Pell Frischmann

Swarclett Wind Farm

Abnormal Indivisible Load Route Survey

October 2023

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1 Introduction

1.1 Purpose of the Report

Pell Frischmann Limited (PF) has been commissioned by Wind2 Limited (Wind2) (the Applicant) to undertake a survey of the Abnormal Indivisible Load (AIL) delivery route for wind turbine loads associated with the construction and development of Swarclett Wind Farm, located to the southeast of Thurso, in The Highland Council (THC) administrative area.

The Route Survey Report (RSR) has been prepared to help inform the Applicant on the likely issues associated with the development of the site, with regards to off-site transport and access for AIL traffic. This report has been based on a site visit to review the available access options and identifies the key issues associated with AIL deliveries and notes that remedial works, either in the form of physical works or as traffic management interventions will be required to accommodate the predicted loads.

The detailed assessment and subsequent designs of any remedial works are beyond the agreed scope of works between PF and Wind2 at this point in time.

It is the responsibility of the turbine supplier to ensure that the entirety of the proposed access route is suitable and meets with their satisfaction. The turbine supplier will be responsible for ensuring that the finalised proposals meet with the appropriate levels of health and safety consideration for all road users and in accordance with the relevant legislation at the time of delivery.

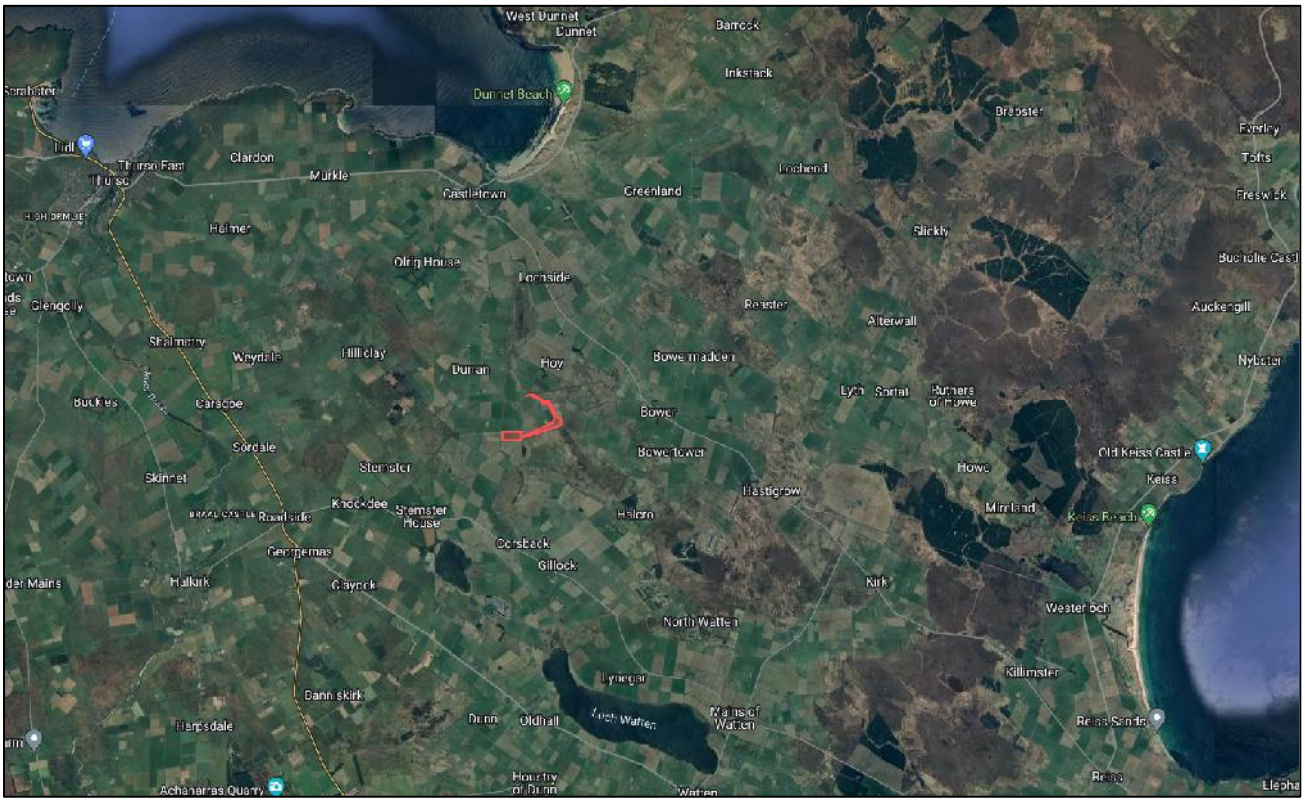
2 Site Background

2.1 Site Location

The development site is located approximately 11 kilometres (km) to the southeast of Thurso and 4km north of Loch Watten, near Hoy in Caithness.

Figure 2-1 illustrates the general site location.

Figure 2-1: Site Location Plan



2.2 Candidate Turbine

Wind2 have indicated that they wish to consider the worst-case components from the Vestas V136 at a tip height of 149.9 metres (m). The details of the components have been provided by Vestas and are detailed in Table 2-1 below.

Table 2-1: Turbine Component Summary

Component	Length (m)	Width (m)	Height / Min Diameter (m)	Weight (t)
V136 Blade	66.770	4.265	3.124	15.701
Base Tower	19.640	4.310	4.000	75.000
Mid Tower	29.960	4.025	3.650	64.000
Top Tower	30.000	3.667	3.238	45.500

In order to present a worst-case kinematic envelope along the route a bespoke tower of 29.96m x 4.31m x 4.025m has been utilised for the swept path assessment.

