

VOLUME 2: CHAPTER 8 – LANDSCAPE CHARACTER AND VISUAL AMENITY

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8. LANDSCAPE CHARACTER AND VISUAL AMENITY

8.1 Introduction

This chapter provides the landscape and visual impact assessment (LVIA) of the Banniskirk Substation and Converter Station (Proposed Development). Photomontages that accompany this assessment are provided in **Volume 4 Appendix 8.1**.

8.2 Legislation, Policy and Guidance

The assessment is conducted with reference to the following relevant statutory and planning frameworks for landscape and visual.

8.2.1 National Planning Policy

National Planning Framework 4¹ (NPF4) is the national spatial strategy for Scotland. It sets out the Scottish Government's spatial principles, regional priorities, national developments, and national planning policy, which includes consideration of landscape character and biodiversity. Policy 11 refers to renewable technologies and design mitigation to reduce significant landscape and visual impacts but acknowledges that such impacts are to be expected for some forms of renewable technology.

8.2.2 Regional and Local Planning Policy

Regarding regional and local policy, the Highland-wide Local Development Plan² (HwLDP), adopted 2012, is in effect for the next 20 years. However, it is noted from the Scoping Response that the Council has recently commenced the preparation of a new-style Highland Local Development Plan (HLDP), with the intention to undertake the evidence-gathering stage of the new LDP throughout 2023, with the tentative programme including an Evidence Report in 2024 and subsequent Gate Check, with Proposed Plan stage in 2025. Once adopted this new style HLDP will supersede and replace HwLDP and the Council 'area' LDP. The relevant plan is to be read in conjunction with NPF4 with regard to landscape matters and development. In particular, Policy 69 Electricity Transmission Infrastructure refers to lines and cables, transformers and other plant. Policy 28 refers to Sustainable Design in terms of minimising the environmental effect of development, Policy 51 refers to Trees and Development in terms of additional tree planting and Policy 61 refers to Landscape in terms of reflecting landscape character assessments.

The HwLDP states that NatureScot landscape character assessments and landscape capacity studies provide guidance on the appropriate location and design for development.

8.2.3 Guidance

Planning Advice Note 1/2013³ provides advice on proportionality including seeking advice from the council regarding the scope of the EIA and focusing on significant effects.

8.3 Assessment Methodology and Significance Criteria

8.3.1 Scope of the Assessment

The assessment has been carried out following the guidance included in the 'Guidelines for Landscape and Visual Assessment', Third Edition, 2013 (GLVIA 3)⁴. The landscape and visual assessments are separate but linked processes and consider the potential effects of the Proposed Development on:

• The landscape as a resource in its own right (caused by changes to the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape; and

¹ https://www.gov.scot/publications/national-planning-framework-4-revised-draft/pages/4/ accessed 23/09/24

 ² https://www.highland.gov.uk/info/178/local_and_statutory_development_plans/199/highland-wide_local_development_plan accessed 23/09/24
 ³ https://www.gov.scot/collections/planning-advice-notes-pans/ accessed 23/09/24

⁴ Landscape Institute. (2013). Guidelines for Landscape and Visual Assessment, Third Edition



• Views and visual amenity as experienced by people (caused by changes in the landscape).

Judging landscape and visual effects requires consideration of the nature of the receptors (sensitivity) and the nature of the effects on those receptors (magnitude).

GLVIA 3 states that the sensitivity of receptors should be assessed in terms of the susceptibility of the receptor to the type of change proposed, and the value attached to the receptor. In terms of visual receptors, this would relate more to the value of the view. The magnitude of the effects on each receptor should be assessed in terms of its size and scale, geographical extent, duration and reversibility. Judgments on sensitivity and magnitude are combined to form a judgment regarding the overall significance of effect.

8.3.2 Extent of the Study Area

A 4 km radius Study Area was considered appropriate for the assessment of landscape and visual effects of the Proposed Development. This was informed by previous experience of similar projects and fieldwork. Zones of Theoretical Visibility (ZTV) have been prepared based on the tallest element of the Proposed Development (26m) but based on the assumption of a 30 m maximum height to represent a worst-case scenario.) (Volume 3 Figure 8-1 and Figure 8-2).

8.3.3 Consultation Undertaken to Date

The extent of the Study Area, the ZTVs, the location of representative viewpoints and photomontages were shared with the Highland Council in February 2024 and met with agreement, with an additional viewpoint (VP 5) from the A9 close to the site requested to be included in the assessment.

A summary of the consultation undertaken to date, response received and action taken is provided in Table 8.1.

Consultee	Type and date	Summary of consultation response	Response/ Action taken
The Highland Council (THC)	EIA Scoping Response 09/05/24	A full Landscape and Visual Impact Assessment (LVIA) forming part of the EIAR is required. This must consider the mitigation inherent in the original substation's design and consider the long term masterplanning of the substation, including scope for further expansion and what form this may take. The designers should investigate where roadside planting and other measures may be included within the proposals or indeed, if advanced planting could take place ahead of determination of the application.	This chapter represents the inclusion of an LVIA in the EIAR. This LVIA has driven the inclusion and design of mitigation e.g. roadside screening planting in the Proposed Development layout, accounting for long term masterplanning such as future Overhead Line (OHL) connections into the substation.
		The LVIA should provide Zone of Theoretical Visibility analysis and identify key viewpoints to represent the most sensitive surrounding visual receptors with a series of single frame images with different focal lengths taken with a 35mm format full frame sensor camera – not an 'equivalent.' The focal lengths should be 50mm and 75mm. The former gives an indication of field of view and the latter best represents the scale and distance in the landscape i.e. a more realistic	A ZTV analysis was undertaken early in the Proposed Development design to identify 7 key viewpoints. The subsequent photography survey followed these specifications to create the imagery and was undertaken on the 2 nd / 3 rd

