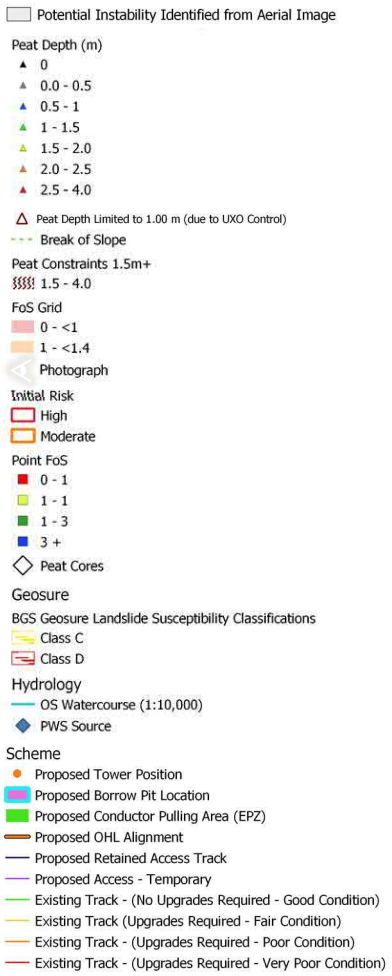
Annex B. DETAILED ASSESSMENT DATASHEET DESCRIPTIONS

Legend for Detailed Assessment Datasheets



PSA Area A: Initial Likelihood - Likely; Consequence – Extremely High; Risk - Moderate
Revised Likelihood - Unlikely; Consequence - Extremely High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 5 is proposed within a cell with a FoS value of between 1.0-1.4 in PSA Area A and considered of 'Moderate' risk. The existing forestry track (planned for upgrade – Fair condition) runs across the PSA Area A from south to north. A small section of forestry track (Very Poor condition), which will require full new stone road construction, is also noted at the north-eastern extent of PSA Area A.

Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments (including further peat depths using methodology agreed with UXO Engineer) should be undertaken pre-construction to identify local characteristics. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement). Should breaks of slope be apparent pre-construction in this locality, monitoring will be undertaken, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

Should peatslide occur; approximated width 100 m, length 50 m, at an average depth of 0.50 m; volume of peat 2,500 m^3; Receptors – local hillside, existing overhead line and existing forestry track.

Photograph A1: Looking north-east towards PSA Area A, within the existing overhead line corridor, from NGR 219812, 691539 at approximately 146 m AOD

Photograph A2: Looking east from PSA Area A, within the existing overhead line corridor, from NGR 220813, 692033 at approximately 314 m AOD

Revised Risk

Although areas classified as GeoSure Class C are identified within this area, it has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from the existing forestry track construction.

The further data collated shall inform detailed design and aim to avoid construction at locations where deeper peat and steeper slopes are coincident in this locality. Further site data and design updates shall determine the requirement for slope monitoring and/or the application of slope support and protection systems.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation note above, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the deeper peat deposits combined with steep gradient on the eastern slopes of Creachan Mor. Given the existing overhead line (within 100 m) crossing the entire area, the consequence value is 'Extremely High'. Aerial imagery shows this area as commercial forestry with areas of mire and a network of surface water channels draining these peaty podzols, extensive tree windfall was noted on the edge of the forestry at the north-eastern extent of PSA Area A . No aerial evidence of instability, nor was any noted during the visit. PSA Area A images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified the south and eastern parts of this area as Class C where 'slope instability problems may be present or anticipated'.

Peat depths over 0.50 m were recorded in this area, ranging up to 0.80 m, with mean depth of 0.36 m. Four peat probe depths were limited to 1.00 m depth due to the Moderate UXO Risk, i.e. not recording full depth. No peat cores were taken in this area due to the Moderate UXO Risk.

Slope angles are typically around 20° in this area, exceeding 35° at the edge of planted forestry.

The FoS values for peat probes ranged from 1.13 to 18.70, with the cell where Tower 5 is proposed having an Initial Moderate Risk and a FoS value of 1.31, based on an indicative 0.99 m peat depth and a mean slope of 22°. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 1.17. For information, if applying the lowest hand shear vane outcome; 15 kN/m^2 (at 0.30 m depth, rather than depth to base of peat) from the cores across the Site, this cell FoS value would be revised to 4.39.

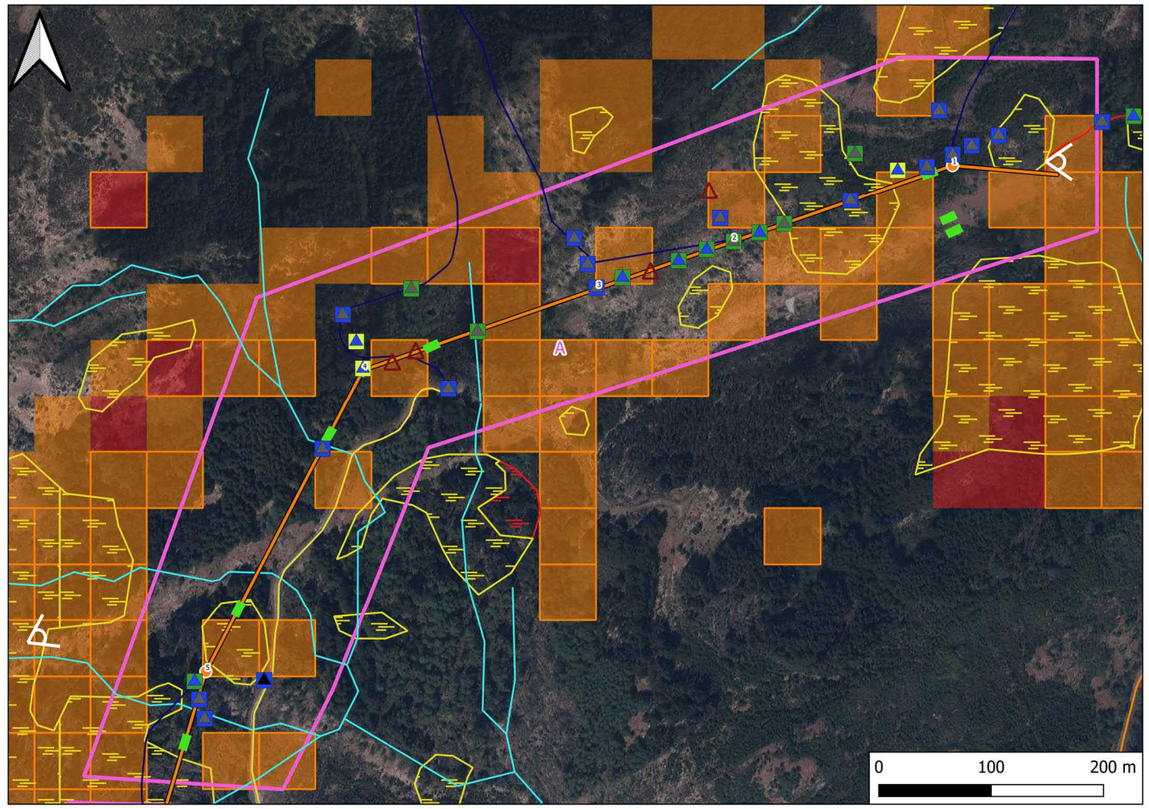


Image A1: Aerial Image of PSA Area A

PSA Area B: Initial Likelihood - Likely; Consequence – High; Risk - Moderate
Revised Likelihood - Unlikely; Consequence – High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 6 is proposed within a cell with a FoS value of between 1.0-1.4 in PSA Area B and considered of 'Moderate' risk. The existing forestry track (planned for upgrade – Fair condition) runs across the PSA Area B from south to north.

Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments (including further peat depths using methodology agreed with UXO Engineer) should be undertaken pre-construction to identify local characteristics. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement). Should breaks of slope be apparent pre-construction in this locality, monitoring will be undertaken, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

Should peatslide occur; approximated width 100 m, length 100 m, at an average depth of 0.50 m; volume of peat 5,000 m^3; Receptors – local hillside, Knap Burn, Allt Conbhach and existing forestry track.

Photograph B1: Looking west towards PSA Area B, from the existing forestry track, from NGR 219919, 690716 at approximately 196 m AOD

Photograph B2: Looking west towards PSA Area B, from the existing forestry track, from NGR 220110, 691032 at approximately 170 m AOD

Revised Risk

Although this general area is identified by GeoSure as Class C, it has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from the existing forestry track construction.

The further data collated shall inform detailed design and aim to avoid construction at locations where deeper peat and steeper slopes are coincident in the local area. Further site data and design updates shall determine the requirement for slope monitoring and/or the application of slope support and protection systems.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation note above, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the deeper peat deposits combined with steep gradients at the eastern slopes of Cruach a' Chaise. Given the existing forestry track (within 100 m) crossing the entire area, the consequence value is 'High'. Aerial imagery shows this area as forestry with areas of mire with a network of surface water channels draining these peaty podzols and extensive tree windfall is noted on the edge of the forestry at the northern extent of PSA Area B. No aerial evidence of instability, nor was any noted during the visit. PSA Area B images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified the majority of this area as Class C where 'slope instability problems may be present or anticipated'.

Peat depths over 0.50 m were recorded in this area, ranging up to 0.85 m, with mean depth of 0.24 m. Four peat depths were limited to 1.00 m depth due to the Moderate UXO Risk, i.e. not recording full depth. No peat cores were taken in this area due to the Moderate UXO Risk. The indicative peat depth is based on two peat depths within the grid, which were beyond 1.00 m (limited record due to Moderate UXO Risk).

Slope angles are typically around 20° in this area, exceeding 35° at the edge of planted forestry.

