

Technical Appendix 5.2

Residential Visual Amenity Assessment

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1. Introduction

1. In accordance with the third edition of 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA3), the LVIA (EIA Report Chapter 5) assesses the visual impact of the Proposed Development on public views and public visual amenity. This Residential Visual Amenity Assessment (RVAA) goes a stage beyond the LVIA by assessing the visual impact of the Proposed Development on residential visual amenity, and has been prepared in accordance with Technical Guidance Note 2/19 'Residential Visual Amenity Assessment' (Landscape Institute, 2019). This guidance sets out the steps to be followed when undertaking an RVAA and highlights how it should be informed by the principles and processes of GLVIA3. The purpose of the RVAA is to identify those properties where the effect of the Proposed Development leads to the 'Residential Visual Amenity Threshold' being reached or, in other words, where the effect is of such a nature and/or magnitude that it potentially affects living conditions. In relation to a wind farm development, this may occur as a result of the wind turbines giving rise to an 'overbearing' or 'overwhelming' magnitude of effect.
2. This assessment is carried out largely on site in order to observe and assess baseline factors such as the orientation of the property, the baseline views that may be gained, screening by vegetation and so on.
3. This RVAA assesses the likely effects of the Proposed Development on the visual component of residential amenity relating to individual properties within a localised study area. The term 'residential amenity' refers to the living conditions at a house, including its gardens and domestic curtilage, which are commonly interpreted to include visual amenity, noise amenity and other factors such as shadow flicker. In a RVAA OPEN addresses only the visual amenity aspect of residential amenity, as this is its area of expertise.
4. The purpose of the RVAA is to inform the planning process, as noted in guidance (Landscape Institute, 2019).

"It is not uncommon for significant adverse effects on views and visual amenity to be experienced by people at their place of residence as a result of introducing a new development into the landscape. In itself this does not necessarily cause particular planning concern. However, there are situations where the effect on the outlook/visual amenity of a residential property is so great that it is not generally considered to be in the public interest to permit such conditions to occur where they did not exist before."

2. Approach

5. The approach to RVAA set out in guidance (Landscape Institute, 2019) is based on four steps:
 - Step 1: Definition of the study area and scope of the assessment, informed by the description of the Proposed Development, defining the study area extent and scope of the assessment with respect to the properties to be included.
 - Step 2: Evaluation of baseline visual amenity at properties to be included, having regard to the landscape and visual context and the potential influence of the Proposed Development.
 - Step 3: Assessment of likely change to visual amenity of included properties in accordance with GLVIA3 principles and processes.
 - Step 4: Further assessment of predicted change to the visual amenity of properties where a judgement in relation to the Residential Visual Amenity Threshold is required.

Step 1

6. Step 1 involves defining the extent of the study area and establishing the scope of the assessment. In respect of defining the extent of the study area, Technical Guidance gives the following advice (Paragraphs 4.6 and 4.7):

“Over the last few years a large number of RVAAAs have been prepared, especially relating to wind energy proposals. Local Planning Authorities (LPA) have frequently requested ‘study areas’ of up to 3 or even 5 km. The logic for these (exceptionally) large study areas was based on certain findings of LVIAAs which identified significant visual effects from ‘settlements’ or from clusters of residential properties within this range. This fails to recognise that RVAA is a stage beyond LVIA. Consequently, many RVAAAs, including those of windfarms with large turbines (150m and taller), have included disproportionately extensive study areas incorporating too many properties. This appears to largely be based on the misconception that if a significant effect has been identified in the LVIA adjacent to a property at 2.5 km it will also potentially lead to reaching the Residential Visual Amenity Threshold.

When assessing relatively conspicuous structures such as wind turbines, and depending on local landscape characteristics, a preliminary study area of approximately 1.5 to 2 km radius may initially be appropriate in order to begin identifying properties to include in a RVAA...”

7. In line with this guidance, the study area for the Proposed Development has been drawn out to the larger 2 km radius recommended, as shown on **Figure 1** of this Appendix. All residential properties within the 2 km study areas have been identified using AddressBase Plus data and mapped, also shown on Figure 1. This includes residential properties that have potential to be occupied as dwelling houses or as holiday accommodation.

Step 2

8. Step 2 involves carrying out an evaluation of the baseline visual amenity at the properties through a combination of desk study and field work. The key considerations of this evaluation are set out in the Technical Guidance as follows:

“The nature and extent of all potentially available existing views from the property and its garden/ domestic curtilage, including the proximity and relationship of the property to surrounding landform/ landcover and visual foci. This may include primary/main views from the property or domestic curtilage as well as secondary/peripheral views; and...Views as experienced when arriving or leaving the property, for example from private driveways/access tracks.”

9. There are 12 properties that lie within the 2 km radius study area for the Proposed Development. RVAA sheets have been prepared for these properties, each incorporating an OS map and aerial photograph of the property that shows the viewshed towards the Proposed Development, and a description of baseline views. Wireline views that illustrate the theoretical visibility of the Proposed Development from the properties that are included within the 2 km radius study area are presented in Figures 2a to 2j of this Appendix.
10. Residential properties that are within close proximity of each other, are of a similar construction and gain a similar outlook are often grouped together in RVAA. In this case, there are two groups of properties: 1 and 2 Blairquhamrie Cottages and 3 and 4 Blairquhamrie Cottages. These are two pairs of semi-detached cottages that will gain a very similar outlook and view of the Proposed Development.

Step 3

11. Step 3 involves carrying out an assessment of the likely change to the visual amenity of properties by applying the process of assessment described in GLVIA3, in which the sensitivity of the receptor is combined with the magnitude of change that will arise as a result of the Proposed Development to determine whether the effect will be significant or not significant. The aim of Step 3 is to identify those properties with potential

to reach Residential Visual Amenity Threshold and therefore require further assessment in Step 4. This will generally only occur where a **high** or **medium-high** magnitude of change is assessed for a property, as the threshold reflects those effects that are at the extreme where they may become overwhelming or overbearing. The key considerations of this assessment are set out in the Technical Guidance as follows:

- *'Distance of property from the proposed development having regard to its size/scale and location relative to the property (e.g. on higher or lower ground);*
- *Type and nature of the available views (e.g. panoramic, open, framed, enclosed, focused etc.) and how they may be affected, having regard to seasonal and diurnal variations;*
- *Direction of view / aspect of property affected, having regard to both the main/primary and peripheral/ secondary views from the property;*
- *Extent to which development/landscape changes would be visible from the property (or parts of) having regard to views from principal rooms, the domestic curtilage (i.e. garden) and the private access route, taking into account seasonal and diurnal variations;*
- *Scale of change in views having regard to such factors as the loss or addition of features and compositional changes including the proportion of view occupied by the development, taking account of seasonal and diurnal variations;*
- *Degree of contrast or integration of new features or changes in the landscape compared to the existing situation in terms of form, scale and mass, line, height, colour and texture, having regard to seasonal and diurnal variations;*
- *Duration and nature of the changes, whether temporary or permanent, intermittent or continuous, reversible or irreversible etc.; and*
- *Mitigation opportunities - consider implications of both embedded and potential further mitigation.'*

12. OPEN's methodology assumes that all occupiers of local residential properties within the RVAA will have a high sensitivity. The significance of the effect on residential visual amenity experienced at each property is dependent on the factors considered in the sensitivity and the magnitude of change resulting from the Proposed Development. These judgements on sensitivity and magnitude are combined to arrive at an overall assessment as to whether the Proposed Development will have an effect on residential visual amenity that is significant or not significant.

13. The assessment process - the evaluation of magnitude of change and the significance of the effect - is described on the RVAA sheets in this Appendix. Where properties are assessed as having a high magnitude of change, a Step 4 assessment is required to determine whether or not the Residential Visual Amenity Threshold has been reached.

Step 4

14. Step 4 of the RVAA is described as follows in Technical Guidance (Paragraphs 4.17 to 4.20):

"The final step of RVAA involves a more detailed examination of the predicted effects on the visual amenity at those properties identified for further assessment in the previous step.

There is an important distinction between this concluding step of RVAA and the preceding one. In Step 3 the assessor has reached a conclusion with respect to magnitude and (EIA) significance of visual effect, and the change in visual amenity at the property. In this final step, and only for those properties where the largest magnitude of effect has been

identified, a further judgement is required. This concluding judgement should advise the decision maker whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, therefore potentially becoming a matter of Residential Amenity. This judgement should be explained in narrative setting out why the effects are considered to reach the Residential Visual Amenity Threshold. Equally, judgements should explain why the threshold has not been reached.

The Residential Visual Amenity Threshold judgement should be communicated in a coherent manner, using text with clear descriptions, employing terminology which is commonly understood and descriptors which may have previously been used. Assessors should ensure that their judgements are unambiguous and have a clear, rational conclusion. Some examples of descriptions and descriptors that might be used include: 'blocking the only available view from a property', or 'overwhelming views in all directions'; and 'unpleasantly encroaching' or being 'inescapably dominant from the property'. It may also be useful to employ bespoke graphics such as annotated aerial photographs and wireframe visualisations to aid this further assessment in Step 4.

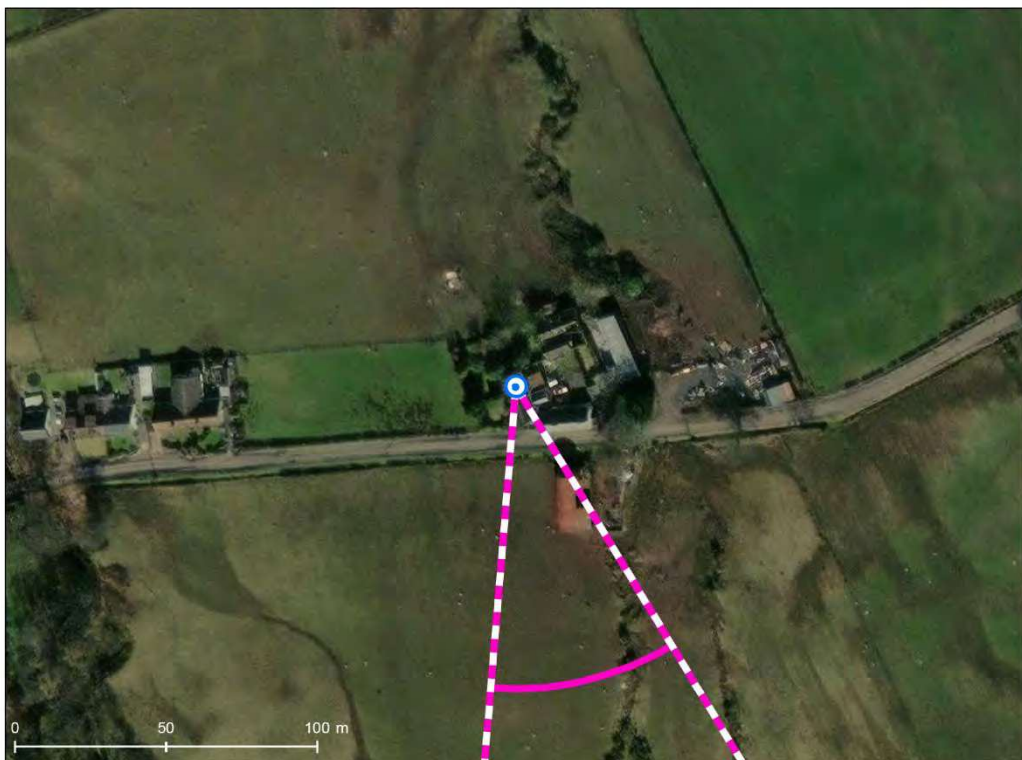
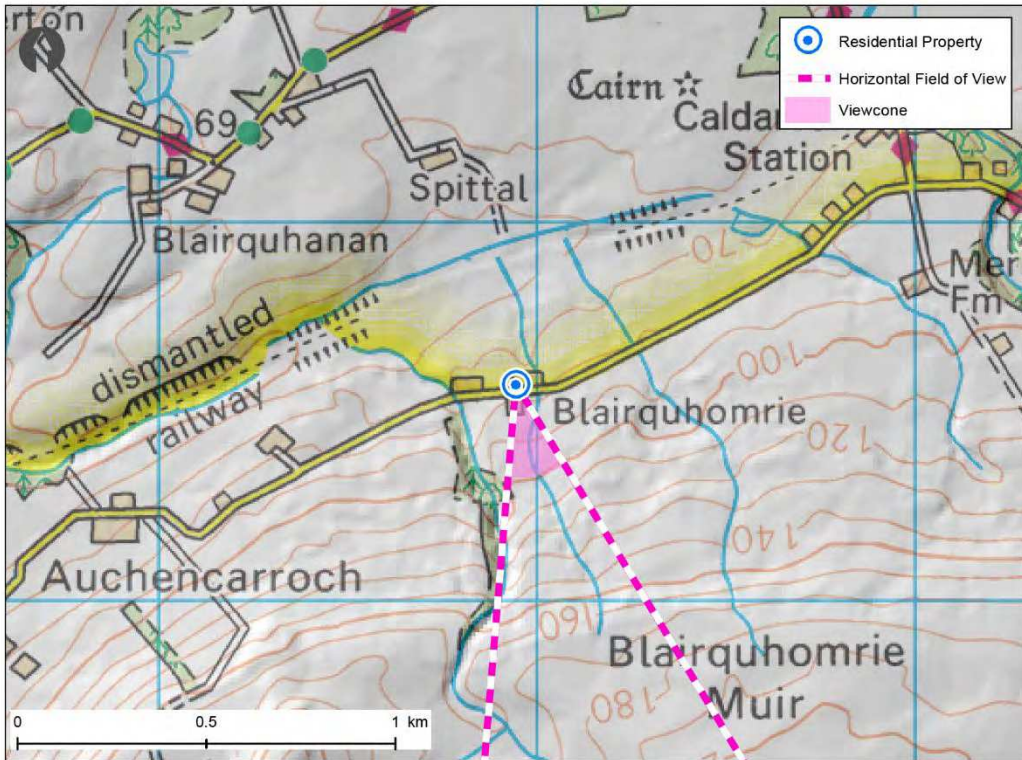
The key point regarding Step 4 is that the judgement required in this final, concluding step goes beyond the assessment undertaken in Step 3 which is restricted to judging the magnitude and significance of visual effect, typically as a supplement to the accompanying LVIA."

