



BIDWELLS

**COIRE GLAS GRID
CONNECTION
PROJECT: 400KV OHL
WOODLAND REPORT
FLS AUCHTERAWE
FARM WOODLAND**

Table of Contents

1. Woodland Characteristics
2. Development Requirements
3. Wind Blow Risk
4. Woodland Management Impact
5. Mitigation Opportunities
 - a. Restructuring
 - b. Restocking
6. Nett Effect/Summary
7. Compensatory planting

Appendix 1

LOCATION PLAN

Appendix 2

PLAN SHOWING OPERATIONAL CORRIDOR AND FELLING

Appendix 3

PLAN SHOWING RESTOCKING

1.0 Woodland Characteristics

Auchterawe Farm Woodland is owned by the Scottish Ministers and managed by Forest and Land Scotland (FLS) – North Forest District. The woodland is accessed from the unclassified Auchterawe public road (U1663) proximately 2 miles west of Fort Augustus, (Please refer to Location plan in Appendix 1). This woodland has Sitka spruce as its principal conifer species. The proposed Over Head Line (OHL) alignment impacts significantly between towers 1-16.

The forest is managed as per the Fort Augustus Land Management Plan.

Towers 1-5

Mixed commercial plantation, Sitka spruce (SS), Lodgepole pine (LP), Scots pine (SP) and Douglas fir (DF). Large areas of the commercial woodland have been thinned and managed under Continuous Cover Forestry (CCF).

Riparian native broadleaved woodland around the car park and tower location 5, will be mulched on site. The Operational Corridor has been reduced to 50m at this location to minimise the impact.

Popular footpath running through the woodland to River Oich.

Due to the intensive thinning programme carried out through the woodland, the amount of additional felling required out with the operational corridor to maintain stability of the remaining crop will be kept to a minimum.

The LMP identifies this compartment to be managed under Low Impact Silvicultural Systems (LISS).



Thinned SP plantation.



Mature I and SS along River Oich footpath



Restocked area at Tower location 2. Site will be mulched.



Native broadleaved woodland at tower location 5.

Towers 5-7

Mixed commercial plantation, Sitka spruce (SS), Lodgepole pine (LP), Scots pine (SP) and Douglas fir (DF). Classed under the AWI as 2a and Plantation on Ancient Woodland Site (PAWS), minimal indicators of ancient woodland present.

Creation of a green edge at the OC will require additional felling out-with the OC. Wind firm edges have been identified to ensure stability of the remaining crop.

The archaeological site: Torr Dhuin has undergone site clearance and new footpath created; the felling required out with the OC will have an impact on this area.



Boundary of the Torr Dhuin site will have to be cleared to create a wind firm edge.



Mature SS and DF plantation

Towers 7-11

Mixed commercial plantation, Sitka spruce (SS), Lodgepole pine (LP) and Scots pine (SP). Small areas classed under the AWI as 2a and Plantation on Ancient Woodland Site (PAWS), minimal indicators of ancient woodland present.

Creation of a green edge at the OC will require additional felling out-with the OC. Wind firm edges have been identified to ensure stability of the remaining crop.



Upland birch woodland (W4) classed as 2a AWI to be cleared.



SS plantation at tower 9 location.

Towers 11-14

Checked SS and LP plantation, significant areas of failed planting creating open ground. Site will be mulched/felled to recycle.



Severely checked SS and LP

2.0 Development Requirements

The standard tower dimensions for the project have a width of 17.1 m at the widest part of the Tower (from one conductor to the other) in addition to this the vicinity zone from each conductor is 5 m on each side. The infrastructure and minimum clearance distance is therefore 27 m (13.5m either side of the centre line) and this has been utilised to calculate the area of the corridor occupied by infrastructure. In some cases, such as angle towers the requirement will be in excess of this distance however the average minimum distance has been used in this assessment.

A resilient Operational Corridor will be reduced to 25m in width either side of the line within the AWI areas. This will be increased to 45m in width either side of the line within the commercial woodlands.

The forest is served by a well-constructed Class A forest road running through the woodlands, access from the unclassified U1663 Auchterawe public road.