The FoS values for peat probes ranged from 0.80 to 19.60, with the cell where Tower 6 is proposed having an Initial Moderate Risk cell location and a FoS value of 1.36, based on an indicative 0.99 m peat depth and a mean slope of 21°. Based on the soils mapping, slope angles and peat depths in the vicinity it is deemed that 0.99 m is a conservative depth. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 1.21 m. For information, if applying the lowest hand shear vane outcome; 15 kN/m^2 (at 0.30 m depth, rather than depth to base of peat) from the cores across the Site, this cell FoS value would be revised to 4.55.

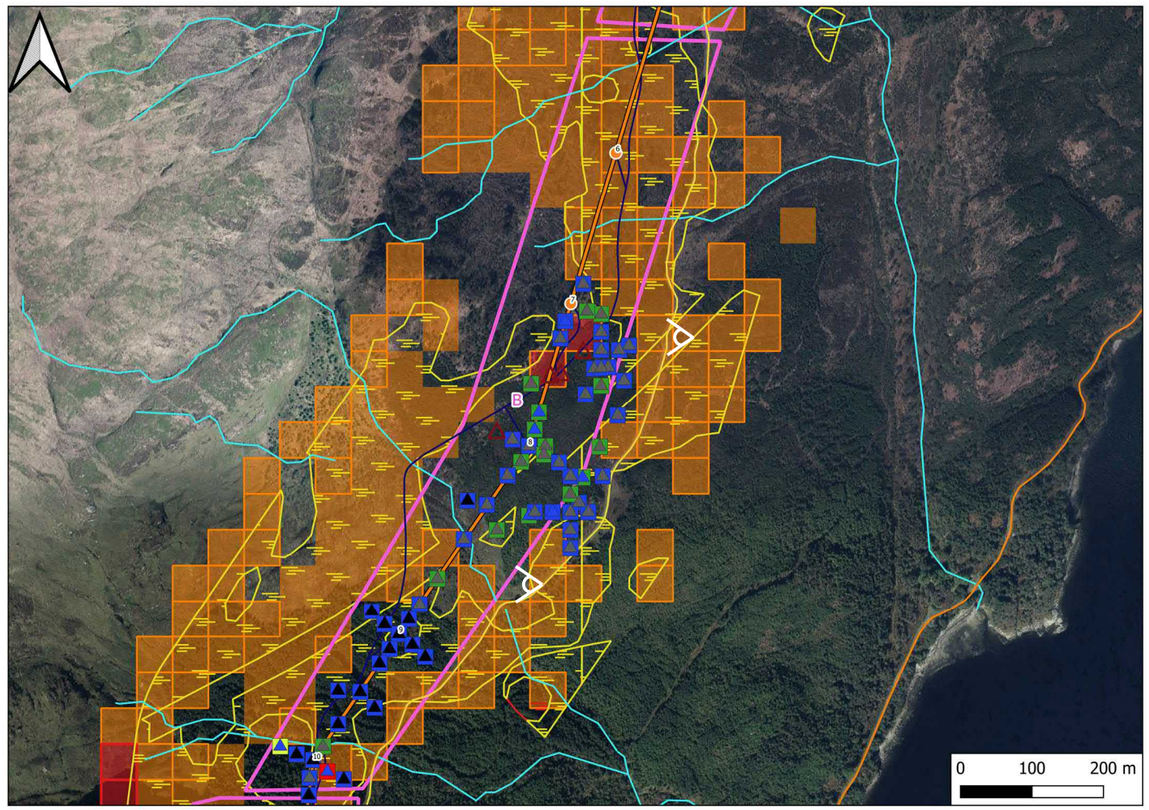


Image B1: Aerial Image of PSA Area B

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TRANSMISSION

PSA Area C:

Initial Likelihood - Probable; Consequence – High; Risk - Moderate
Revised Likelihood - Unlikely; Consequence – High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. No towers are planned within cells of 'Moderate' nor 'High' risk. Tower 12 is proposed 20 m south-west and downslope of a cell with a FoS value of between 1.0-1.4 in PSA Area C and considered of 'Moderate' risk. The existing forestry track (planned for upgrade – Fair and Poor condition) runs downslope of PSA Area C.

Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments (including further peat depths using methodology agreed with UXO Engineer) should be undertaken pre-construction to identify local characteristics. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. Should breaks of slope be apparent pre-construction in this locality, monitoring will be undertaken, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

Should peatslide occur; approximated width 100 m, length 100 m, at an average depth of 0.50 m; volume of peat 5,000 m^3; Receptors – local hillside, Whitebay Burn and existing forestry track.

Photograph C1: Looking east from PSA Area C, on the eastern slopes of Am Binnein, from NGR 219678, 690394 at approximately 197 m AOD

Revised Risk

Although this general area is identified by GeoSure as Class C and D, it has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from the existing forestry track construction.

The further data collated shall inform detailed design and aim to avoid construction at locations where deeper peat and steeper slopes are coincident in the local area. Further site data and design updates shall determine the requirement for slope monitoring and/or the application of slope support and protection systems.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation note above, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the deeper peat deposits combined with steep gradient on the eastern and southern slopes of Am Binnein. Given the existing forestry track (within 100 m) crossing the entire area, the consequence value is 'High'. Aerial imagery shows this area as forestry with areas of mire, with a network of surface water channels draining these peaty podzols and gleys. No aerial evidence of instability, nor was any noted during the visit. PSA Area C images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified the majority of this area as Class C where 'slope instability problems may be present or anticipated', with small areas to the north-west as Class D where 'slope instability problems are probably present or have occurred in the past'.

A number of peat depths over 0.50 m were recorded in this area, ranging up to 0.60 m, with mean depth of 0.17 m. One peat depth was beyond 1.00 m depth, it was not possible to probe to full depth due to the Moderate UXO Risk. No peat cores were taken in this area due to the Moderate UXO Risk.

Slope angles are typically around 25º in this area, exceeding 30º at the upper slopes of Am Binnein.

The FoS values for peat probes ranged from 1.15 to 89.43, with an Initial Moderate Risk cell location 20 m north-east of Tower 12 having a FoS value of 1.18, based on an indicative 0.99 m peat depth and a mean slope of 26º. Based on the soils mapping, slope angles and peat depths in the vicinity it is deemed that 0.99 m is a conservative depth. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 1.05. For information, if applying the lowest hand shear vane outcome; 15 kN/m^2 (at 0.30 m depth, rather than depth to base of peat) from the cores across the Site, this cell FoS value would be revised to 3.94.

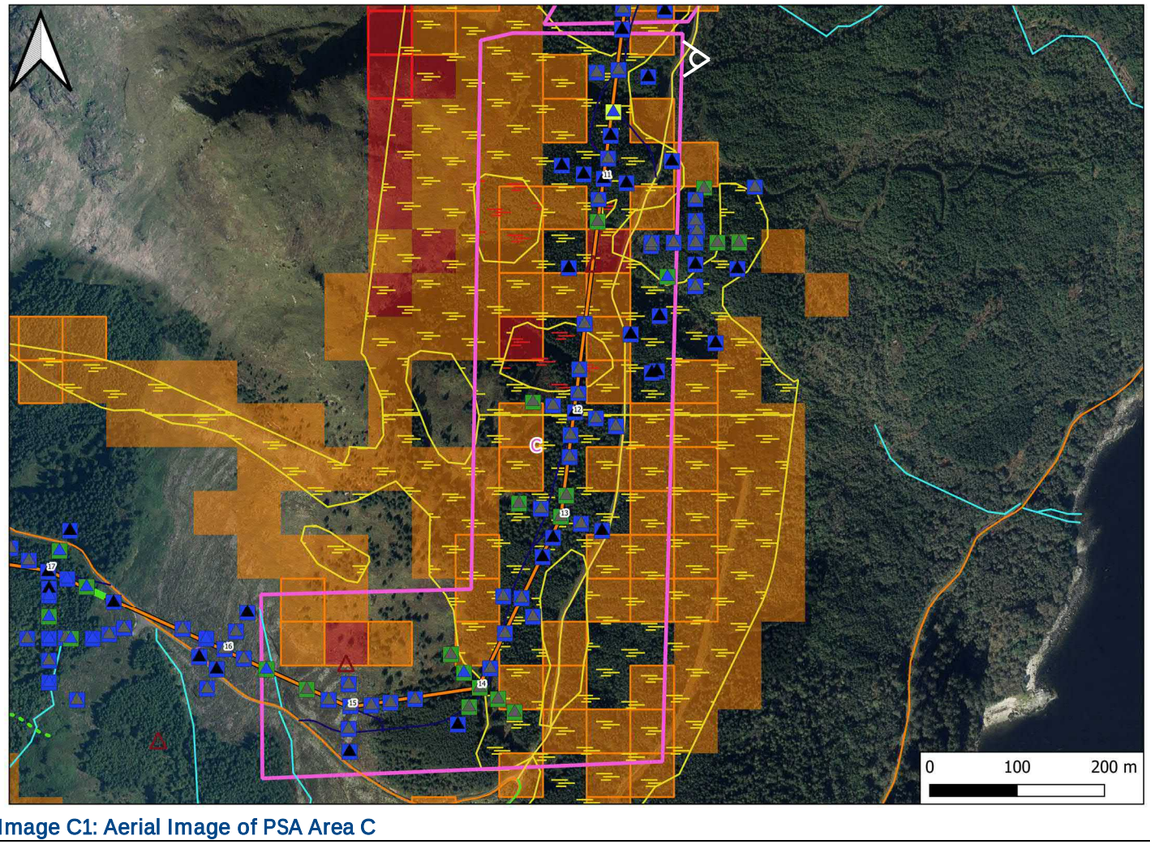


Image C1: Aerial Image of PSA Area C

PSA Area D: Initial Likelihood - Probable; Consequence – Extremely High; Risk - High
Revised Likelihood - Unlikely; Consequence – High; Risk - Low

Good Practice and Design

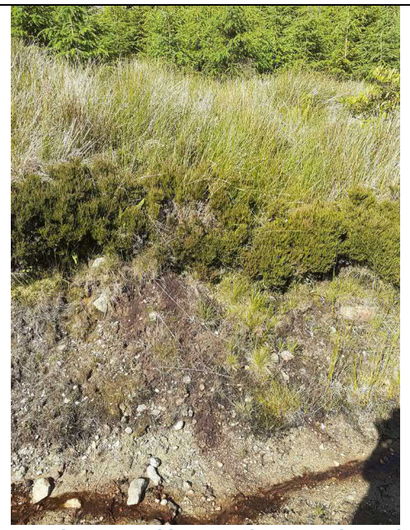
Section 1.8 details standard good practice measures. No towers are planned within cells of 'Moderate' nor 'High' risk. Tower 19 is proposed 20 m south-east and downslope of a cell with a FoS value of between 1.0-1.4 in PSA Area D and considered of 'Moderate' risk. The existing forestry track (planned for upgrade –Poor condition) runs downslope of PSA Area C at the southern extent.

Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments (including further peat depths using methodology agreed with UXO Engineer) should be undertaken pre-construction to identify local characteristics. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. Monitoring will be undertaken of slopes close to break of slope, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

Should peatslide occur; approximated width 100 m, length 100 m, at an average depth of 0.50 m; volume of peat 5,000 m^3; Receptors – local hillside, unnamed local watercourses, existing overhead line and existing forestry track.



Photograph D1: Looking north approximately 200 m east of PSA Area D, on the southern slopes of Am Binnein, from NGR 219098, 689750 at approximately 257 m AOD

Revised Risk

Although the majority of this area is identified by GeoSure as Class C, it has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from the existing overhead line and forestry track construction.

The further data collated shall inform detailed design and aim to avoid construction at locations where deeper peat and steeper slopes are coincident in the local area. Further site data and design updates shall determine the requirement for slope monitoring and/or the application of slope support and protection systems.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation note above, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the deeper peat deposits combined with steep gradients at the southern slopes of Am Binnein. Given the existing overhead line (within 100 m) crossing the entire area, the consequence value is 'Extremely High'. Aerial imagery shows this area as forestry with areas of mire, with a network of surface water channels draining these brown earths and non-calcareous gleys. No aerial evidence of instability, nor was any noted during the visit. PSA Area D images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified the central part of this area as Class C where 'slope instability problems may be present or anticipated'.

Two peat depths over 0.50 m were recorded in this area, ranging up to 0.80 m, with mean depth of 0.19 m. No peat cores were taken in this area due to the Moderate UXO Risk.

Slope angles are typically around 20° in this area, exceeding 40° at the upper slopes of Am Binnein.

The FoS values for peat probes ranged from 1.38 to 31.36, with an Initial Moderate Risk cell location 20 m north-west of Tower 19 having a FoS value of 0.96, based on an indicative 0.99 m peat depth and a mean slope of 36°. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 0.86. For information, if applying the lowest hand shear vane outcome; 15 kN/m^2 (at 0.30 m depth, rather than depth to base of peat) from the cores across the Site, this cell FoS value would be revised to 3.24.

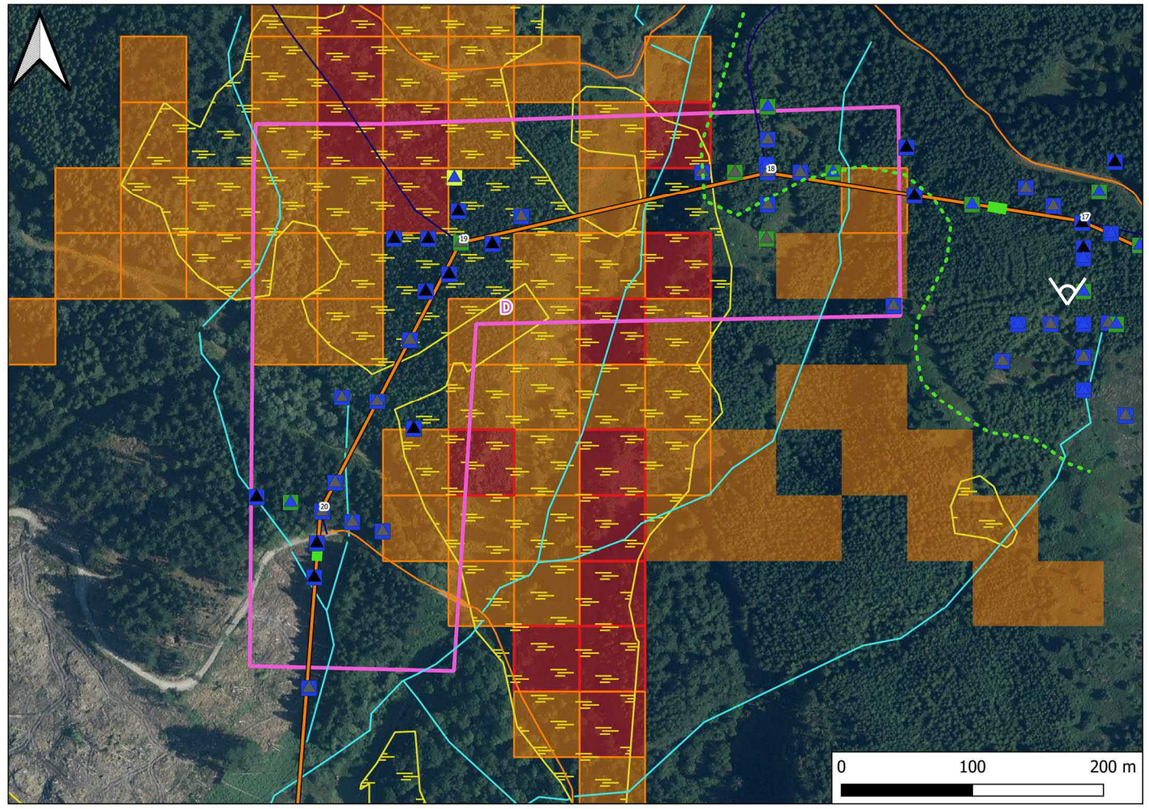


Image D1: Aerial Image of PSA Area D

PSA Area E: Initial Likelihood - Likely; Consequence – Extremely High; Risk - Moderate
Revised Likelihood - Unlikely; Consequence – Extremely High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. No towers are planned within cells of 'Moderate' nor 'High' risk. Tower 28 is located 25 m east and in the same topographic level of a cell with a FoS value of less than 1.0, considered of 'Moderate' risk.

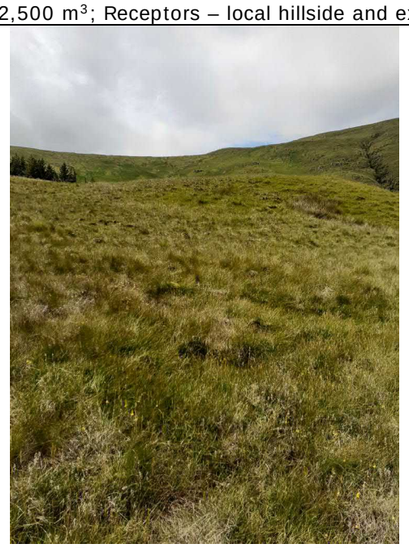
Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

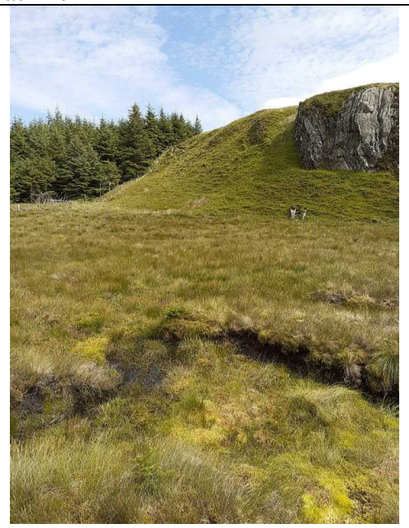
Additional peat stability assessments and supplementary peat depth surveys closer to existing overhead line will aid detailed design. Micrositing Towers 28 and 29 in order to avoid construction close to breaks of slope will reduce the risk of any instability. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. If micrositing is not possible, consideration should be given to the application of debris nets, catch fences, catch ditches and/or deflection systems to protect sensitive receptors and reduce adverse consequences. Such installations should be subject to routine inspection and maintenance.

This area should be recorded in the Geotechnical Risk Register.

Should peatslide occur; approximated width 50 m, length 100 m, at an average depth of 2.50 m; volume of peat 12,500 m^3; Receptors – local hillside and existing overhead line.



Photograph E1: Looking north from PSA Area E, on the lower slopes of Cnap Reamhar, from NGR 217300, 687676 at approximately 323 m AOD



Photograph E2: Looking south from PSA Area E, of a gully forming on the lower slopes of Cnap Reamhar, from NGR 217300, 687676 at approximately 323 m AOD

Also see Photograph 3.2 in Site Reconnaissance Section and Photograph D1 (Annex D).