Table 8.1: Landscape and Visual Consultation Summary



impression of what we see from the viewpoint. This imagery should be used to provide existing and proposed photomontages to assist with the assessment and determination of the application. The timing of the visualisation photography should reflect the worst-case scenario when existing deciduous trees and vegetation is not in full leaf. Similarly, should any additional planting be proposed, visualisations should represent the development at the point of completion, and with 10 years of landscape planting growth. Whilst this proposal is not for a wind farm, the photomontages should follow the Council's Visualisation Standards.	April, prior to the trees coming into leaf. The photomontages as presented in Volume 4 Appendix 8.1 account for the existing views, future views immediately following completion of construction, and construction completion plus 10 years. The photography and visualisations follow The Highland Council's Visualisation standards as far as possible for a project which is not a wind farm.
Assessments should cover impacts of all elements of the development, including the substation building, replacement substation infrastructure, any likely new or re-located overhead line infrastructure, any security fencing, any tree felling and any lighting. Visualisations should be prepared to Highland Council Standards. These should be provided in hard copy in a A3 lever arch ring bound folder for ease of use. The finalised list of viewpoints for the assessment should be agreed in advance of preparation with input from the Council's Landscape Officer, who is yet to respond to this scoping consultation.	The LVIA assessment and photomontage production has been based on a 3D model of the Proposed Development that includes all infrastructure, felling, proposed planting etc. The assessment covers construction, operation and cumulative impacts. The seven viewpoints were agreed with the THC Landscape Officer via an email exchange dated 28/02/2024.
The purpose of the selected and agreed viewpoints should be clearly identified and stated in the supporting information. For example, it should be clear that the viewpoint has been chosen for landscape assessment, or visual impact assessment, or cumulative assessment, or sequential assessment, or to show a representative view or for assessment of impact on designated sites, communities or individual properties.	See Table 8.4.
When considering the impact on recreational routes please ensure that all core paths, the national cycle network, long distance trails are assessed. It should be noted that these routes are used by a range of receptors.	See Table 8.4.



		A landscaping, management and maintenance scheme for the site is required and as this will have wider habitat and biodiversity interest, this must form part of the EIAR.	A landscape design (Volume 4 Appendix 8.2). including planting for the purposes of both visual screening, landscaping and Biodiversity Net Gain has been used as the basis of this assessment.
THC Landscape Officer	SSEN/ THC pre- application design meeting July 2024	The THC Landscape Officer requested via an email dated 28/02/2024 that the number of photomontages should be increased from three of the seven agreed viewpoints to four of them.	This was done and an additional viewpoint (VP 5) was added as a photomontage. Photomontages as presented in Volume 4 Appendix 8.1 are based on these chosen viewpoints.

8.3.4 Method of Baseline Data Collation

The following have been used to obtain information on potential landscape and visual receptors:

- NatureScot (SNH) National Landscape Character Assessment 2019 online data base with maps and supporting data as downloadable pdfs for each Landscape Character Type⁵; and
- OS mapping, aerial and street-level photography from online sources.

A visit to the Study Area to analyse the baseline and to take viewpoint photographs was undertaken in September 2023, with professional photography taken in April 2024 during clear weather.

8.3.5 Determining Magnitude of Change and Sensitivity of Receptors

Sensitivity

The sensitivity of landscape and visual receptors is described as high, medium – high, medium, medium - low or low depending on the following criteria (see **Table 8.2**):

- Landscape The extent to which change can be accommodated without key characteristics being fundamentally altered (susceptibility);
- Landscape The value attributed to those key characteristics as determined with reference to landscape designations and the application of criteria that indicates value (such as scenic quality, rarity and recreational value), as described in GLVIA3. In addition, factors such as natural and cultural heritage, landscape condition, associations, distinctiveness as well as perceptual as described in *Technical Guidance Note 02/21, Assessing landscape value outside national designations* published by the Landscape Institute⁶;
- **Visual** The extent to which views contribute to the experience of the receptor e.g. residents, people engaged in outdoor recreation, visitors to heritage assets and communities will tend to have a higher susceptibility; and

⁵ Landscape Character Types (LCTs) SNH 2019 - online tool

⁶ Landscape Character Types (LCTs) SNH 2019 - online tool

https://www.arcgis.com/apps/webappviewer/index.html?id=e3b4fbb9fc504cc4abd04e1ebc891d4e&extent=-2030551.0017%2C6851563.2052%2C1100309.6769%2C6823312.4198%2C102100 Accessed 2023



• **Visual** - The level of value placed on those views e.g. as indicated through planning designations or appearance on maps and guidebooks as well as the amenity or attractiveness of these views.

e	Susceptibility				
Value	Low	Medium - Low	Medium	Medium - High	High
High	Medium - Low	Medium	Medium - High	High or Medium High	High
Medium - High	Medium - Low	Medium	Medium - High	Medium - High	High
Medium	Low	Medium - Low	Medium	Medium - High	High or Medium High
Medium - Low	Low	Medium - Low	Medium - Low	Medium	Medium
Low	Low	Low	Low	Medium - Low	Medium

Table 8.2: Matrix for Determining the Sensitivity of Landscape and Visual Receptors

Note: this table is used as guidance when making professional judgements.

Magnitude

The magnitude of change is described as high, medium, low or negligible, with reference to the extent to which changes in landscape characteristics and views are likely to be discernible. This involves assessing the size and scale of the change, the geographical extent over which it will be experienced, and the duration and reversibility of the change.

Level of Effect

The evaluations of sensitivity and magnitude are considered together to provide an overall level (significance) of effect. The level of effect is identified as negligible, minor, moderate or major. As there is no fixed liner relationship between sensitivity and magnitude, the application of professional judgment and experience is used to reach conclusions on overall level of effect (**Table 8.3**). For this topic, moderate and major effects are considered to be significant effects. Significant landscape and visual effects are likely to be associated with large changes to landscape character or views affecting receptors of high sensitivity.

itu ge	Sensitivity				
Magnitu de of Change	Low	Medium - Low	Medium	Medium - High	High
High	Minor	Minor or Moderate	Moderate	Moderate or Major	Major
Medium	Negligible or Minor	Minor	Minor or Moderate	Moderate	Moderate or Major
Low	Negligible	Negligible or Minor	Minor	Minor or Moderate	Minor or Moderate
Negligible	Negligible	Negligible	Negligible	Negligible or Minor	Negligible or Minor

Table 8.3: Matrix for Determining the Level of Effect

Note: this table is used as guidance when making professional judgements. Significant effects shown in **bold**.

