

Appendix 27.4

LVIA Visual Material



Legend

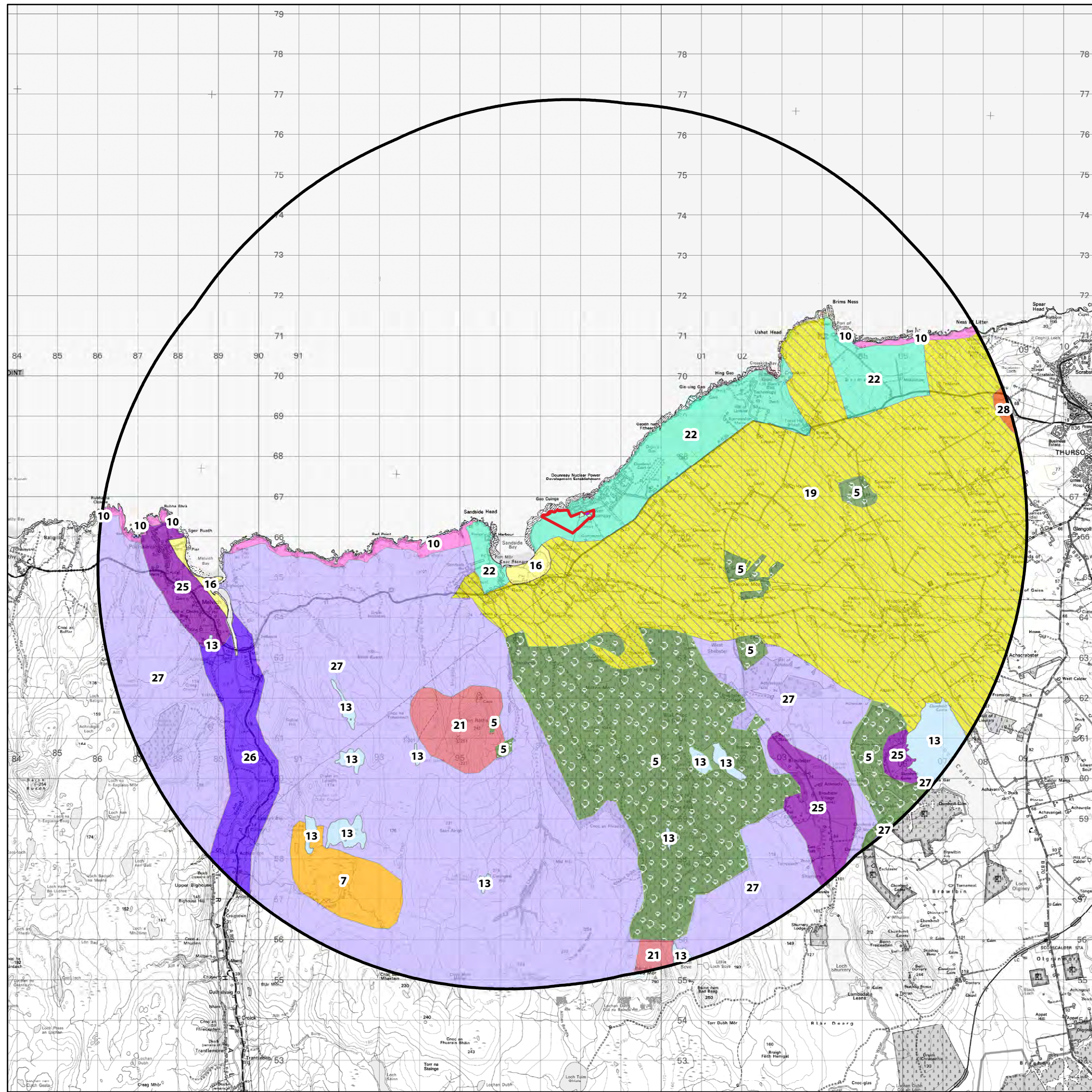
- Cable route study area
- Existing SSE Dounreay Substation
- Substation locations
- Study Area

0 0.5 1 2 3 4 5 6 km

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Hexicon Dounreay Demonstration Site - Onshore
Landscape and Visual Impact Assessment

Substation Study Area



Legend

- Existing SSE Dounreay Substation
- Substation locations
- Cable route study area
- Study Area

Landscape Character Areas

- 5 - Coniferous Woodland Plantation
- 7 - Flat Peatland
- 10 - High Cliffs and Sheltered Bays
- 13 - Inland Loch
- 16 - Long Beaches Dunes and Links
- 19 - Mixed Agriculture and Settlement
- 21 - Moorland Slopes and Hills
- 22 - Open Intensive Farmland
- 25 - Small Farms and Crofts
- 26 - Strath
- 27 - Sweeping Moorland
- 28 - Town

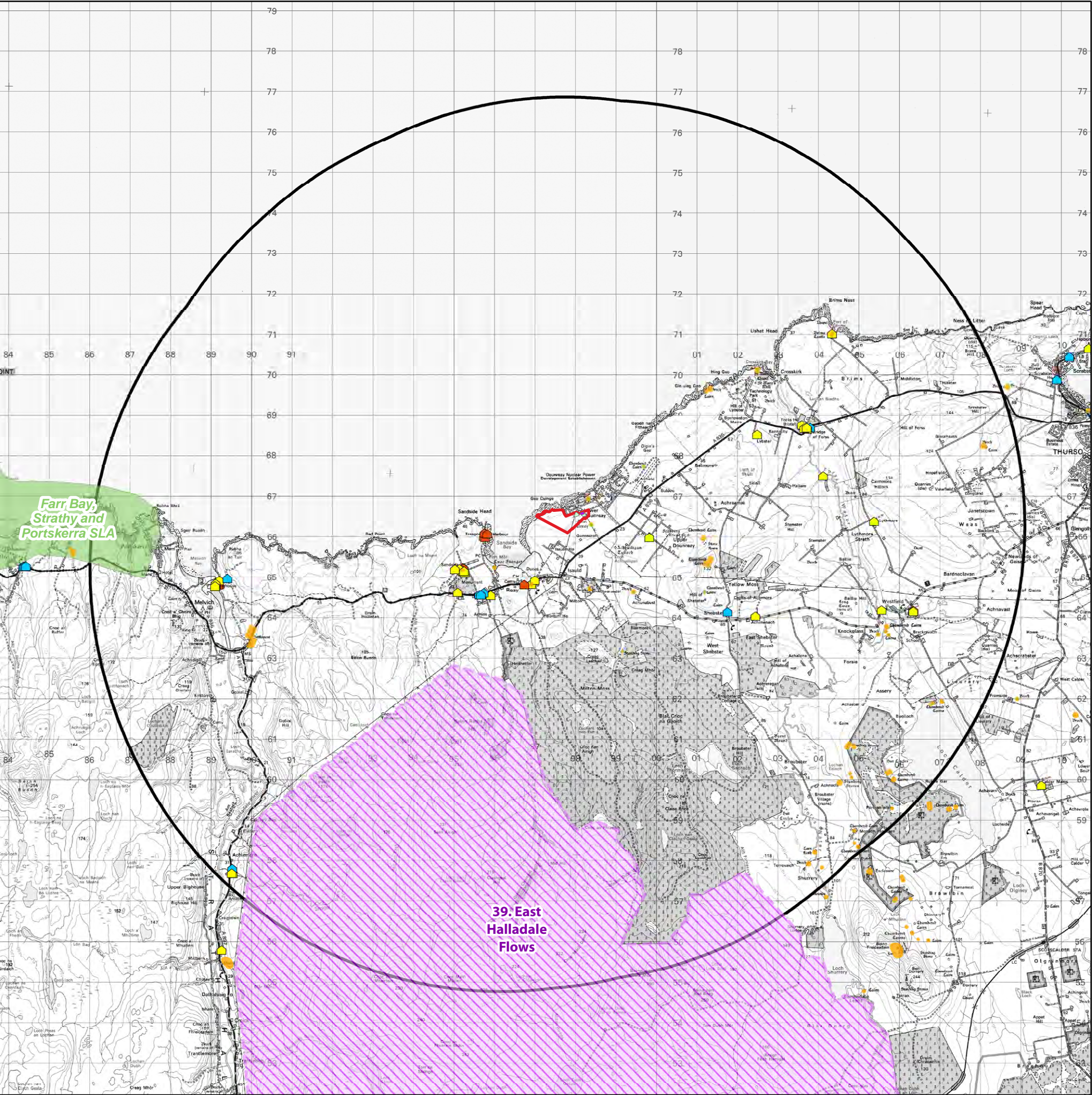


0 0.5 1 2 3 4 5 6 km

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Hexicon Dounreay Demonstration Site - Onshore Landscape and Visual Impact Assessment

Landscape Character Areas



Legend

- Existing SSE Dounreay Substation
- Substation locations
- Cable route study area
- Study Area
- Landscape Designations**
 - Special Landscape Area (SLA)
 - WILDLAND_SCOTLAND
 - Scheduled Ancient Monuments (SAMS)
 - Listed Building - Category A
 - Listed Building - Category B
 - Listed Building - Category C

