northeast of Shebster, 3.6 km southeast of Lower Dounreay and 8.6 km southwest of Thurso. The location of the Site and layout of the Development are shown on Planning Drawings 1 and 2, respectively.

### **1.2 The TMP**

This TMP provides detail on the proposed access routes of all construction traffic and any work required to allow the safe passage of deliveries required for construction of the Development. This TMP provides an overview of the routes to the Site, descriptions of the vehicles likely to be used, an assessment of any potential constraints and details of appropriate mitigation measures.

The TMP is a 'live' document and will be amended and developed accordingly should any changes occur throughout the construction of the Development.

## 2 CONSTRUCTION REQUIREMENTS

### 2.1 Construction Vehicle Routing

All construction vehicles approaching the Site will be directed to use the proposed approach route to Site. It is assumed that the majority of vehicles will approach the Site via the A836, however the origin of general construction traffic is currently unknown and likely to be distributed throughout the region and a proportion may approach from the east by the B874.

Further investigations are required for the delivery of the Abnormal Indivisible Loads (AILs); however, it is anticipated that AILs will originate from Scrabster Harbour due to its close proximity to the Site and they will be transported to the Site via the A836. This port is frequently used for renewables deliveries because it has sufficient quay and is well located for sites within the region. The proposed route is indicated on **Figure 1** included in Appendix **A** and is listed below:

- Exit the A9 onto the A836 westbound;
- Continue along the A836 westbound for approximately 15 km until its junction with the C1001 Shebster to Westfield Road;
- Turn left onto the C1001 Road eastbound and continue for approximately 6 km towards the Baillie Wind Farm access junction;
- Turn left into the existing wind farm and continue northbound until the on-site junction;
- Turn left and continue for approximately 0.5 km and turn left onto the internal access road towards the Site.

All vehicles departing the Site are expected to use the same route as on approach in reverse. It is acknowledged that this route was used by construction traffic (including the delivery of turbine components) during the construction of the Baillie Wind Farm.

### 2.2 Types of Construction Traffic

#### 2.2.1 Construction Material Delivery Vehicles

Development construction traffic will primarily be associated with the importation of construction materials including electrical equipment, aggregate and other construction materials. It is expected that the majority of these materials will be transported to the Site by HGVs except for the large items of electrical plant, which will be classified as AIL. All AILs will be delivered to the Site under escort in accordance with permits issued by the Local Roads Authority

Materials required for construction of the Development will be transported to the Site by HGV. Plant, machinery, steel-rebar and cabling will be transported by low-loader. Concrete will be transported by HGV concrete mixer. Aggregates will be transported by HGV tipper. It is anticipated that to assist in the unloading of the larger delivery vehicles and on-site assembly, a mobile crane will be required on site.

#### 2.2.2 Construction Workers and Light Goods Vehicles

It is envisaged that vehicles transporting construction workers will utilise the same access route as the construction traffic. However, the route used by construction workers may vary depending on their point of origin, though it is anticipated that staff local to the area will be employed to work on the Site. Consequently, no designated route or time restrictions are proposed for these types of vehicles, although travel planning measures will be taken to ensure that the increase in traffic associated with the construction workers is minimised.

Light Goods Vehicles (LGVs) are anticipated to comprise vans, pickups, minibuses and crew vans to transport staff and small-scale equipment to and from the Site.

### **2.3 Emergency Vehicle Access**

In the event of any incidents onsite or during deliveries to Site, the emergency services can access the Site via the same route outlined in Section 2.1. Contact details for the nearest emergency services are provided in Appendix C of the TMP.

### **3 CONSTRUCTION IMPACT ASSESSMENT**

#### **3.1 Site Access Junction**

A single access point will be available for all construction traffic via the existing Baillie Wind Farm, shown on Figure 1.

The C1001 road operates at national speed limit within the vicinity of the Site. The existing Baillie Wind Farm access junction where construction vehicles will leave the public road is well-formed with good visibility either side. Notwithstanding, traffic management measures including appropriate signage will be put in place during the construction phase as part of the construction management plan for the Site.

#### **3.2 Frequency and Duration**

Construction of the Development will occur over a period of approximately 12 months. Materials delivered to Site will comprise synchronous condenser and associated housing, battery containers, inverters, switchgear containers, and associated building and HV infrastructure and associated cables. In addition, there will be the import of quarried materials to form unbound surfaced access routes within the Site.