2.3 Proposed Delivery Equipment

To provide a robust assessment scenario based upon the known issues along the access route, it has been assumed that blade loads would be carried on a blade lifting trailer from Wick Harbour to the proposed transfer point location to the south of Wick, where they would then be transferred to a Super Wing Carrier trailer for the remainder of the route.

The lifting trailer has the ability to lift blades up to a maximum angle of 60 degrees, lifting blades over potential constraints and therefore reducing the need for off-site mitigation works on the public road network.

Towers would be carried in a six-axle step frame trailer from Wick Harbour to the proposed transfer location where they would be transferred to a 4+7 clamp adaptor style trailer.

The hub, nacelle housing and top towers would be carried on a six-axle step frame trailer through the entire route.

Figure 2-2: Super Wing Carrier Trailer

Figure 2-3: Seven-Axle Step Trailer

Figure 2-4: Blade Lifter

Figure 2-5: Tower Clamp Trailer

3 Access Route Review

3.1 Port of Entry

The nearest feasible and economical Port of Entry (POE) for the Proposed Development is Wick Harbour. The port has been previously used by renewables deliveries in the past for a number of wind farms including Slickly Wind Farm.

3.2 Proposed Access Route

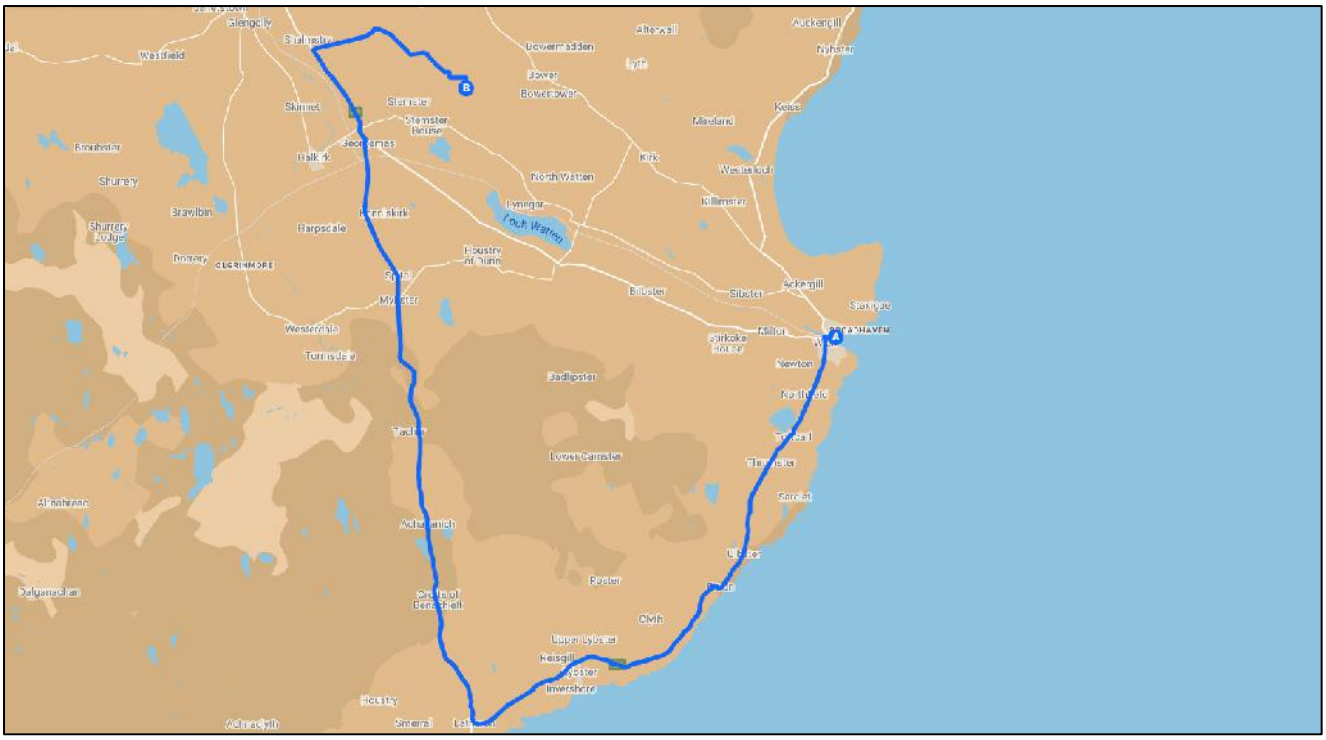
A site visit to review the constraints was undertaken, from the POE through to the site. Points of Interest (POI) were recorded using a GPS tracker along the route.

The proposed access route to the site access junction from Wick Harbour is as follows:

- loads would depart Wick Harbour on Martha Terrace / River Street, turning on to the A99(T);
- loads would continue south on the A99(T) with blade loads making use of the blade transfer point located at the southern extents of Wick, to transfer the blade loads from the blade lifting trailer onto the standard Super Wing Carrier trailer;
- all loads then required to continue south on the A99(T) to the junction with the A9(T), where they would turn right, heading north;
- the loads would continue northbound until the junction with the U2188 Weydale Road, where they make a right turn, heading eastbound;
- at the end of the U2188 Weydale Road, the loads would make a right hand turn on to the C1025 Thurso / Hilliclay / Bishophill Road and travel eastbound to the junction with the C1069 Poolhoy / Wester Road; and
- at the junction, the loads will turn right onto C1069 Poolhoy / Wester Road and travel south for a short distance before turning left in to the Proposed Development site.