15. The Step 4 assessment is included on the RVAA sheets for each of the relevant properties. Where this RVAA identifies any properties at the threshold in Step 4, this does not imply an unacceptable effect, as any finding of acceptability requires to be undertaken as part of the wider planning balance. The 'threshold' acts to identify those properties where a predicted change to visual amenity is of such magnitude that it should be weighed in the planning balance, along with other EIA effects.

3. RVAA Sheets

Property 1: Blairquhamrie Farm Wireline view shown on TA 5.2 Figure 2a		
Location of property: northern side of Auchincarroch Road, north of the Proposed Development	Property description: detached two-storey, rendered/painted house with outbuildings/ farm buildings	Grid reference: 242945, 682573 Distance from nearest turbine: 1.91 km
<p>Step 2: Baseline Visual Amenity</p> <p>Property has not been internally accessed and the assessment is drawn from roadside views and aerial photography.</p> <p>The house is perpendicular to the road and the main orientation of views appears to be west-south-west/east-north-east, with windows on these elevations. An offshoot to the house or possible farm building runs parallel to the road, perpendicular to the house. While there are no windows on the south-south-east elevation of the house or the offshoot, there is a ground-level sunroom on the south-south-east elevation and a porch with a window on the west-south-west elevation. There is extensive garden vegetation to the north and east of the house.</p> <p>The most open outlook is likely to be gained from the west-south-west elevation, from where long westwards views across the countryside may be gained. Views from windows in the east-north-east elevation are likely to be screened/filtered to some degree by farm buildings and vegetation. Southwards views are likely to be very limited due to screening by the offshoot building that runs perpendicular to the house/parallel to the road, and views from the sunroom and porch will be largely screened by garden vegetation. There may be northwards views from any windows in the north-north-west gable. Views from the yard and garden are likely to be enclosed by farm buildings and garden vegetation.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: medium • Significance of effect: major/moderate and significant visual effect <p>The wirelines show theoretical visibility of eight turbines in the Proposed Development, three as hubs and five as blades only, with the nearest turbine 1.91 km away. Lower towers are all screened by landform. The Proposed Development would affect approximately 39° of the view.</p> <p>The Proposed Development lies to the south of the property and is unlikely to be seen in views from the house due to lack of windows in the south-south-western elevation. Views of the Proposed Development from the sunroom/porch are likely to be screened by vegetation and views from the garden/yard would be screened by buildings and vegetation. The Proposed Development is therefore unlikely to have a notable effect on views from the house or its immediate curtilage.</p> <p>The Proposed Development would, however, be visible on approach to/exit from the yard, with the turbines introducing large-scale, moving features onto the elevated skyline of the Kilpatrick Hills that rises to the south of the house, and this visibility would lead to the medium magnitude of change. Magnitude of change is limited by the landform screening of parts of the turbines, which both reduces the level of visibility and the vertical impact of the turbines on the skyline, and by the likely lack of notable visibility from the house and immediate curtilage. The barn to the south of the road would also provide partial screening.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the medium magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

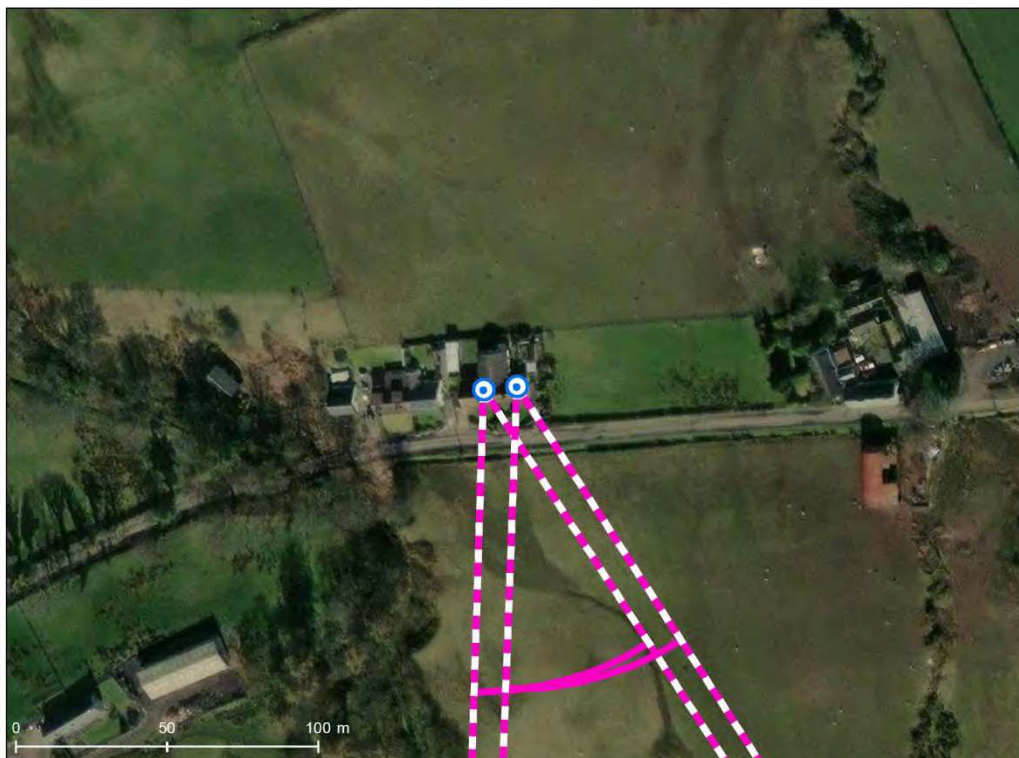
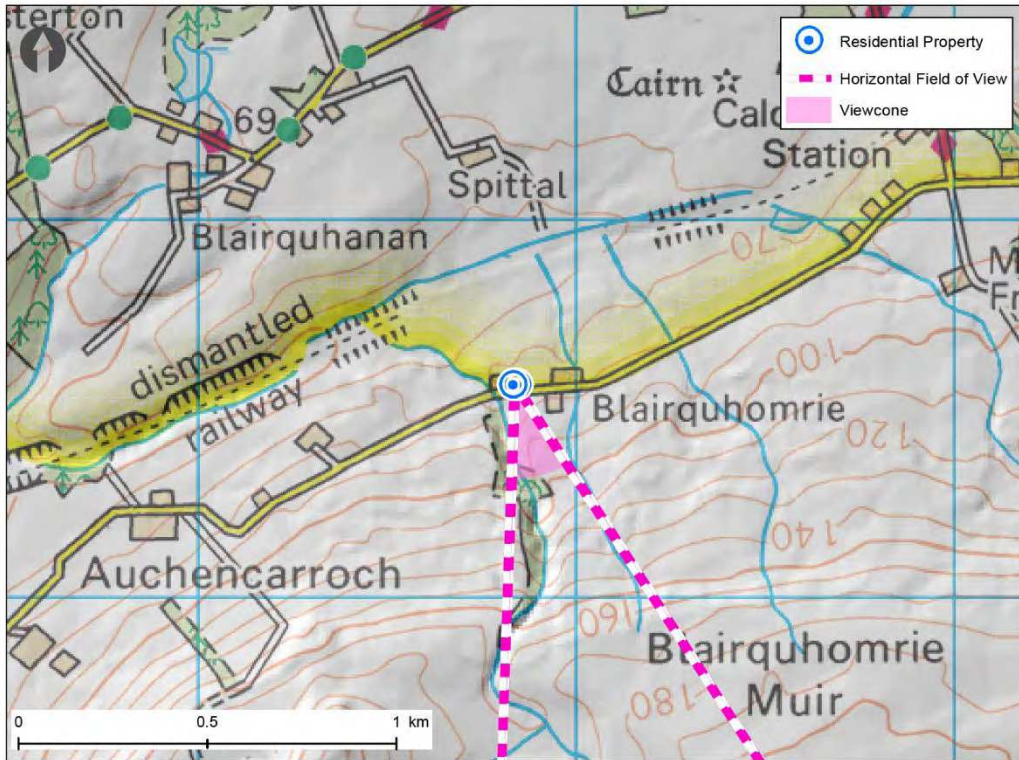
Property 1: Blairquhamrie Farm



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Property 2: 3 and 4 Blairquhamrie Cottages Wireline view shown on TA 5.2 Figure 2b		
Location of property: northern side of Auchincarroch Road, north of the Proposed Development	Property description: pair of semi-detached single-storey cottages with front and rear gardens and outbuildings	Grid reference: 242844, 682565 Distance from nearest turbine: 1.93 km
<p>Step 2: Baseline Visual Amenity</p> <p>Properties have not been internally accessed and the assessment is drawn from roadside views, detailed mapping and aerial photography.</p> <p>The frontage of this pair of L-shaped cottages is south-facing, parallel to the road, with the 'L' off-shooting on the northern side of the properties. Each cottage is likely to have three aspects, with both having north and south-facing views, and number 4 having eastwards views while number 3 would have westwards views. Both properties have large south-facing windows which look towards the rising skyline of the Kilpatrick Hills across fields with some woodland screening in the middle-ground of the view. The landform rises to the south of the properties and some foreshortening of the view is apparent. There is some limited garden vegetation immediately to the south of the properties. The northern aspect is likely to be a spectacular view towards Loch Lomond and its mountainous setting, emphasised by the dropping-away of landform from the north of the properties. Views to the east and west would look towards Blairquhamrie Farm (Property 1) and numbers 1 and 2 Blairquhamrie Cottages (Property 3) respectively.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: medium-high • Significance of effect: major and significant visual effect <p>The wirelines show theoretical visibility of seven turbines in the Proposed Development, three as hubs and four as blades only, with the nearest turbine 1.93 km away. Lower towers are all screened by landform. The Proposed Development would affect approximately 38° of the view.</p> <p>The Proposed Development lies to the south, and the turbines may be seen on the skyline of the Kilpatrick Hills from within south-facing rooms, as well as a higher level of visibility from the front gardens. Woodland would provide some filtering of views, especially in summer, and garden vegetation may filter views from within properties. The elevation of the skyline above the properties would increase the impact of the turbines, but the landform screening of parts of the turbines would reduce both the level of visibility and the vertical impact of the turbines and thus tempers the magnitude of change. The northwards outlook across LLTNP would remain unaffected as would views to the east and west, and views from rear gardens. The Proposed Development would be visible on approach to and exiting properties.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the medium-high magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

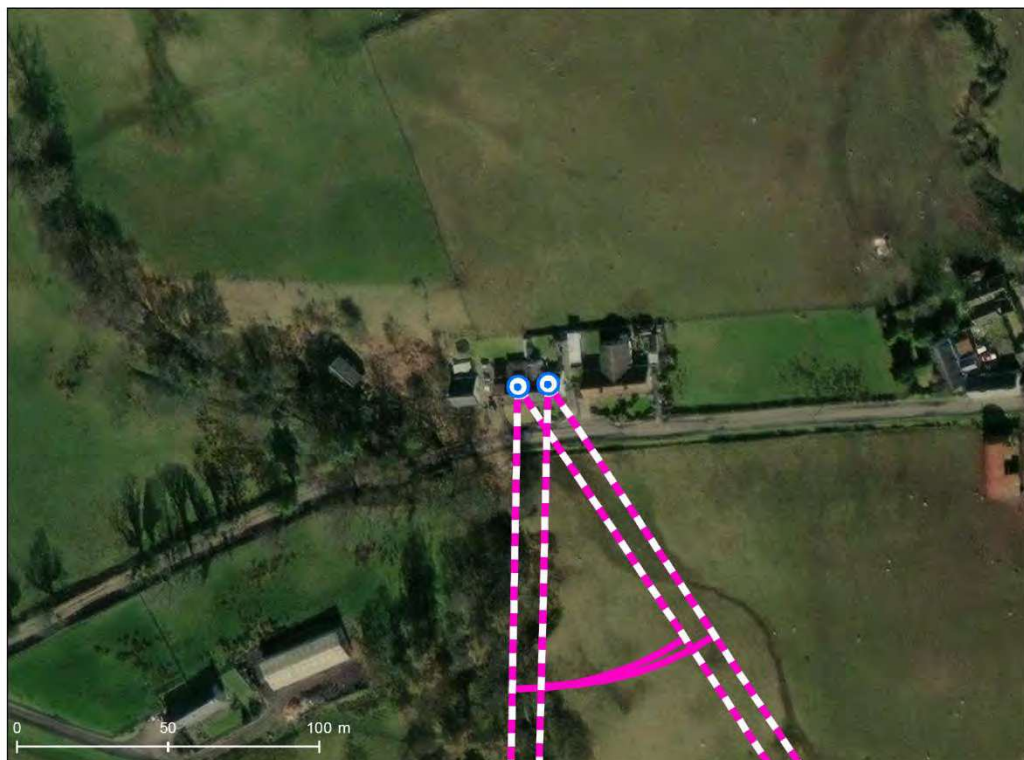
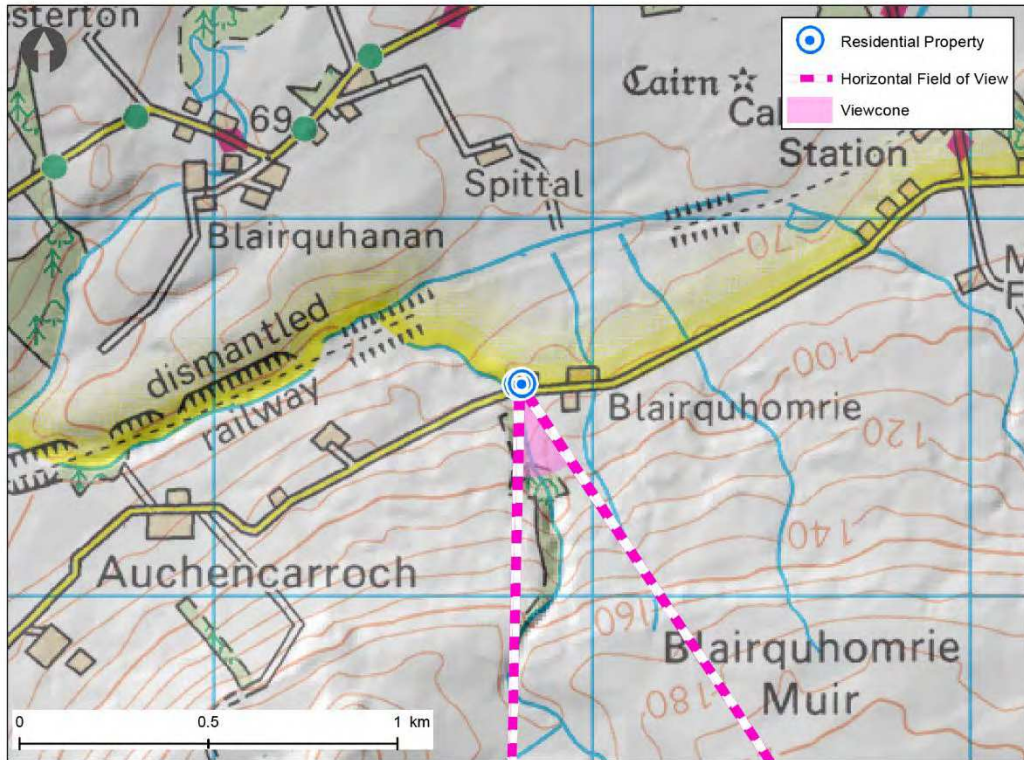
Property 3 and 4: Blairquhamrie Cottages