Revised Risk

Although GeoSure Class C is noted at the western extent of PSA Area E, it has highly modified, well-drained and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from existing overhead line downslope.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the deep peat deposits combined with moderate gradient at the slopes of Cnap Reamhar. Given the existing overhead line (within 100 m) and peat over 1.50 m, the consequence values are 'Extremely High' and 'Moderate', respectively. Aerial imagery shows this area as a combination of mire and conifer plantation, with a network of surface water channels draining these local slopes. No aerial evidence of instability, nor was any noted during the visit. PSA Area E images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified the south-west of this area as Class C where 'slope instability problems may be present or anticipated'.

Peat depths ranged up to 4.00 m, with mean depth of 0.94 m. Eroded peat banks were also apparent, as shown on Photograph E2. Slope angles are typically steep (around 20°), exceeding 40° downslope of Tower 28.

Peat core location C01 was taken at a slope angle of 4° at a peat depth of 1.85 m. The core sample recorded Von Post humification class H6 - Moderately Highly Decomposed. This data suggests that amorphous catotelmic peat is found at depths of 1.85 m locally. The hand shear vane's lowest recorded value at a depth of 0.30 m was 19 kN/m^2.

The FoS values for peat probes ranged from 0.36 to 12.97, with the highest concern Initial Risk cell location having a FoS value of 0.69, based on a 3.75 m peat depth and a mean slope of 10° – Tower 28 is located 25 m east of this cell, (within a cell with a FoS value of 0.69). If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 0.62. For information, if applying the lowest hand shear vane outcome from C01; 19 kN/m^2 (at 0.30 m depth, rather than depth to base of peat), this cell FoS value would be revised to 2.94.

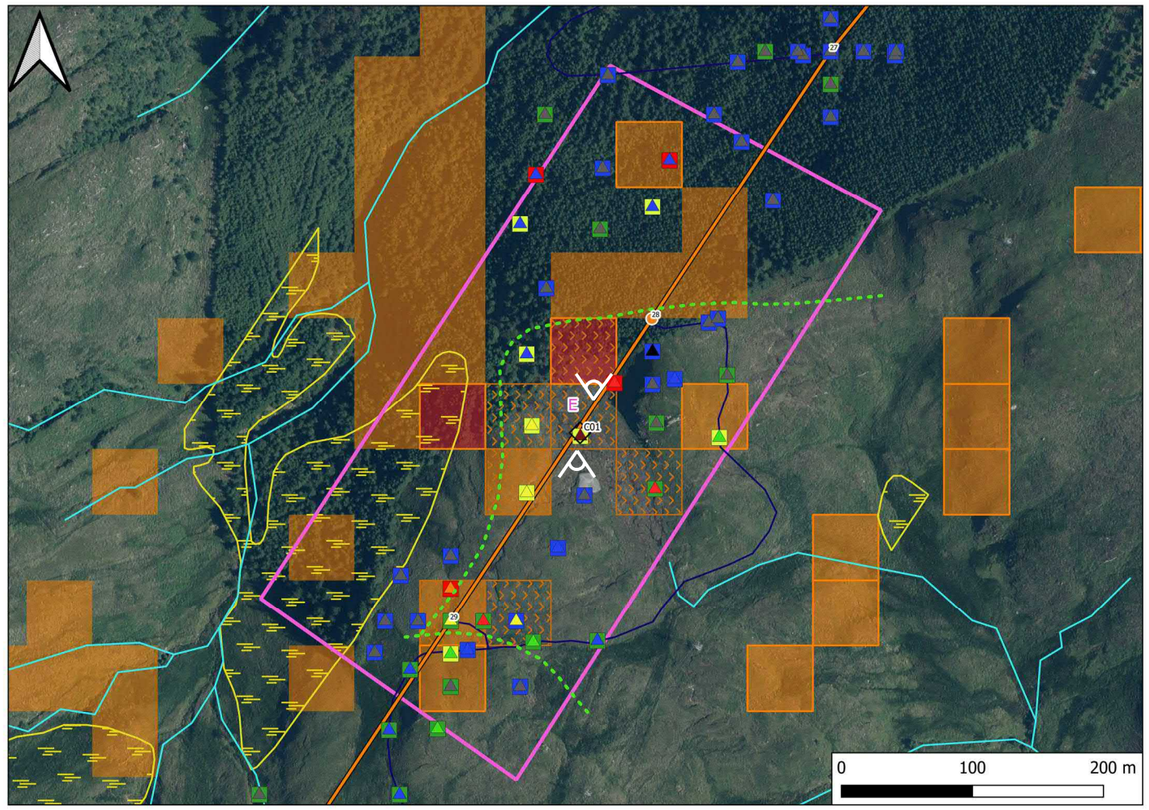


Image E1: Aerial Image of PSA Area E

PSA Area F:

Initial Likelihood – Probable; Consequence – Extremely High; Risk - High

Revised Likelihood - Unlikely; Consequence – Extremely High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 35 is located 50 m west and downslope of a cell with a FoS value of less than 1.0, considered of 'High' risk. No towers are planned within cells of 'Moderate' nor 'High' risk.

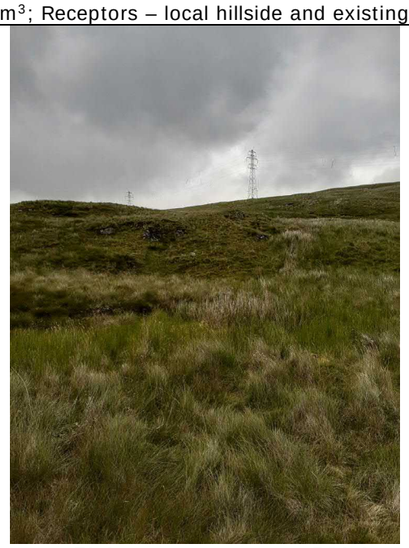
Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

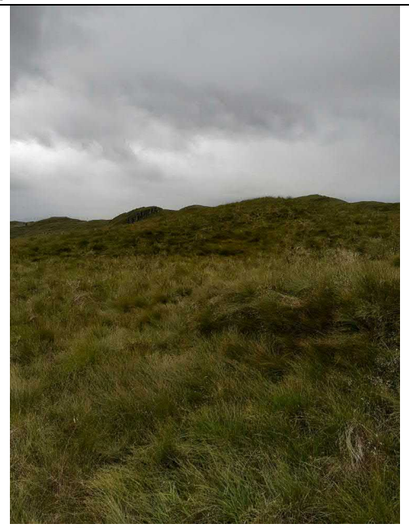
Additional peat stability assessments and supplementary peat depth surveys closer to existing overhead line will aid detailed design. Micrositing Tower 35 in order to avoid construction close to breaks of slope will reduce the risk of any instability. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. If micrositing is not possible, consideration should be given to the application of debris nets, catch fences, catch ditches and/or deflection systems to protect sensitive receptors and reduce adverse consequences. Such installations should be subject to routine inspection and maintenance.

This area should be recorded in the Geotechnical Risk Register.

Should peatslide occur; approximated width 50 m, length 50 m, at an average depth of 1.50 m; volume of peat 3,750 m^3; Receptors – local hillside and existing overhead line.



Photograph F1: Looking north from PSA Area F, on the Stronchullin Hill, towards the existing overhead line, from NGR 216361, 686437 at approximately 404 m AOD



Photograph F2: Looking south from PSA Area F, on the Stronchullin Hill, towards the existing overhead line, from NGR 216361, 686437 at approximately 404 m AOD

Also see Photograph 3.3 (Site Reconnaissance) and Photograph D2 (Annex D).

Revised Risk

Although the northern extent of the area is identified by GeoSure as Class C, it has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from existing overhead line.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation (including micrositing), peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the deep peat deposits combined with moderate gradient slopes at the lower slopes of Stronchullin Hill. Given the existing OHL (within 100 m) and peat over 1.50 m, the consequence values are 'Extremely High' and 'Moderate', respectively. Aerial imagery shows this area as mire, with a network of surface water channels draining these degraded peaty gleys slopes. No aerial evidence of instability, nor was any noted during the visit. PSA Area F images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified the northern extent of this area as Class C where 'slope instability problems may be present or anticipated'.

A number of peat depths of over 0.50 m were recorded in this area, ranging up to 2.50 m, with mean depth of 0.84 m. Slope angles are typically around 10º in this area, exceeding 15º upslope.

Peat core location C02 was taken at a slope angle of 8º at a peat depth of 1.51 m. The core sample recorded Von Post humification class H5; Moderately Decomposed. The hand shear vane's lowest recorded value at a depth of 0.30 m was 25 kN/m^2.

The FoS values for peat probes ranged from 0.90 to 11.09, with the highest concern Initial Risk cell location (C02 location) having a FoS value of 0.85, based on a 2.50 m peat depth and a mean slope of 13º – Tower 35 is located 50 m west of this cell boundary. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 0.76. For information, if applying the lowest hand shear vane outcome from C02; 25 kN/m^2 (at 0.30 m depth, rather than depth to base of peat), this cell FoS value would be revised to 4.76.