The proposed access route is illustrated in Figure 3-1.

Figure 3-1: Proposed Access Route



3.3 Route Constraints

The constraints noted on the route are detailed in Table 3-1. These cover all constraints from the port access gate through to the proposed site access junction. No consideration of the transport issues within the development site have been undertaken at this time.

Plans illustrating the location of the constraints are provided in Appendix A.

Table 3-1: Constraint Summary

POI	Key Constraint	Details
1	**Wick Harbour Exit**   	It is proposed that tower and blade loads would reverse from Wick harbour. Tower loads would use a seven-axle step frame trailer, whilst blades would use a blade lifting trailer. All overhead utilities from the port to the south of Wick would need to be removed to allow passage of the blade in the raised position. Swept path assessment SK00 is included in Appendix B.

POI	Key Constraint	Details
2	**Cliff Road (A99(T)) Junction**   	The loads would make a right hand turn manoeuvre from Station Road on to Cliff Road (A99(T)), continuing southbound. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun the left-hand verge of Station Road and over-sail and overrun the left-hand verge on entry of Cliff Road (A99(T)), where load bearing surfaces are to be laid. All overhead utilities and obstructions are to be removed to allow passage of blade lifter loads. Detail design required. Swept path assessment SK01 is included in Appendix B.
3	**Potential Transfer Point** 	**Third-Party Land** should be secured to allow blade loads to be transferred from the blade lifter trailer onto the Super Wing Carrier for the remainder of the route. In addition, the tower sections would be transferred from the step frame trailer into clamp adaptor trailers. The exact location for this should be determined following landowner discussions. The area required for the transfer point would be circa 160m x 40m.

POI	Key Constraint	Details
4	**A99(T) Borrowston Bend** 	Loads would continue south on the A99(T). No physical mitigation is required here. Although the clearances to overhead power lines at this location should be reviewed with the utility provider prior to loads moving to ensure that there is sufficient head height and flashover protection for all temperature ranges. Swept path assessment SK02 is included in Appendix B.
5	**A99(T) Whiteleen Bend** 	Loads would continue on the A99(T). A swept path assessment has been undertaken and indicates that loads will occupy the entire carriageway width through the bend. Vegetation to be trimmed back. Swept path assessment SK03 is included in Appendix B.
6	**A99(T) Bend Ulbster** 	Loads would continue southwest on the A99(T). A swept path assessment has been undertaken and indicates that loads will over-sail both verges of the bend, vegetation to be trimmed back on the right-hand verge and oversail bollards on the left-hand verge. Swept path assessment SK04 is included in Appendix B.
7	**A99(T) Right Bend Bruan** 	Loads would continue on the A99(T). A swept path assessment has been undertaken and indicates that loads will over-sail both verges of the bend. Chevron signs to be removed. Swept path assessment SK05 is included in Appendix B.

POI	Key Constraint	Details
8	**A99(T) Left Bend Bruan** 	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that loads will over-sail the inside verge and over-sail and over-run the outside verge. A load bearing surface should be laid. A section of safety barriers, bollards and two chevron signs should be removed. The proximity to fence line to be confirmed through topographical survey or test run. Given the proximity of the loads to third-party land at this location, it is recommended that a review of the limits of road adoption should be undertaken. In addition, it is strongly recommended that a full overhead utility search is carried out along the route prior to deliveries to ensure that height clearances are suitable for normal temperature ranges. Swept path assessment SK06 is included in Appendix B.
9	**A99(T) Bends of Halberry Head** 	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that loads will over-sail the inside verge. No physical mitigation works are required. Swept path assessment SK07 is included in Appendix B.
10	**A99(T) Halberry Head** 	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that loads will require access to both traffic lanes at this location. Swept path assessment SK08 is included in Appendix B.

POI	Key Constraint	Details
11 & 12	**A99(T) Blackness**  	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that loads at POI 11 will over-sail both verges. Two bollards in the northern verge should be removed. No physical mitigation is required at POI 12. Swept path assessments SK09 and SK10 are included in Appendix B.
13	**A99(T) Clyth**  	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that the vehicle will over-sail the inside verge, where two bollards should be removed. Swept path assessment SK11 is included in Appendix B.

POI	Key Constraint	Details
14	**A99(T) Clyth Burn Bridge** 	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that loads will over-sail both verges of the bend, clearing bridge parapets and safety barriers however two sets of chevron signs should be removed. A review of **third-party land** is recommended at this location. Swept path assessment SK12 is included in Appendix B.
15	**A99(T) Occumster** 	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that the blade tip will over-sail the right-hand verge of the bend where two road signs should be removed. Swept path assessment SK13 is included in Appendix B.
16	**A99(T) Glencairn Estate** 	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that loads will require access to both traffic lanes at this location. Swept path assessment SK14 is included in Appendix B.
17	**A99(T) Lybster** 	Loads will continue on the A99(T). A swept path assessment has been undertaken and indicates that loads will over-sail the southern verge of the bend. Trees and vegetation should be trimmed back and one road sign removed. Swept path assessment SK15 is included in Appendix B.