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Property 3: 1 and 2 Blairquhamrie Cottages Wireline view shown on Figure 2c		
Location of property: northern side of Auchincarroch Road, north of the Proposed Development	Property description: pair of semi-detached single-storey/1.5-storey cottages with front and rear gardens and outbuildings	Grid reference: 242804, 682562 Distance from nearest turbine: 1.95 km
<p>Step 2: Baseline Visual Amenity</p> <p>Number 2 Blairquhamrie Cottages has been internally accessed and the assessment is drawn from a visit into this property as well as roadside views, detailed mapping and aerial photography.</p> <p>As with numbers 3 and 4 Blairquhamrie Cottages, the frontage of this pair of L-shaped cottages is south-facing, parallel to the road, with the 'L' off-shooting on the northern side of the properties. Each cottage is likely to have three aspects, with both having north and south-facing views, and number 2 having eastwards views while number 1 would have westwards views. Both properties have large south-facing windows which look towards the rising skyline of the Kilpatrick Hills across fields with some woodland screening in the middle-ground of the view. The landform rises to the south of the properties and some foreshortening of the view is apparent. There is limited garden vegetation immediately to the south of the properties. The northern aspect seen at number 2 is a spectacular view towards Loch Lomond and its mountainous setting, emphasised by the dropping-away of landform from the north of the properties. Views to the east would look towards numbers 3 and 4 Blairquhamrie Cottages while views to the west would overlook an adjacent garage and woodland/fields.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: medium-high • Significance of effect: major and significant visual effect <p>The wirelines show theoretical visibility of seven turbines in the Proposed Development, three as hubs and four as blades only, with the nearest turbine 1.95 km away. Lower towers are all screened by landform. The Proposed Development would affect approximately 38° of the view.</p> <p>The Proposed Development lies to the south, and the turbines may be seen on the skyline of the Kilpatrick Hills from within south-facing rooms, as well as a higher level of visibility from the front gardens. Woodland would provide some filtering of views, especially in summer, and garden vegetation may filter views from within properties. The elevation of the skyline above the properties would increase the impact of the turbines, but the landform screening of parts of the turbines would reduce both the level of visibility and the vertical impact of the turbines and thus tempers the magnitude of change. The elevated and open northwards outlook across LLTNP would remain unaffected as would views to the east and west, and views from rear gardens. The Proposed Development would be visible on approach to and exiting properties.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the medium-high magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

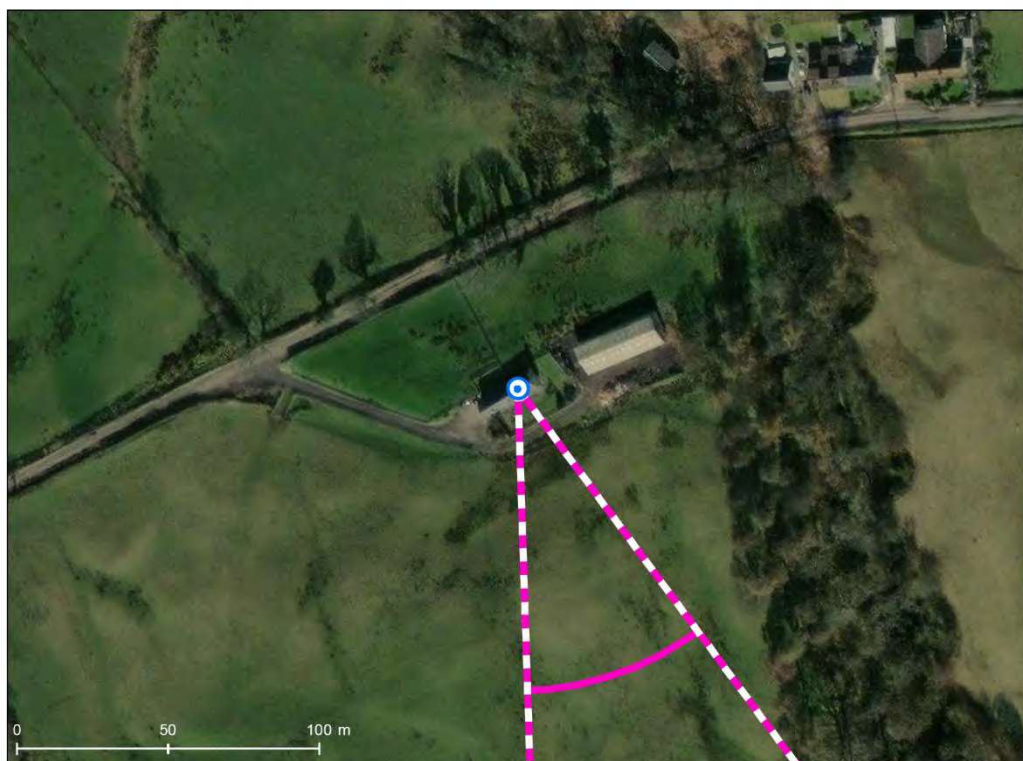
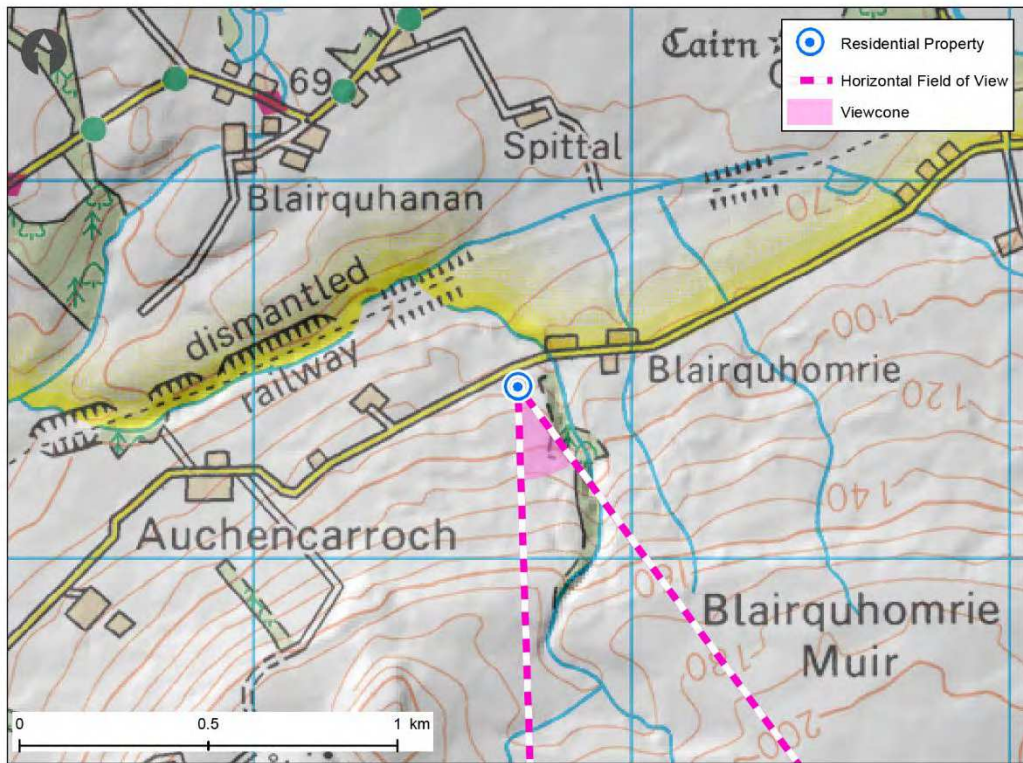
Property 1 and 2: Blairquhamrie Cottages



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Property 4: Unnamed Property Wireline view shown on Figure 2d		
Location of property: southern side of Auchincarroch Road, north-north-west of the Proposed Development	Property description: 1.5-storey detached cottage with gardens and large detached outbuilding to the east	Grid reference: 242700, 682457 Distance from nearest turbine: 1.89 km
<p>Step 2: Baseline Visual Amenity</p> <p>This property has not been internally accessed and the assessment is drawn from roadside views, detailed mapping and aerial photography.</p> <p>This property is in an elevated location to the south of Auchincarroch Road and has a north-west/south-east orientation. There are large windows in the north-west-facing aspect and are likely to be windows in all elevations. The north-western aspect is likely to be a spectacular view towards Loch Lomond and its mountainous setting, emphasised by the elevation of the property. The landform rises quite steeply to the south of the property and views in this direction are likely to be foreshortened. Woodland to the east and south-east of the property is likely to provide some screening of the longer view in this direction. Views along the hillside to the west are likely to be available from the western gable end, while the large outbuilding to the east will provide close-by screening in that direction.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: medium • Significance of effect: major/moderate and significant visual effect <p>The wirelines show theoretical visibility of four turbines in the Proposed Development, one as a hub and three as blades only, with the nearest turbine 1.89 km away. Lower towers are all screened by landform. The Proposed Development would affect approximately 38° of the view.</p> <p>The Proposed Development lies to south-south-east of the property, and the turbines may be seen on the skyline of the Kilpatrick Hills from within south-east-facing rooms, as well as from outside space to the south of the property. Woodland would provide some filtering of views, especially in summer. The elevation of the skyline above the properties would increase the impact of the turbines, but the landform screening of large parts of the turbines would reduce both the level of visibility and the vertical impact of the turbines and thus tempers the magnitude of change. The elevated and open north-westwards outlook across LLTNP would remain unaffected as would views to the east and west. The Proposed Development would be visible on approach to and exiting the property.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the medium magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

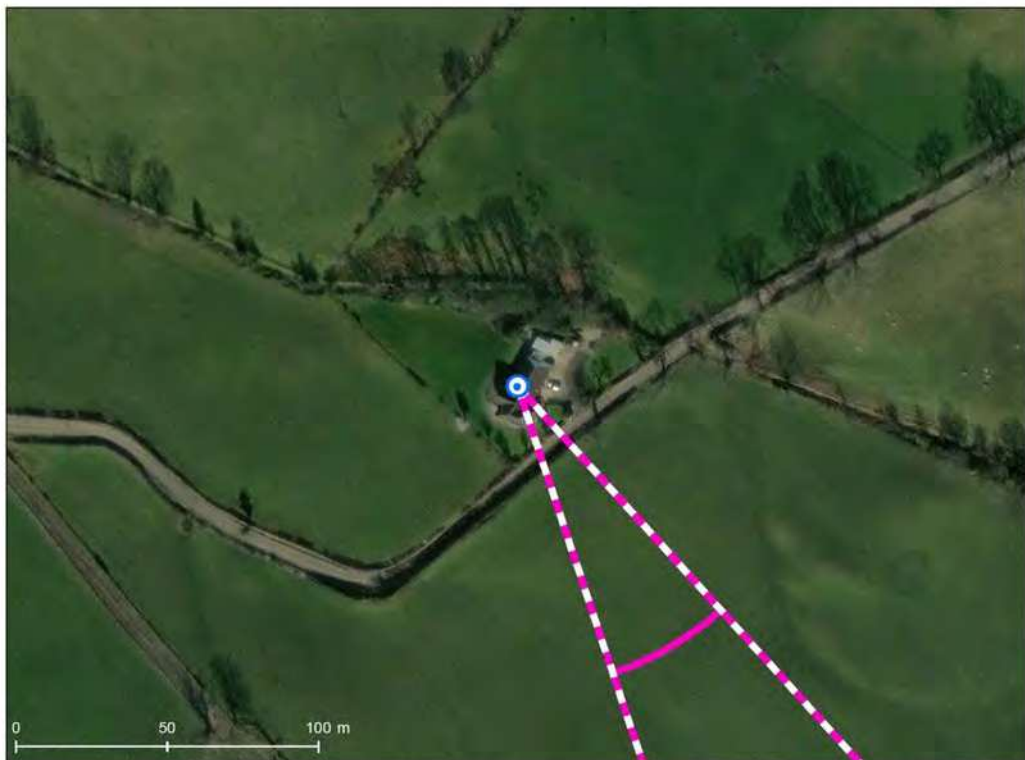
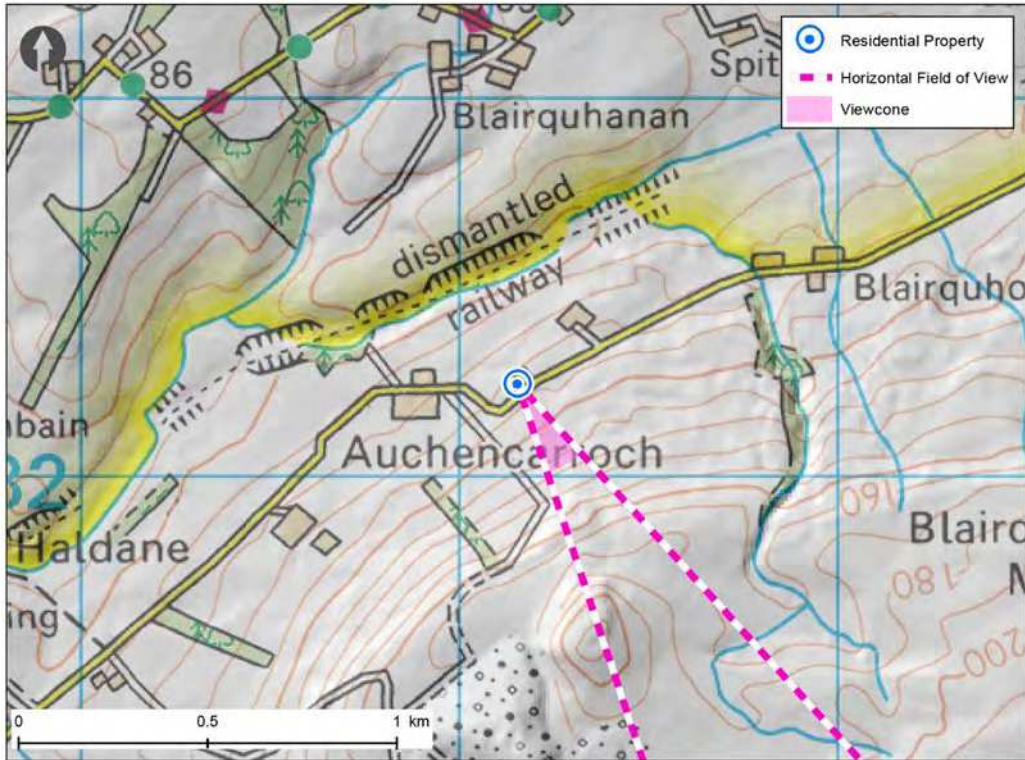
Property 4: Unnamed Property