These roads can serve as the main arterial construction route. Tree felling and timber extraction will be able to utilise existing tracks, prior to any construction activity.

Stump removal and residue mulching will be required for the installation of tracks within the operational corridor and at each pole structure construction compound for the formation of a temporary crane pad.

3.0 Wind Blow Risk

There is a low wind blow risk across much of the woodland (wind throw hazard class assessed at 11). As detailed in section 1, there are several tower spans where the proposed OC opens a green edge to the prevailing wind necessitating additional felling out-with the OC to reach a stable edge.

In areas where the trees are smaller due to age or exposure then the wind blow risk is reduced along with the requirement for additional felling to wind firm boundaries.

4.0 Woodland Management Impact

The line route will create additional challenges for the future management of the forest as it dissects existing management units and introduces an electrical hazard. The constraint associated with the electrical hazard will be reduced by regular maintenance of the Operational Corridor which will avoid the incidences of “Red Zone” trees (reference FISA 804 “Electricity at Work: Forestry”). As part of construction works, dedicated crossing points will be discussed once the overhead line has been constructed, thus ensuring safe future working within the woodland.

The total loss of Native Broadleaved woodland resulting from the proposed alignment is 1.89 hectares.

5.0 Mitigation Opportunities

The chosen alignment has gone a long way to mitigating impact on this forest. The significant reduction in the operational corridor within the AWI and broadleaved areas will reduce the impact on the nationally important native woodland within this area. The native upland birch and oak woodland is likely to regenerate into the OC in vicinity of the tower 5 post construction and present an opportunity to replace some of the woodland loss from tower/line construction.

a. Restructuring

Clear felling and restocking of Auchterawe Farm is ongoing and will continue to be undertaken by the landowner in the future, regardless of development felling, as detailed in the LMP. It is recognised that the proposed route will result in areas being brought into felling, that would otherwise have been managed as LISS. The felling of the Operational Corridor for the development, will create a new green edge, allowing the landowner to carry out future clear fell more safely in proximity to the new power line.

b. Restocking

Restocking will be carried out by the landowner in all areas out-with the Operational Corridor with suitable species to continue the commercial viability of the forest. It is anticipated that native broadleaved regeneration is likely to occur within the Operational Corridor at tower 5 due to the presence of mature birch and oak woodlands. Any opportunity to restock within the Operational Corridor will be discussed with FLS following felling to link in with adjacent planned felling coupes where appropriate.

Refer to appendix 3 for plan showing on site restocking.

6.0 Nett Effect/Summary

Tower Span	Operational Requirements
1-5	Gross area of Operational Corridor felling approved via the Section 37 and undertaken by SSEN - <ul style="list-style-type: none"> • Native woodland – fell to windfirm edge.1.25ha • Commercial woodland – 7.34ha
5-7	Gross area of Operational Corridor felling approved via the Section 37 and undertaken by SSEN - <ul style="list-style-type: none"> • Commercial woodland – 3.92 ha
7-11	Gross area of Operational Corridor felling approved via the Section 37 and undertaken by SSEN - <ul style="list-style-type: none"> • Native woodland – fell to windfirm edge.0.64ha • Commercial woodland – 6.57ha
11-14	Gross area of Operational Corridor felling approved via the Section 37 and undertaken by SSEN - <ul style="list-style-type: none"> • Commercial woodland – 7.14ha
Felling for new access tracks	Commercial woodland – 2.07ha
Additional area of recommended felling outside OC for wind throw or forest design purposes (Landowner to fell under forest plan revision or felling licence)	Clear fell to windfirm edge – SS/SP – 14.64ha
Compensatory Planting Options	
Potential onsite replacement planting/ regeneration within OC	1.01 ha
Nett effect (Loss of Woodland)	25.85 ha
Operational Works	
	Total Area (ha)
Clear fell harvesting	28.93
Felling out with OC	14.64
TOTAL	43.57

7.0 Compensatory Planting

The total amount of net felling requiring compensation under the Control of Woodland Removal Policy is 25.85 hectares.

In order to provide a greater balance limiting long term impacts on forestry interests it is proposed that the majority of this woodland loss is compensated via offsite compensatory planting. It is proposed that full details of the areas subject to this offsite compensatory planting is notified to Scottish Forestry prior to energising the Overhead Line.