POI	Key Constraint	Details
18	**A99(T) Latheron Junction**   	Loads will join the A9(T) from the A99(T), making a right hand turn at the junction. Loads should be raised on their suspension settings to improve ground clearance at this location. A swept path assessment has been undertaken and indicates that loads will occupy the entire carriageway width through the junction with over-sail and over-run on the southern verge where a load bearing surface should be laid while sections of fence, wall and safety barriers should be removed as well as a bus shelter, two road signs and two bollards. Existing utilities to be protected. Alteration of farm fences required. **Third-Party Land** required. On the right-hand bend into A9(T), loads will over-sail both verges. On the right-hand verge one lit road sign and hand railing should be removed. Detailed design required to confirm whether verge reprofiling is required. **Third-Party Land** required. On the left-hand verge loads will oversail and over-run, a load bearing surface should be laid. Proximity to building / wall to be confirmed during test run. Swept path assessment SK16 is included in Appendix B.
19	**A9(T) Spital** 	Loads will continue northbound along the A9(T). A swept path assessment has been undertaken and indicates that loads will over-sail both verges on approach through the bend. On the right-hand verge, two chevron signs and one bollard should be removed. On the left-hand verge, one lighting column should be removed. Swept path assessment SK17 is included in Appendix B.

POI	Key Constraint	Details
20	**A9(T) / A882 Junction** 	Loads will continue the A9(T) northwest bound by taking the left-hand turn at the junction. A swept path assessment has been undertaken and indicates that loads will over-sail both verges upon entry while over-run will occur on the left-hand verge. A load bearing surface should be laid in the over-run area with vegetation to be trimmed back. One road sign and one bollard should be removed. A land search should be completed to confirm the extent of adopted road boundary available. On the right-hand verge vegetation and trees should be trimmed. Loads will over-sail and over-run the entry splitter island where one road sign and two bollards should be removed. Loads will over-run and over-sail the northern verge of the junction where a load bearing surface should be laid and the ditch culverted. Swept path assessment SK18 is included in Appendix B.
21	**A9(T) / U2188 Weydale Road Junction** 	Loads will turn right onto the U2188 Weydale Road continuing eastbound. The U2188 Weydale Road is a single track road of varying widths, with passing places. Sections of the carriageway do not currently have adequate carriageway width to copmply with turbine supplier standards. The entire route will need to be widened to 4.5m minimum and early engagement with THC is recommended. In addition, a 5.5m clearance envelope is ideally required. From this location through to the site, the height from the carriageway running surface to overhead utilities should be confirmed by the utility providers to ensure that there is a minimum of 5m clear head height for all expected temperature ranges. A swept path assessment has been undertaken and indicates that loads, when turning right at the junction, will over-sail and over-run the right-hand verge on entry to the U2188 Weydale Road. A load bearing surface should be laid in the over-run area, with vegetation, sections of fence, one utility pole, one bollard and one road sign to be removed. **Third-Party Land** required. Swept path assessment SK19 is included in Appendix B.

POI	Key Constraint	Details
22	**U2188 Weydale Road – Tulloch of Shalmstry Bend** 	Loads will continue along the U2188 Weydale Road. The swept path assessment indicates that loads will over-sail and over-run the lefthand verge of the bend. A load bearing surface should be laid in the over-run area, with vegetation to be removed. Given the proximity of the loads to third-party land at this location, it is recommended that a review of the limits of road adoption should be undertaken. Loads avoid oversailing the inside of the bend to avoid the overhead utility stay wire. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK20 is included in Appendix B.
23	**U2188 Weydale Road – East of Cairnfield** 	Loads will continue along the U2188 Weydale Road. A site survey undertaken suggests that when approaching the bend, the vertical profile of the road is pronounced and should be reviewed during the test run stage to ascertain if tar wedges will be required to prevent grounding. A swept path assessment has been undertaken and indicates that loads will over-sail both the right-hand and left-hand verges of the bend. Vegetation to be trimmed back on both verges. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK21 is included in Appendix B.

POI	Key Constraint	Details
24	**U2188 Weydale Road – White Moss Bend** 	Loads will continue along the U2188 Weydale Road. A swept path assessment has been undertaken and indicates that loads will over-sail both the right-hand and left-hand verges of the bend. Vegetation to be trimmed back on the left-hand verge. Given the proximity of the loads to third-party land at this location, it is recommended that a review of the limits of road adoption should be undertaken. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK22 is included in Appendix B.
25	**U2188 Weydale Road / C1025 Thurso / Hilliclay / Bishophill Road Junction**  	Loads will turn right at the junction between the U2188 Weydale Road / C1025 Thurso / Hilliclay / Bishophill Road. The C1025 Thurso / Hilliclay / Bishophill Road is a single track road of varying widths, with passing places. Sections of the carriageway do not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Full, detailed design of this road should be completed and early engagement with THC is recommended.. The height from the carriageway running surface to overhead utilities should be confirmed by the utility providers to ensure that there is a minimum of 5m clear head height for all expected temperature ranges. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun the right-hand verge of the bend. A load bearing surface should be laid in the overrun area with vegetation, two road signs, section of fence, a gate and wall to be removed. **Third-Party Land** required. The swept path assessment on the second bend indicates that loads will oversail the left-hand verge, although no physical mitigation is required while loads will overrun and oversail the right-hand verge. Load bearing surface should be laid in the overrun area. With one road sign, one utility pole, section of wall, section of fence and gate to be removed. **Third-Party Land** required. Swept path assessment SK23 is included in Appendix B.