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Property 5: Quarrybrae Wireline view shown on Figure 2e		
Location of property: northern side of Auchincarroch Road, north-west of the Proposed Development	Property description: single-storey detached house with gardens and garage/outbuildings to north-east	Grid reference: 242154, 682247 Distance from nearest turbine: 1.94 km
<p>Step 2: Baseline Visual Amenity</p> <p>This property has not been internally accessed and the assessment is drawn from roadside views, detailed mapping and aerial photography.</p> <p>This property is in an elevated location to the north of Auchincarroch Road and has a north-west/south-east orientation. There are large windows in the north-west-facing aspect and are likely to be windows in all elevations. The key orientation is to the north-west, which has a spectacular view towards Loch Lomond and its mountainous setting, emphasised by the elevation of the property. The road frontage to the south and south-east is bounded by a hedge that is likely to screen views to the south and south-east, and a second hedge on the south side of the road provides additional screening. Rising landform to the south of the road also foreshortens views in this direction.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: medium-low • Significance of effect: moderate and not significant visual effect <p>The wirelines show theoretical visibility of three turbines in the Proposed Development, one as a hub and two as blades only, with the nearest turbine 1.94 km away. Lower towers are all screened by landform. The Proposed Development would affect approximately 28° of the view.</p> <p>The Proposed Development lies to south-east of the property, and the turbines would theoretically be seen on the skyline of the Kilpatrick Hills in this aspect of the outlook. However, the hedgerows that line both sides of the road would provide screening of views, especially in summer. If the turbines were visible, landform screening of the majority of the Proposed Development would reduce both the level of visibility and the vertical impact of the turbines and considerably tempers the magnitude of change. The elevated and open north-westwards outlook across LLTNP would remain unaffected as would views to the east and west.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the medium-low magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

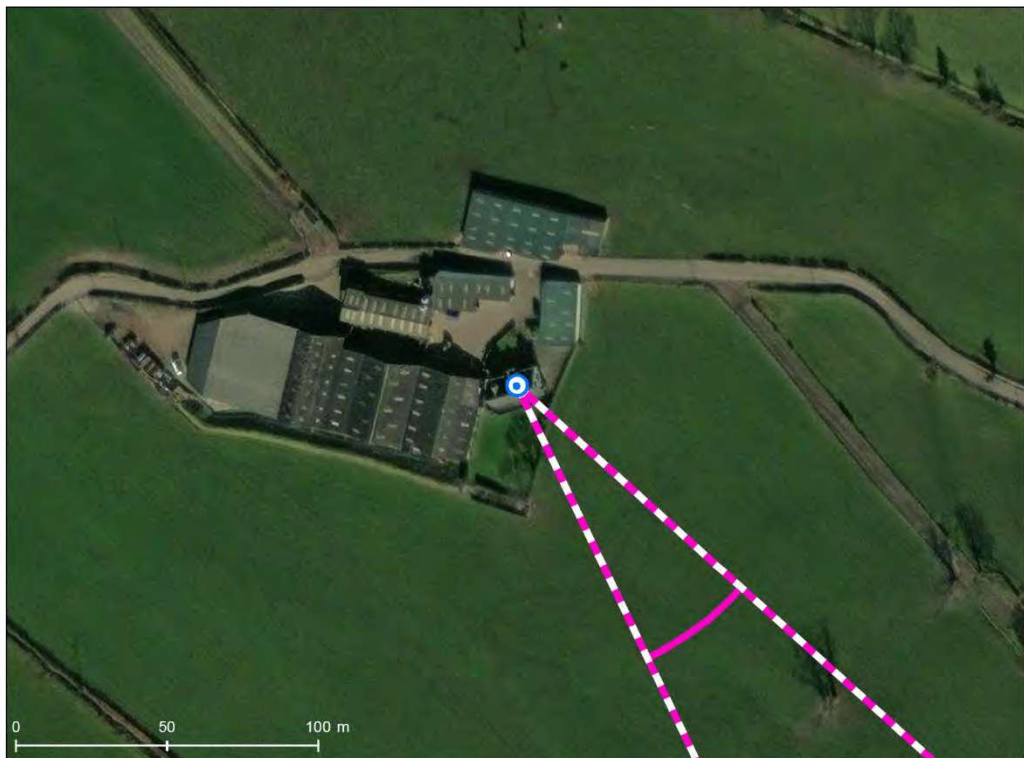
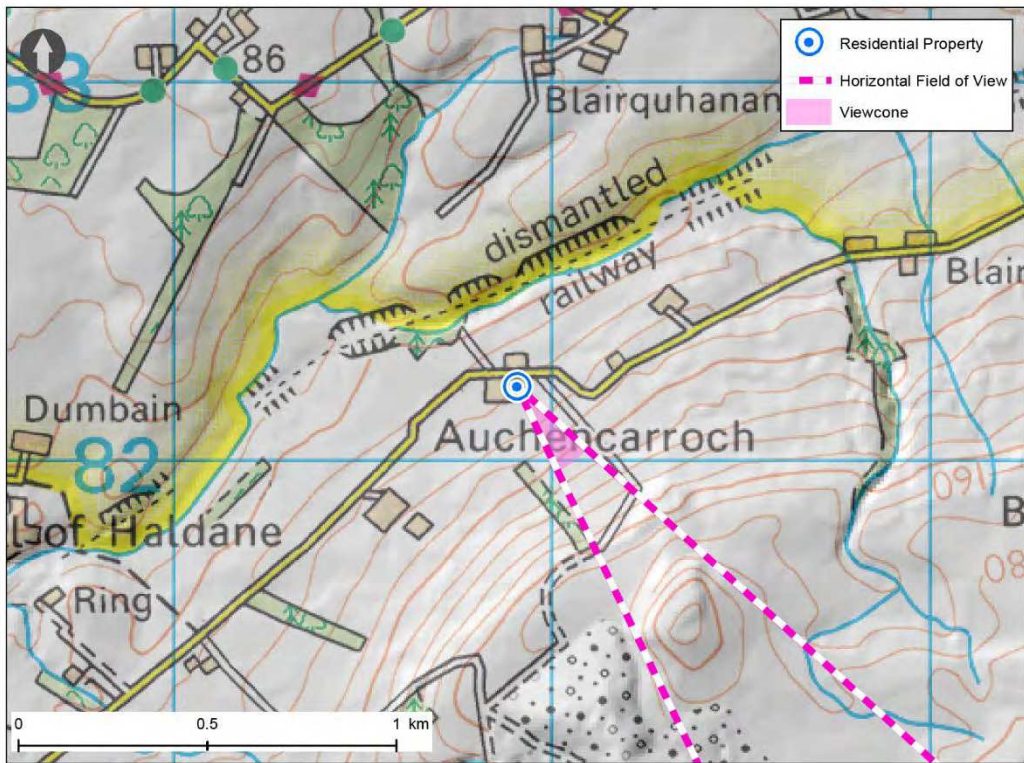
Property 5: Quarrybrae



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Property 6: Mid Auchencarroch Wireline view shown on Figure 2f		
Location of property: southern side of Auchincarroch Road, north-west of the Proposed Development	Property description: 1.5-storey detached farmhouse with gardens to north and south and large agricultural buildings to north and west	Grid reference: 241908, 682197 Distance from nearest turbine: 1.98 km
<p>Step 2: Baseline Visual Amenity</p> <p>This property has not been internally accessed and the assessment is drawn from roadside views, detailed mapping and aerial photography.</p> <p>This property is in an elevated location to the south of Auchincarroch Road and has a north-north-west/south-south-east orientation. There are a number of windows in the north-north-west and south-south-east facing aspects and several in the east-north-east gable end. The other gable end appears to abut farm buildings. The key orientation appears to be north-north-west, which is likely to have a spectacular view across the farm buildings towards Loch Lomond and its mountainous setting, emphasised by the elevation of the property. Views to the south-south-east will be less open, with landform rising up to the south of the property and woodland filtering in the middle ground of the view. There also appears to be some garden vegetation to the south of the house. Views to the east are open, along the hillside, while views to the west are likely to be screened by farm buildings.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: medium-low • Significance of effect: moderate and not significant visual effect <p>The wirelines show theoretical visibility of two turbines in the Proposed Development, one as a hub and one as a blade, with the nearest turbine 1.98 km away. Lower towers are screened by landform. The Proposed Development would affect approximately 27° of the view.</p> <p>The Proposed Development lies to south-east of the property, and the turbines would theoretically be seen on the skyline of the Kilpatrick Hills in this aspect of the outlook. However, landform screening of the majority of the Proposed Development would reduce both the level of visibility and the vertical impact of the turbines and this considerably tempers the magnitude of change. Garden vegetation and woodland screening on the skyline is also likely to reduce visibility, especially in summer. The elevated north-westwards outlook across LLTNP would remain unaffected as would views to the east and west.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the medium-low magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

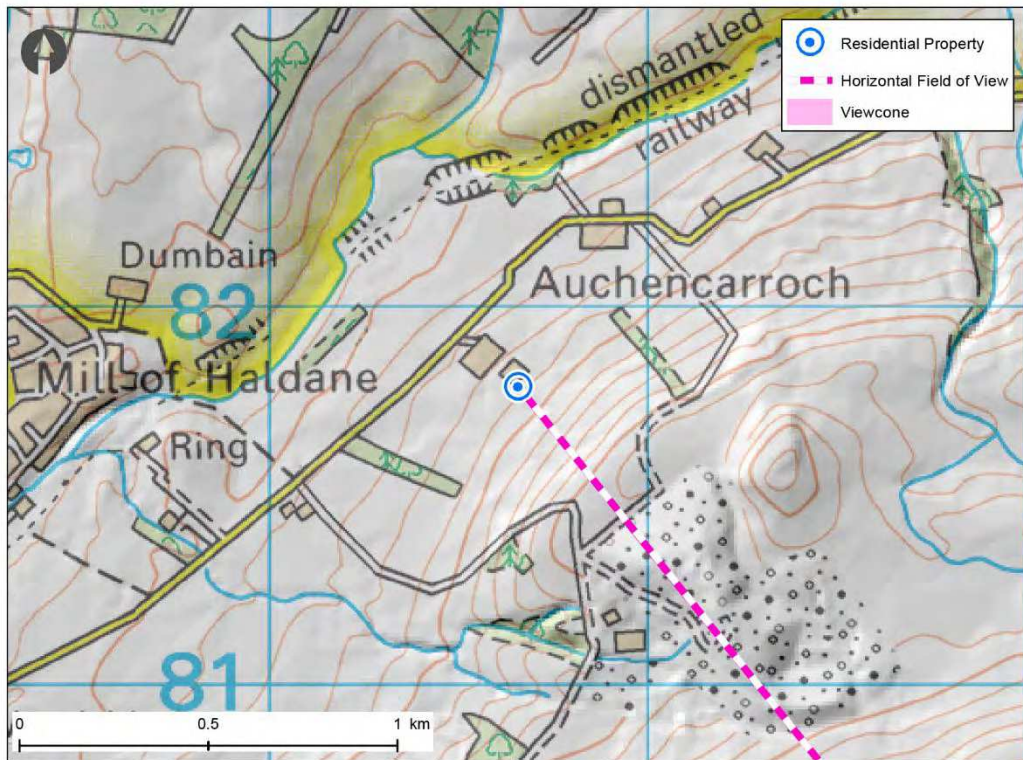
Property 6: Mid Auchencarroch



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Property 7: Braeburn Cottage Wireline view shown on Figure 2g		
Location of property: eastern side of Auchincarroch Road, north-west of the Proposed Development	Property description: 1.5-storey detached house surrounded by gardens, with outbuildings that house a horticultural business to the north-east	Grid reference: 241657, 681790 Distance from nearest turbine: 1.77 km
<p>Step 2: Baseline Visual Amenity</p> <p>This property has not been internally accessed and the assessment is drawn from car park and roadside views, detailed mapping and aerial photography.</p> <p>This property is in an elevated location to the east of Auchincarroch Road and has a north-north-west/south-south-east orientation. There are a number of windows in the north-north-west aspect and several in the east-north-east gable end. There are likely to be windows on other elevations. The key orientation is north-north-west, which is likely to have a view across the outbuildings towards Loch Lomond and its mountainous setting. Landform rises steeply to the south of the property, and the southern edge of the garden is bounded by dense garden planting that is likely to screen views to the south, south-west and south-east. The Auchencarroch Recycling and Resource Management Facility lies to the south-east and it is possible that this planting has been put into place in the garden to screen views of this facility. Woodland beyond the property is also likely to provide screening of views to the south-west.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: low • Significance of effect: moderate/minor and not significant visual effect <p>The wirelines show theoretical visibility of one turbine in the Proposed Development, seen as a blade only, from 1.77 km away. Visibility of this blade would almost certainly be screened by vegetation and woodland that lies to the south-east of the property, and it is unlikely that there would be actual visibility of the Proposed Development. The elevated north-westwards outlook across LLTNP would remain as the key outlook from the property.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the low magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