8.4 Baseline Conditions

The Site is located adjacent to, and east of the A9 in the context of a fairly flat landscape, as reflected in the landscape character type within which it sits – Farmed Lowland Plain. The Proposed Development Site broadly slopes from 90 m at the south to 70 m in the north. Within the wider Study Area, the ground falls to the north in



the direction of Halkirk and down to the River Thurso. To the west, the ground slopes gently down towards the river but is mainly flat. Similarly, to the east the ground rises slightly before dropping down towards Loch Watten. To the south, the ground rises, particularly at Spittal Hill (176m AOD) and Achanarras Hill (119m AOD). Spittal Hill is in proximity to the Site and forms a local landmark.

Land cover on the Site consists of areas of rough grassland, rushes, heaths, some hardstanding and some coniferous trees adjacent to the A9. There are scattered damp areas, and the site contains numerous drainage ditches. There is a group of mature trees in the northern part of the Site. It is a fairly featureless site and there is more landscape interest outside of the Site. There is a small residential building sitting adjacent to the Site which is accessed from the A9. This property is enclosed by garden vegetation and some evergreen trees.

The boundaries of the Site are not all well-defined. The western boundary follows the adjacent A9 and, with the exception of the area of coniferous trees, is devoid of boundary vegetation. However, it is aligned by a drystone wall for its entire length. The northern boundary is lined by a locally characteristic enclosure treatment consisting of stone slabs standing vertically in the ground. This is of landscape and historic interest. To the rear of this boundary is an extensive area of tree planting forming a visual boundary to Banniskirk House. This landscape feature is visible at the horizon from most of the A9 when travelling north. The western boundary simply follows an existing field boundary and is open for approximately 50% of its length in terms of vegetation and is then bounded by an area of coniferous plantation. The southern boundary includes an informal gravel road which links to the existing quarry. This road is in turn bounded by two blocks of coniferous plantation as well as being open in two sections.

Wooden electricity poles and overhead lines cross a small section of the site to the south before exiting into the adjacent coniferous plantation. There are similar features within the far northern part of the site. Banniskirk House sits to the north of the site and its wooded gardens form the northern boundary. **Plate 8.1** below illustrates a typical view across the Site.





8.4.1 Designations

There are no landscape designations within the Study Area.



8.4.2 Published Landscape Character Types / Areas

The Proposed Development is located within landscape character type (LCT) 143 Farmed Lowland Plain. There is an area of LCT 134 Sweeping Moorland and Flows to the south and southwest of the Study Area. (**Volume 3 Figure 8.3**). Key characteristics of these LCTs that are relevant to the Proposed Development include:

Farmed Lowland Plain

- The Farmed Lowland Plain Landscape Character Type is located in the far north-east of Caithness. It forms a broad and relatively low-lying plain bounded by the sea and expansive Sweeping Moorland and Flows.
- A generally open, low-lying plain, gently undulating to form shallow broad valleys, which are often filled with lochs and mosses, and subtle low ridges.
- Occasional smooth hills rise above the more low-lying plain forming local landmarks.
- Agriculture the predominant land cover.
- Distinctive Caithness flagstone fences in some parts, creating low, sharp edges to fields.
- Sparse woodland, mainly comprising small angular coniferous plantations planted for shelter on farms.
- A number of historic environment features, including conspicuous castles, Baronial mansions and tall 'Lairds' houses, usually with broadleaf shelter woods planted around them.
- Roads reinforce the settlement pattern, often following the field and property boundaries, running straight and then swinging around sharp corners.
- Small groups of large wind turbines sited on some of the low ridges and hills and prominent visibility of larger wind farms in adjacent Landscape Character Types.
- Extensive views due to the openness of the landscape, and the clarity of northern air and light.

The gently undulating landform of this landscape has a wide horizontal emphasis and this, together with huge skies and the clarity of the northern air, give a characteristically open, light and exposed character. Occasional smooth hills, such as Spittal Hill and Hill of Olrig, rise above the plain to form local landmarks. Although this landscape is predominantly farmed, areas of wetter rough pasture and moss, and occasional lochs, also occur within valley floors and shallow basins. Woodland is sparse, limited to small coniferous shelterbelts and clumps of broadleaf trees sheltering farms. More diverse wooded policies and arable fields, some of these enclosed by low hedgerows and neat walls, are associated with occasional loose clusters of croft houses located on more marginal upper slopes and near the coast. This landscape is vast, exposed and open, generally dominated by a horizontal emphasis. This, as well as the clarity of the air and light, allows for extensive views both within the lowland plain and to the landscapes and seascapes beyond. The LCT occupies a large proportion of the 4km study area. However, much more is located outside of the study area particularly to the north and east.

The value of this LCT is considered to be **Medium - Low** on account of its vast exposed and open character but settled nature with limited areas of established natural vegetation. In addition, there are no landscape designations within the Study Area and the landscape is typical of the area.

Sweeping Moorland and Flows

The Sweeping Moorland and Flows Landscape Character Type occurs extensively across Caithness and east Sutherland, forming a flat, gently undulating and generally smooth landform. Flat to gently undulating and inclined, large scale plateau with a predominantly horizontal landform and skyline.

Considering the limited extent of the LCT located within the Study Area and the fact that a fraction of an otherwise expansive LCT might have visibility of the Proposed Development (**Volume 3 Figure 8.3**), this LCT is not considered further in this assessment.