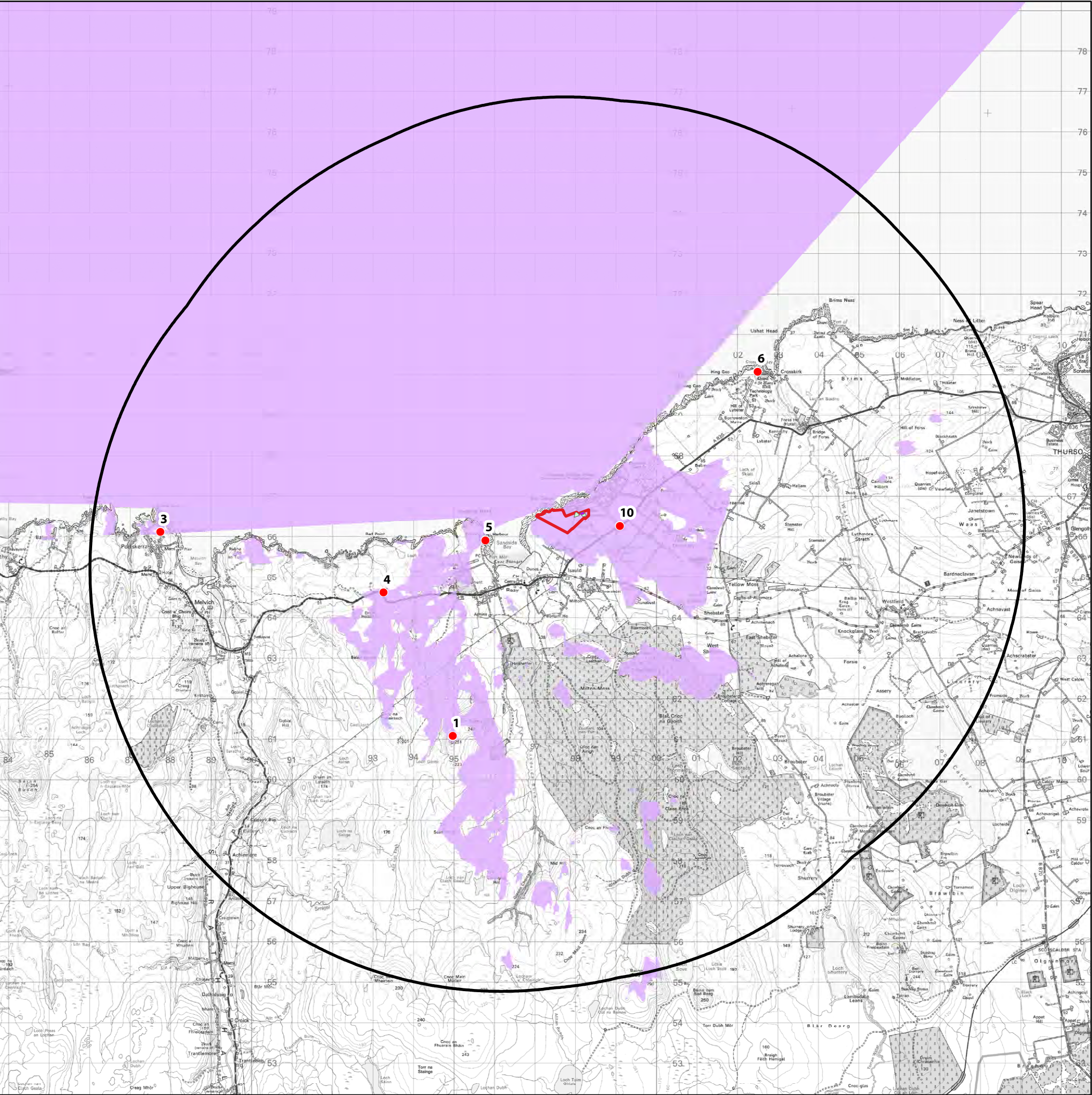


0 0.5 1 2 3 4 5 6 km

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Hexicon Dounreay Demonstration Site - Onshore
Landscape and Visual Impact Assessment

Landscape Designations



Legend

- Existing SSE Dounreay Substation
- Substation locations
- Cable route study area
- Study Area

Viewpoints

- <all other values>
- 1: Beinn Ratha
- 3: Portskerra
- 4: Drum Hollistan Car Park
- 5: Sandside Bay
- 6: St. Marys Chapel, Forss
- 10: Dounreay Road End

Zone of Theoretical Visibility (ZTV)

- Area with Theoretical Visibility

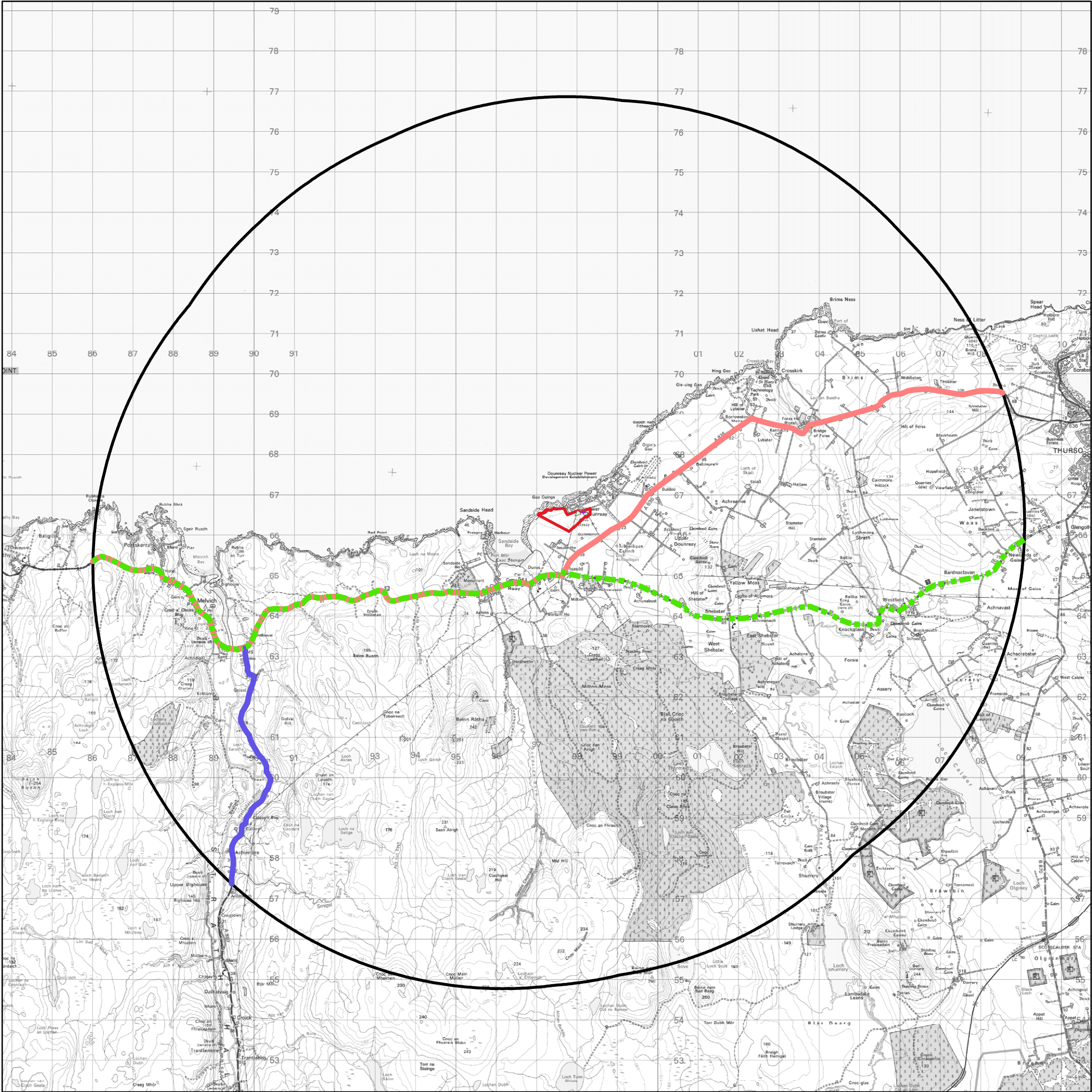


0 0.5 1 2 3 4 5 6 km

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Hexicon Dounreay Demonstration Site - Onshore
Landscape and Visual Impact Assessment

Substation Combined ZTV

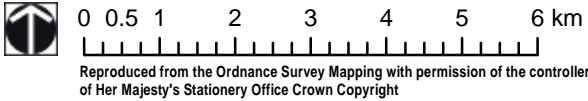


Legend

- Existing SSE Dounreay Substation
- Substation locations
- Cable route study area
- Study Area

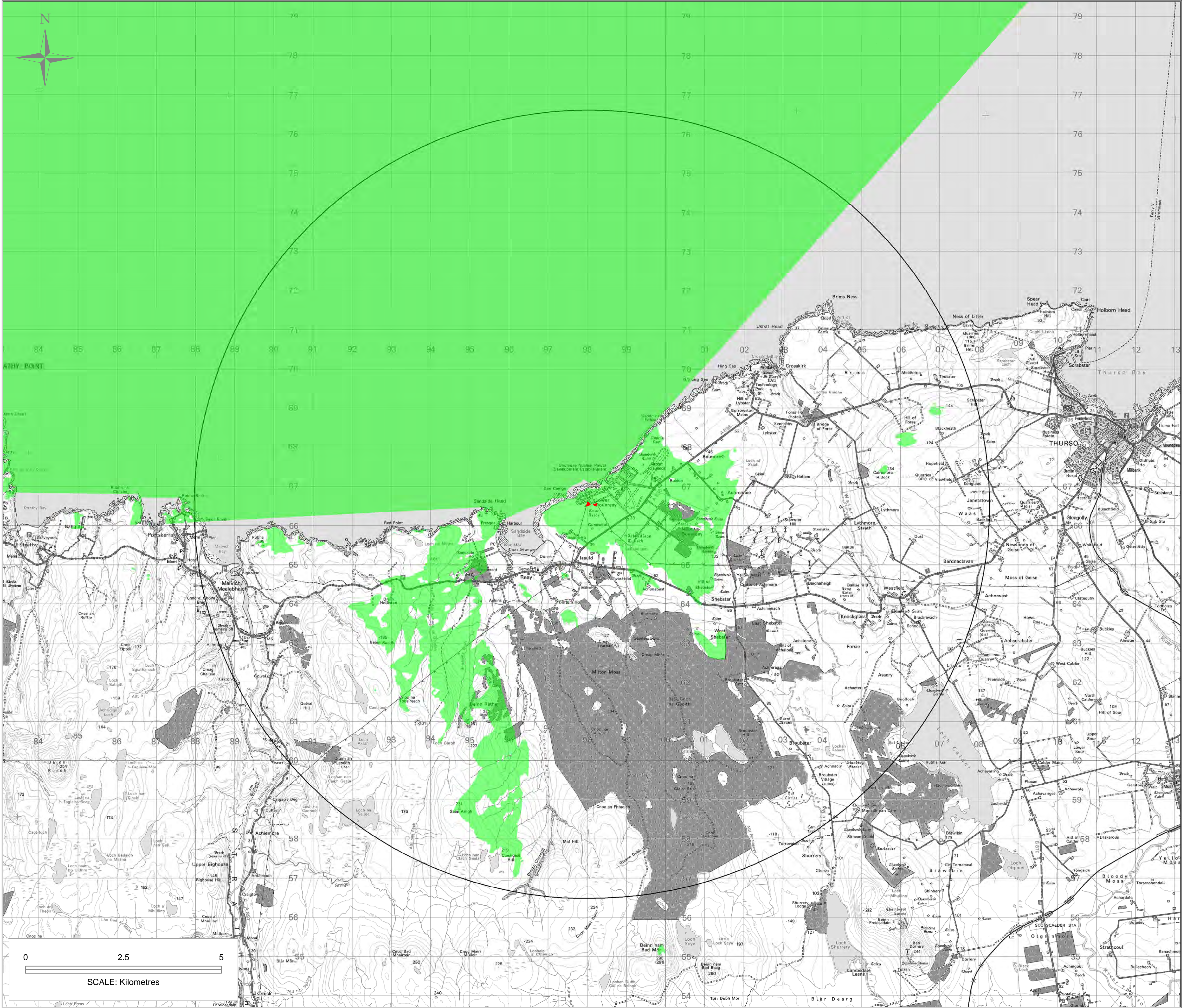
Sequential Routes

- A836
- A897
- NCR 1



Hexicon Dounreay Demonstration Site - Onshore
Landscape and Visual Impact Assessment