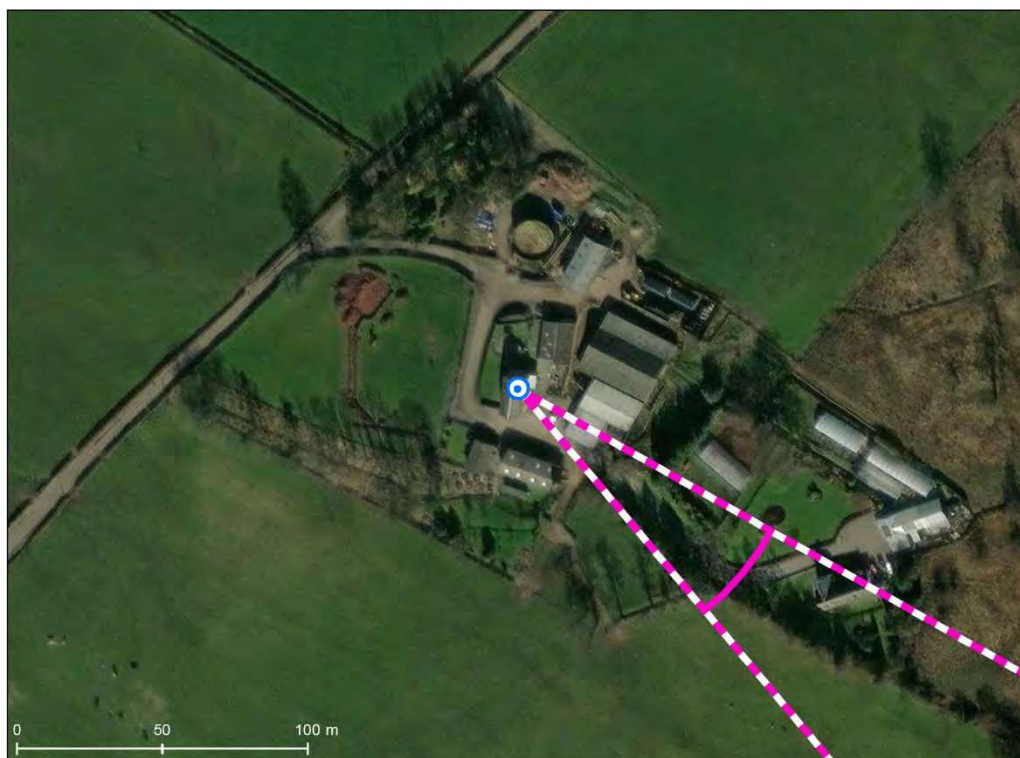
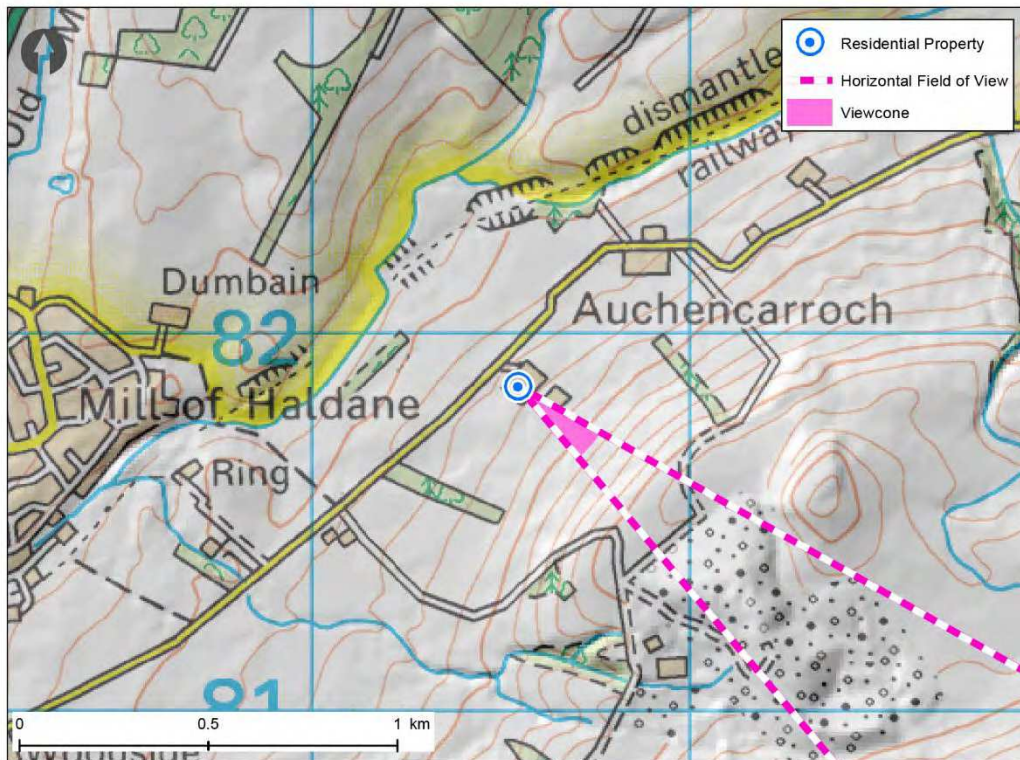
Property 7: Braeburn Cottage



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Property 8: West Auchencarroch Farm Wireline view shown on Figure 2h		
Location of property: eastern side of Auchincarroch Road, north-west of the Proposed Development and accessed by the same driveway at Property 7 (Braeburn Cottage)	Property description: two-storey detached farmhouse with gardens and agricultural buildings to the north and east	Grid reference: 241546, 681860 Distance from nearest turbine: 1.90 km
<p>Step 2: Baseline Visual Amenity</p> <p>This property has not been internally accessed and the assessment is drawn from driveway and roadside views, detailed mapping and aerial photography.</p> <p>This property is in an elevated location to the east of Auchincarroch Road and has a west-north-west/east-south-east orientation. There are a number of windows in the north-north-west aspect and also windows in all other elevations. The key orientation is north-north-west, which is likely to have a spectacular elevated view towards Loch Lomond and its mountainous setting. Farm buildings and the Braeburn Cottage horticultural building and planting are likely to enclose/screen views to the east and south-east, along with woodland that lies further away from the property, on the hillside.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: low • Significance of effect: moderate/minor and not significant visual effect <p>The wirelines show theoretical visibility of two turbines in the Proposed Development, one seen as a hub and the other seen as a blade tip only, from 1.90 km away. The Proposed Development would affect approximately 26° of the view. This visibility would be largely screened by the buildings and vegetation that lie to the east and south-east of the property and it is unlikely that there would be clear views of the Proposed Development, although there may be visibility from the upper floor. The elevated north-westwards outlook across LLTNP would remain as the key outlook from the property.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the low magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

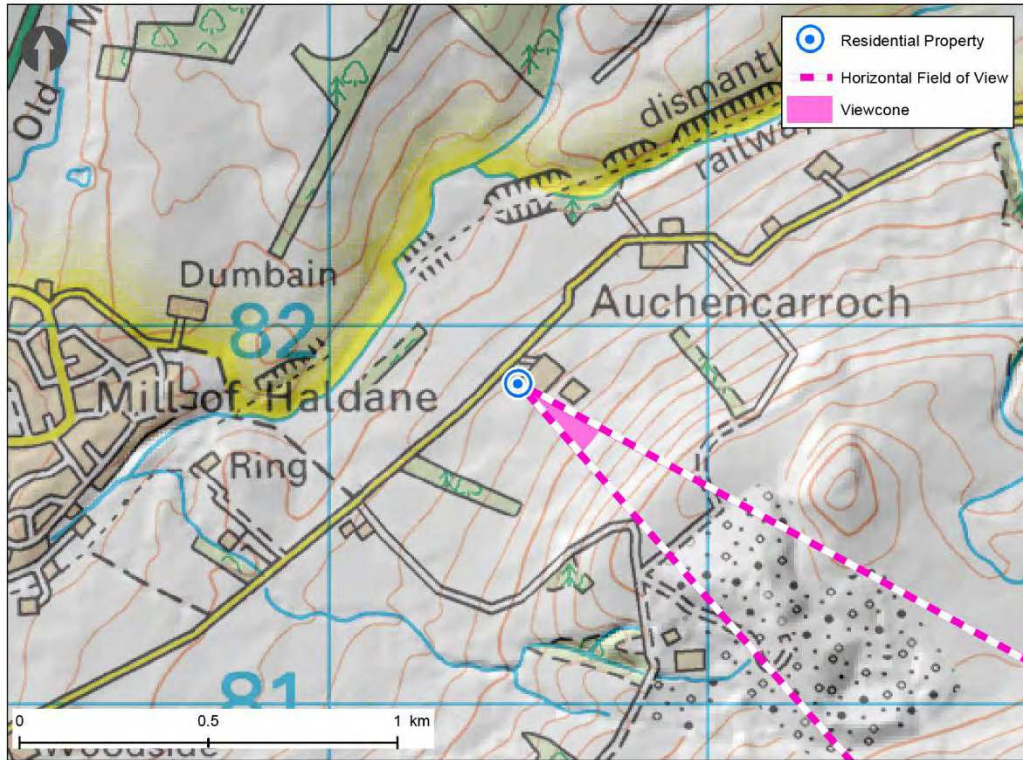
Property 8: West Auchencarroch Farm



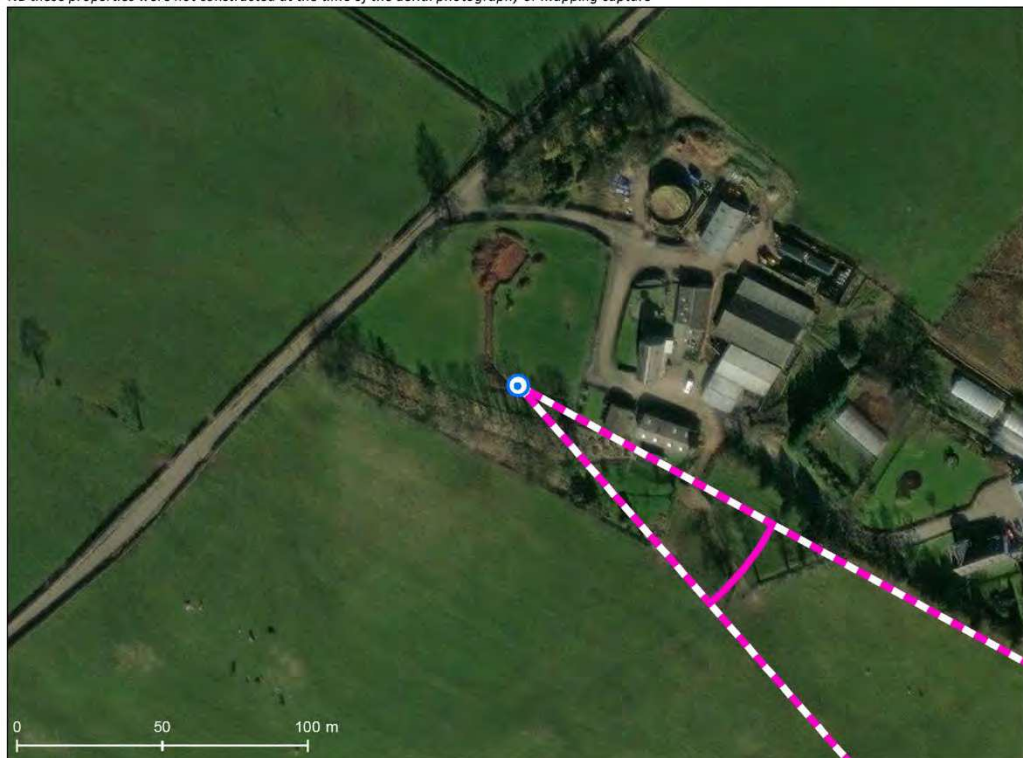
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Property 9: The Cuddies, West Auchencarroch Farm Wireline view shown on Figure 2i		
<p>Location of property: holiday cabins at West Auchencarroch Farm, on the eastern side of Auchencarroch Road, north-west of the Proposed Development and accessed by the same driveway at Properties 7 and 8.</p>	<p>Property description: three single-storey cabins used for holiday rentals</p>	<p>Grid reference: 241499, 681849 Distance from nearest turbine: 1.92 km</p>
<p>Step 2: Baseline Visual Amenity</p> <p>These properties have not been internally accessed and the assessment is drawn from driveway and roadside views, detailed mapping and aerial photography.</p> <p>These properties are in an elevated location to the south-west of Property 8, West Auchencarroch Farm and have a strong northwards orientation towards the spectacular scenery of Loch Lomond, with glazed elevations and balconies to the north. Intervening buildings and woodland are likely to screen views to the east and south-east.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: low • Significance of effect: moderate/minor and not significant visual effect <p>The wirelines show theoretical visibility of two turbines in the Proposed Development, one seen as a hub and the other seen as a blade tip only, from 1.92 km away. The Proposed Development would affect approximately 26° of the view. This visibility is likely to be screened by the buildings and vegetation that lie to the east and south-east of the property, and it is unlikely that there would be actual visibility of the Proposed Development. The elevated north and north-westwards outlook across LLTNP would remain as the key outlook from the property.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. This property does not have potential to reach the Residential Visual Amenity Threshold due to the low magnitude of change on the view (a high magnitude of change is required to trigger potential for the Residential Visual Amenity Threshold to be reached).</p>		