8.4.3 Local Landscape Character

The local landscape character is considered of **Medium – Low** landscape value. This is due in part to the nature of the site which has evidence of disturbance and the placing of material as surfacing. This imparts a partially brownfield appearance although this is not widely visible. The A9 which passes the site provides an urban influence and there is clear intervisibility between the two. Despite this the local character is predominantly rural. As noted for the relevant LCT, views are extensive across the site and wider afield due to the flat nature of the landscape. A number of hills and mountains can be seen at the various horizons. Many of these long-distance views include evergreen coniferous plantations which are characteristic of the area. Spittal Hill (176m AOD) is a local landscape feature and sits just south of the site. There is also an active quarry to the west of the site, but this is not widely visible.

To the southwest of the site is Achanarras Hill (117m AOD) which has extensive plantation on its slopes. The hill was previously quarried and now contains a small waterbody. The site is a Site of Special Scientific Interest (SSSI) and is visited by those with an interest in geology. Core paths lead up to from a carpark to the waterbody and there are some extensive views towards the north and northeast where permitted by gaps in the plantations. Existing electrical infrastructure is visible within the local landscape for example the buildings associated with the existing electrical substation are visible when travelling along the A9 particularly so when close to Spittal Hill as the road is more elevated at this point. Electricity towers both tall and small are noticeable elements within the landscape.

8.4.4 Visual Amenity

This section identifies the extent of potential visibility of the Proposed Development from publicly accessible locations and identifies the visual receptors appraised. This section also includes the viewpoints that are used to appraise effects on visual receptors, including the reason for their selection. Two zones of Theoretical Visibility (ZTV) have been prepared based on a project infrastructure height of 30 m (**Volume 3 Figures 8.1 and Figure 8.2**). A bare earth ZTV has been prepared which does not take into account any screening provided by existing woodland or buildings. This is the worst case scenario. A second 'screened' ZTV has been prepared which does take into account the screening effects of existing woodland and buildings.

The bare earth ZTV indicates extensive theoretical visibility to the west, northwest and north within the Study Area which reflects the flat nature of the landscape, the general downward slope of the site and surrounds towards the north, and the height of the tallest structures. Views to the east, southeast, south and southwest are interrupted by rising ground particularly at Spittal Hill and Achanarras Hill. Consequently, there are large areas which have no theoretical visibility of the Proposed Development in these directions within the Study Area.

The screened ZTV (**Volume 3 Figure 8.2**) illustrates a slightly different result as it takes existing trees and buildings and their screening abilities into account. The screened ZTV indicates that there are a few scattered areas that have no visibility of the Proposed Development, particularly to the north of the Site where plantations and woodland belts restrict visibility. Buildings within Halkirk also reduce visibility in that area. The greatest visibility, taking into account screening, remains to the west. northwest and north where it extends as far as the Study Area. In other directions, the visibility is more local and generally restricted to approximately 1 km from the Site. There is a small decrease in extent due to screening by vegetation. Fieldwork and further desktop work shows that visibility of the existing site is more restricted by local topography, small areas of trees plus hedgerows which align many local roads and surround properties. However, the screened ZTV does indicate that certain tall elements of the Proposed Development would be widely visible especially in a northern and western direction.

8.4.5 Valued Views

There are no specific, recognised viewpoints within the Study Area from which the Site forms an important visual element.



8.4.6 Settlements and Residential Receptors

Residential receptors mainly consist of isolated or grouped properties in this location. The closest settlement is Halkirk to the north where residents in properties to the south along Camilla St may have views towards the Site. The closest properties and farmsteads are located along the A9. There is a single property immediately adjacent the Site which has a degree of enclosure provided by some evergreen trees and shrubs along its garden boundaries. Other nearby properties are generally located across the A9 from the Site. These include Achalone (VP5) and properties further north and south along the A9. Slightly further west are farmsteads such as North Achalone and Achcomhairle. Further west, there are properties along the minor road near Yellow Moss extending as far as Harpsdale. The screened ZTV (**Volume 3 Figure 8.2**) indicates that most of these properties immediately adjacent to the A9, the majority of properties have boundary vegetation or shelterbelts which provide a degree of screening of the Site, not reflected by the screened ZTV. The properties to the south of Halkirk do not appear to benefit from such enclosure and have clear views to the south.

Immediately north of the Site is Banniskirk House. This property benefits from extensive areas of woodland within its boundaries which provide screening of the Site. Banniskirk Mains (VP4) is located northeast and close to the Site and has fairly open and direct views to the southwest. There are properties located along or accessed from the A882 and the screened ZTV indicate that there might be intermittent visibility of the Proposed Development in the vicinity of Clayock and where the road joins the A9. Further southeast from Clayock along the A882, there is no visibility of the Proposed Development as far as the Study Area boundary.

At distances greater than approximately 1 km the screened ZTV indicates no visibility of the Proposed Development to the east or southeast. This relates to properties at Upper and Lower Larel, those along the A882. Dunn and South Dunne. Crofts of Hillpark, Langerhill and Achnamoine. The small settlement of Spital adjacent the A9 is also not subject to visibility. The reason for this restricted visibility is from the presence of Spittal Hill to the south.

8.4.7 Recreational Users

The location of core paths within the Study Area is indicated on **Volume 3 Figure 8.4**. A number of core paths are located in the vicinity of Halkirk including CA06.01, 02, 05, 09 and 11. Of most relevance is C06.05 (VP1) which runs along the eastern edge of Halkirk and views toward the Site may be available from its southern most point. CA06.10 appears to be associated with accessing the River Thurso from close to the railway station at Halkirk. It is at a relatively low location, with the A9 and intervening vegetation limiting views towards the Site.

CA06.08 is a path around the old quarry near Spittal with no views toward the Site according to the ZTVs.

CA06.07 is the path which provides access from a car park to the site of the quarry and SSSI at Achanarras Hill. The path climbs up to the hill and views towards the Site are often interrupted by tree plantations. Where the path heads towards the quarry, it descends in level and views towards the Site are more difficult to achieve. In order to achieve a view of the Site, visitors to the quarry are required to deviate from the path and head to higher ground.

There is no indication on OS mapping or core path maps of an informal access path towards or across Spittal Hill.