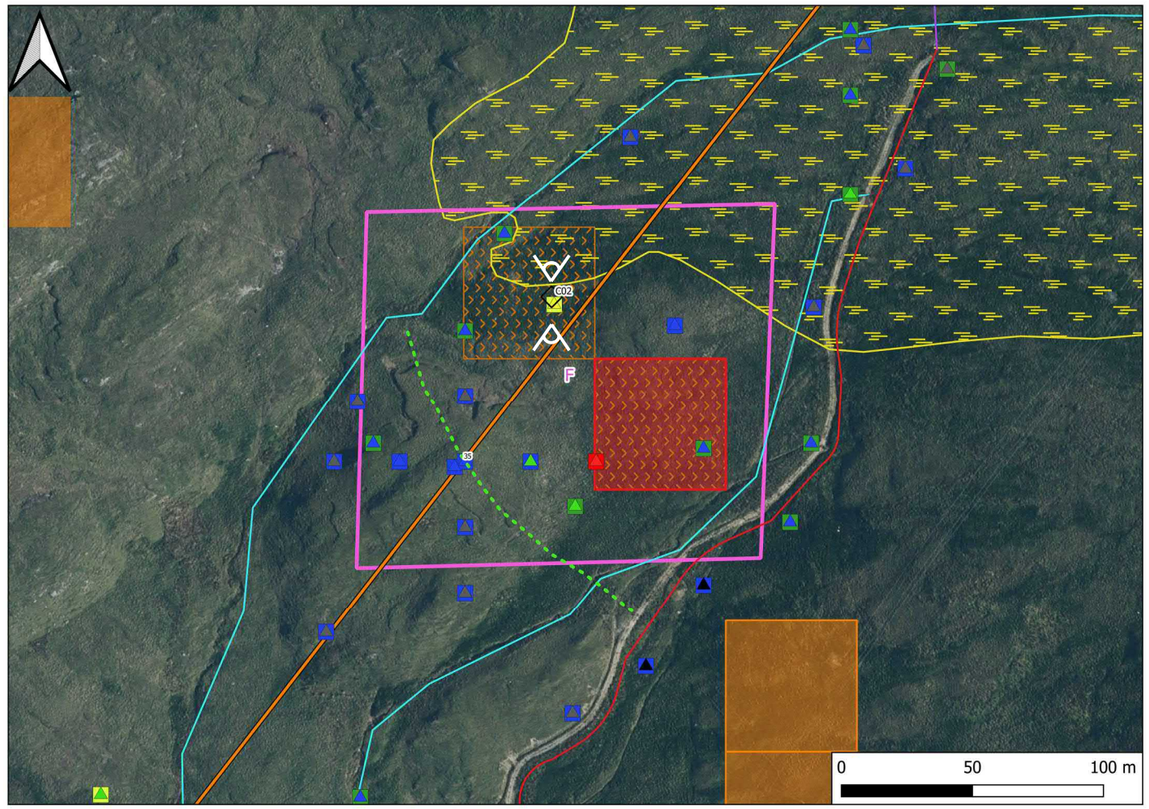


Image F1: Aerial Image of PSA Area F

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PSA Area G:

Initial Likelihood - Likely; Consequence – Extremely High; Risk - Moderate

Revised Likelihood - Unlikely; Consequence – Extremely High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 40 is located 50 m south-west and downslope of a cell with a FoS value between 1.0 and 1.4, considered of 'Moderate' risk. No towers are planned within cells of 'Moderate' nor 'High' risk.

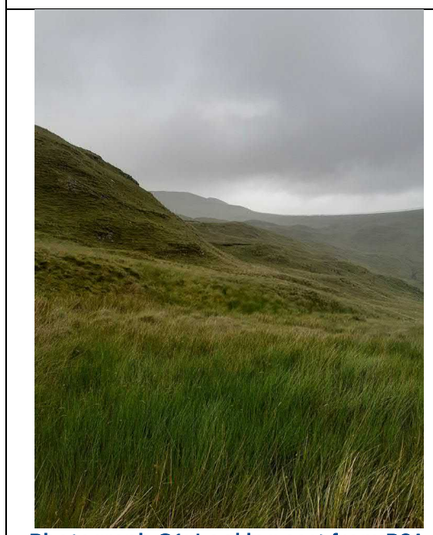
Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments should be undertaken pre-construction to identify local characteristics. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. Monitoring will be undertaken of slopes close to break of slope, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

This area should be recorded in the Geotechnical Risk Register.

Should peatslide occur; approximated width 50 m, length 50 m, at an average depth of 2.00 m; volume of peat 5,000 m^3; Receptors – local hillside and existing overhead line.



Photograph G1: Looking east from PSA Area G, on the southern slopes of Meall Dubh from NGR 215880, 685766 at approximately 390 m AOD

Photograph G2: Looking south from PSA Area G, on the southern slopes of Meall Dubh from NGR 215880, 685766 at approximately 390 m AOD

Also see Photographs D3 and D4 (Annex D).

Revised Risk

This area has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from existing OHL construction.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the deep peat deposits combined with moderate and steep gradients on the ridge of Meall Dubh. Given the existing OHL within 100 m and peat over 1.50 m, the consequence values are 'Extremely High' and 'Moderate', respectively. Aerial imagery shows this area as grassland with no evidence of instability, nor was any noted during the visit, with a network of surface water channels draining these grass-covered slopes. PSA Area G images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has not identified Class C nor Class D within PSA Area G.

Peat depths ranged up to 2.70 m, with mean depth of 0.69 m. Slope angles are typically around 10º in this area, exceeding 20º at the break of slope identified from the DTM data at the southern extent, which was also apparent on site.

Peat core locations C03 and C04 were taken at slope angles of 7º and 6º at peat depths of 1.35 m and 0.95 m. The core sample recorded Von Post humification class H3 - Very Slightly Decomposed and H5 – Moderately Decomposed. The hand shear vane's lowest recorded value at a depth of 0.30 m was 16 kN/m^2 and 26 kN/m^2, respectively.

The FoS values for peat probes ranged from 0.90 to 17.24, with the highest concern Initial Risk cell location (50 m north-east of Tower 40) having a FoS value of 1.00, based on a 2.70 m peat depth and a mean slope of 10º. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 0.90. For information, if applying the lowest hand shear vane outcome from C03; 16 kN/m^2 (at 0.30 m depth, rather than depth to base of peat), this cell FoS value would be revised to 3.59.

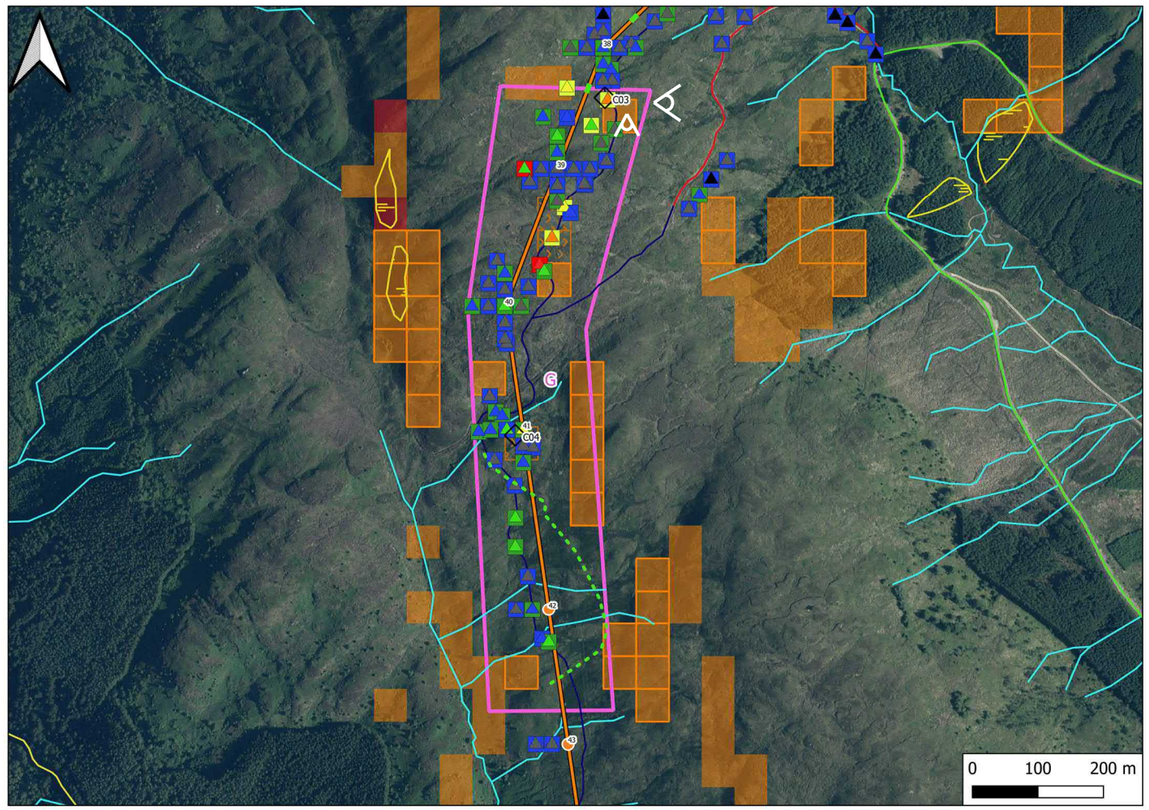


Image G1: Aerial Image of PSA Area G

PSA Area H: Initial Likelihood - Likely; Consequence – Extremely High; Risk - Moderate
Revised Likelihood - Unlikely; Consequence – Extremely High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 51 is located 5 m west and in the same topographic level of a cell with a FoS value between 1.0 and 1.4, considered of 'Moderate' risk. No towers are planned within cells of 'Moderate' nor 'High' risk.

Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments and supplementary peat depth surveys closer to existing overhead line will aid detailed design. Micrositing Tower 51 in order to avoid construction close to breaks of slope will reduce the risk of any instability. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. If micrositing is not possible, consideration should be given to the application of debris nets, catch fences, catch ditches and/or deflection systems to protect sensitive receptors and reduce adverse consequences. Such installations should be subject to routine inspection and maintenance.

This area should be recorded in the Geotechnical Risk Register.

Should peatslide occur; approximated width 50 m, length 50 m, at an average depth of 1.00 m; volume of peat 2,500 m^3; Receptor – local hillside, Puck's Glen and existing overhead line.