It should be noted that deliveries will be dispersed throughout the day, therefore, any impact of HGV deliveries on the local community will be very short-term and isolated. On days where there are no deliveries scheduled, then vehicle movements to and from Site will be restricted to construction personnel.

#### **3.3 Site Personnel Movement**

Construction workers and other site personnel will travel to and from the Site each day. It is anticipated that an average of 40 vehicles movements per day will be made to the Site during the peak construction months. For the purposes of this assessment, the most recent available Scottish private vehicle occupancy rate of 1.57 people per vehicle was used, equating to approximately 25 vehicles movements per day.

Staff will be encouraged to car share (including the likely use of Minibuses), so it is anticipated that the figure for car or van movements is likely to be considerably lower than the above estimates in practice.

#### **3.4 Indicative Construction Traffic Programme**

The indicative construction traffic programme and associated HGV numbers are provided in Table 3.1. This programme assumes a 12 month construction period. This highlights two-way traffic movements to be carried out during the construction phase.

**Table 3.1– Indicative Construction Movements**

Activity	Month												Total**
	1	2	3	4	5	6	7	8	9	10	11	12	
<b>HGVs</b>													
Site Mobilisation/Demobilisation	30											30	60
Access Track and Hardstanding Construction	100	472	472	472	370								1,886
Inverters, Cabling Delivery & Switchgear Containers					10	10	10						30
Battery Container Delivery							30	30	30	30			120
Concrete Requirements					160	158	158	158	160				794
Misc. Component Deliveries		4	4	5	5	5	5	4	4	4	4		44
Fuel Delivery	2	2	2	2	2	2	2	2	2	2	2	2	24
<b>Sub-Total</b>	132	478	478	479	647	175	205	194	196	36	6	32	<b>2,934</b>
<b>Abnormal Loads</b>													
Synchronous Compensators										4			
<b>Sub-Total</b>										<b>4</b>			<b>4</b>
<b>Staff Cars and Vans</b>													
Staff	130	195	455	650	650	650	650	650	455	325	65	65	
<b>Sub-Total</b>	130	195	455	650	650	650	650	650	455	325	65	65	<b>4,940</b>
<b>Total (All Vehicles)</b>	262	673	933	1,129	1,197	825	855	844	651	365	71	97	7,902
<b>Total (HGV Only)</b>	132	478	478	479	547	175	205	194	196	40	6	32	
<b>Average Total Traffic per Day*</b>	10	26	36	43	46	32	33	32	25	14	3	4	
<b>Average HGV Traffic per Day*</b>	5	18	18	18	21	7	8	7	8	2	0	1	

\*ASSUMES 26-DAY WORKING MONTH; \*\*TOTALS MAY NOT ADD UP DUE TO ROUNDING

As indicated in Table 3.1 the peak month of construction is expected to occur in month 5 where delivery of materials associated with access track and foundation construction will coincide. During this month, approximately of 637 two-way HGV movements are expected to occur, assuming a 26-day working month this would equate to a maximum of 21 two-way movements per day.

In weeks where deliveries of these materials have been scheduled, it is expected that all of them will arrive in one day. The exact timing and distribution of deliveries is difficult to schedule, however these are likely to be distributed throughout the day. There is a possibility that delays may result in delivery vehicles arriving outside of normal working hours, although the contractor will seek to avoid this as far as possible.

Considering the capacities of the roads on the delivery route, the effect of vehicle movements associated with the Development on the local road network is considered to be negligible.

#### **3.4.1 Operational Traffic**

Vehicle movements to the Site during the operation of the Development will comprise activities associated with inspection, monitoring and general site up-keep. It is anticipated that such visits will occur up to once per week on average and be via van or other similar sized vehicles. The Site will not be manned.

Due to the very low numbers of vehicle movements anticipated it is unlikely that the operation of the Development will have any significant impact on the road network. The Site is not intended to attract visitors for any reason, and therefore it is not anticipated to generate other types of trips.

The effect of operational traffic is therefore expected to be negligible.