POI	Key Constraint	Details
26	**C1025 Thurso / Hilliclay / Bishophill Road – Sysa Bend** 	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road. A site survey undertaken suggests that when approaching the bend, the vertical profile of the road is pronounced and should be reviewed during the test run stage to ascertain if tar wedges will be required to prevent grounding. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun both verges throughout the bend. Load bearing surface should be laid in the overrun area while one road sign should be removed. Given the proximity of the loads to third-party land at this location, it is recommended that a review of the limits of road adoption should be undertaken. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK24 is included in Appendix B.
27	**C1025 Thurso / Hilliclay / Bishophill Road – Hilliclay Mains Bend**  	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun both verges throughout the bend. Load bearing surfaces should be laid in overrun areas. Vegetation and sections of fence should be removed. **Third-Party Land** required. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK25 is included in Appendix B.

POI	Key Constraint	Details
28	**C1025 Thurso / Hilliclay / Bishophill Road – West of Fryster** 	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road. No physical mitigation is required to accommodate loads travelling through the bend. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK26 is included in Appendix B.
29	**C1025 Thurso / Hilliclay / Bishophill Road – Fryster Bends**   	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun both verges throughout the series of bends. Load bearing surfaces should be laid in overrun areas. Vegetation and sections of fence and walls should be removed. **Third-Party Land** is required. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK27 is included in Appendix B.

POI	Key Constraint	Details
30	**C1025 Thurso / Hilliclay / Bishophill Road – Fryster Bends 2**  	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road through a series of bends. At this location, the height from the road to overhead utilities should be confirmed by the utility providers to ensure that there is a minimum of 5m clear head height from the road for all expected temperature ranges. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun both verges throughout the series of bends. Load bearing surfaces should be laid in the overrun areas. One utility pole, one road sign, sections of fence, walls and a gate should be removed. **Third-Party Land** required. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK28 is included in Appendix B.
31	**C1025 Thurso / Hilliclay / Bishophill Road – Bend West of Bishop's Hill** 	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun both verges throughout the bend. Load bearing surfaces should be laid in overrun areas. Vegetation to be trimmed back and sections of fence, walls and two gates to be removed. **Third-Party Land** required. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK29 is included in Appendix B.

POI	Key Constraint	Details
32	**C1025 Thurso / Hilliclay / Bishophill Road – Junction East of Bishop's Hill**  	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road, making a right at the junction. A swept path assessment has been undertaken and indicates that loads will over-sail the left-hand verge although no physical mitigation is required here while loads will oversail and overrun the right-hand verge and field. A load bearing surfaces should be laid in the overrun areas. Sections of fence, vegetation, one road sign and one utility pole should be removed. **Third-Party Land** required. Checks should be undertaken at this location as there is evidence of drainage infrastructure in the location of proposed works. Culverting works may be required. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK30 is included in Appendix B.
33	**C1025 Thurso / Hilliclay / Bishophill Road – Lefthand Bend West of Durran Mains**  	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun the right-hand verge. A load bearing surface should be laid in the overrun area with sections of fence, walls one utility pole and vegetation to be removed. **Third-Party Land** required. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK31 is included in Appendix B.

POI	Key Constraint	Details
34	**C1025 Thurso / Hilliclay / Bishophill Road – Righthand Bend East of Durran Mains** 	Loads will continue along the C1025 Thurso / Hilliclay / Bishophill Road, making a righthand turn. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun both verges throughout the bend. A load bearing surface should be laid in the overrun area with sections of fence, a gate and wall to be removed. **Third-Party Land** required. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK32 is included in Appendix B.
35	**Proposed Site Access - C1069 Poolhoy / Wester Road**  	Loads will continue along the C1069 Poolhoy / Wester Road and make a left hand turn in to the site via newly construction access junction, which should be constructed to the turbine manufacturers and local authority standards. A swept path assessment has been undertaken and indicates that loads will over-sail and overrun both verges throughout the bend. A load bearing surface should be laid in the overrun area with sections of fence and wall, and one road sign to be removed. **Third-Party Land** required. The existing carriageway does not currently have adequate carriageway width for the proposed loads. The entire route will need to be widened to 4.5m minimum on the straight sections and further through bends. In addition, a 5.5m clearance envelope is required for the loads. Swept path assessment SK33 is included in Appendix B.

3.4 Swept Path Assessment Results and Summary

The detailed swept path drawings for the locations assessed are provided in Appendix B for review. The drawings in Appendix B illustrate tracking undertaken for the worse case loads at each location.

The colours illustrated on the swept paths are:

- Grey / Black – OS / Topographical Base Mapping;
- Green – Vehicle body outline (body swept path);
- Red – Tracked pathway of the wheels (wheel swept path); and
- Purple – The over-sail tracked path of the load where it encroaches out with the trailer (load swept path).

Where mitigation works are required, the extents of over-run and over-sail areas are illustrated on the swept path drawings.

Please note that where assessments have been undertaken using Ordnance Survey (OSI) base mapping, CAD based aerial mapping and historic topographical data, there can be errors in these data sources.

Where provided by the client, topographical data has been utilised. Please note that PF cannot accept liability for errors on the data source, be that OSI base mapping, aerial mapping, historic topographical surveys or client supplied data.

3.5 Weight Review

A weight review has been undertaken via the ESDAL (Electronic Service Delivery for Abnormal Loads) contacts database using the Highways Agency website www.esdal.com.

All of the relevant ESDAL contacts are noted in Table 3-2, and all have been contacted to ascertain if there are any relevant constraints that should be noted. The feedback from the consultees is provided in Appendix C.