Property 9: The Cuddies, West Auchencarroch Farm



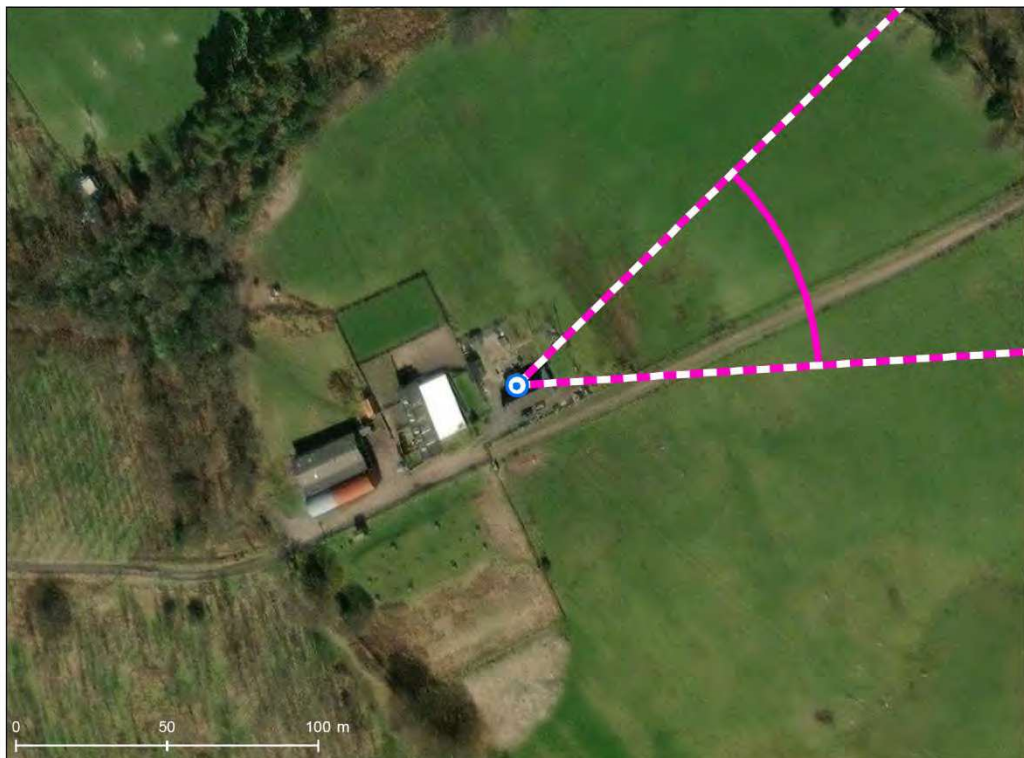
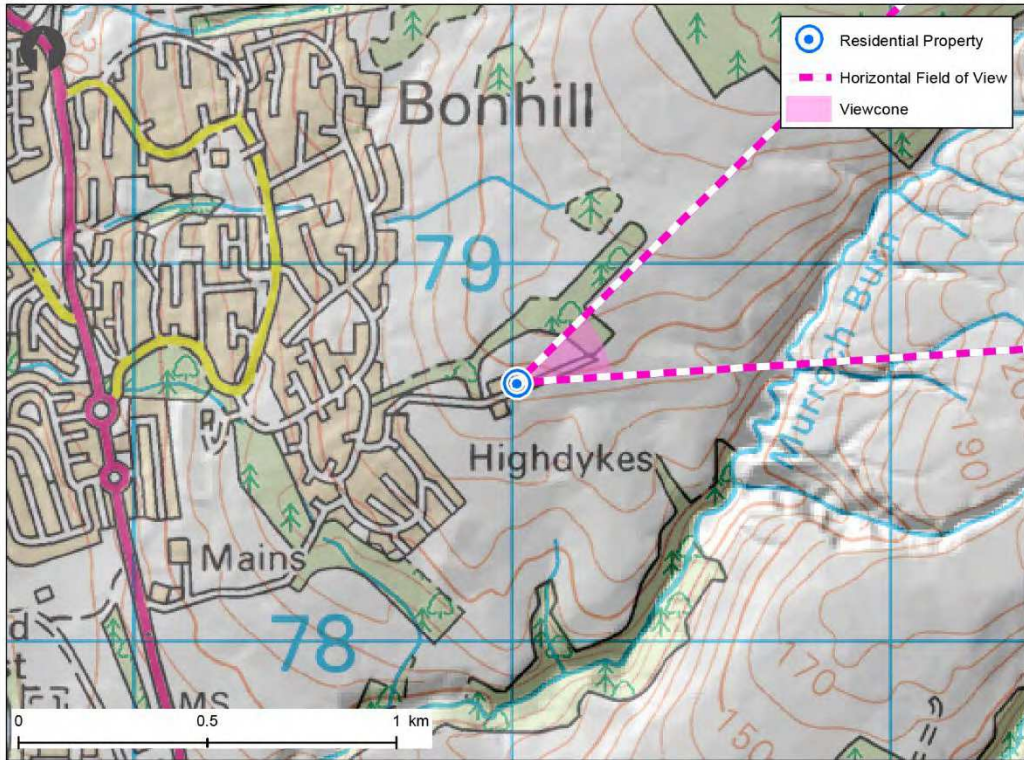
NB these properties were not constructed at the time of the aerial photography or mapping capture



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Property 10: Highdykes Farm Wireline view shown on Figure 2j		
Location of property: isolated property to the east of Bonhill, on the periphery of the Kilpatrick Hills	Property description: single-storey rendered farmhouse with farm buildings to west and west-south-west	Grid reference: 241013, 678684 Distance from nearest turbine: 1.86 km
<p>Step 2: Baseline Visual Amenity</p> <p>This property has not been internally accessed and the assessment is drawn from views from the core path that runs adjacent, detailed mapping and aerial photography.</p> <p>The main frontage of this property faces south-south-east and there are likely to be attractive, long, open views across the southern Kilpatrick Hills (including the Lang Craigs) and, further away, the Firth of Clyde from the three large windows that are on this elevation, as well as from outside areas. There is one small window in the east-north-east gable, which is likely look across garden ground to the rising landform of fields and woodland beyond. Views from windows in the north-north-western elevation would also look across fields and woodland. Views from the farm access track and outside areas are likely to focussed across the Kilpatrick Hills and southwards across the Firth of Clyde, with long east/north-east views screened by shelterbelt woodland that lies approximately 200 m to the east/north-east of the house.</p>		
<p>Step 3: Assessment of Residential (Visual) Amenity Effects</p> <ul style="list-style-type: none"> • Magnitude of change: high • Significance of effect: major and significant visual effect <p>The wirelines show theoretical visibility of the ten turbines in the Proposed Development, all hubs visible, with the nearest turbine 1.86 km away. Some lower towers are screened by landform. Some infrastructure/construction operations are also likely to be visible. The turbines in the Proposed Development would affect approximately 45° of the view.</p> <p>The Proposed Development lies to the east-north-east and, other than construction/infrastructure works, would not affect the south-south-east outlook that is the main open view from the property and outdoor areas. It is unlikely to be clearly seen from within the house and while there may be oblique views from the south-south-east elevation and/or glimpse views from the window in the east-north-east gable, rising landform and the shelterbelt woodland would partly screen this outlook. The woodland would also partly screen the Proposed Development in views from outside areas, but the more southerly turbines would be immediately apparent in views from some outside areas and the farm access track. The turbines that are seen at full height would have a vertical impact when seen on the elevated skyline.</p>		
<p>Step 4: Residential Visual Amenity Threshold Assessment</p> <p>Step 4 involves making a judgement as to whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, as described in the introduction. The effect on views at this property is not considered to have reached the Residential Visual Amenity Threshold for the following reasons:</p> <ul style="list-style-type: none"> • the key south-south-east orientation of views from within the house and from outside areas would not be affected by the turbines, and the main open aspect of the view would thus remain unaffected other than by construction/infrastructure works; • the turbines are unlikely to be clearly visible from within the property; and • woodland planting would screen parts of the turbines in views from outside areas. 		

Property 10: Highdykes Farm



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4. RVAA Summary and Conclusions

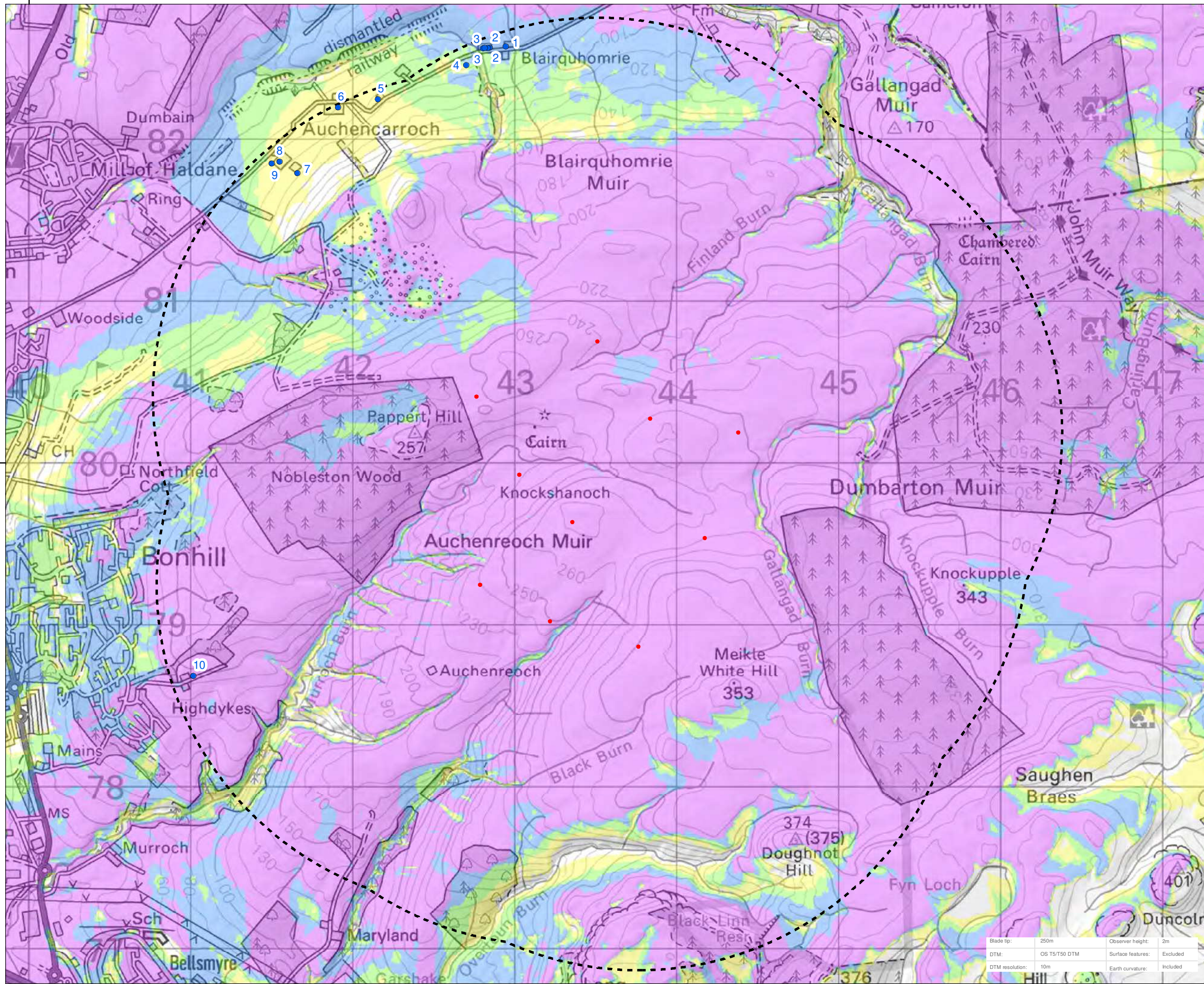
16. The RVAA sheets in this Appendix detail the assessments for the 12 properties that have been evaluated through this assessment, and Table 1 below provides a summary of the results of this assessment. The RVAA indicates that seven of the 12 properties included are likely to experience a significant visual effect as a result of the Proposed Development. Of these seven properties, one would have a high magnitude of change, four would have a medium-high magnitude of change, and two would have a medium magnitude of change. In accordance with the methodology, a Step 4 Assessment is required for the one property that has a high magnitude of change (Property 10, Highdykes Farm). The Step 4 Assessment found that the effect on this property would not reach the Residential Visual Amenity Threshold due to the location of the turbines in a peripheral aspect of the view, so that the key open view from the property would not be directly affected.
17. In line with the Landscape Institute's guidance on RVAA, the finding that none of the twelve properties would reach the Residential Visual Amenity Threshold is recorded as a matter for the wider planning balance. As stipulated in the guidance, no conclusions on the acceptability of these visual effects is drawn within the RVAA.

Table 1 - RVAA Summary

Property	Magnitude of Change	Significance of Effect	Residential Visual Amenity Threshold
Property 1: Blairquhamrie Farm	Medium	Significant	Not reached
Property 2: 3 and 4 Blairquhamrie Cottages	Medium-high	Significant	Not reached
Property 3: 1 and 2 Blairquhamrie Cottages	Medium-high	Significant	Not reached
Property 4: Unnamed Property	Medium	Significant	Not reached
Property 5: Quarrybrae	Medium-low	Not significant	Not reached
Property 6: Mid Auchencarroch	Medium-low	Not significant	Not reached
Property 7: Braeburn	Low	Not significant	Not reached
Property 8: West Auchencarroch	Low	Not significant	Not reached
Property 9: The Cuddies, West Auchencarroch	Low	Not significant	Not reached
Property 10: Highdykes Farm	High	Significant	Not reached

5. Figures

- TA 5.2 Figure 1 Blade Tip ZTV with Residential Properties
- TA 5.2 Figure 2a Property 1 Wireline View
- TA 5.2 Figure 2b Property 2 Wireline View
- TA 5.2 Figure 2c Property 3 Wireline View
- TA 5.2 Figure 2d Property 4 Wireline View
- TA 5.2 Figure 2e Property 5 Wireline View
- TA 5.2 Figure 2f Property 6 Wireline View
- TA 5.2 Figure 2g Property 7 Wireline View
- TA 5.2 Figure 2h Property 8 Wireline View
- TA 5.2 Figure 2i Property 9 Wireline View
- TA 5.2 Figure 2j Property 10 Wireline View



Legend:

- Proposed Turbines
- 2km Study Area
- Residential Properties

No. of Blade Tips Theoretically Visible

- 1 - 3
- 4 - 6
- 7 - 9
- 10

- Blairquhamrie Farm. G83 9LX
- Blairquhamrie Cottages. G83 9LX
- Blairquhamrie Cottages. G83 9LX
- Unnamed Property.
- Quarrybrae. G83 9LU
- Mid Auchencarroch. G83 9LU
- Braeburn Cottage. G83 9LU
- West Auchencarroch Farm. G83 9LU
- The Cuddies, West Auchencarroch Farm. G83 9LU
- Highdykes Farm. G82 2TA

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



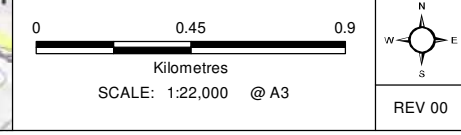
Rev	Date	Description	Drn	Chk	App
01	20/07/2023	First Draft	NL	AW	JW