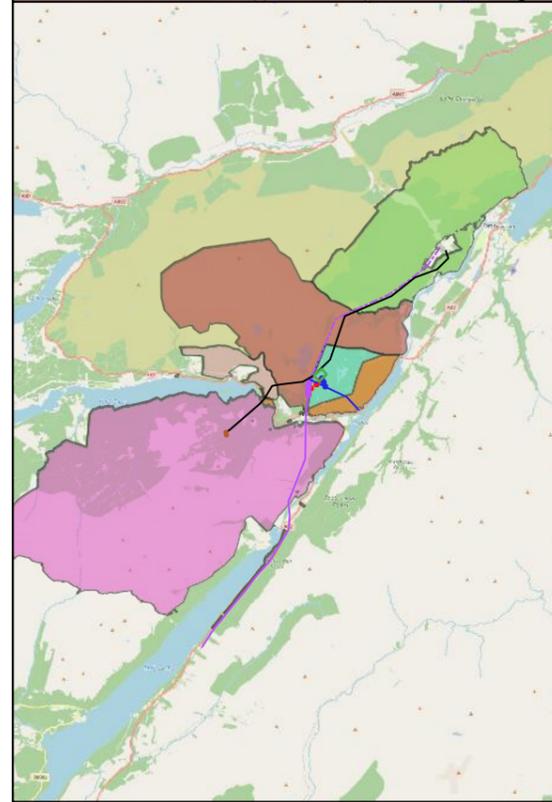
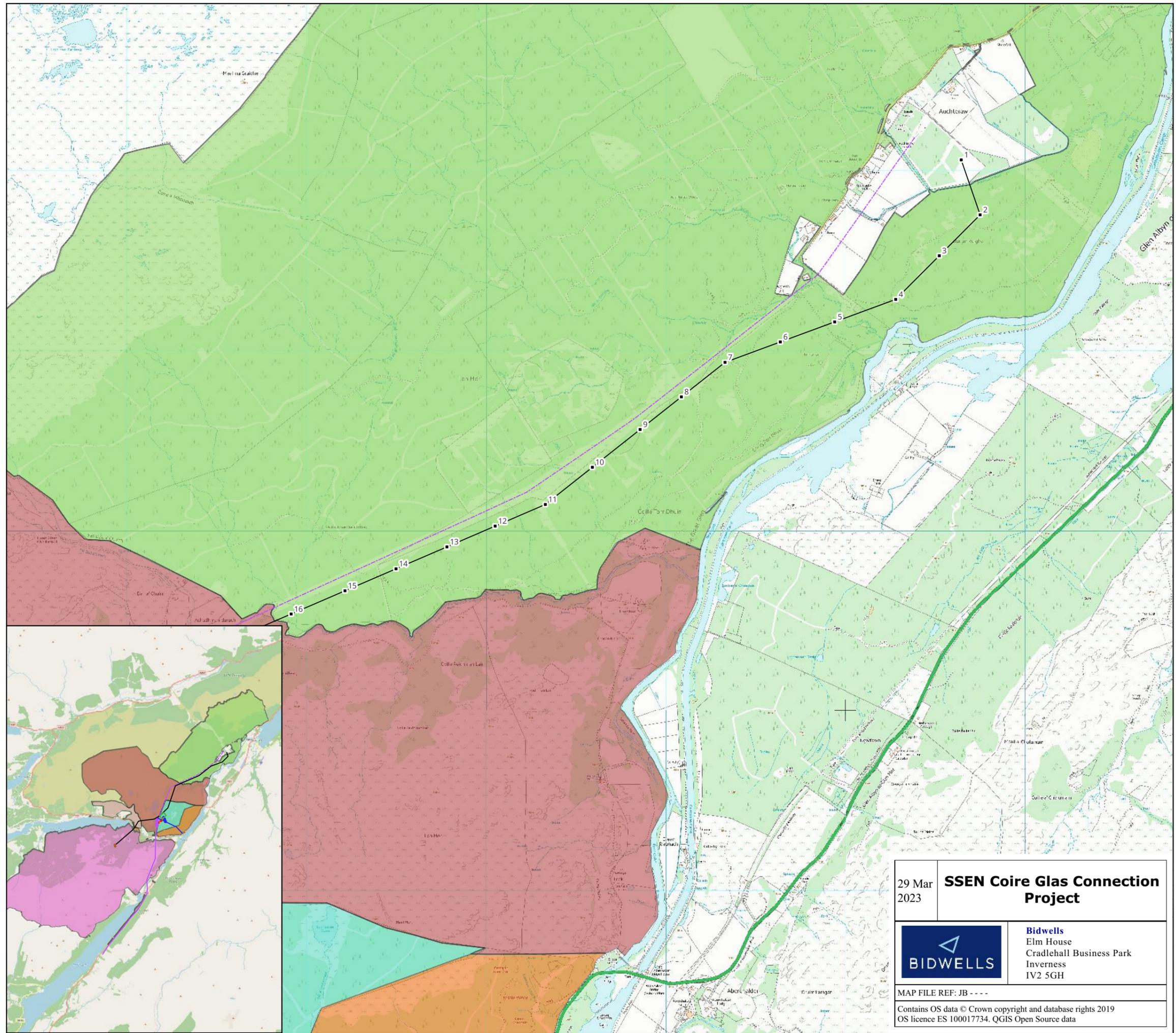
APPENDIX 1