8.4.8 Road Users

The A9 is the primary road which travels from the south at Inverness (although ultimately near Edinburgh via the M9) and reaches Thurso to the far north. It is considered a tourist route as it provides access to a number of popular destinations such as John o' Groats as well as ferry routes to the Orkney Islands. The A9 is adjacent to and passes the entire length of the Site.

The A882 is a main road located to the northeast of the Site, commencing at its junction with the A9 in the vicinity of Georgemas and travelling further southeast towards Wick.



The B870 is located to the south of the Site and travels east-west across the Study Area from near Markethill and exits just north of Dale Moss. The B874 is primarily outside the Study Area except for a section to the north between Knockdee and the village of Halkirk.

There are a large number of minor unclassified roads within and crossing the Study Area. One runs from Halkirk in the north, through Harpsdale and exits the Study Area to the south near Dale Farm. A short length of minor road runs from near Yellow Moss across the middle of the Study Area before joining the A9 near Athlone. Another short length runs to the north and northwest of the Site between the A9 just south of Georgemas Junction and Banniskirk Mains. A number of minor roads situated to the southeast of the Site have no theoretical visibility of the Proposed Development according to the ZTVs primarily due to intervening topography.

8.4.9 Representative Viewpoints

The following viewpoints have been selected as being representative of a range of receptor types, viewing distances, directions and types of view available in the Study Area. Viewpoint selection was based on desk review and field work as well as consultation. Details of each viewpoint are included in **Table 8.4** and their locations shown on **Volume 3 Figure 8.1** and **Figure 8.2**. The viewpoints are all from publicly accessible locations and have been submitted to THC for comment and were met with approval.

VP No	Location	National Grid Reference	Distance to site boundary and Reason Selection
1	Core path C06.05east edge of Halkirk	13628 58825 40m AOD	Approximately 2.4 km – Medium distance view from core path at edge of Halkirk village. Representative of views for recreational and nearby residential receptors.
2	Halkirk	13287 58773 43m AOD	Approximately 2.6 km – Medium distance view from southern edge of Halkirk village. Representative of views for nearby residential receptors.
3	Minor road near Yellow Moss	13388 57197 55m AOD	Approximately 2.1 km – Medium distance view from minor road to west of project site. Representative of views for residential receptors and road users along this minor road.
4	Achanarras Hill (Quarry) Core path CA06.07	15048 54506 119m AOD	Approximately 1.8 km – Medium distance view from near core path which provides access to Achanarras Hill and quarry. View is representative of recreational receptors in the vicinity of the core path.
5	A9 alongside Project. Achalone	15533 56572 79m AOD	Approximately 6.3 m – Very close view from A9 and nearby residential property. Representative of views for residential receptors and road used by tourists.
6	Minor road accessing Banniskirk Mains	16812 57488 93m AOD	Approximately 7.4 km – Representative of close views for residential receptors in the vicinity of this location.
7	A882 between crossing of railway and Clayock	16683 59308 56m AOD	Approximately 2.0 km – Representative of medium distance views for road users to the north traveling south along this road as well as residential receptors in the vicinity.

Table 8.4: Viewpoints

8.4.10 Future Baseline

In terms of cumulative impact, the following projects have been included in the future baseline:

- West of Orkney Windfarm Grid Connection;
- Ayre Windfarm Grid Connection;



- Watten Wind Farm;
- Spittal to Peterhead HVDC (underground cable (UGC) joining into Banniskirk);
- Cable connecting Banniskirk to existing Spittal Substation;
- Spittal to Beauly Overhead Line (OHL).

8.5 Issues Scoped Out

There are no issues or elements which have been scoped out of this topic.

8.6 Assessment of Effects, Mitigation and Residual Effects

The assessment has been undertaken against the baseline described in **Section 8.4**. Unless stated otherwise, the effect on the landscape and visual amenity by either construction or operation of the Proposed Development is adverse.

8.6.1 Landscape Effects, Construction

The construction of the Proposed Development would last approximately 36 months and would include use of temporary laydown and welfare areas (construction compounds) located in an area to be determined but within the Site boundary. Construction compounds and laydown areas are likely to be located either side of the proposed construction access road from the A9 where level areas would be created.

As noted in the landscape baseline, the landscape character of the local area is rural. There is little activity in the area in terms of construction although farming activity will occur at various times of the year. There are tall infrastructure features in the area and some activity associated with the nearby quarry. Construction activity and equipment would be locally visible but less so towards the south. Taller construction equipment such as cranes would be more widely visible especially towards the north.

As well as the erection of the various buildings and electrical equipment there would be a fair degree of activity associated with the formation of the platforms for the substation and the convertor station. This would include considerable excavation for the platform in cutting and placement of material for the platform on fill. In addition, there would be earthworks activity associated with the formation of the various screening mounds. It is likely there would be an increase in vehicle movements along the A9 during construction in order to deliver material and equipment to the site. However, the adjacent A9 is a busy road, and any increase would be experienced in this context.

Construction activity is likely to have more effect locally on landscape character than a wider effect on the landscape character type.

Construction of the Proposed Development would require the removal of areas of mature trees and scrub within the site boundary. There is a scarcity of trees and scrub within the site boundary and therefore this change is likely to be more noticeable locally. There is a fair amount of adjacent trees, particularly conifers, adjacent to the site which is likely to reduce the wider effects of this proposed removal on the landscape character type.

It is considered that both the local landscape and the wider LCT have a **Medium-High** susceptibility to change due to the nature and construction of the Proposed Development. Although there is a similar existing project in the vicinity of the Site, there is very little of the proposed scale of the Proposed Development in the immediate or wider area. The low-lying nature of the landscape and the sparsity of woodland means that views across the landscape are extensive. A combination of Medium-Low value with Medium-High susceptibility results in a **Medium** sensitivity for both the local landscape and the wider LCT.