Photograph H1: Looking west from PSA Area H, within the existing overhead line corridor, from NGR 215874, 684685 at approximately 333 m AOD

Revised Risk

Only a small part of the area is identified by GeoSure as Class C, it has highly modified and variable peatland features with no evidence of peat instability from aerial photograph, including from existing overhead line. Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area was highlighted due to the deep peat deposits combined with moderate gradient slopes. Given the existing OHL (within 100 m) and peat over 1.50 m, the consequence values are 'Extremely High' and 'Moderate', respectively. Aerial imagery shows an area of exposed mineral soil to the south-east and no evidence of instability, nor was any noted during the visit, with a network of surface water channels draining these mire-covered slopes. PSA Area H images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified a small zone of this area as Class C where 'slope instability problems may be present or anticipated'.

Due to access issues, only a small number of peat depth records is present within this area, ranging up to 1.65 m, with mean depth of 0.76 m. Slope angles are typically around 12º in this area, exceeding 30º at the break of slope identified from the DTM data.

No peat cores were taken in this area due to access issues, with the nearest core C04 taken approximately 1.1 km north, at a location with a higher elevation (360 m AOD) but similar peat depths, considered reasonably representative. Peat core location C04 was taken at a slope angle of 9º at a peat depth of 0.95 m. The core sample recorded Von Post humification class H5; Moderately Decomposed. The hand shear vane's lowest recorded value at a depth of 0.30 m was 26 kN/m^2.

The FoS values for peat probes ranged from 2.85 to 16.67, with the highest concern Initial Risk cell location having a FoS value of 1.10, based on an indicative 0.99 m peat depth and a mean slope of 29º – Tower 51 is located directly west of this cell. If applying a shear strength value of 4kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 0.98. For information, if applying the lowest hand shear vane outcome from C04; 26 kN/m^2 (at 0.30 m depth, rather than depth to base of peat), this cell FoS value would be revised to 6.36.

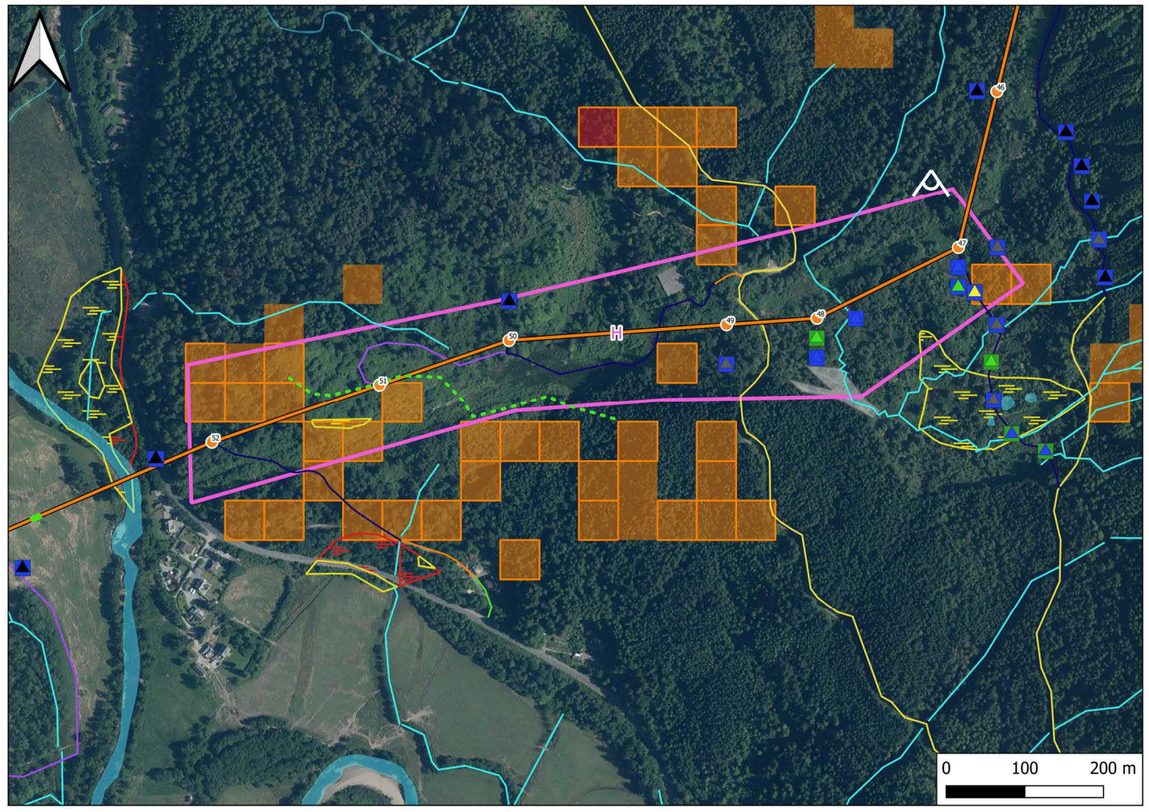


Image H2: Aerial Image of PSA Area H

PSA Area I: Initial Likelihood - Likely; Consequence – Extremely High; Risk - Moderate
Revised Likelihood - Unlikely; Consequence – Extremely High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 55 is located 80 m east and downslope of a cell with a FoS value between 1.0 and 1.4, considered of 'Moderate' risk. No towers are planned within cells of 'Moderate' nor 'High' risk.

Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments and supplementary peat depth surveys will aid detailed design. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. Should breaks of slope be apparent pre-construction in this locality, monitoring will be undertaken, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

This area should be recorded in the Geotechnical Risk Register.

Should peatslide occur; approximated width 50 m, length 30 m, at an average depth of 1.00 m; volume of peat 1,500 m^3; Receptors – local hillside and local road.

Photograph I1: Looking south towards PSA Area I, from NGR 214387, 683378 at approximately 5 m AOD

Revised Risk

Only a small part of this area is identified by GeoSure as Class C, there was no evidence of peat instability from Site visit or aerial photograph, including from previous road and existing OHL construction.
Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the lack of peat depth records (due to access issues) combined with steep north-eastern slopes of the Ballochyle Hill. Given the local road and existing OHL (both within 100 m), the consequence value is 'Extremely High'. Aerial imagery shows this area as forestry with areas of grassland pasture with no evidence of instability, nor was any noted during the visit. PSA Area I images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified a small zone of this area as Class C where 'slope instability problems may be present or anticipated'.

Two peat depths of over 0.50 m were recorded across this area, ranging up to 0.55 m, with mean depth of 0.36 m. Slope angles are typically around 5° in this area, exceeding 20° at the bottom of Ballochyle Hill.
No peat cores were taken in this area due to the shallow peat depths.
The FoS values for peat probes ranged from 1.51 to 1.53, with the highest concern Initial Risk cell location (located 80 m west of Tower 55) having a FoS value of 1.29, based on an indicative 0.99 m peat depth and a mean slope of 23°. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 1.15. For information, if applying the lowest hand shear vane outcome from the cores across the Site; 15 kN/m^2 (at 0.30 m depth, rather than depth to base of peat), this cell FoS value would be revised to 4.32.

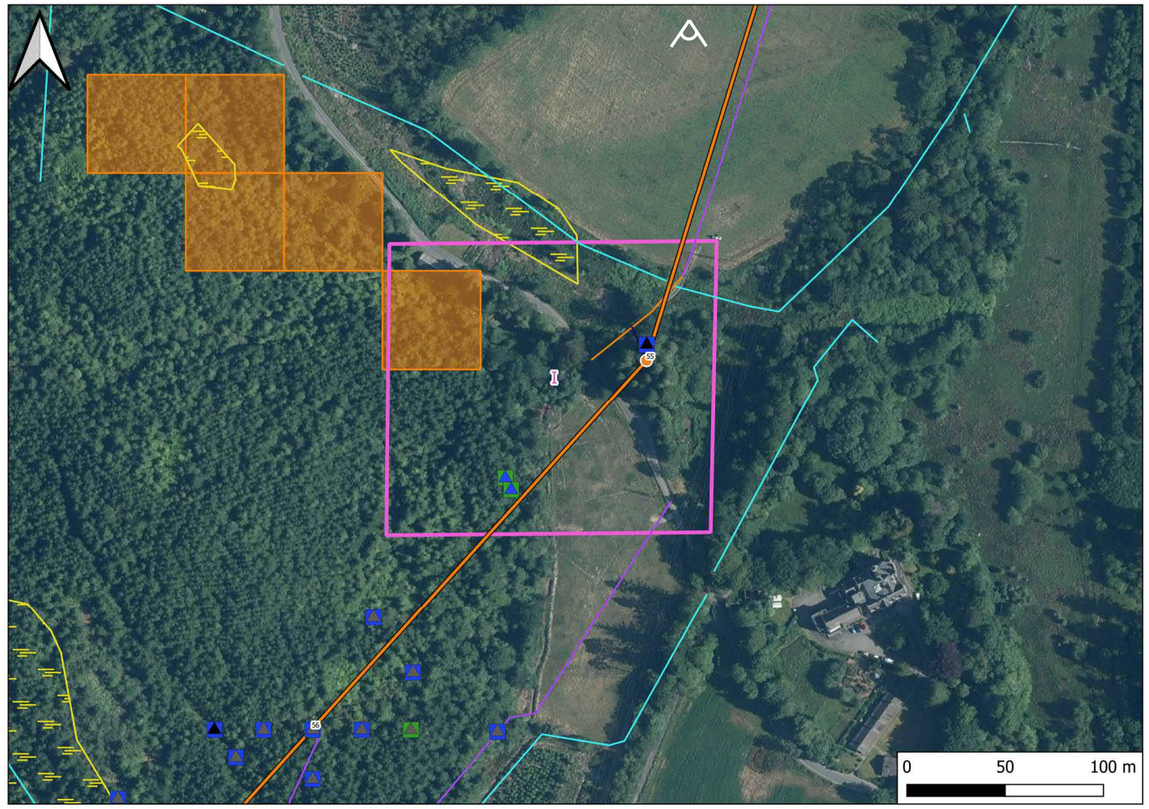


Image I2: Aerial Image of PSA Area I

PSA Area J: Initial Likelihood - Likely; Consequence – High; Risk - Moderate

Revised Likelihood - Unlikely; Consequence – High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 60 is located 100 m east and upslope of a cell with a FoS value between 1.0 and 1.4, considered of 'Moderate' risk. No towers are planned within cells of 'Moderate' nor 'High' risk.

Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments and supplementary peat depth surveys will aid detailed design. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. Should breaks of slope be apparent pre-construction in this locality, monitoring will be undertaken, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

This area should be recorded in the Geotechnical Risk Register.

Should peatslide occur; approximated width 50 m, length 100 m, at an average depth of 1.00 m; volume of peat 5,000 m^3; Receptors – local hillside, Balagowan Burn, forestry track and existing overhead line.

Photograph J1: Looking east from PSA Area J, from NGR 213781, 682240 at approximately 65 m AOD

Revised Risk

Although a small part of this general area is identified by GeoSure as Class C and D, it has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from previous forestry track construction.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the lack of peat depth records (due to access issues) combined with steep southern slopes of the Ballochyle Hill. Given the Ballochyle archaeological feature (within 100 m), the consequence value is 'High'. Aerial imagery shows this area as forestry with no evidence of instability, nor was any noted during the visit. PSA Area J images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified a small zone to the south and downslope of this area as Class C where 'slope instability problems may be present or anticipated' and Class D where 'slope instability problems are probably present or have occurred in the past'.

Two peat depths of over 0.50 m were recorded across this area, ranging up to 1.00 m, with mean depth of 0.26 m. Slope angles are typically around 15° in this area, exceeding 25° at the base of Ballochyle Hill and adjacent to Balagowan Burn.

No peat cores were taken in this area due to the shallow peat depths.

The FoS values for peat probes ranged from 1.51 to 1.53, with the highest concern Initial Risk cell location (located 100 m west of Tower 55) having a FoS value of 1.31, based on an indicative 0.99 m peat depth and a mean slope of 22°. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 1.17. For information, if applying the lowest hand shear vane outcome from the cores across the Site; 15 kN/m^2 (at 0.30 m depth, rather than depth to base of peat), this cell FoS value would be revised to 4.40.

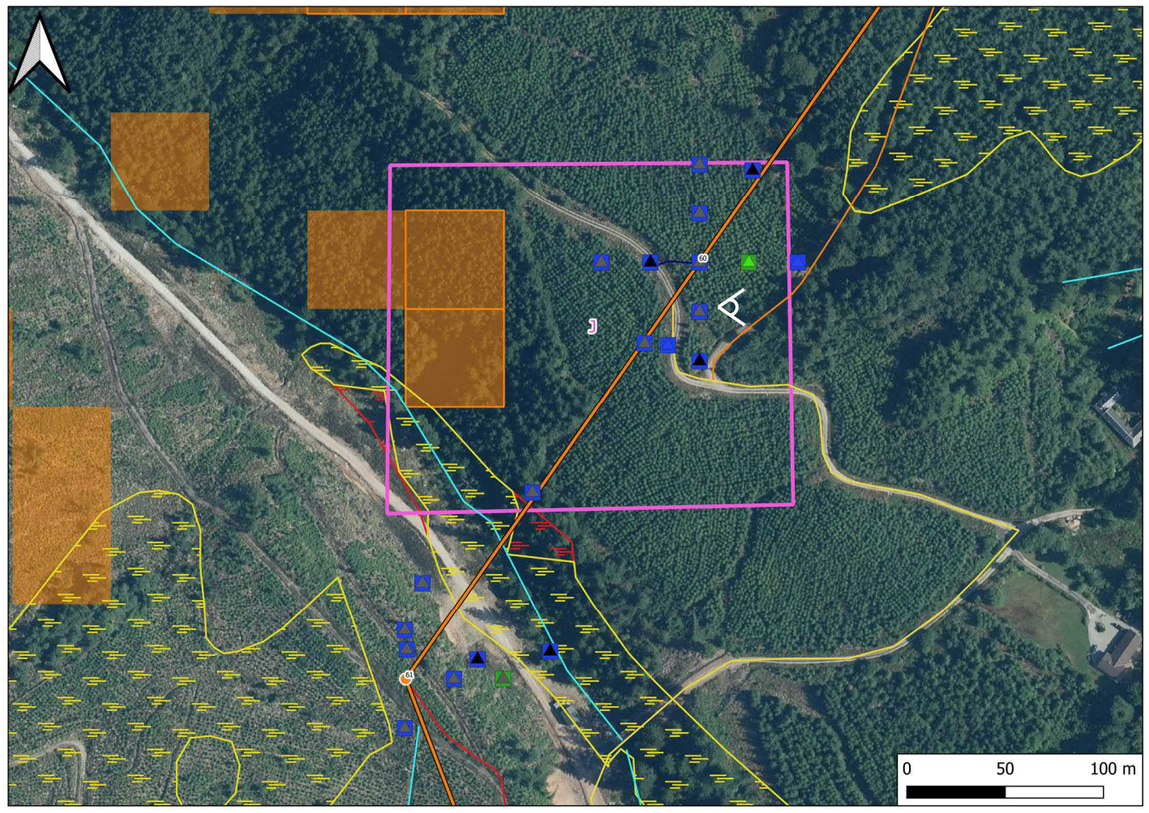


Image J2: Aerial Image of PSA Area J

PSA Area K: Initial Likelihood – Likely; Consequence – Extremely High; Risk - Moderate
Revised Likelihood - Unlikely; Consequence – Extremely High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 70 is located 100 m south-west and dowsnlope of a cell with a FoS value between 1.0 and 1.4, considered of 'Moderate' risk. No towers are planned within cells of 'Moderate' nor 'High' risk.

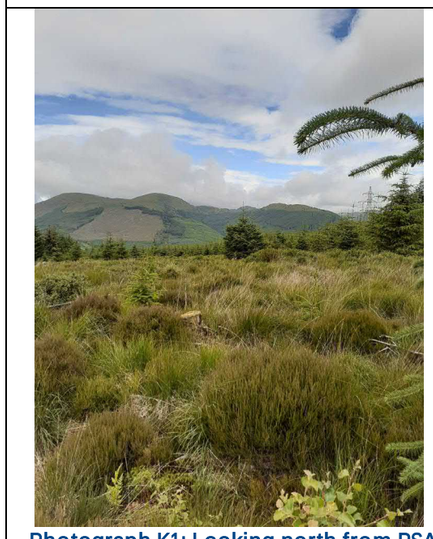
Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

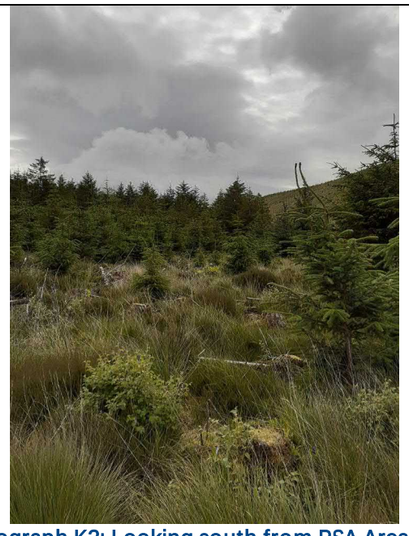
Additional peat stability assessments and supplementary peat depth surveys will aid detailed design. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. S hould breaks of slope be apparent pre-construction in this locality, monitoring will be undertaken, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

This area should be recorded in the Geotechnical Risk Register.

Should peatslide occur; approximated width 50 m, length 100 m, at an average depth of 2.50 m; volume of peat 12,500 m^3; Receptors – local hillside and forestry track.



Photograph K1: Looking north from PSA Area K towards Dalinlongart Hill, with existing OHL visible, from NGR 214676, 680290 at approximately 150 m AOD



Photograph K2: Looking south from PSA Area K, from NGR 214676, 680290 at approximately 150 m AOD

Also see Photograph 3.4 (Site Reconnaissance) and Photograph D5 (Annex D).

Revised Risk

Although this general area is identified by GeoSure as Class C, it has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from previous forestry track and existing OHL construction.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the lack of peat depth records (due to access issues) combined with steep southern slopes of the Ballochyle Hill. Given the existing OHL (within 100 m), the consequence value is 'Extremely High'. Aerial imagery shows this area as forestry with no evidence of instability, nor was any noted during the visit. PSA Area K images with OS background and DTM data are also provided in Annex C. B GS GeoSure mapping has identified a small zone to the south of this area as Class C where 'slope instability problems may be present or anticipated' and Class D where 'slope instability problems are probably present or have occurred in the past'.

Peat depths were generally over 1.00 m, ranging up to 2.67 m, with mean depth of 1.08 m. Slope angles are typically around 12º in this area.

Peat core location C05 was taken at slope angle of 4º at peat depths of 1.52 m. The core samples recorded Von Post humification class H6 - Moderately Highly Decomposed. This data suggests that amorphous catotelmic peat is found at depth of 1.52 m locally. The hand shear vane's lowest recorded value at a depth of 0.30 m was 15 kN/m^2.