LOCATION PLAN

Appendix V4 14.1
App 1 Woodland Location Plan

Legend

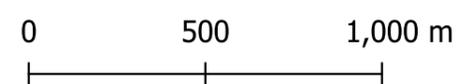
- Proposed_Steel_Lattice_Tower
- Proposed OHL Alignment (Steel Lattice Towers)
- Existing 132 kV Invergarry Tee OHL (Steel Lattice Towers)
 - New Permanent Trident Steel Pole Location
 - to be retained
 - to be Diverted
 - to be dismantled
- Existing 132 kV Fort Augustus to Fort William OHL (Steel Lattice Towers)
 - temporary Trident wood pole locations
 - temporary OHL diversion
 - New permanent Steel Lattice Tower Locations
 - To Be Retained
 - To be diverted into the proposed Loch Lundie Substation
 - to be dismantled
- Proposed Loch Lundie Substation Platform
- Proposed Coire Glas Switching Station Platform
- FLS
 - AUCHTERAWE FARM
 - GLENGARRY II
 - GLENGARY DEER FOREST
 - DRYNACHAN
 - Aberchalder Estate
 - Kilfinnan and Munerigie



TRANSMISSION



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	Bidwells Elm House Cradlehall Business Park Inverness IV2 5GH
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APPENDIX 2

PLAN SHOWING OPERATIONAL CORRIDOR AND FELLING

Appendix V4 14.1
 FLS Auchterawe Woodland
 App 2 OC Felling Requirements
 Towers 1-5

Legend

FLS Auchterawe Operational Requirements Towers 1-5

- OC Felling 8.59ha
- Felling out with OC 6.23ha
- Proposed Steel Lattice Tower
- Proposed OHL Alignment (Steel Lattice Towers)
- New Track
- New Track Temporary
- Existing Track No Upgrades
- Existing Track To Be Upgraded