The magnitude of change to the local landscape character due to construction is considered to be **High** as there is very little similar activity occurring in the local landscape especially to this scale. Such activity and especially tall equipment would be fairly widely visible across the Study Area. The removal of existing trees within the site would be a notable loss considering the scarcity of woodland in the landscape type. With regard



to the wider LCT, the magnitude of change due to construction is considered to be **Low** which reflects the extent of the LCT unaffected by the influence of the Proposed Development.

The overall level of construction effect on the local landscape character is considered to be **Moderate** (Significant) and temporary and on the wider LCT is considered to be **Minor** (Not Significant) and temporary.

8.6.2 Landscape Effects, Operational

Landscape effects reported at year 12 (residual) are based on the successful implementation and establishment of the planting mitigation included on **Volume 3 Figure 8.5** and the placement of screening mounds as per the engineers site layout plans.

Once operational, the Proposed Development would consist of two main components, an AC 400 kV substation and a HVDC convertor station. The substation would connect into the new proposed Spittal – Loch Buidhe – Beauly overhead line, whilst the HVDC convertor station would connect the Spittal to Peterhead offshore connection. (Note the overhead line and offshore connection are not part of this operational assessment, as they are considered within the cumulative effects assessment in **Section 8.6.5**).

The AC substation would consist of a large array of open electrical components placed on a rectangular level platform. Due to the natural slope of the Site, which is lower to the north (approximately 20 m), the platform would be partially raised above existing ground level at its northern end. The platform has been placed on a southwest - northeast orientation to reduce the amount of fill required to achieve a level platform.

The convertor station, which is situated to the south of the site would sit on a square level platform partially in a cutting at its southern end. The heights of the AC substation equipment would vary but are likely to be 15 m tall at most. The converter station would consist of two buildings approximately 60 m by 140 m in plan and 26 m tall, with an apex roof. These two buildings will sit parallel to each other. See layout plans in the Proposed Development description (**Chapter 3**) for further details. The final colours of the buildings and roof would be agreed with THC but are illustrated as dark green on the photomontages contained in **Volume 4 Appendix 8.1**.

There would be a new permanent operational access from the A9, at a point approximately three quarters of the way along the Site boundary with the A9 from the south. This would require a new entrance to be created through the existing stone boundary wall and potentially a realignment of the wall to enable sight lines.

A number of linear screening mounds would be created primarily along the alignment of the A9. These will vary in height from 4 to 7m, with the lesser height where in proximity to the existing adjacent residential property. The width of the mounds would vary but are likely to be approximately 30 m which will enable a more naturalistic shallow slope to face the A9. Other more substantial sized mounds would be located to the north and south of the Site which would assist in screening the converter station from users of the A9 travelling north and the substation from users of the A9 travelling south.

In order to maximise the screening effects of planting mitigation and to provide enhanced screening at an earlier stage, it is proposed to plant on all the mounds. In some cases, only parts of the larger mounds would be planted with the remainder being seeded with a grassland habitat. The proposed planting would be a mixture of native woodland trees and scrub with some evergreen species.

The placing and location of the mound and planting on the Site is extremely limited by a number of known services connection corridors and unknown but required overhead cable connections entering and leaving the Site. This is especially relevant to the most northern site boundary with the A9 and the northeastern boundary. It is not feasible to provide any effective screening mitigation measures along the latter boundary.

There are a number of Sustainable Urban Drainage (SUDS) features proposed within the Site boundary including two large detention basins close to the A9 and a much smaller one close to the tower compound. In addition, an existing watercourse is to be diverted through the site following a naturalised realignment. There is an opportunity of introducing wetland vegetation close to these new features to increase habitat diversity.



At year 1, the Proposed Development would be widely visible within the Study Area to the west, northwest and north as illustrated on the screened ZTV (**Volume 3 Figure 8.2**). To the west and south wider visibility is much more restricted due mainly to intervening topography (hills) and coniferous forestry to the southwest. Visibility in these directions is much more local and limited to approximately a kilometre. There is a longer narrower strip of visibility extending further south as far as Mybster. The Proposed Development would be a new large structure in the local landscape and when viewed locally from the south and west would not have the benefit of being seen against a solid backdrop such as Spittal Hill which otherwise would help to mitigate the level of effect. When viewed from the north and northwest, the Proposed Development would be seen against the backdrop of higher ground which would reduce the level of effect to a degree. In addition, when viewed from longer distances, intervening trees and scrub would be more effective at providing a degree of screening compared to closer views, where the actual screening would reduce the openness and expansive nature of the existing landscape. This essentially means that effects on the local landscape are likely to be greater than those on the wider landscape.

The proposed mounds would provide a good degree of screening and integration of the Proposed Development into the landscape at year 1 when seem in proximity, whilst any proposed planting mitigation would not yet be effective. There is potential for an effect to occur from the placement of the mounding as such small undulations are not typical of the flat landscape and the mounds would limit the open character of the landscape. However, the main source of effect arising from the Proposed Development is the electrical infrastructure, its extent and the scale of the buildings associated with the converter station. When viewed at greater distances, the various photomontages illustrate that the mounding and the planting is not effective at integrating the development into the landscape at year 12. This is largely due to the height and massing of the various buildings which even the combination of mounding and planting at year 12 struggle to screen.

It is considered that both the local landscape and the wider LCT have a **Medium-High** susceptibility to change due to the nature and operation of the Proposed Development. Although there is a similar existing project in the vicinity of the Site, there is very little of the proposed scale of the Proposed Development in the immediate or wider area. The low-lying nature of the landscape and the sparsity of woodland means that views across the landscape are extensive. A combination of Medium-Low value with Medium-High susceptibility results in a **Medium** sensitivity.

The magnitude of change to the local landscape is considered to be **High** whilst for the landscape character type is considered to be **low**.

The overall level of local landscape effect during operation at year 1 is considered to be **Moderate** (**Significant**) based on a **Medium** sensitivity in combination with a **High** magnitude of change. In terms of the landscape character type, it is considered that despite the scale of the Proposed Development, a significant landscape effect is unlikely to arise, given that the overall extent of the LCT remains unaffected. It is considered that the landscape effect on the LCT is **Minor** (Not **Significant**).