The FoS values for peat probes ranged from 0.72 to 141.65, with an Initial Moderate Risk cell location (located 70 m north of C05 / 100 m north-east of Tower 70) having a FoS value of 1.21, based on an indicative (and precautionary) 2.49 m peat depth and a mean slope of 9º. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 1.08. For information, if applying the lowest hand shear vane outcome from the cores across the Site; 15 kN/m^2 (at 0.30 m depth, rather than depth to base of peat), this cell FoS value would be revised to 4.05.

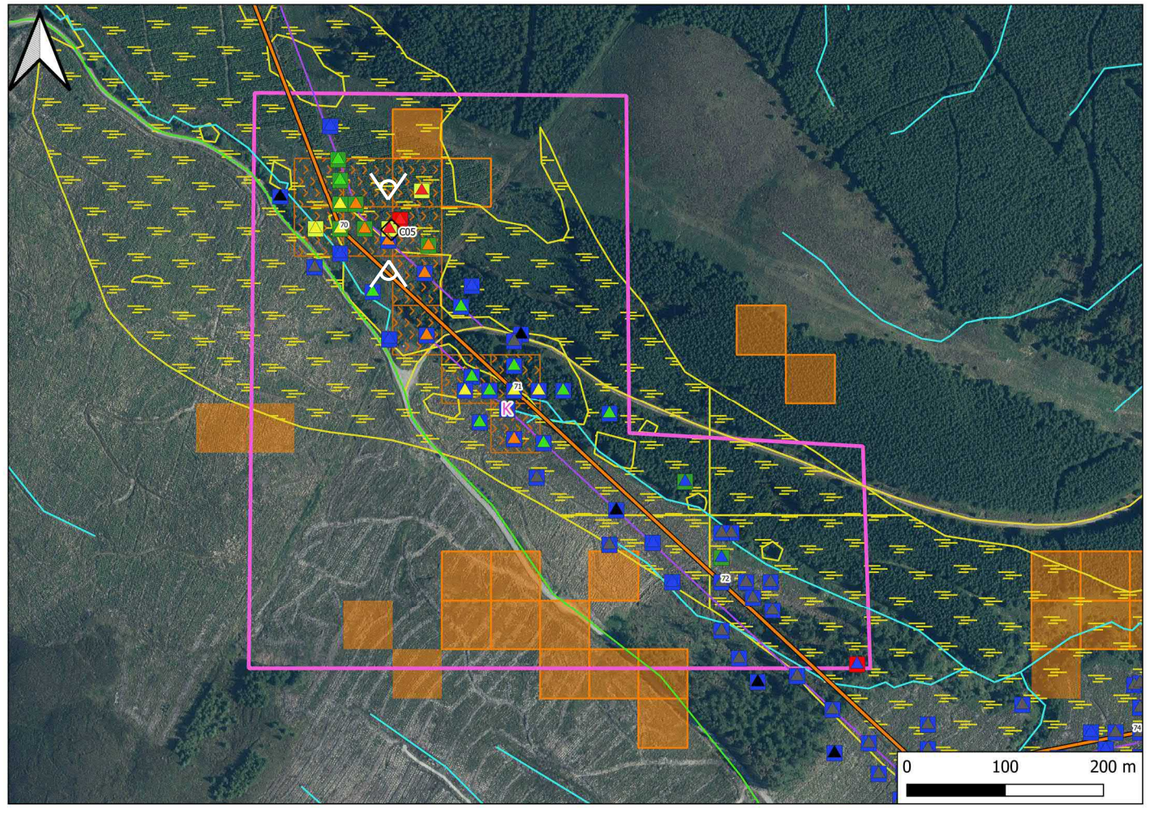


Image K3: Aerial Image of PSA Area K

PSA Area L:

Initial Likelihood – Likely; Consequence – Extremely High; Risk - Moderate

Revised Likelihood - Unlikely; Consequence – Extremely High; Risk - Low

Good Practice and Design

Section 1.8 details standard good practice measures. Tower 75 is located 50 m south-west of a cell with a FoS value between 1.0 and 1.4, considered of 'Moderate' risk. No towers are planned within cells of 'Moderate' nor 'High' risk.

Specific Mitigation, Potential Scale and Receptor

Section 1.8 lists standard mitigation measures.

Additional peat stability assessments and supplementary peat depth surveys will aid detailed design. Care should be taken to avoid removal of slope support or increasing loading of slope (e.g. stockpiling of materials or heavy plant movement) where convex breaks of slope occur. Should breaks of slope be apparent pre-construction in this locality, monitoring will be undertaken, which may lead to a requirement for slope support or erosion protection, such as use of gabion terraces/mattresses or other measures.

This area should be recorded in the Geotechnical Risk Register.

Should peatslide occur; approximated width 50 m, length 150 m, at an average depth of 0.50 m; volume of peat 3,750 m^3; Receptors – local hillside, Allt a' Chromain and existing overhead line.

Photograph L1: Looking east from PSA Area L, towards Sandbank, from NGR 215756, 679822 at approximately 100 m AOD

Revised Risk

Although a small peripheral zone of this area is identified by GeoSure as Class C, it has highly modified and variable peatland features with no evidence of peat instability from Site visit or aerial photograph, including from previous forestry track and existing OHL construction.

Taking account of the peatland morphology, existing drainage, individual peat probe FoS, design and mitigation, peat-related instability is reduced to Unlikely and the Revised Risk is therefore Low.

Area Details

This area is primarily identified due to the lack of peat depth records outside the Proposed Development, combined with steep gradient slopes. Given the existing OHL (within 100 m), the consequence value is 'Extremely High'. Aerial imagery shows this area as forestry and grassland with no evidence of instability, nor was any noted during the visit. PSA Area L images with OS background and DTM data are also provided in Annex C. BGS GeoSure mapping has identified small part of this area as Class C where 'slope instability problems may be present or anticipated'.

Peat depths are less than 0.50 m in this area, ranging up to 0.30 m, with mean depth of 0.09 m, however nearby indicative grid peat depths are 0.99 m due to the lack of data outwith the Proposed Development. Slope angles are typically around 15º in this area, exceeding 20º at the break of slope identified from the DTM data at the southern boundary, which was not apparent on site due to the forestry plantation.

No peat cores were taken in this area due to the shallow peat depths.

The FoS values for peat probes ranged from 1.20 to 76.89, with the highest concern Initial Risk cell location (located 50 m north-east of Tower 75) having a FoS value of 1.24, based on an indicative 0.99 m peat depth and a mean slope of 24º. If applying a shear strength value of 4 kN/m^2, as literature lower-bound value, to this FoS grid cell, the revised FoS outcome would be 1.11. For information, if applying the lowest hand shear vane outcome from the cores across the Site; 15 kN/m^2 (at 0.30 m depth, rather than depth to base of peat), this cell FoS value would be revised to 4.17.

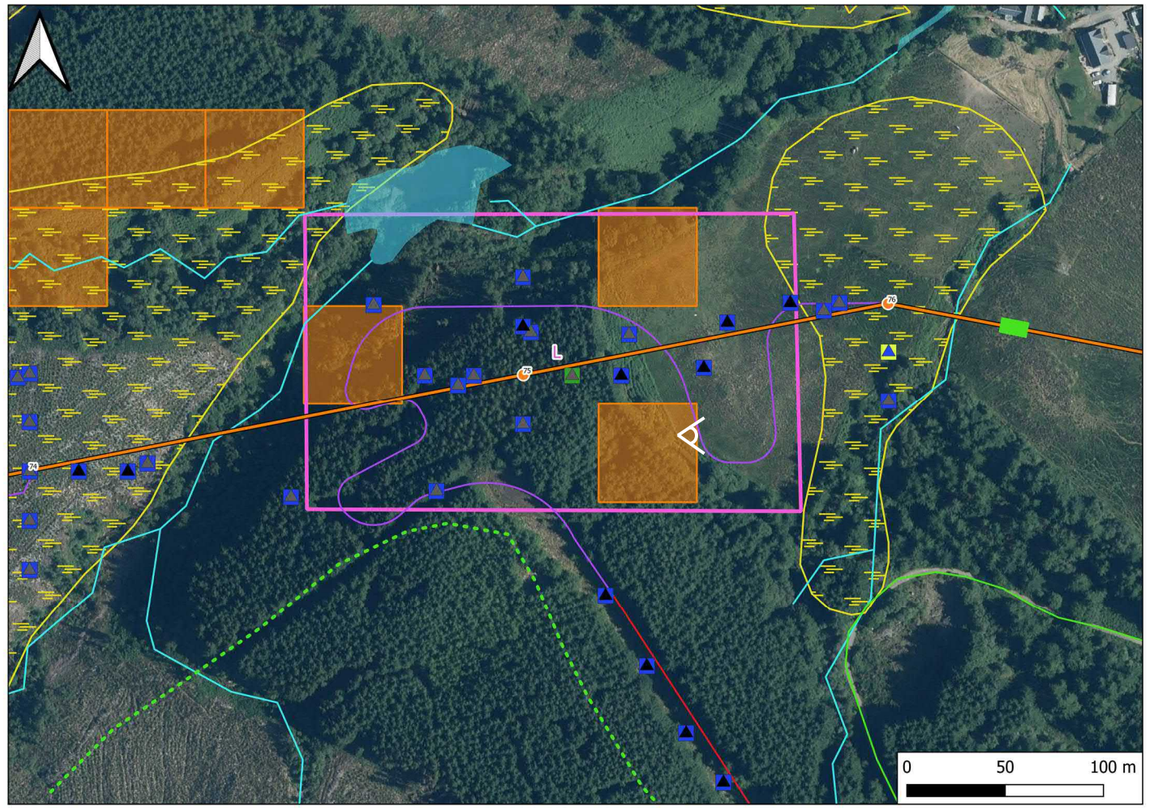


Image L2: Aerial Image of PSA Area L