## **4 TRAFFIC MANAGEMENT PLAN**

### **4.1 Overview**

A number of traffic management procedures will be implemented to ensure safe operation of routes within the vicinity of the Site. Once appointed, the Principal Contractor will be responsible for implementing specific traffic management policies and procedures. These procedures will include:

- Drivers of site and construction traffic vehicles will be aware of the approved route and contingency measures as explained during the induction period;
- Drivers of HGVs will also be inducted and good road practice will be made clear prior to any traffic movements;
- Drivers of HGVs and other vehicles will be made aware that only the approved route is to be used and that access from non-approved routes is prohibited;
- The contractor will be required to implement induction procedures and promote road safety and awareness; and
- Where possible, arrangements will be made for site workers to share transport and minimise unnecessary traffic movements locally.
- The principal contractor will endeavour to liaise with the developers of the proposed Limekiln Wind Farm scheme if the start date is known and will detail any measures required to avoid conflict between peak construction periods.

A summary of instructions to be issued to all drivers to Site is included in Appendix **B**

### **4.2 Traffic Management Measures**

The following sub-sections discuss traffic management measures to be adopted at each phase of the Development. Given that the principal contractor has not been appointed, at this stage only the general principles of the traffic management measures to be employed during construction of the Development have been provided.

#### **4.2.1 Route to Site**

Drivers of all delivery vehicles will be provided with a driver's card clearly showing the approved route to the Site and any restrictions. Drivers of HGVs and other vehicles will be made aware that only the approved route is to be used and that access from non-approved routes is prohibited.

All AILs will be delivered to the Site under escort in accordance with permits issued by the appropriate authorities and an abnormal load assessment will be undertaken to support the permit application. Prior to the delivery of AILs, an inspection will be carried out for all structures on the routes to the Site in conjunction with Highland Council's Road Maintenance Department, if required. The condition of the structures will be recorded and a further survey will be conducted upon completion of all abnormal load deliveries.

#### **4.2.2 Temporary Warning Signage**

Prior to the commencement of construction, the Contractor will install temporary construction phase signage on the approved route to the Site. The required signage will fall into two broad categories; directional signage on the approved route to the Site and warning signage.

Directional signage should be located at key points on the approved route to the Site with the purpose of reinforcing the route and preventing delivery vehicles from using the wrong route.

Warning signage will principally be located within the vicinity of the Site entrance to warn members of the public of the possibility of HGVs. Pedestrian and road user safety will be

enhanced via the installation of signage and the maintenance of sight lines. This will minimise any adverse impacts caused by construction traffic on the local road network associated with the Development.

#### **4.2.3 Banksman Details**

If required and in the interest of road safety, the proposed contractor may use the services of a banksman at the Site access junction during the construction phase of the project. Vehicles associated with the Development must not park on the public road and banksmen should ensure that vehicles do not have to wait on the main road before turning onto the Site.

#### **4.2.4 Contingency Plan**

A contingency plan will be designed to provide additional safety in the event of unplanned circumstances such as transport delay or impedance of traffic through vehicle breakdown. In particular it will focus on the potential for blockage to the public road network through breakdown to HGVs.

Should these unlikely circumstances occur, escort personnel would be on hand to manage the traffic, set up arrangements around the breakdown (local diversion) and liaise with police.

#### **4.2.5 Delivery Times**

Delivery times will typically be between 8am and 6pm Monday to Friday. If work and deliveries do need to be carried out at the weekend, this will be limited only between 9am and 1pm, with no deliveries on Sundays or public holidays.

#### **4.2.6 Wheel Washing**

In the interests of road safety, mud and other materials must be prevented from being deposited onto the public road. If there is a risk of such material being transported by construction vehicles as they exit the site, then Statkraft and their appointed contractor will install and operate wheel washing facilities to prevent this.

#### **4.2.7 Cleansing of the Public Roads**

Statkraft and their appointed contractor must undertake measures to ensure site entrances, accesses and the public road in the vicinity of the entrances and accesses are kept free from mud and debris.

During construction of the site entrance and accesses this may be a particular issue and if necessary then a road sweeper will be employed throughout the construction of these to ensure the road is kept free from mud and debris. The road will be monitored throughout these works and the entrance will be designed so that on completion, there will be minimal risk of mud or debris entering the public road.

### **4.3 Management of Approach Route to Site**

The Principal Contractor is required to maintain safe operation of the highlighted roads throughout construction of the Development and to ensure that local residents and businesses have unrestricted access to use the route. The Principal Contractor must ensure the following principles are met in order to satisfy these requirements:

- Local residents and business users must have unrestricted access to the Access Route throughout construction of the Development; and

- The Access Route must not become blocked by any vehicles associated with the Development including deliveries, staff vehicles, all subcontractors and any other visitors to the Site.