At year 12, the effectiveness of the planting mitigation to screen the Proposed Development and/or integrate it into the landscape should have increased. However, reference to the photomontages for VPs 2, 3, 5 and 6 illustrate that despite the placing of the planting on the sides and top of the mounds, the buildings in particular remain visible and the mitigation planting is barely discernible at a distance. There would remain visibility especially where no mitigation has been possible due to cable restrictions. However, wider visibility would be limited in these easterly and south easterly directions. The level of effect is considered to remain at **Moderate** (**Significant**) for the local landscape and Minor (Not significant) for the landscape character type. The Proposed Development as a whole would remain reasonably visible within the landscape and in combination with the mitigation measure such as mounding and planting, would continue to change the character of the landscape, particularly the local landscape.



8.6.3 Visual Effects - Construction and Operation

An assessment of visual effects is provided in **Table 8.5**. Photomontages for viewpoints 2, 3, 5 and 6 are available in **Volume 4 Appendix 8.1**.

VP No	Location	
1	Core path C06.05 east edge of Halkirk	Existing View This viewpoint represents views obtained by recreational users of the core path which runs to the east of the village of Halkirk. It connects to the B874 to the north and the open countryside south of the village. Views across the flat landscape are available where the core path reaches the edge of the village and are likely to be similar in character to those obtained by residential receptors along the southern edge of Halkirk. Views to the south are expansive due to the flat nature of the topography. There is a railway line and lines of intervening trees between viewers and the Site. Other existing features include farmsteads, residential properties and a line of towers crossing north south across the view. In a slightly wider context, Spittal Hill is a notable feature at the horizon as well as a density of towers in the vicinity of the existing substation at Spittal and wind turbines further south. The value of this view is medium as it is a pleasant open view which includes a number of natural physical features. However, the landscape is not that varied and includes existing infrastructure features in the middle and far distance.
		Firew from core path C06.05 east edge of Halkirk.
		Sensitivity of visual receptors
		Recreational and residential receptors are of High susceptibility and in combination with the Medium value are of Medium High sensitivity.
		Magnitude of change During the construction period, there would be distant views of construction activit
		and equipment on the Site. The majority of activity would be difficult to discern du to intervening vegetation and distance although some activity would be more discernible due to the level of the platform for the substation compared to existing levels. Tall equipment such as cranes would be visible and viewed against the sk which would make them more noticeable. However, these would be viewed at distances of approximately 2.7 km. It is considered that the magnitude of change during construction would be l ow .
		Once operational, it is likely that the two buildings would be the most visible components of the Proposed Development from this location due to their solid massing and height. It is likely that for the most part, the buildings would be seen against the rising ground of Spittal Hill, which would help to reduce their impact to

Table 8.5: Visual Effects Assessment

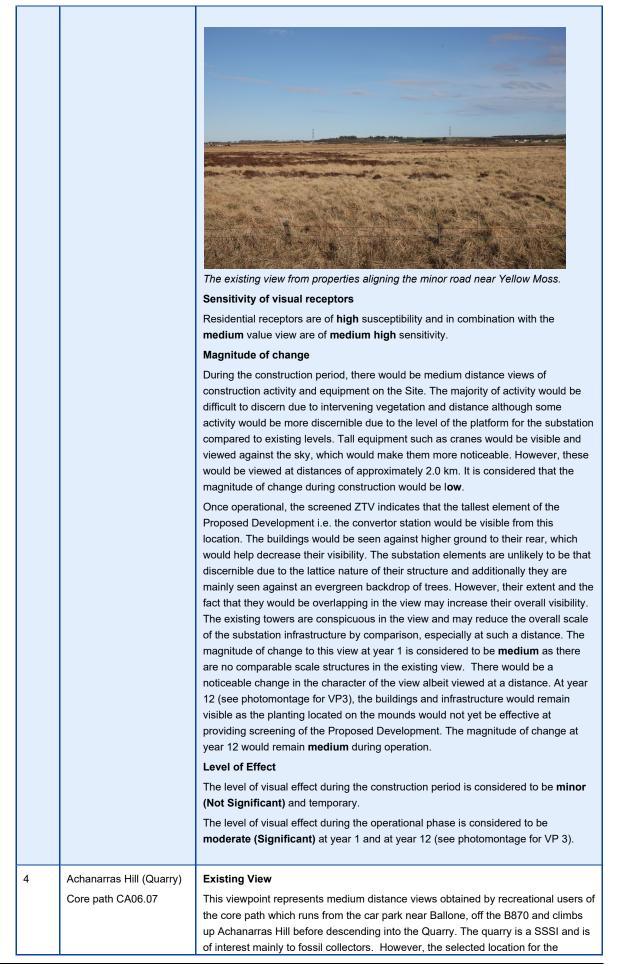


		a degree. The substation elements are unlikely to be that discernible due to the lattice nature of their structure. However, their extent and the fact that they would be overlapping in the view may increase their overall visibility. As noted in the baseline, there are existing towers in the view which are taller and closer than the Proposed Development components. The magnitude of change to this view at year 1 is considered to be medium as there are no comparable scale structures in the existing view. There would be a noticeable change in the character of the view. At year 12 (see photomontage for VP2 which is also from Halkirk), the planting located on the mounds should be more effective at providing screening of most of the substation infrastructure. However, reference to the photomontage illustrates that the buildings would remain visible, and the planting would be difficult to discern. The magnitude of change at year 12 would remain medium during operation. Level of Effect The level of visual effect during the construction period is considered to be minor (Not Significant) and temporary. The level of visual effect during the operational phase is considered to be moderate (Significant) at year 1 and year 12 (see photomontage for VP 2 which is at a similar location at Halkirk).
2	Halkirk	Existing View This viewpoint represents views obtained by residential receptors along the southern boundary of Halkirk village. The outlook is very similar to that obtained from VP1 except the view is slightly more oblique and towards the east. Views to the south are expansive due to the flat nature of the topography. There is a railway line and lines of intervening trees between viewers and the Site. Other existing features include farmsteads, residential properties and a line of towers crossing north south across the view. In a slightly wider context, Spittal Hill is a notable feature at the horizon as well as a density of towers in the vicinity of the existing substation at Spittal and wind turbines further south. Most of the properties along this boundary have fences of various types and heights which may restrict views towards the Site. However, there is a paucity of boundary vegetation and therefore views are generally uninterrupted from the gardens and properties. The value of this view is medium as it is a pleasant open view which includes a number of natural physical features. However, the landscape is not that varied and includes existing infrastructure features in the middle and far distance.
		<image/> <caption><section-header></section-header></caption>