Table 3-2: ESDAL Contacts

Organisation	Email Address
The Highland Council	abnormal.loads@highland.gov.uk
BEAR North West	NWAbnormalLoad@bearscotland.co.uk
Police Scotland	OSDAbnormalLoadsScotland@scotland.pnn.police.uk
Network Rail	AbLoadsESDAL@networkrail.co.uk
Transport Scotland	AbnormalLoads@transport.gov.scot

3.6 Land Ownership

PF would advise the Applicant that land ownership searches should be carried out on any land where works have been identified to satisfy themselves that any required works can be undertaken.

The limits of road adoption can vary depending upon the location of the site and the history of the road agencies involved. The adopted area is generally defined as land contained within a defined boundary where the road agency holds the maintenance rights for the land. In urban areas, this usually defined as the area from the edge of the footway across the road to the opposing footway back edge.

In rural areas the area of adoption can be open to greater interpretation as defined boundaries may not be readily visible. In these locations, the general rule is that the area of adoption is between established fence / hedges lines or a maximum 3m from the road edge for areas within The Highland Council area. This can vary between areas and location.

3.7 Summary Issues

It is strongly suggested that following a review of this document, Wind2 should undertake the following prior to the delivery of the first abnormal loads, to ensure load and road user safety:

- That any necessary topographical surveys are undertaken, and that swept path results are completed;
- A review of axle loading on structures along the entire access route with the various road agencies is undertaken immediately prior to the loads being transported in case of last-minute changes to structures;
- A review of height clearances with utility providers and the transport agencies along the route to ensure that there is sufficient space to allow for loads plus sufficient flashover protection (to electrical installations);
- That any verge vegetation and tree canopies which may foul loads are trimmed prior to loads moving;
- That a review of potential roadworks and or closures is undertaken once the delivery schedule is established in draft form; and
- That a condition survey is undertaken to ascertain the extents of road defects prior to loads commencing to protect the developer from spurious damage claims.

4 Summary

4.1 Summary of Access Review

Pell Frischmann has been commissioned by Wind2 to prepare a Route Survey Report to examine the issues associated with the transport of AIL turbine components to the proposed Swarclett Wind Farm site.

This report identifies the key points and issues associated with the proposed route and outlines the issues that will need to be considered for successful delivery of components.

The report is presented for consideration to Wind2. Various road modifications, structural reviews and interventions are required to successfully access the site. If these are undertaken, access to the consented wind farm site is considered feasible for the V136 turbine.

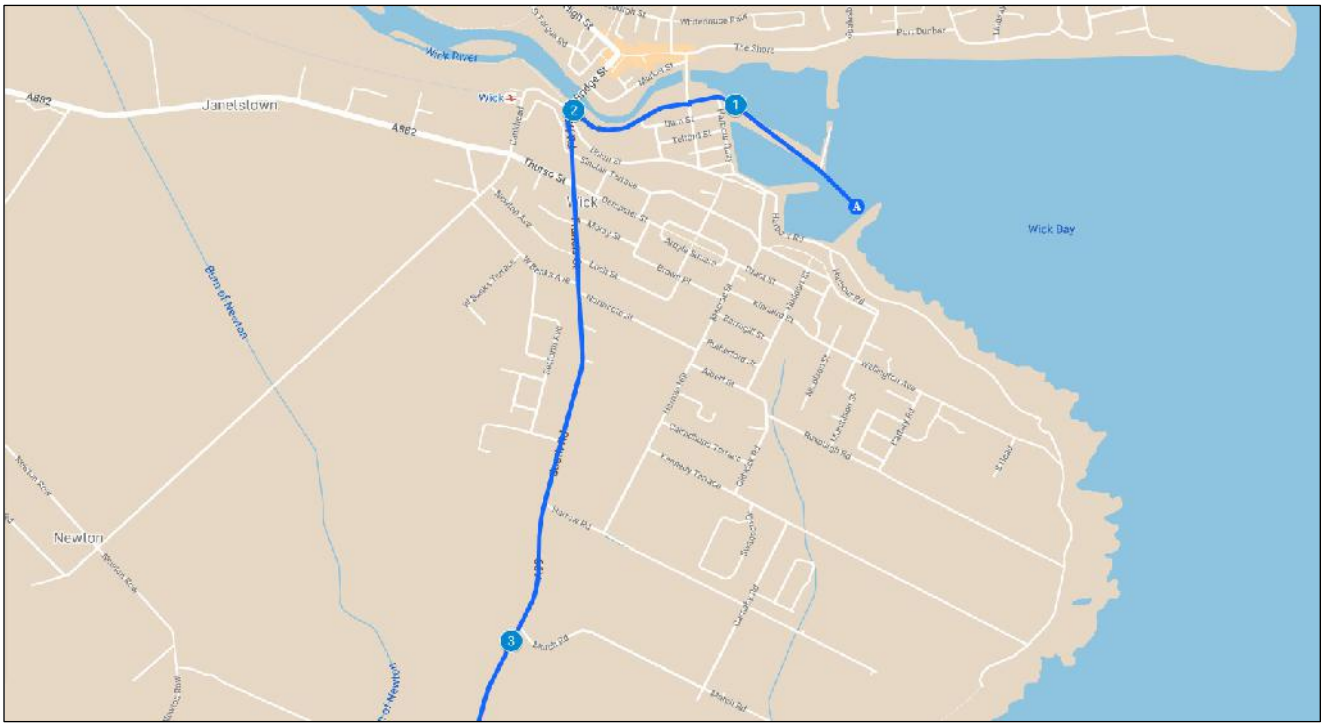
4.2 Further Actions

The following actions are recommended to pursue the transport and access issues further:

- Prepare detailed mitigation design proposals to help inform the land option / consultee discussions;
- Obtain the necessary land options;
- Undertake discussion with the affected utility providers and roads agencies;
- Obtain the necessary statutory licences to enable the mitigation measures; and
- Develop a detailed operational Transport Management Plan to assist in transporting the proposed loads.