In order to satisfy these requirements, the following mitigation measures should be adhered to:

- Signage to be provided to warn recreational users at construction traffic crossing points;
- As far as reasonably possible, deliveries should be scheduled outside of school opening and closing times; and
- Arrangements for regular road maintenance and cleaning if required, e.g., road sweeping in the vicinity of site access points as necessary.

#### **4.4 Positive Supply Chain Management**

All contractors will be monitored (through regular spot-checks) to ensure they follow correct routes. Routes identified will be clearly defined in all sub-contracts and clearly signposted.

The Site access junction will be kept clear at all times during construction and the area will be monitored by on-site staff to ensure vehicles do not attempt use it for parking.

The contractor must ensure the following requirements are adhered to:

- Detailed vehicle log to be kept and to record the times that all vehicles enter and leave the Site;
- Delivery routes agreed with suppliers and compliance monitored by site management team;
- Clear maps provided to drivers of agreed delivery routes;
- Site induction / briefing for all drivers;
- Tool box refresher talks with delivery drivers as appropriate; and
- Disciplinary sanctions as back stop position working in a culture of "zero harm" for safety management.

#### **4.5 Enforcement**

All contractors will be monitored (through regular spot-checks) to ensure they follow correct routes. Routes identified will be clearly defined in all sub-contracts and clearly communicated to drivers. Any contractor not adhering to the relevant route guidance and any other measures detailed in the TMP will be disciplined and may be removed from working on the Development; this will be contractually specified where practical to do so.

The Site access junctions will be kept clear at all times during construction and the area will be monitored by on-site staff to ensure vehicles do not attempt use for parking.

#### **4.6 Notifications**

##### **4.6.1 Road Authorities**

Statkraft UK LTD and their appointed contractor will work with the relevant road authorities to identify planned engineering or other works/events which might conflict with the delivery route times. Consultation with The Highland Council Highways department should also take place regarding winter maintenance. Discussion will then take place in order to establish appropriate measures which will minimise the potential for associated disruption to local communities.

##### **4.6.2 Local Communities**

Statkraft UK LTD and their appointed contractor will maintain close liaison with local community representatives, landowners and statutory consultees throughout the

construction period. This would include circulation of information about ongoing activities and in particular those which could have potential to cause disturbance.