Vale of Leven Wind Farm

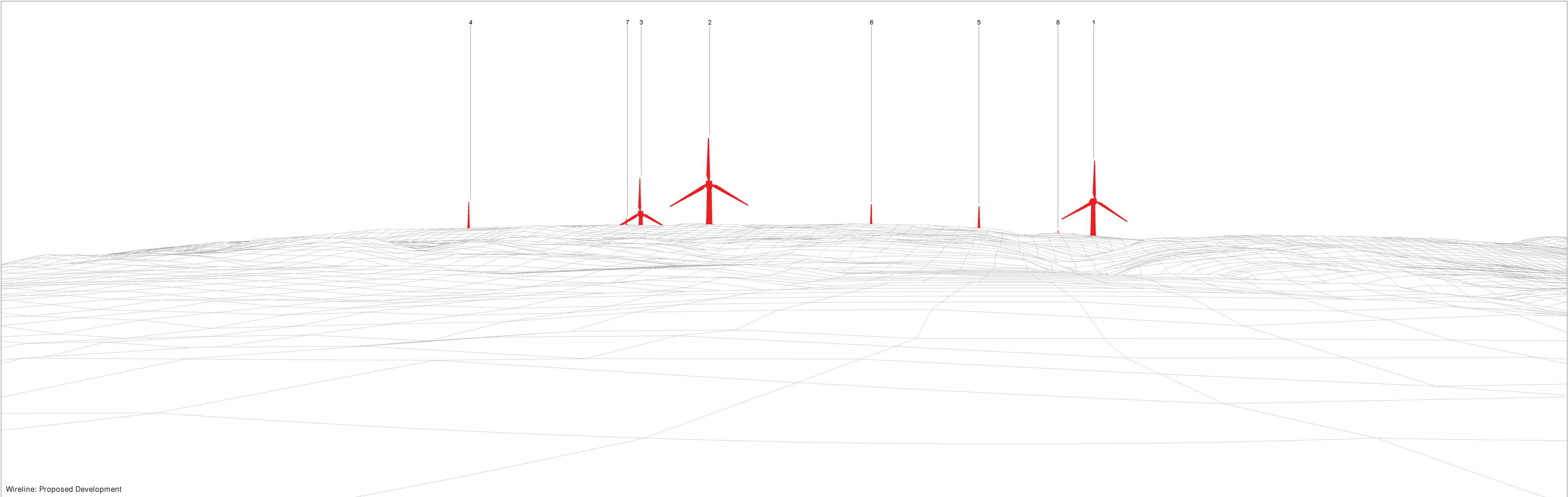


TITLE:
 TA 5.2 Figure 1
 Blade Tip ZTV
 with Residential Properties

ID:P663510_TAG000_Layout_A3_L



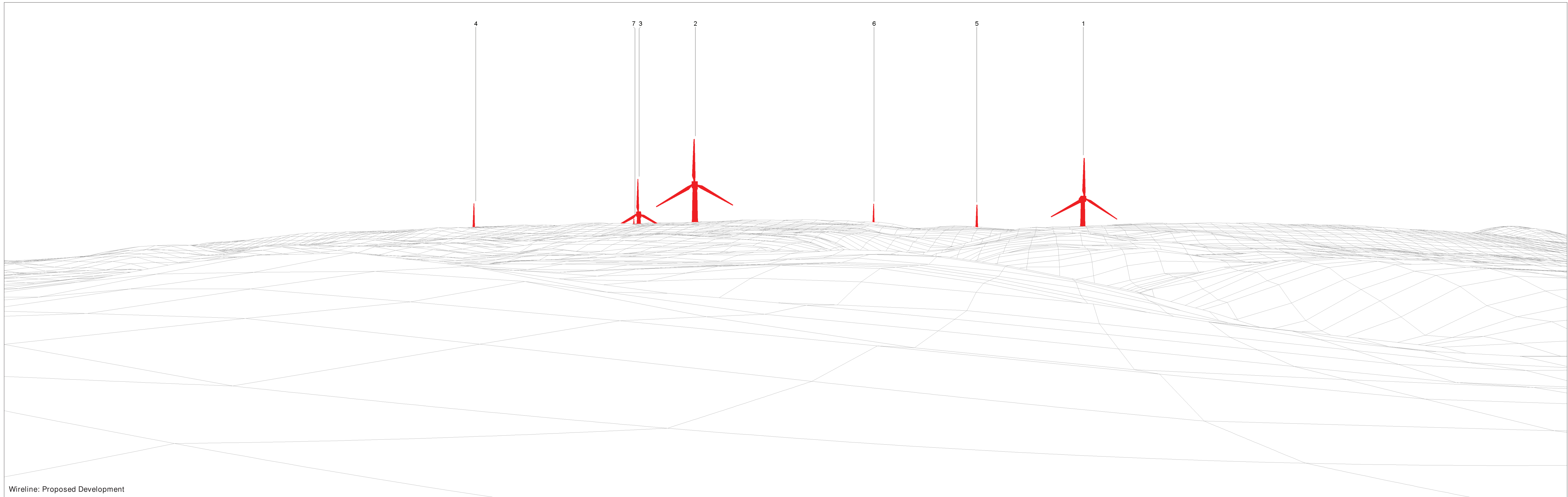
Blade tip:	250m	Observer height:	2m
DTM:	OS T5/T50 DTM	Surface features:	Excluded
DTM resolution:	10m	Earth curvature:	Included



Wireline: Proposed Development

OS reference: 242945 E 682573 N
 Eye level: 79.2 mAOD
 Direction of view: 167°
 Nearest turbine: 1.91 km

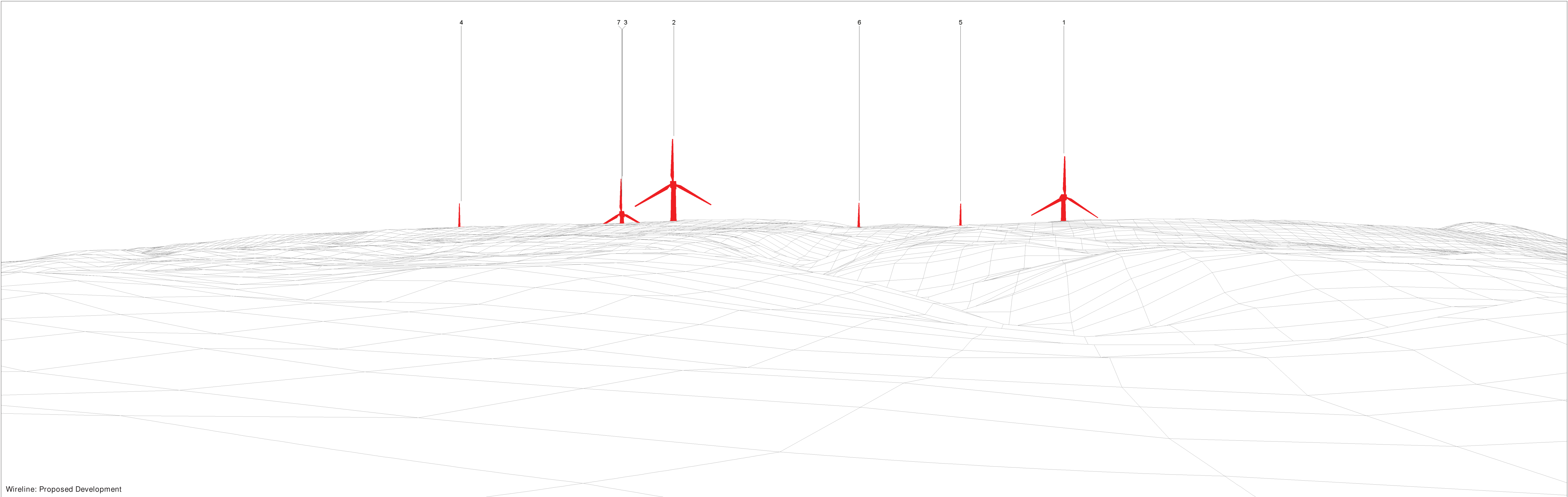
Horizontal field of view: 90° (cylindrical projection)
 Principal distance: 522 mm
 Paper size: 841 x 297 mm (half A1)
 Correct printed image size: 820 x 260 mm



Wireline: Proposed Development

OS reference: 242844 E 682565 N
 Eye level: 74.2 mAOD
 Direction of view: 165°
 Nearest turbine: 1.93 km

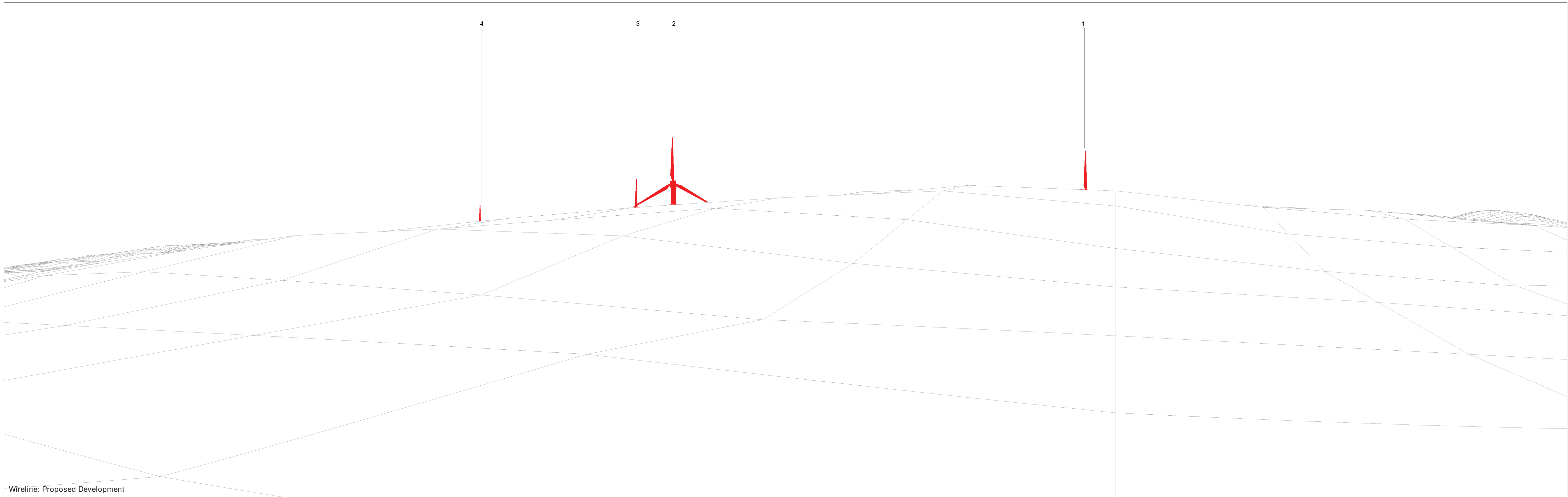
Horizontal field of view: 90° (cylindrical projection)
 Principal distance: 522 mm
 Paper size: 841 x 297 mm (half A1)
 Correct printed image size: 820 x 260 mm



Wireline: Proposed Development

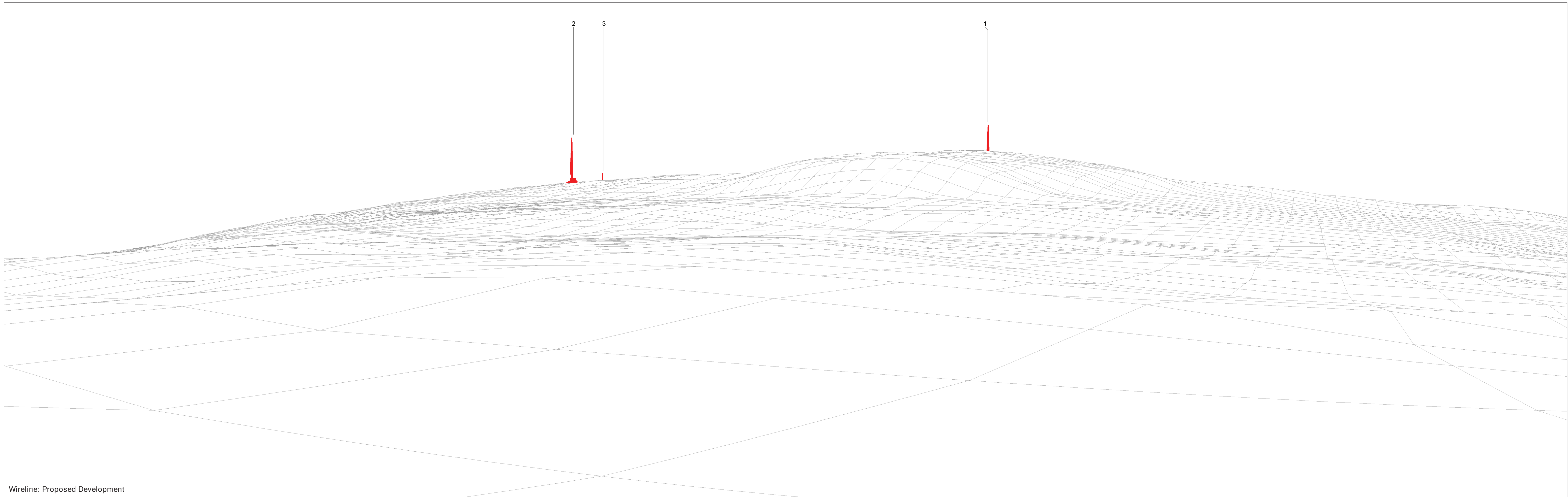
OS reference: 242804 E 682562 N
 Eye level: 73.2 mAOD
 Direction of view: 165°
 Nearest turbine: 1.95 km

Horizontal field of view: 90° (cylindrical projection)
 Principal distance: 522 mm
 Paper size: 841 x 297 mm (half A1)
 Correct printed image size: 820 x 260 mm