Sequential Routes



- Legend
- Potential substation location
 - Zone of Theoretical Visibility
 - 10 km buffer

- ZTV calculation details
- Based on OS Terrain 5, 5 m DTM data
 - Based on a bare-ground survey
 - Forestry mask applied to large woodland area to south
 - Viewer height of 2 m
 - Earth curvature and light refraction have been included
 - Building height of 8 m to top

Service Layer Credits:

Data source and licence information:

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Ordnance Survey 01000040827

Project: P686 | Date: 12/08/2016 | Author: DC | Checked: DS

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936

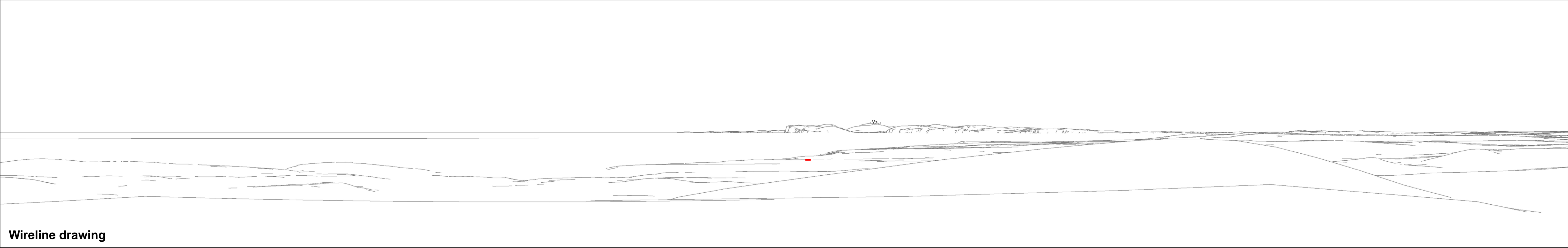
Scale @ A3: 1:50,000





Baseline photograph

This image provides landscape and visual context only

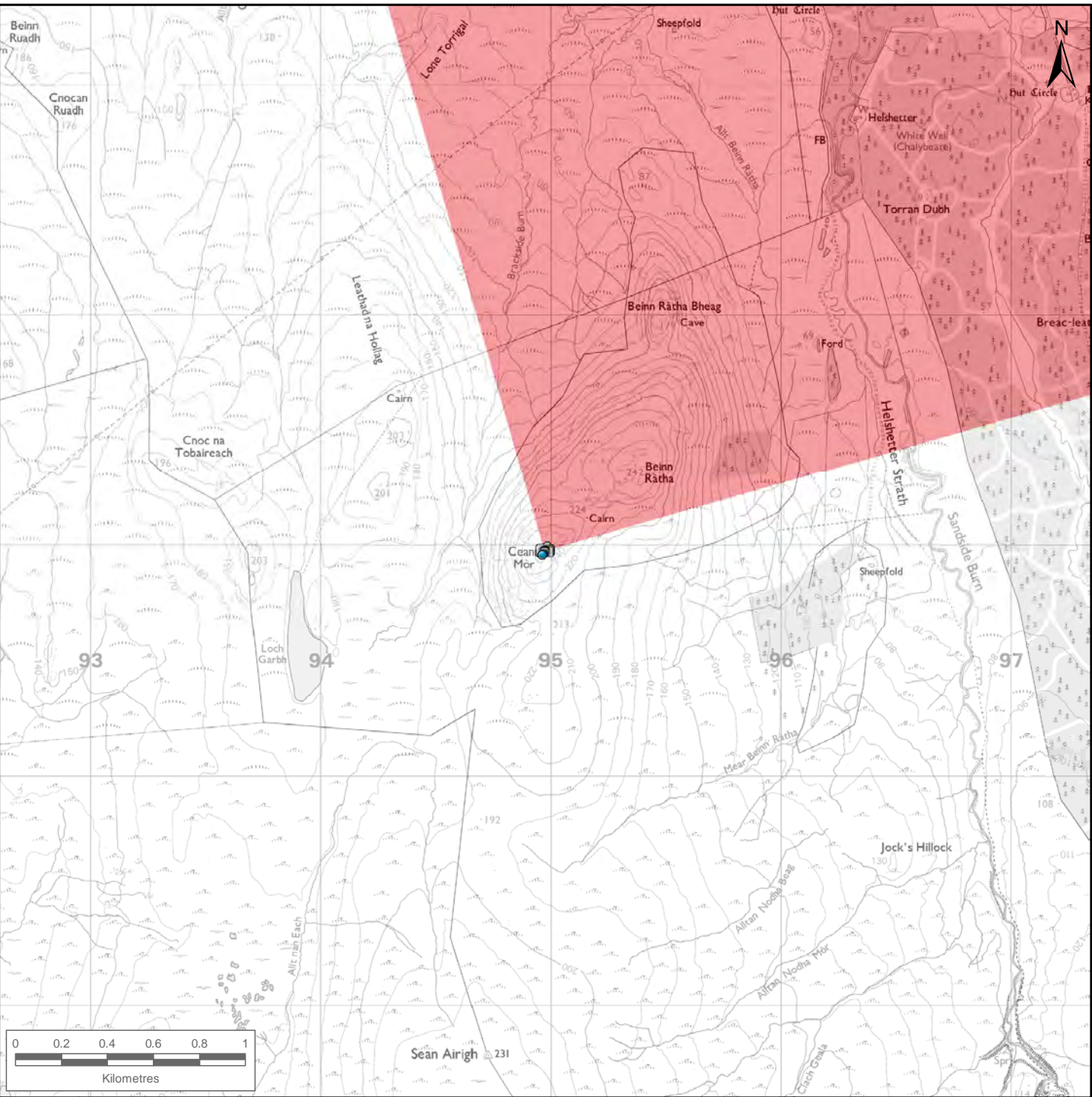


Wireline drawing

Viewpoint 1: Ben Ratha

| | | | | | |
|---------------------|----------------|--------------------------|----------------------------|---------------|------------------|
| Grid Reference | 294975, 960675 | Horizontal Field of View | 90° cylindrical projection | Camera | Nikon D7100 |
| Viewpoint Height | 247 m AOD | Principal Distance | 522 mm | Lens | Nikon 50 mm |
| Direction of View | 28.98° | | | Camera Height | 1.5 m AGL |
| Distance to Turbine | 6,327 m | | | Date and Time | 19/12/2015 11:51 |

Produced by:





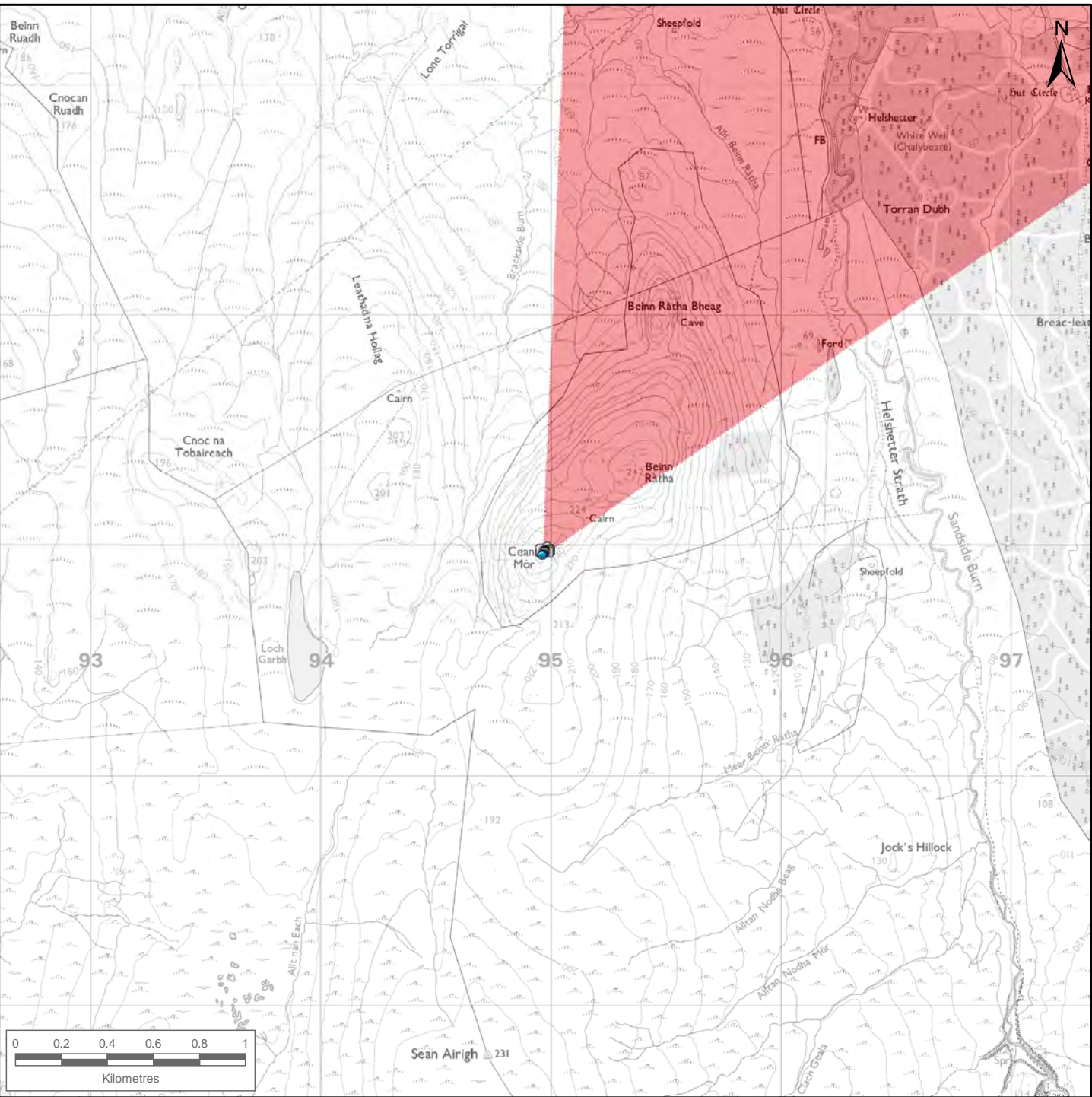
Photomontage

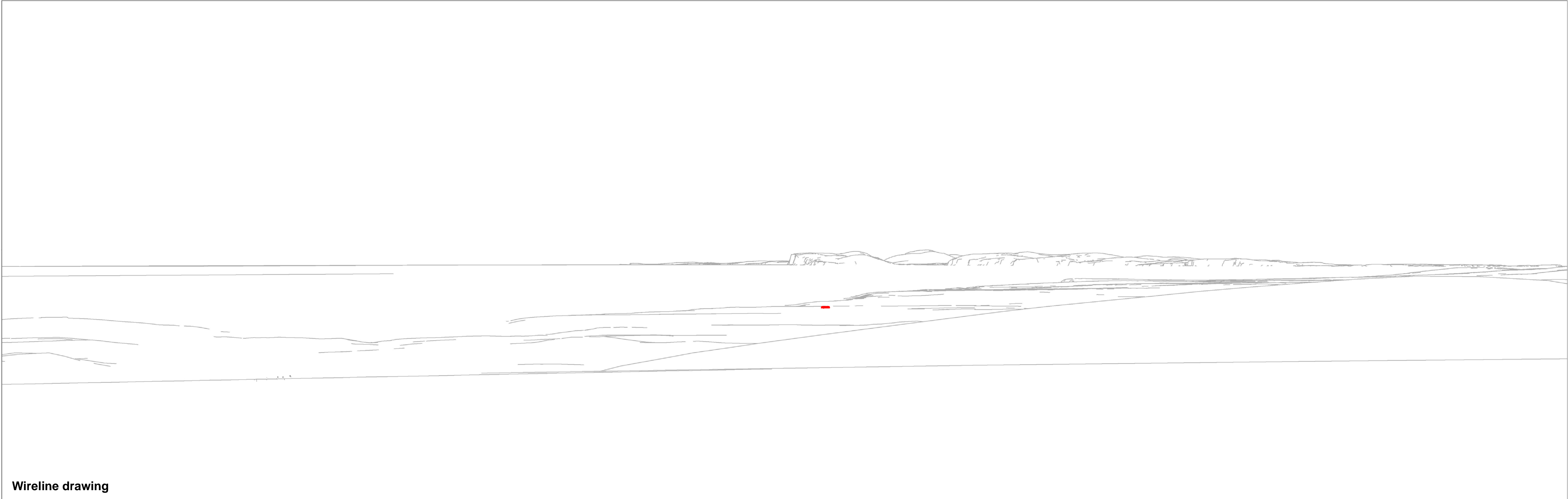
View flat at a comfortable arm's length

Viewpoint 1: Ben Ratha

| | | | | | |
|---------------------|----------------|--------------------------|-------------------------|---------------|------------------|
| Grid Reference | 294975, 960675 | Horizontal Field of View | 53.5° planar projection | Camera | Nikon D7100 |
| Viewpoint Height | 247 m AOD | Principal Distance | 813 mm | Lens | Nikon 50 mm |
| Direction of View | 28.98° | | | Camera Height | 1.5 m AGL |
| Distance to Turbine | 6,327 m | | | Date and Time | 19/12/2015 11:51 |

Produced by:

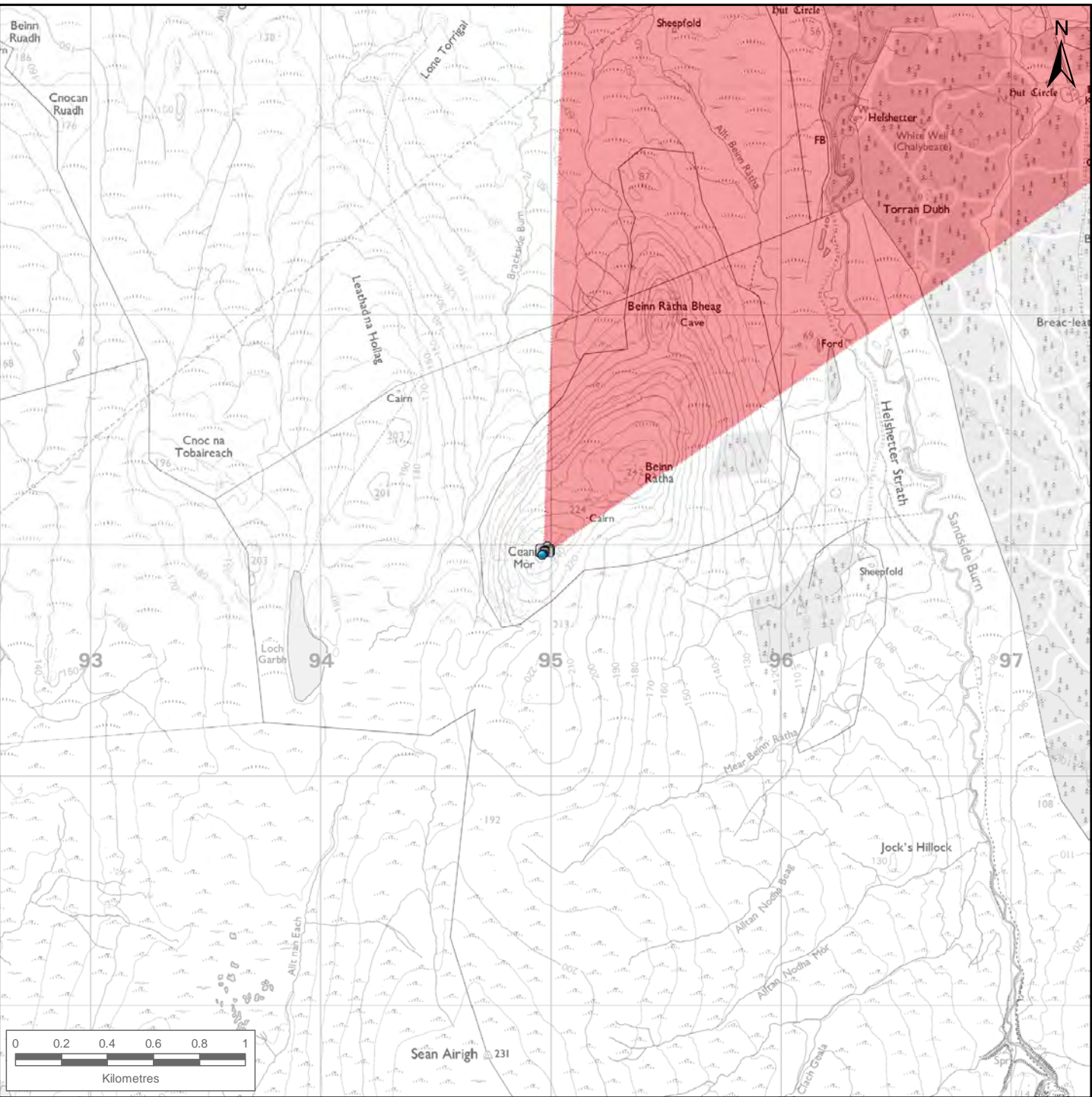




Wireline drawing

Viewpoint 1: Ben Ratha

| | | | | | |
|---------------------|----------------|--------------------------|-------------------------|---------------|------------------|
| Grid Reference | 294975, 960675 | Horizontal Field of View | 53.5° planar projection | Camera | Nikon D7100 |
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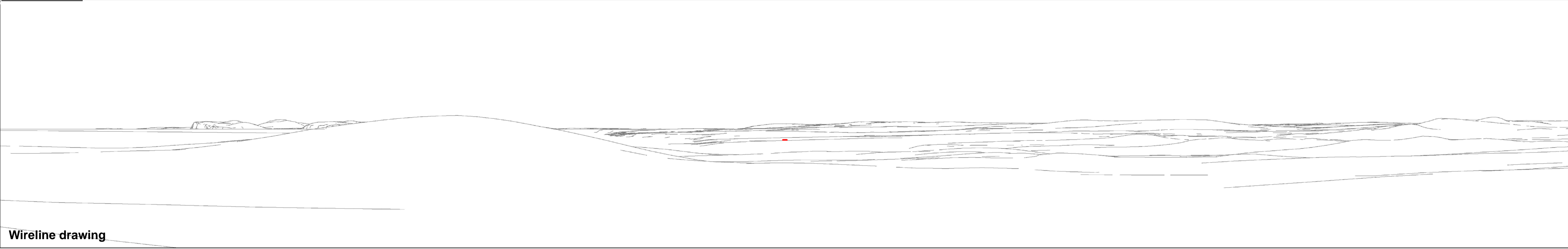
Produced by:





Baseline photograph

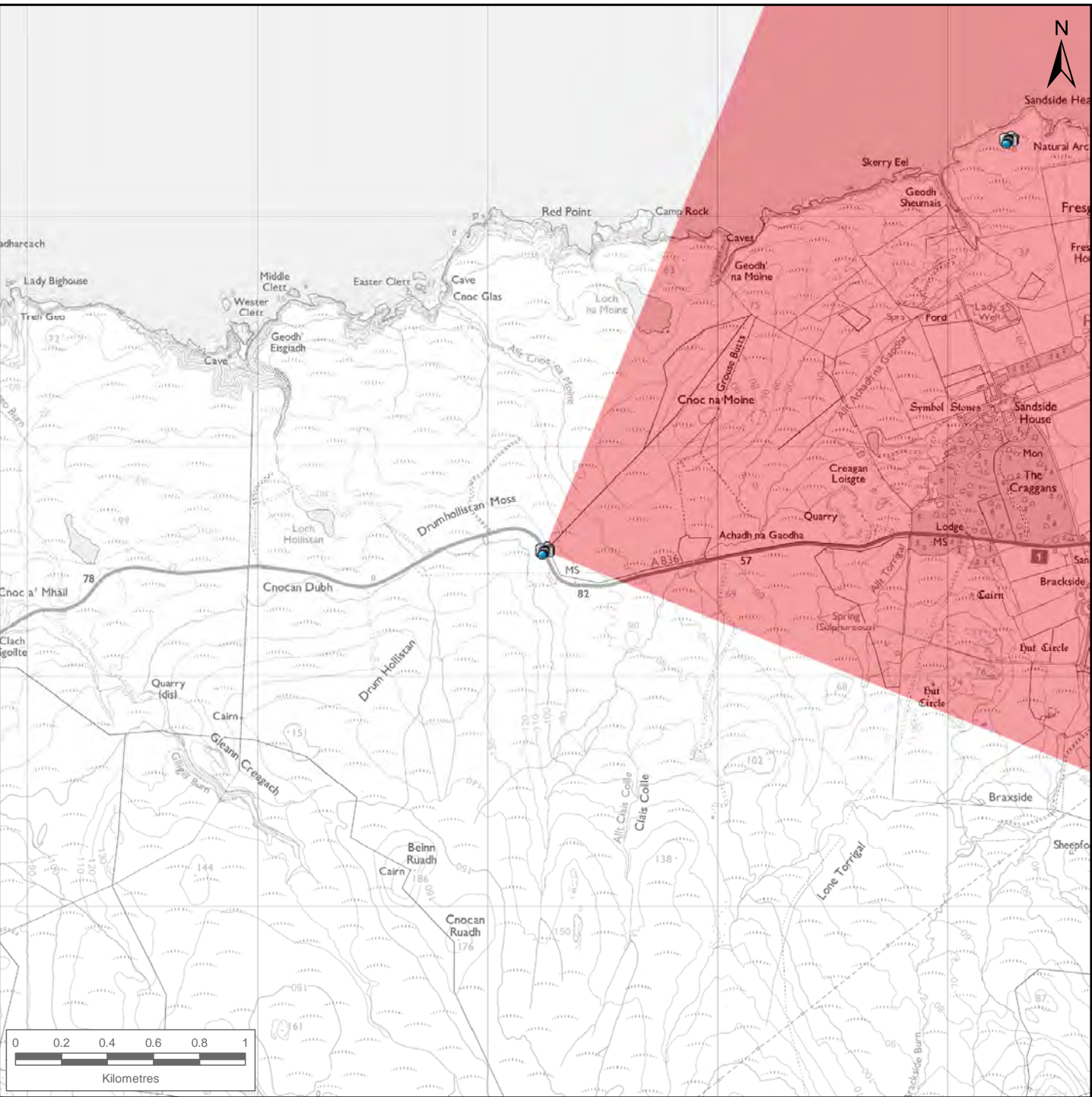
This image provides landscape and visual context only



Wireline drawing

Viewpoint 4: Drum Holliston Car Park

| | | | | | |
|---------------------|----------------|--------------------------|----------------------------|---------------|-----------------------|
| Grid Reference | 293257, 964500 | Horizontal Field of View | 90° cylindrical projection | Camera | Canon EOS 5D Mark III |
| Viewpoint Height | 91 m AOD | Principal Distance | 522 mm | Lens | Canon EF 50 mm 1:1.4 |
| Direction of View | 66.97° | | | Camera Height | 1.5 m AGL |
| Distance to Turbine | 5,190 m | | | Date and Time | 20/01/2016 13:59 |





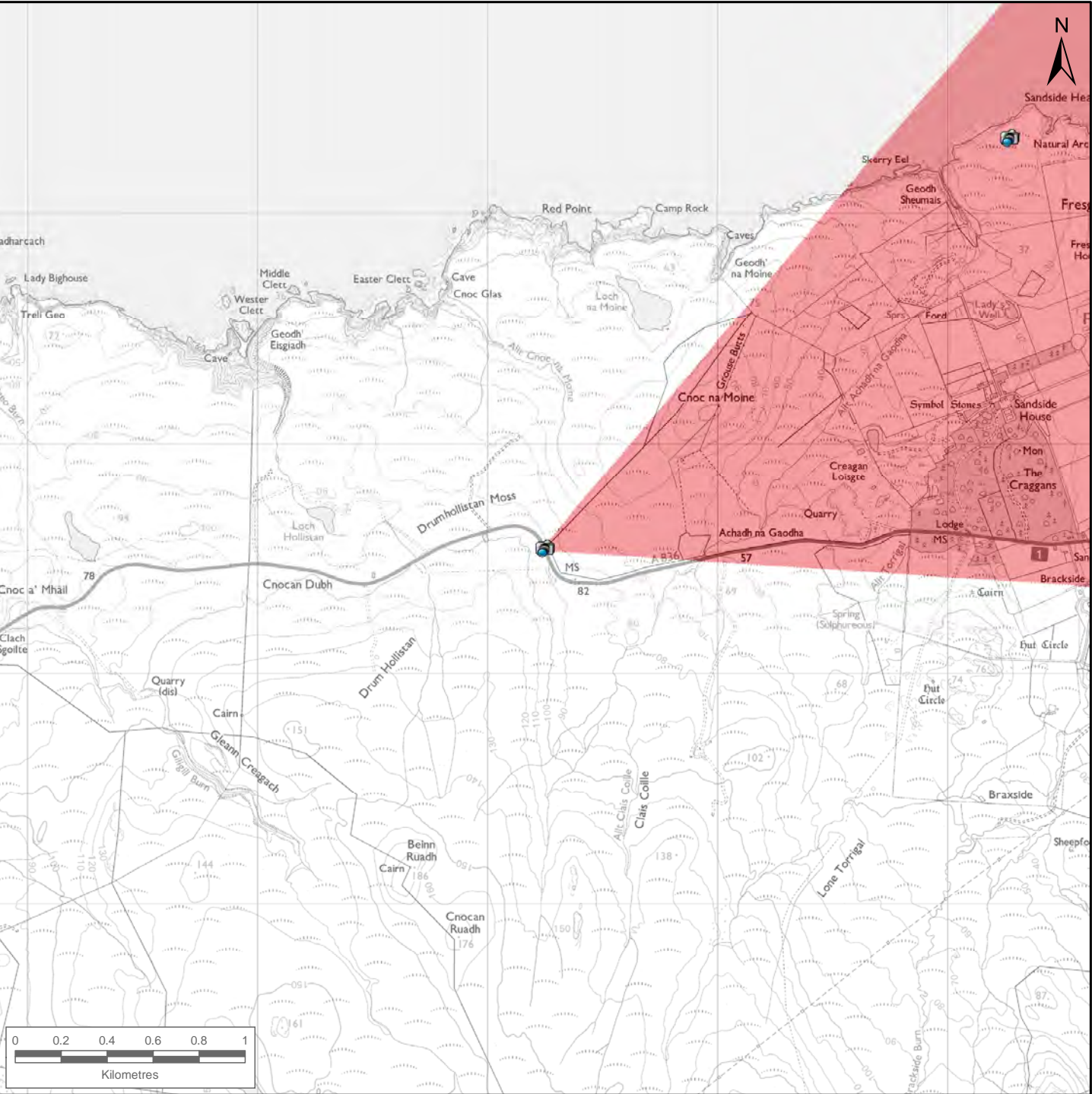
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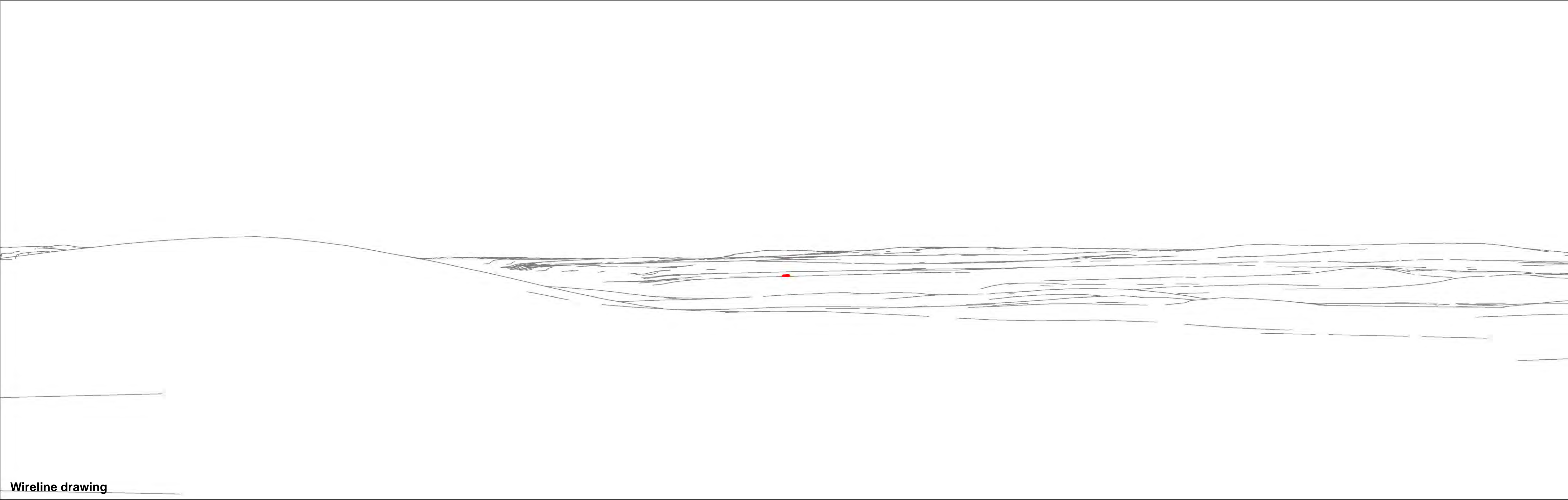
View flat at a comfortable arm's length

Viewpoint 4: Drum Holliston Car Park

| | | | | | |
|---------------------|----------------|--------------------------|-------------------------|---------------|-----------------------|
| Grid Reference | 293250, 964545 | Horizontal Field of View | 53.5° planar projection | Camera | Canon EOS 5D Mark III |
| Viewpoint Height | 91 m AOD | Principal Distance | 813 mm | Lens | Canon EF 50 mm 1:1.4 |
| Direction of View | 66.97° | | | Camera Height | 1.5 m AGL |
| Distance to Turbine | 5,190 m | | | Date and Time | 20/01/2016 13:59 |

Produced by:



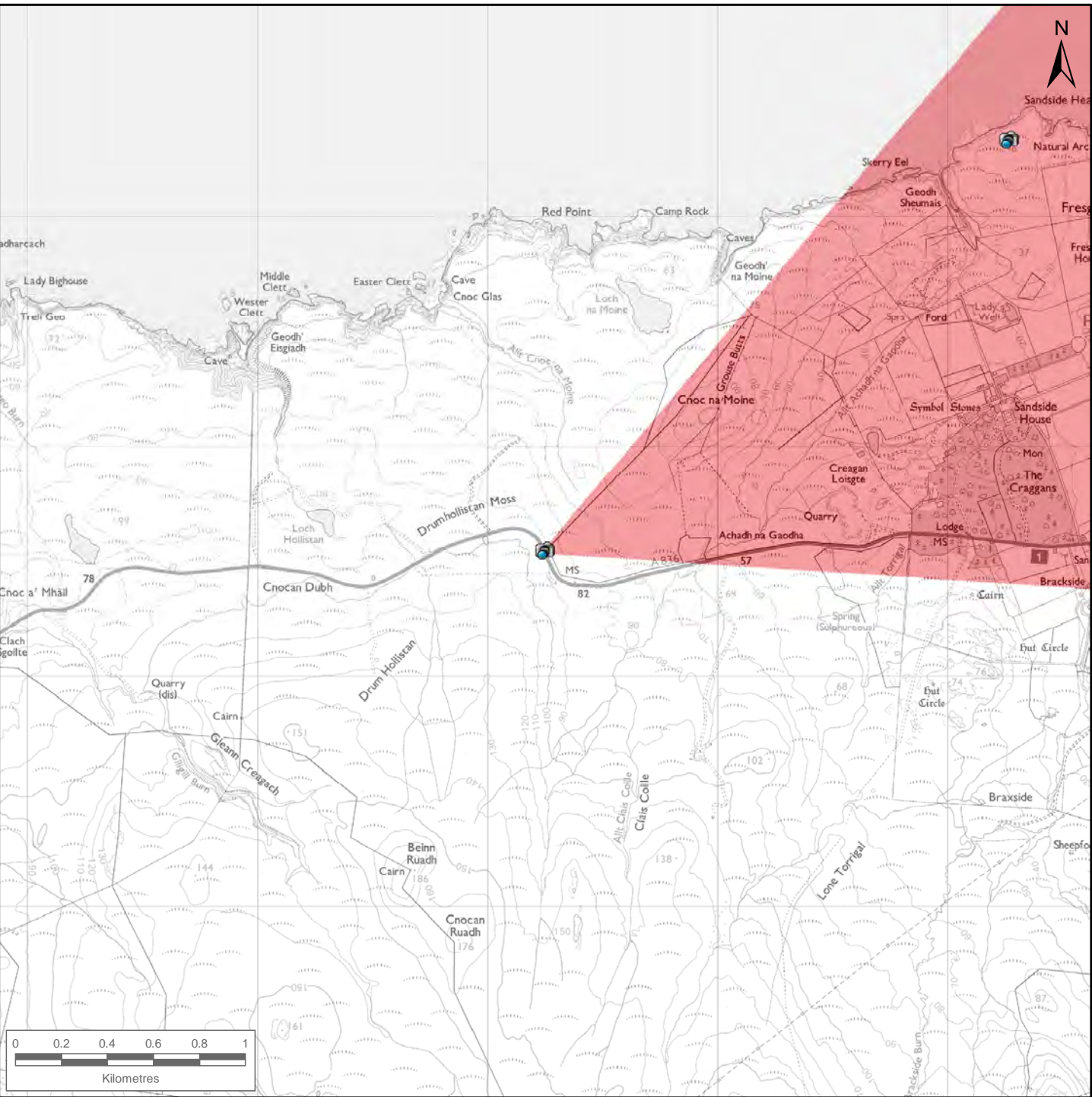


Wireline drawing

Viewpoint 4: Drum Holliston Car Park

| | | | | | |
|---------------------|----------------|--------------------------|-------------------------|---------------|-----------------------|
| Grid Reference | 293257, 964500 | Horizontal Field of View | 53.5° planar projection | Camera | Canon EOS SD Mark III |
| Viewpoint Height | 91 m AOD | Principal Distance | 813 mm | Lens | Canon EF 50 mm 1:1.4 |
| Direction of View | 66.97° | | | Camera Height | 1.5 m AGL |
| Distance to Turbine | 5,190 m | | | Date and Time | 20/01/2016 13:59 |

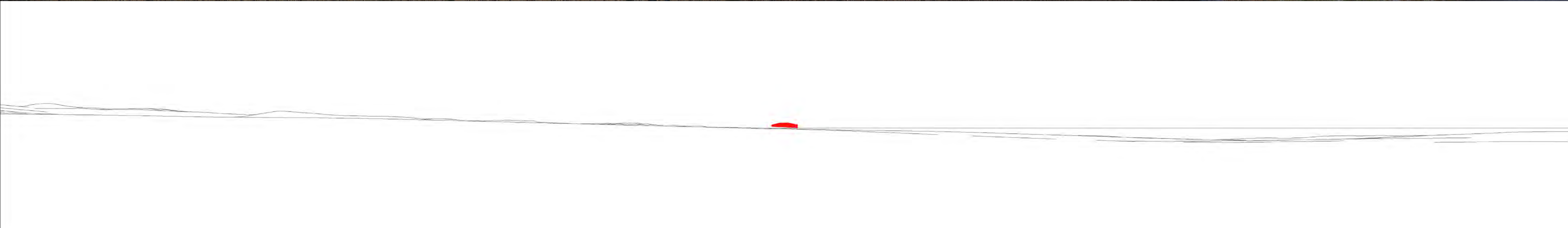
Produced by:





Baseline photograph

This image provides landscape and visual context only

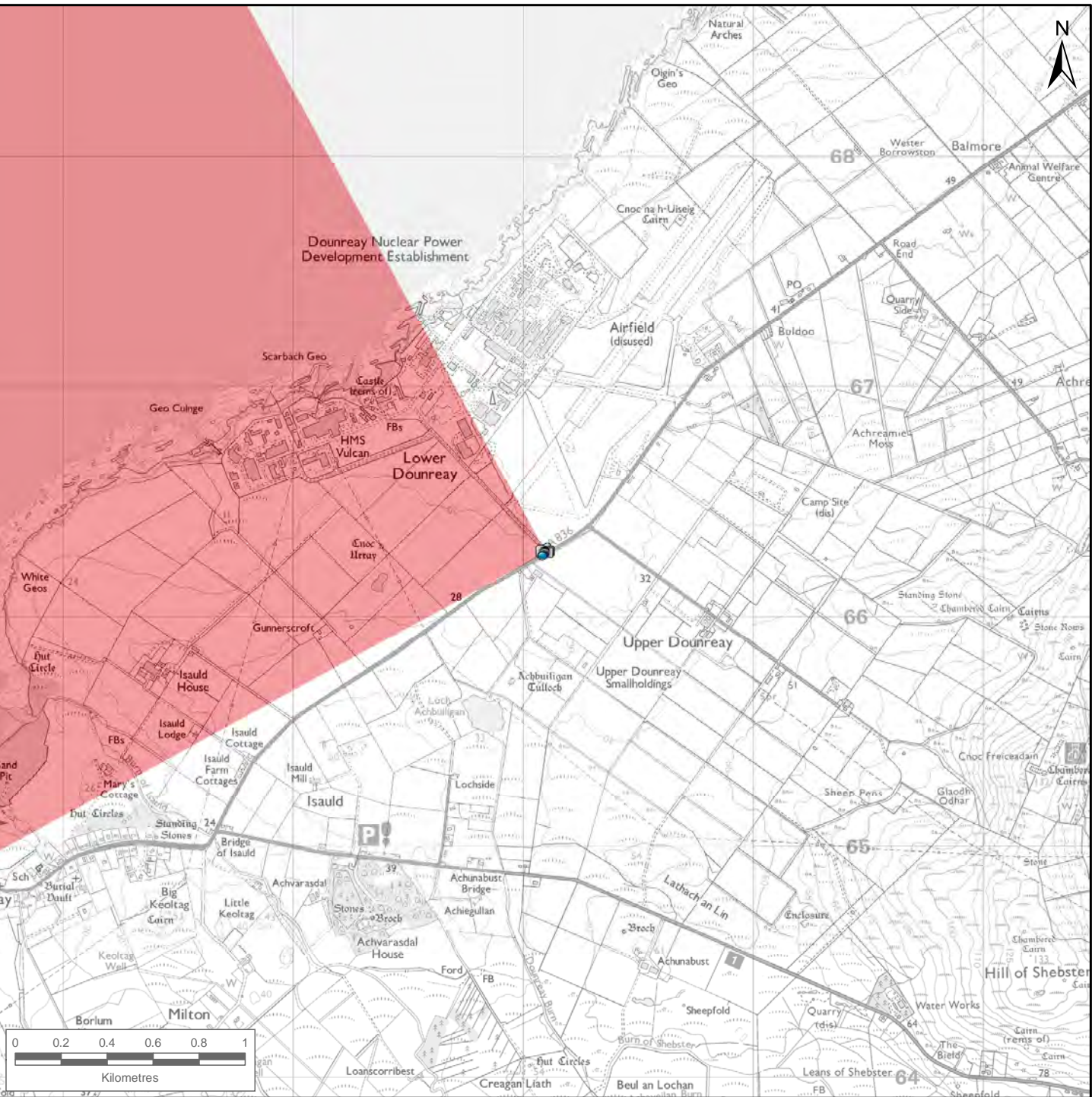


Wireline drawing

Viewpoint 10: Dounreay Road End

| | | | | | |
|------------------------|----------------|--------------------------|----------------------------|---------------|-----------------------|
| Grid Reference | 299096, 966282 | Horizontal Field of View | 90° cylindrical projection | Camera | Canon EOS 5D Mark III |
| Viewpoint Height | 22 m AOD | Principal Distance | 522 mm | Lens | Canon EF 50 mm 1:1.4 |
| Direction of View | 286.35° | | | Camera Height | 1.5 m AGL |
| Distance to Substation | 867 m | | | Date and Time | 20/01/2016 13:01 |

Produced by:





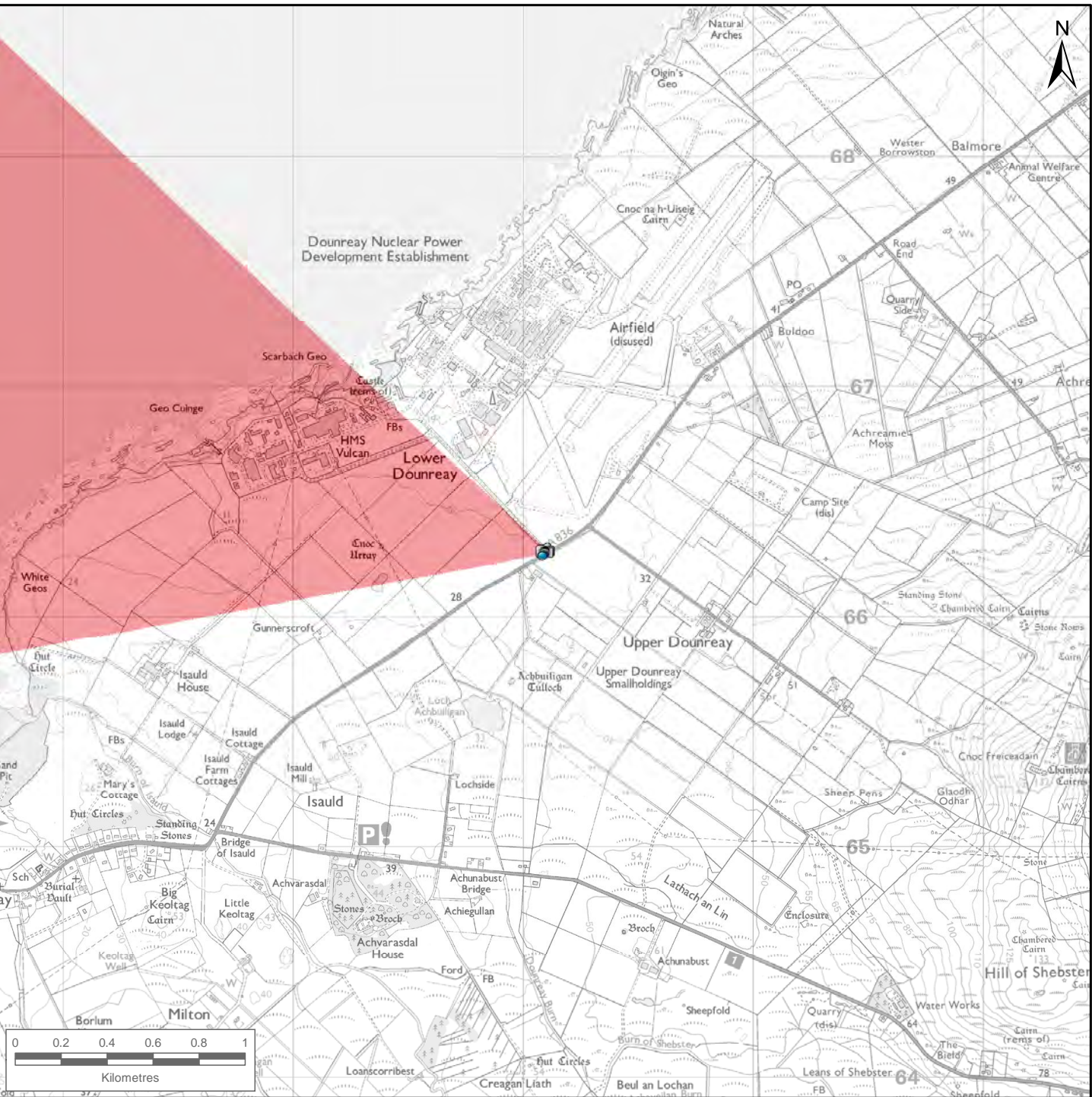
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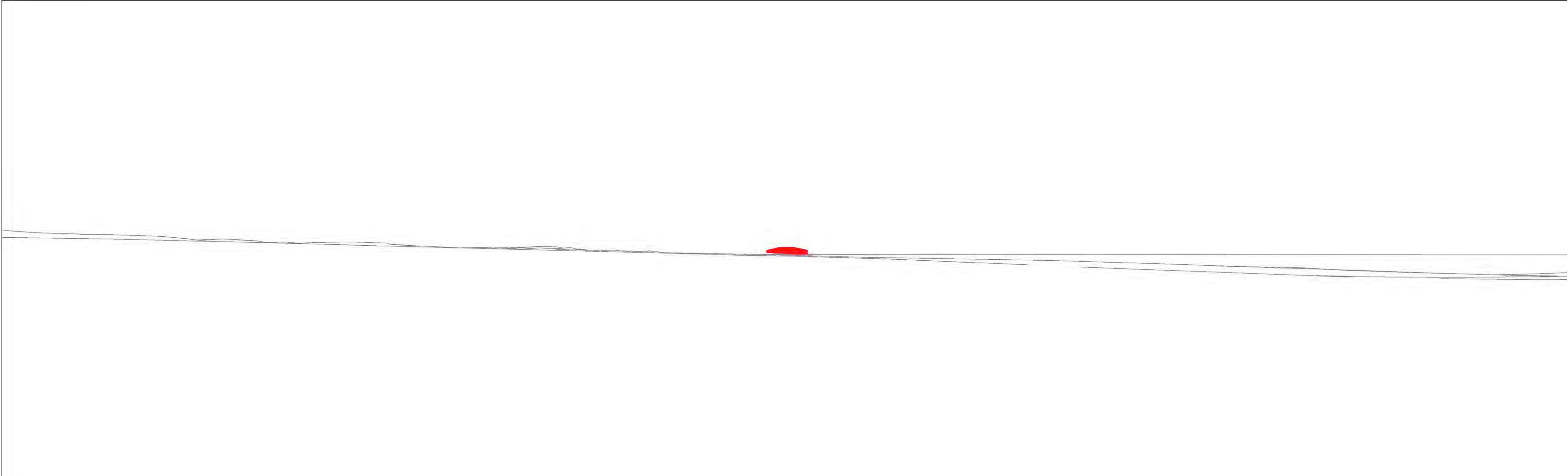
View flat at a comfortable arm's length

Viewpoint 10: Dounreay Road End

| | | | | | |
|------------------------|----------------|--------------------------|-------------------------|---------------|-----------------------|
| Grid Reference | 299096, 966282 | Horizontal Field of View | 53.5° planar projection | Camera | Canon EOS 5D Mark III |
| Viewpoint Height | 22 m AOD | Principal Distance | 813 mm | Lens | Canon EF 50 mm 1:1.4 |
| Direction of View | 286.35° | | | Camera Height | 1.5 m AGL |
| Distance to Substation | 867 m | | | Date and Time | 20/01/2016 13:01 |

Produced by:



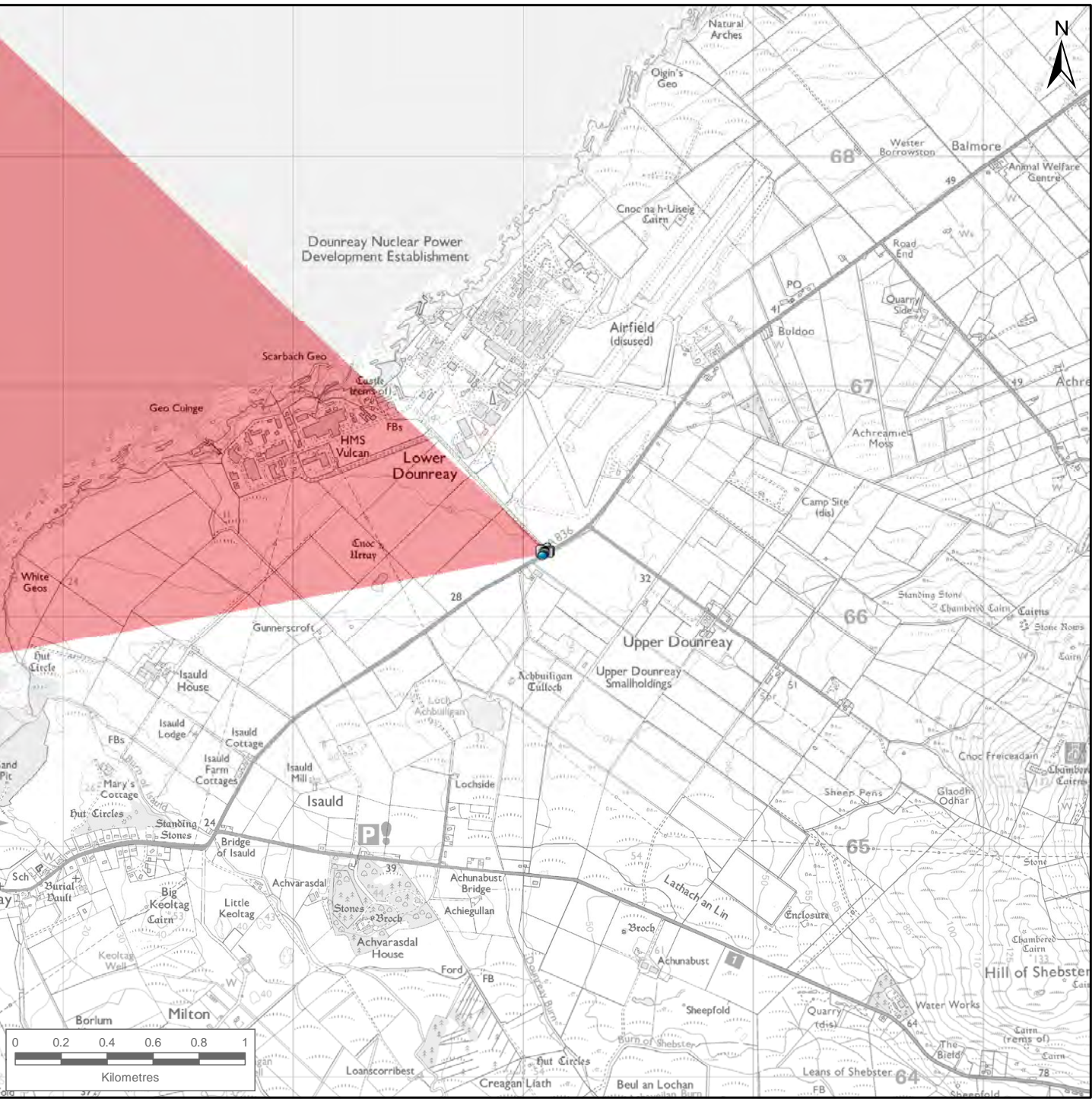


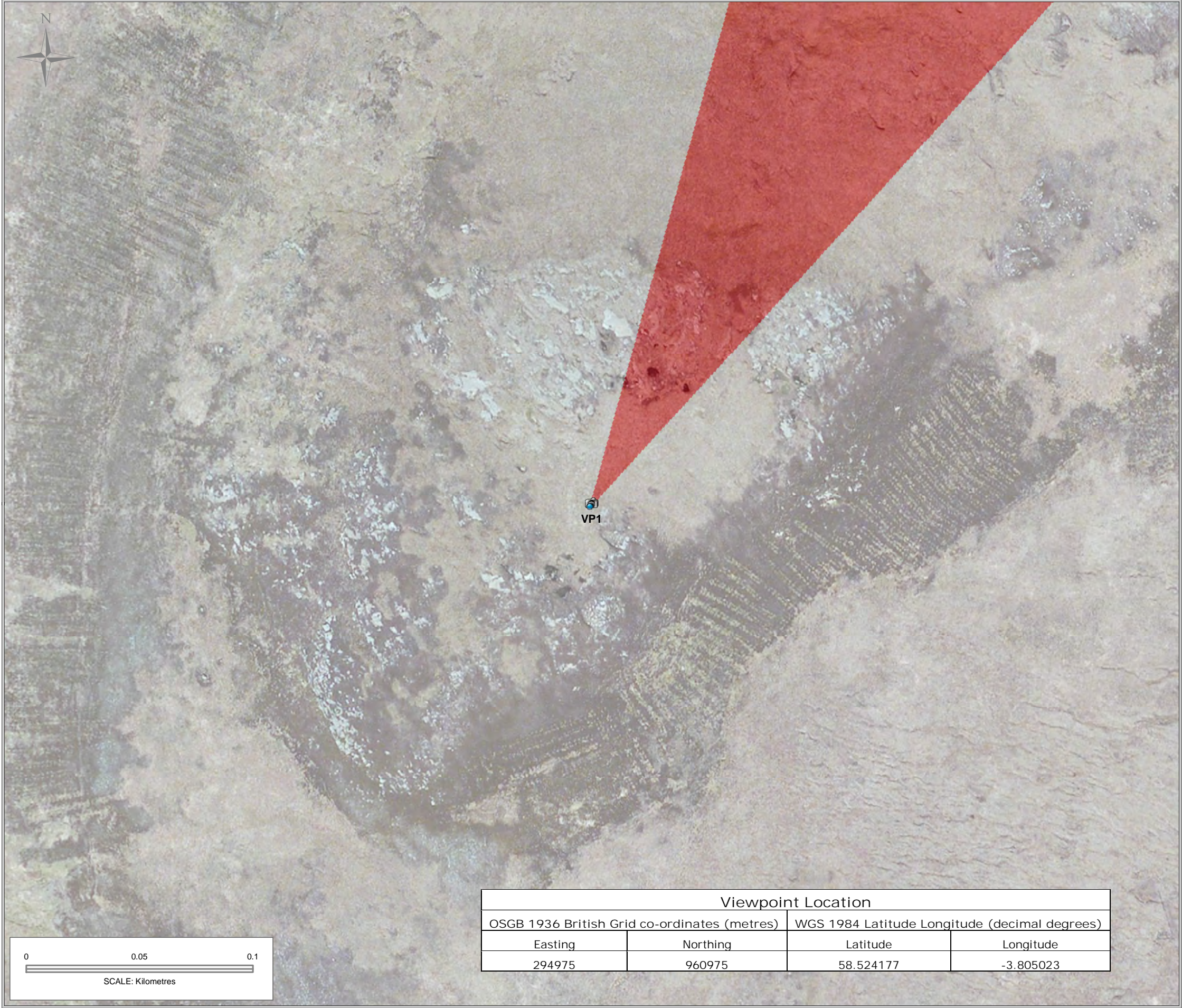
Wireline drawing

Viewpoint 10: Dounreay Road End

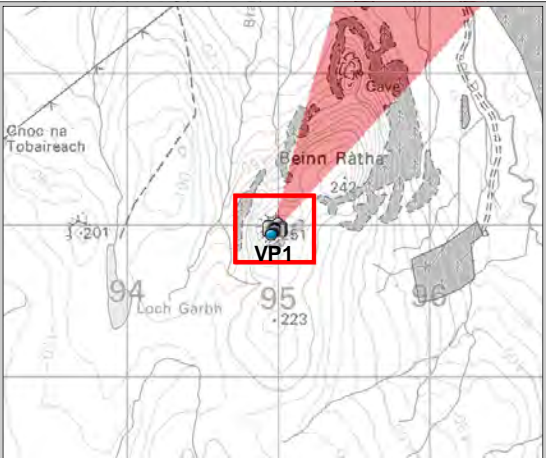
| | | | | | |
|------------------------|----------------|--------------------------|-------------------------|---------------|-----------------------|
| Grid Reference | 299096, 966282 | Horizontal Field of View | 53.5° planar projection | Camera | Canon EOS 5D Mark III |
| Viewpoint Height | 22 m AOD | Principal Distance | 813 mm | Lens | Canon EF 50 mm 1:14 |
| Direction of View | 286.35° | | | Camera Height | 1.5 m AGL |
| Distance to Substation | 867 m | | | Date and Time | 20/01/2016 13:01 |

Produced by:





| Viewpoint Location | | | |
|--|----------|---|-----------|
| OSGB 1936 British Grid co-ordinates (metres) | | WGS 1984 Latitude Longitude (decimal degrees) | |
| Easting | Northing | Latitude | Longitude |
| 294975 | 960975 | 58.524177 | -3.805023 |



Legend

 Viewpoint location

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Data source and licence information:

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| | | | |
|---------------|------------------|------------|-------------|
| Project: P686 | Date: 12/08/2016 | Author: DC | Checked: DS |
|---------------|------------------|------------|-------------|

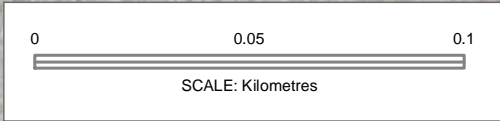
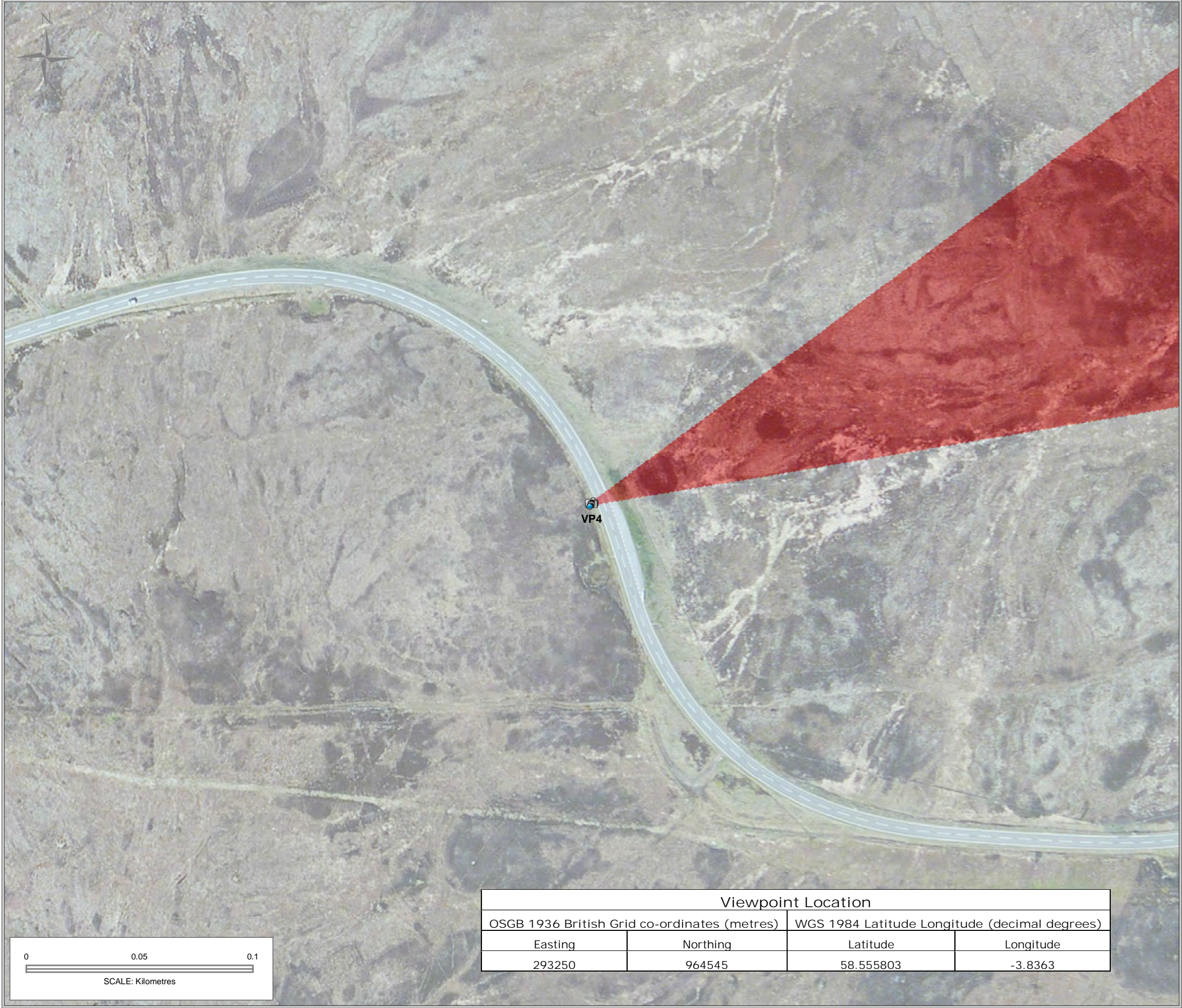
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Projection: Transverse Mercator
Datum: OSGB 1936
Scale @ A3: 1:1,760



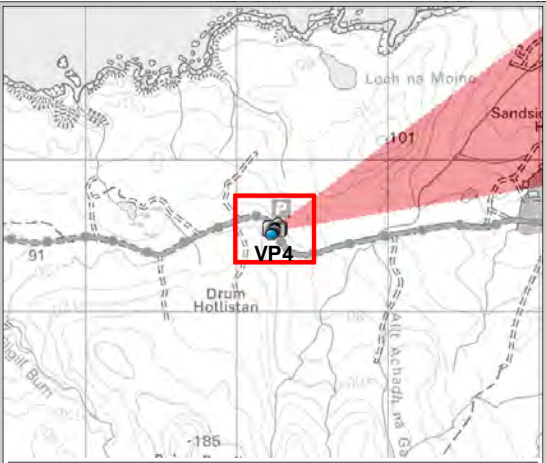


Viewpoint 1: Ben Ratha

This image is intended only for use at the viewpoint.



| Viewpoint Location | | | |
|--|----------|---|-----------|
| OSGB 1936 British Grid co-ordinates (metres) | | WGS 1984 Latitude Longitude (decimal degrees) | |
| Easting | Northing | Latitude | Longitude |
| 293250 | 964545 | 58.555803 | -3.8363 |



Legend

 Viewpoint location

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Data source and licence information:

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Ordnance Survey 01000040827

| | | | |
|---------------|------------------|------------|-------------|
| Project: P686 | Date: 12/08/2016 | Author: DC | Checked: DS |
|---------------|------------------|------------|-------------|

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Scale @ A3: 1:1,760





Viewpoint 4: Drum Holliston Car Park

This image is intended only for use at the viewpoint.



Viewpoint 10: Dounreay Road End

This image is intended only for use at the viewpoint.