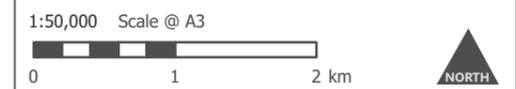
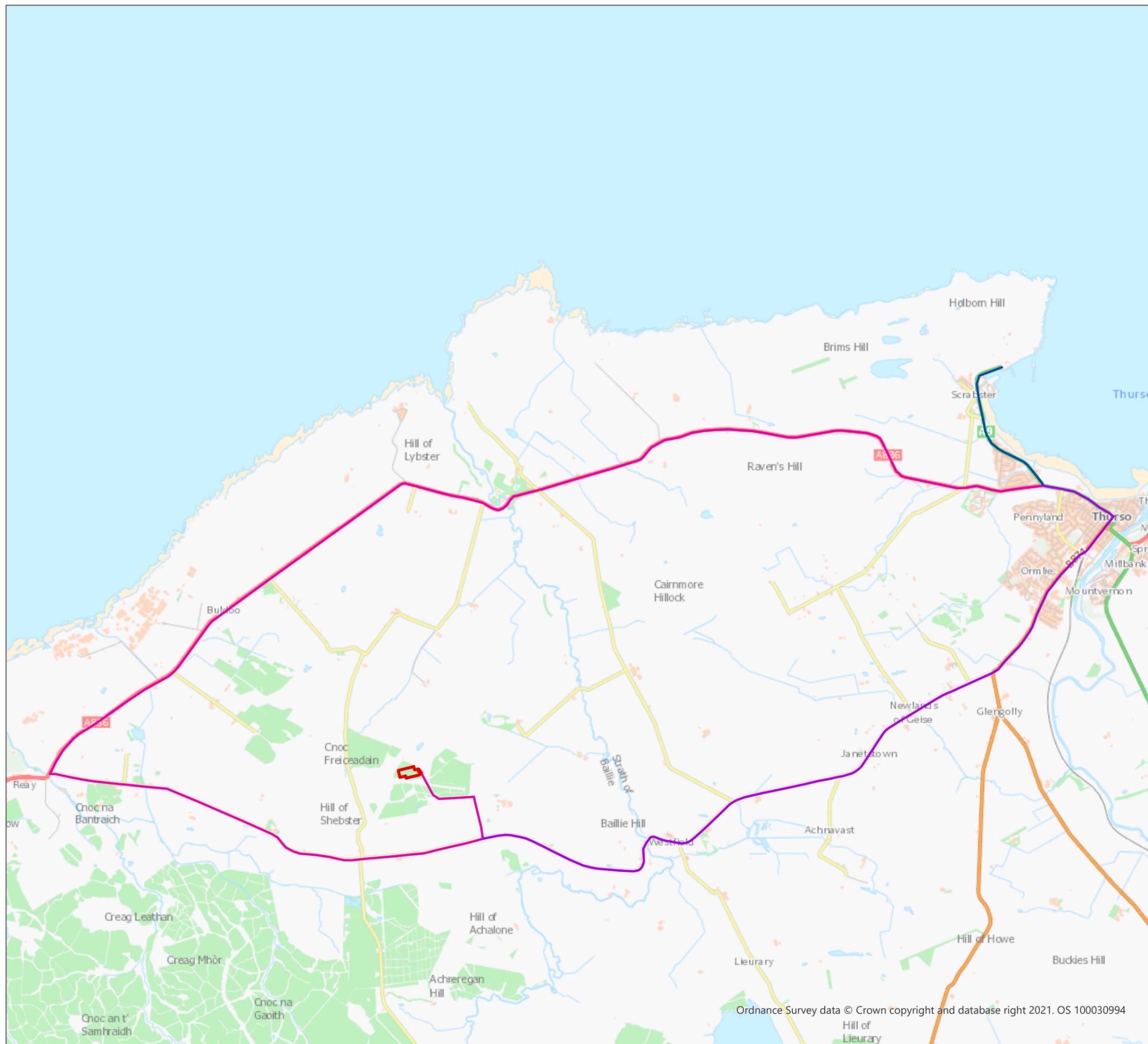
A telephone number will be made available during operational hours with access to persons with the appropriate authority to respond to calls and resolve any problems that occur.

Statkraft UK LTD and their appointed contractor will liaise with the relevant local authority and community to identify major events in the area and to programme the construction works so that they do not disrupt the local road network on these days.

A full list of key contacts for the TMP is included in **Appendix C**.

## **APPENDIX A – FIGURES**

- Site Boundary
- ALV Route
- General Construction Traffic Route
- ALV + General Construction Traffic Route



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**Route to Site**  
Figure 1

**Baillie Greener Grid Park  
Traffic Management Plan**

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## APPENDIX B – SUMMARY OF DELIVERY DRIVER INSTRUCTIONS

<b>Instruction</b>
Construction traffic will access the Site from the A9, joining the A836 and then the C1001 road before reaching the Site entrance.
Deliveries and loading / unloading of HGVs are restricted to 08:00 - 18:00 on Monday to Friday and 08:00-13:00 on Saturday during construction periods.
The Site access junction must be kept clear at all times and on-site staff will ensure no vehicles attempt to use this for parking.
Drivers should be aware of the delivery route defined in the TMP and contingency measures as pre-defined at induction stage.

### **APPENDIX C – KEY CONTACTS**

<b>Thurso Police Station</b>	
<b>Address:</b>	20 Olig , Thurso KW14 7JA
<b>Tel:</b>	101, 999 or 01786 289070
<b>Highlands &amp; Islands Fire &amp; Rescue Service</b>	
<b>Address:</b>	Fire Station, Millbank Rd, Thurso KW14 8PS
<b>Tel:</b>	999
<b>Dunbar Hospital</b>	
<b>Address:</b>	Ormlie Rd, Thurso KW14 7DW
<b>Tel:</b>	01847 893263
<b>Transport Scotland</b>	
<b>Address:</b>	Buchanan House, Port Dundas Road, Glasgow, G4 0HF
<b>Tel:</b>	0141 272 7100
<b>Highland Council Roads Department</b>	
<b>Address:</b>	The Townhouse, The Square, Grantown-on-Spey, PH26 3HF
<b>Tel:</b>	01349 886601