Appendix A POI Plans

An electronic version of the POI plans can be found here:
https://www.google.com/maps/d/edit?mid=1LJK1C3u8GoPFdq8BUs4RlSh-CfChiy8&usp=sharing




East Clyth
Clyth
Mid Clyth
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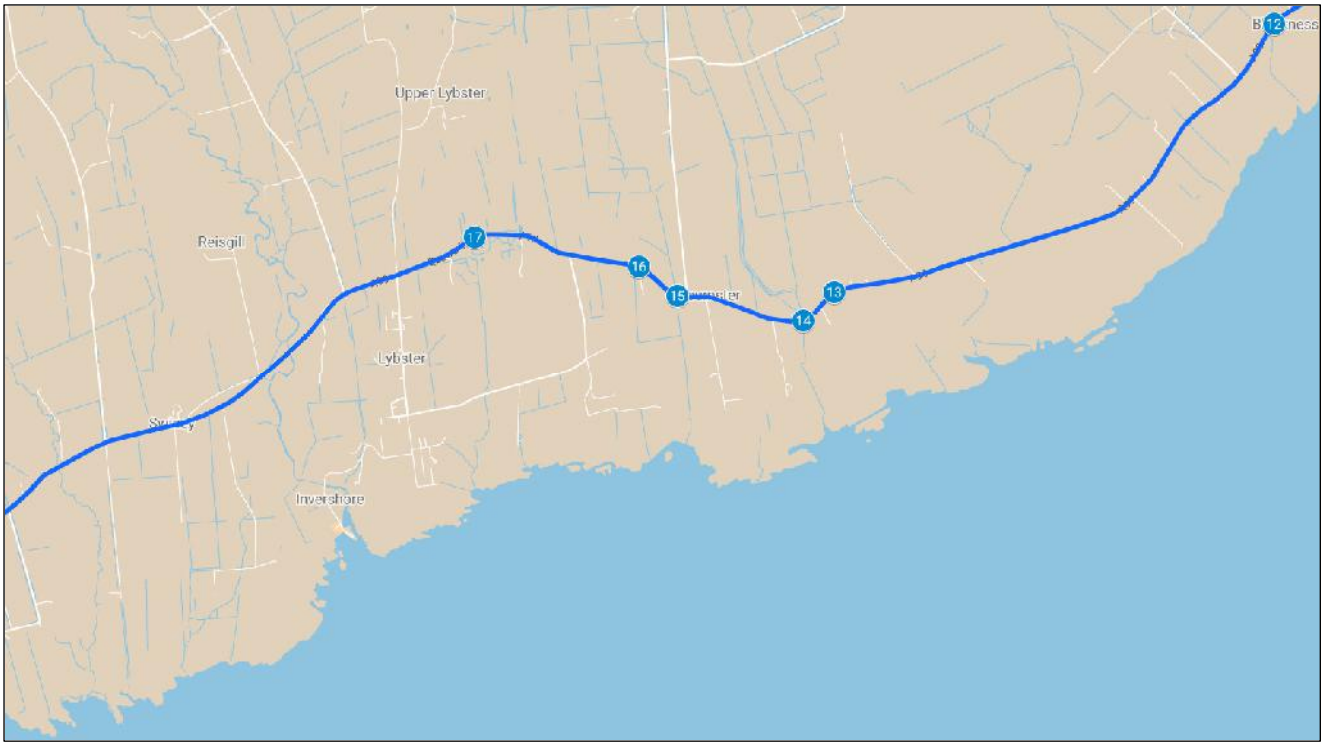
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Reisgill
Lybster
Invershore
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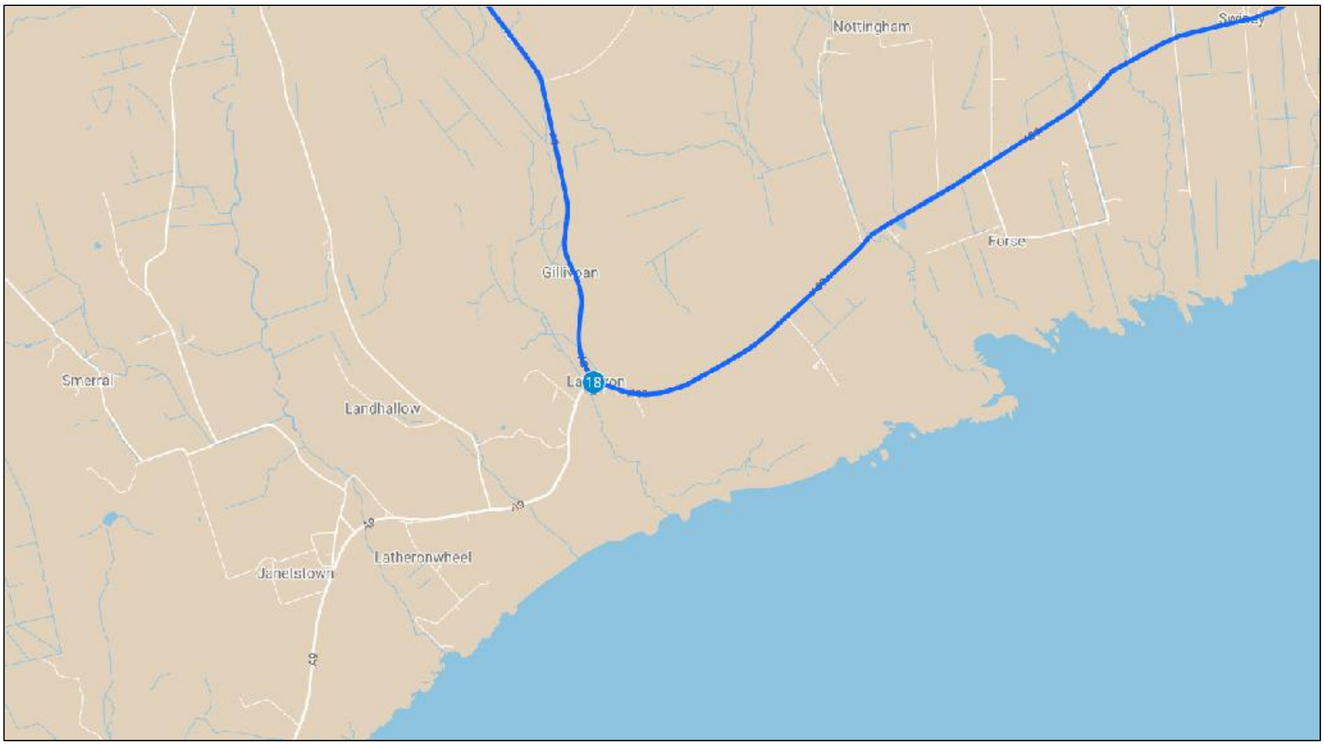
Nottingham