50m OC

90m OC

Ancient Woodland Inventory

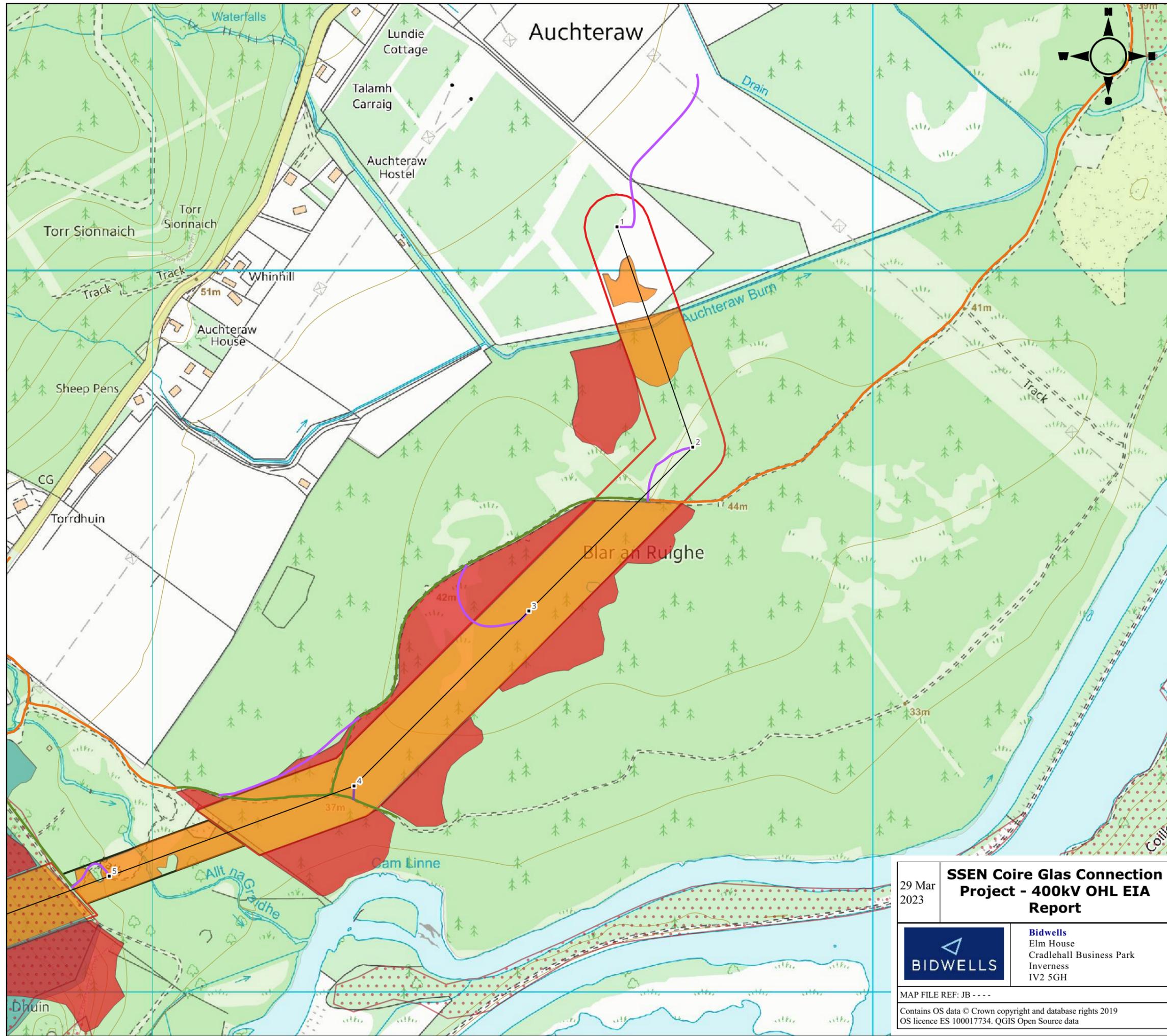
- 1a
- 2a
- 2b
- 3

Native Woodland Survey Scotland

PAWS

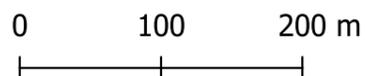
FLS Boundary

AUCHTERAWE FARM



TRANSMISSION

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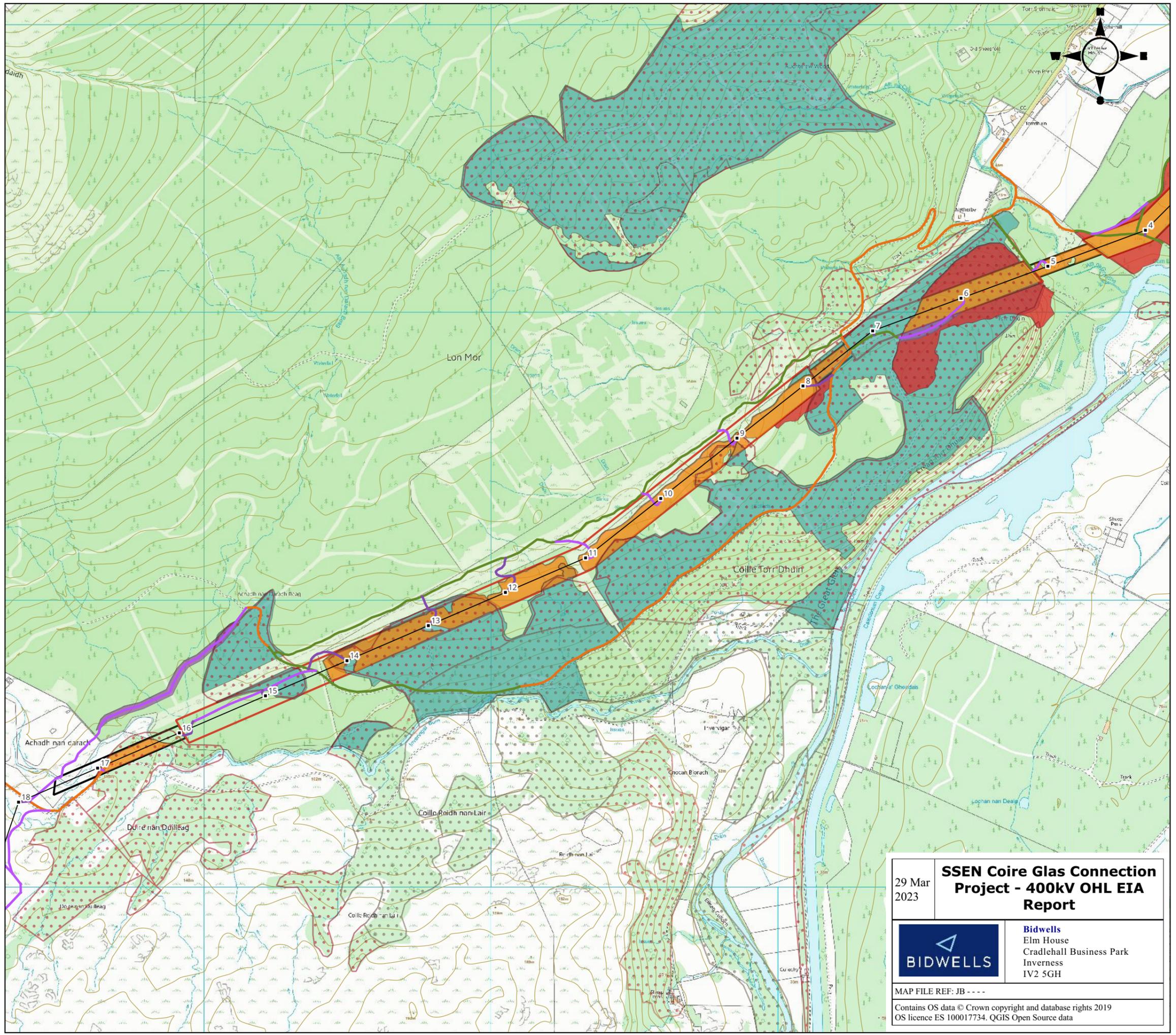
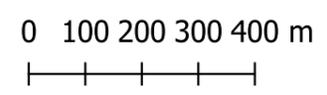
Appendix V4 14.1
 FLS Auchterawe Woodlands
 App 2 OC Felling Requirements
 Towers 5-16

Legend

- FLS Auchterawe Farm Felling Requirements Towers 5-16
- OC Felling 18.27ha
 - Felling out with OC 8.41ha
 - New Track Felling 2.07ha
 - Proposed Steel Lattice Tower
 - Proposed OHL Alignment (Steel Lattice Towers)
 - New Track
 - New Track Temporary
 - Existing Track No Upgrades
 - Existing Track To Be Upgraded
 - 50m OC
 - 90m OC
- Ancient Woodland Inventory
- 1a
 - 2a
 - 2b
 - 3
- National Woodland Survey Scotland
- PAWS
- FLS Boundary
- AUCHTERAWE FARM