Wireline: Proposed Development

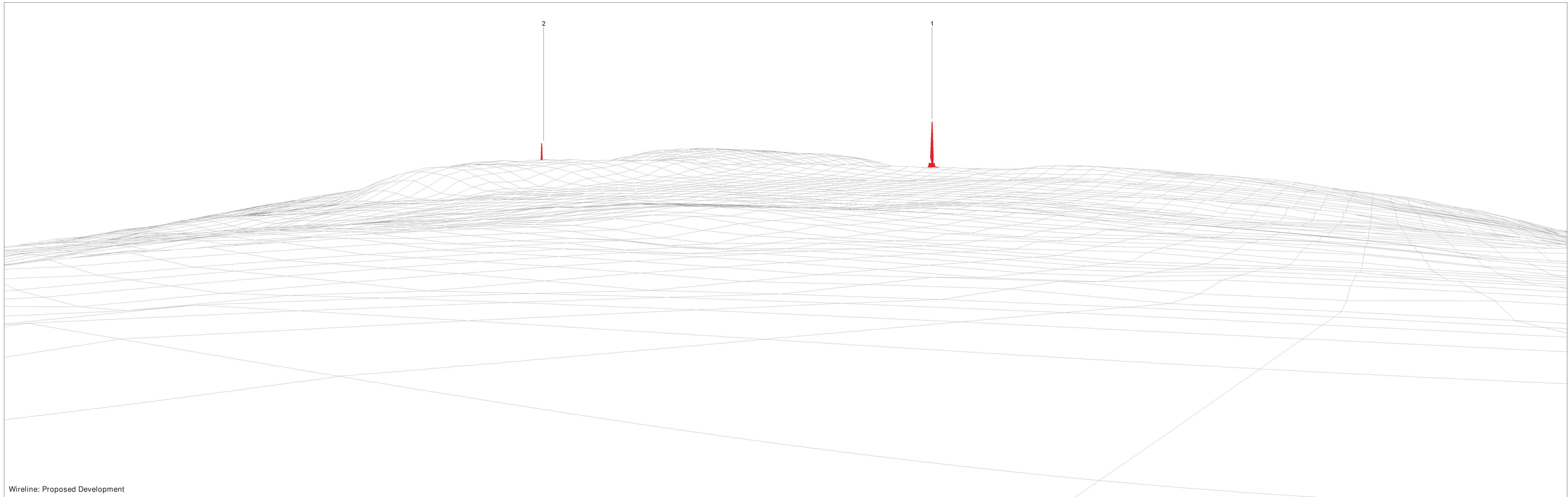
OS reference:	242700 E 682457 N	Horizontal field of view:	90° (cylindrical projection)
Eye level:	80.5 mAOD	Principal distance:	522 mm
Direction of view:	161°	Paper size:	841 x 297 mm (half A1)
Nearest turbine:	1.89 km	Correct printed image size:	820 x 260 mm



Wireline: Proposed Development

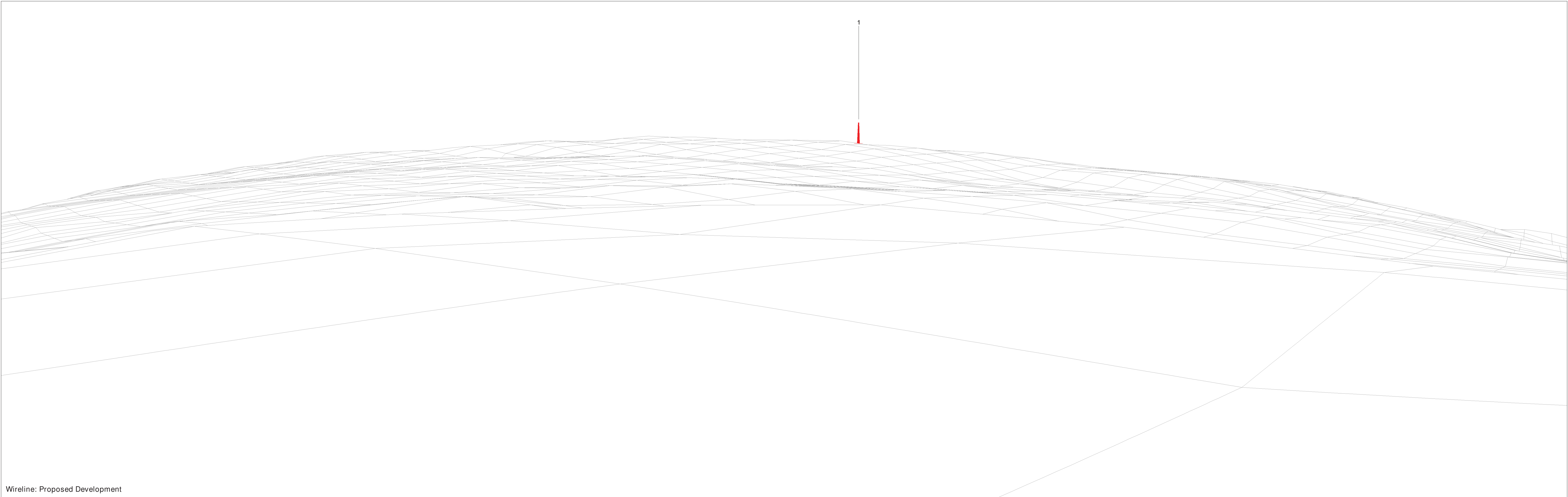
OS reference: 242154 E 682247 N
Eye level: 87.3 mAOD
Direction of view: 150°
Nearest turbine: 1.94 km

Horizontal field of view: 90° (cylindrical projection)
Principal distance: 522 mm
Paper size: 841 x 297 mm (half A1)
Correct printed image size: 820 x 260 mm



Wireline: Proposed Development

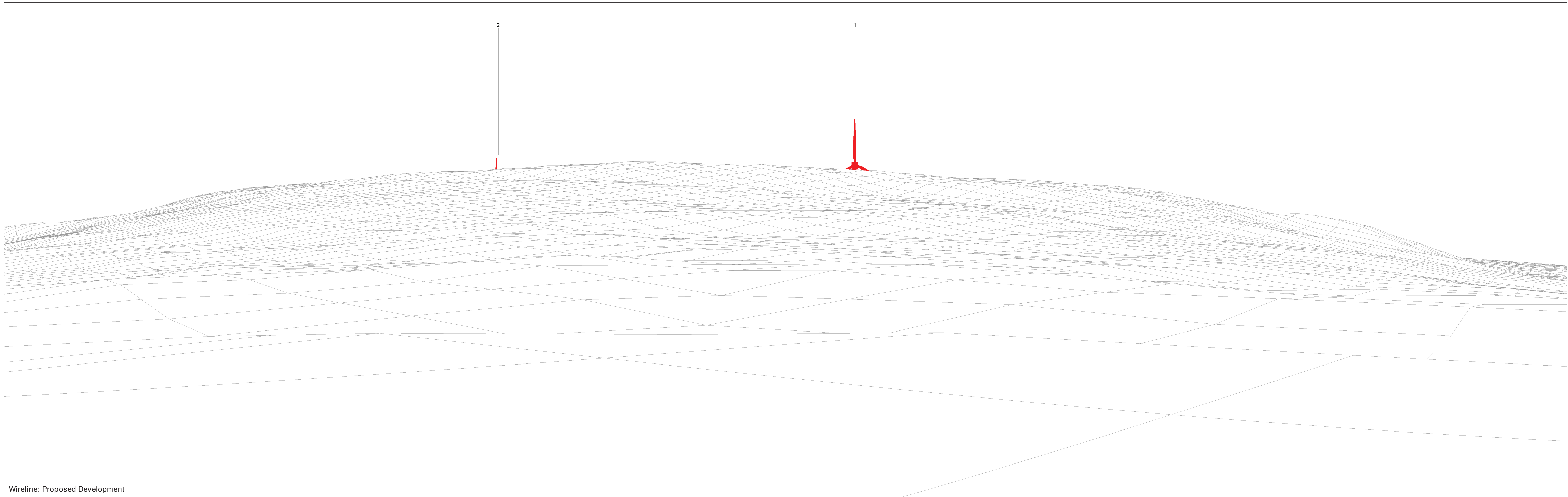
OS reference:	241908 E 682197 N	Horizontal field of view:	90° (cylindrical projection)
Eye level:	71.6 mAOD	Principal distance:	522 mm
Direction of view:	146°	Paper size:	841 x 297 mm (half A1)
Nearest turbine:	1.98 km	Correct printed image size:	820 x 260 mm



Wireline: Proposed Development

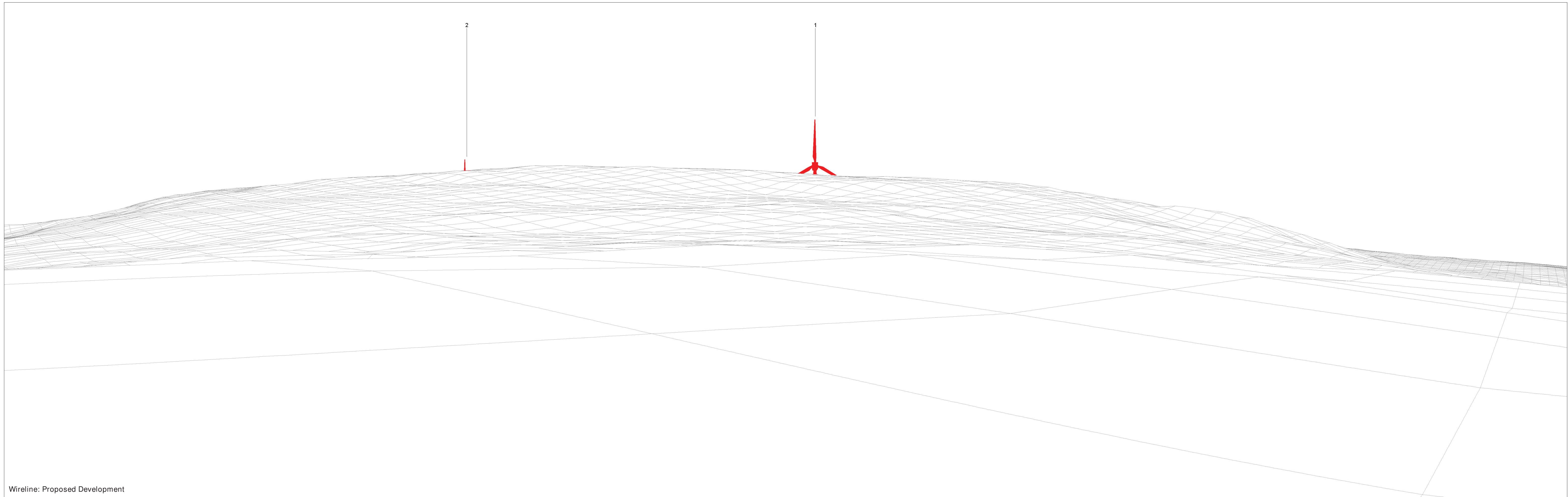
OS reference: 241657 E 681790 N
Eye level: 89.9 mAOD
Direction of view: 137°
Nearest turbine: 1.77 km

Horizontal field of view: 90° (cylindrical projection)
Principal distance: 522 mm
Paper size: 841 x 297 mm (half A1)
Correct printed image size: 820 x 260 mm



Wireline: Proposed Development

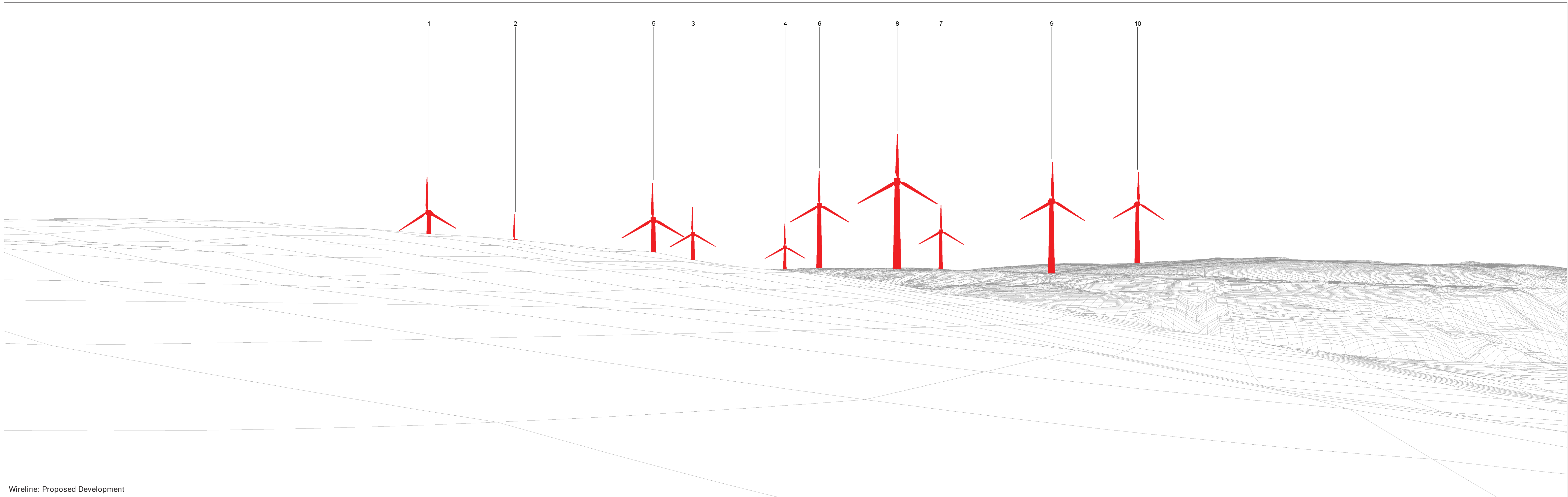
OS reference:	241546 E 681860 N	Horizontal field of view:	90° (cylindrical projection)
Eye level:	77.8 mAOD	Principal distance:	522 mm
Direction of view:	136°	Paper size:	841 x 297 mm (half A1)
Nearest turbine:	1.90 km	Correct printed image size:	820 x 260 mm



Wireline: Proposed Development

OS reference: 241499 E 681849 N
 Eye level: 73.9 mAOD
 Direction of view: 137°
 Nearest turbine: 1.92 km

Horizontal field of view: 90° (cylindrical projection)
 Principal distance: 522 mm
 Paper size: 841 x 297 mm (half A1)
 Correct printed image size: 820 x 260 mm



Wireline: Proposed Development

OS reference:	241013 E 678684 N	Horizontal field of view:	90° (cylindrical projection)
Eye level:	146.5 mAOD	Principal distance:	522 mm
Direction of view:	66°	Paper size:	841 x 297 mm (half A1)
Nearest turbine:	1.86 km	Correct printed image size:	820 x 260 mm