Forse
Smerral
Landhallow
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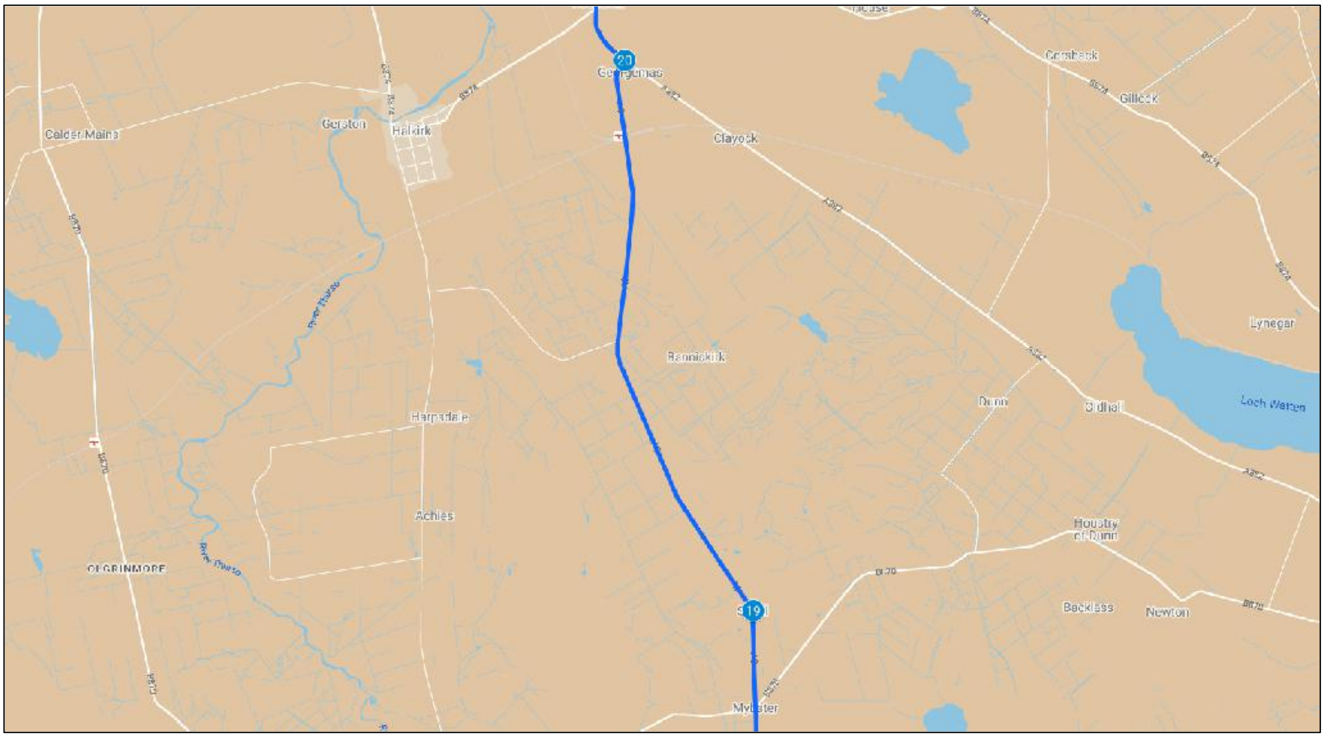
A9
Latheronwheel
Janetstown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Calder Mains
Gerston
Halkirk
Clayock
Gillock
Lynegar
Loch Watten
Bannockirk
Harpsdale
Dunn
Oldhall
Achies
Houstry of Dunn
Backlass
Newton
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Weydale
Hillockhead
Durran
Achingills
Stemster
Tister

Appendix C ESDAL Responses