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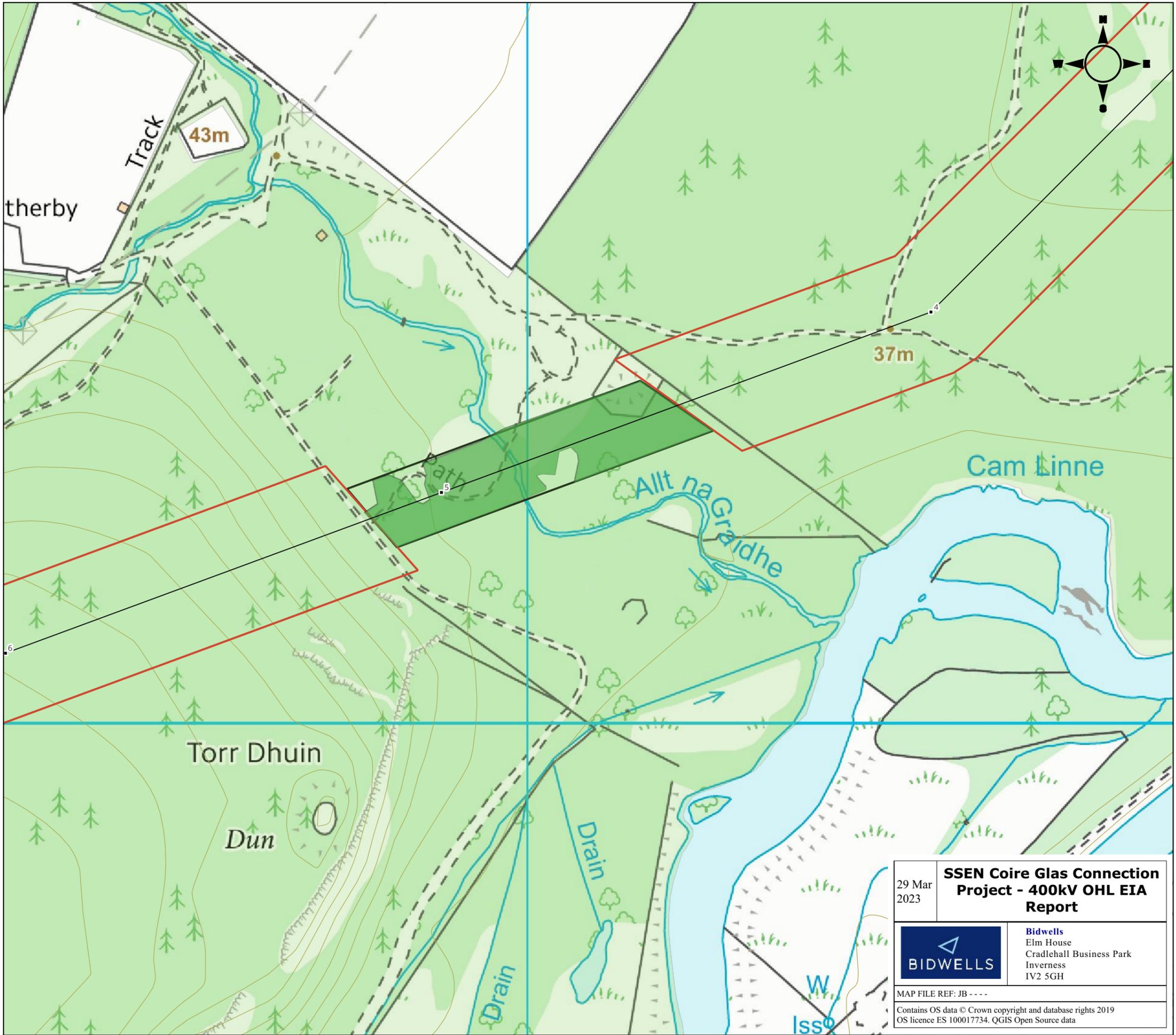
APPENDIX 3

PLAN SHOWING RESTOCKING

Appendix V4 14.1
 FLS Auchterawe Farm Woodland
 App 3 Restocking Plan

Legend

- FLS Auchterawe Farm Restocking Tower 5
- Natural Regeneration
- Proposed Steel Lattice Tower Locations
- Proposed OHL Alignment (Steel Lattice Towers)
- 90m OC
- 50m OC
- FLS Boundary
- AUCHTERAWE FARM



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