	1	
		Magnitude of change
		During the construction period, there would be distant views of construction activity and equipment on the Site. The majority of activity would be difficult to discern due to intervening vegetation and distance although some activity would be more discernible due to the level of the platform for the substation compared to existing levels. Tall equipment such as cranes would be visible and viewed against the sky, which would make them more noticeable. However, these would be viewed at distances of approximately 2.7 km and slightly oblique to the general direction of the view. It is considered that the magnitude of change during construction would be low.
		Once operational, it is likely that the two buildings would be the most visible components of the Proposed Development from this location due to their solid massing and height. For the most part, the buildings would be seen against the rising ground of Spittal Hill, which would help to reduce their impact. The substation elements are unlikely to be that discernible due to the lattice nature of their structure. However, their extent and the fact that they would be overlapping in the view may increase their overall visibility. As noted in the baseline, there are existing towers in the view which are taller and closer than the Proposed Development components. The magnitude of change to this view at year 1 is considered to be medium as there are no comparable scale structures in the existing view. There would be a noticeable change in the character of the view albeit viewed at a distance. At year 12 (see photomontage for VP2), the planting located on the mounds should be more effective at providing screening of most of the substation infrastructure. However, reference to the photomontage illustrates that the buildings would remain visible, and the planting would be difficult to discern. The magnitude of change at year 12 would remain medium during operation.
		Level of Effect The level of visual effect during the construction period is considered to be minor (Not Significant) and temporary.
		The level of visual effect during the operational phase is considered to be moderate (Significant) at year 1 and year 12 (see photomontage for VP 2).
3	Minor road near Yellow	Existing View
	Moss	This viewpoint represents residential receptors, in particular those located in a cluster near Yellow Moss along the minor road running south from Halkirk towards Harpsdale. Views looking east towards the Site are across a flat and fairly featureless landscape. There is a fair amount of tree cover which appears as ribbons across the view due to the flat topography. The ground does rise in the far distance and there are trees along the horizon. Scattered farmsteads and properties are a feature of the view as well as a line of towers which cross the landscape and are fairly conspicuous as they are viewed against the sky. In a slightly wider context, Spittal Hill is a notable landscape feature and sits south of the Site. The view has a medium value as it is typical of rural views in the area.







photography is off the route of the core path and on a small hillock which permits direct views towards the site. Whilst accessing the quarry and walking along the route of the core path, it is difficult to obtain views of the site due to intervening trees and forestry. The view from the chosen location is expansive and overlooks the site. Coniferous trees are a notable feature of the view and provide screening of parts of the site. The existing Spittal sub station is also a feature of the view although a large part of the structure is screened by a plantation of conifers. Towers are visible and the one nearest the existing substation crosses the skyline making it more prominent. Farmsteads and residential buildings are numerous in the view. Rising ground in the background ensures that most manmade features in the landscape have a solid backdrop. The view has a **medium to high** value as it is an elevated, expansive rural view but contains some detractors.



The existing view from Achanarras Hill.

Sensitivity of visual receptors

Recreational receptors are of **high** susceptibility and in combination with the **medium high** value view are of **high** sensitivity.

Magnitude of change

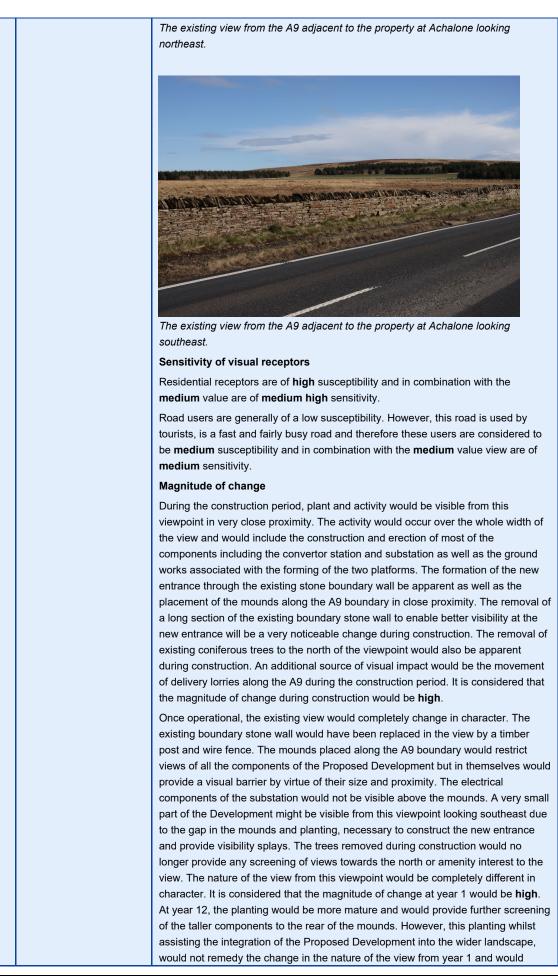
During the construction period construction plant and activity would be visible at a medium distance but from an elevated position. Only parts of the Site would be visible during construction and parts would be see behind and through the existing infrastructure at the Spittal substation. Taller equipment would be visible above existing intervening buildings. The removal of existing trees on the Site would be visible but are not likely to be that noticeable due to the extent of existing trees remaining within the view. It is considered that the magnitude of change from this location during construction would be **medium** taking into account the elevated view which permits more visibility of construction than the lower viewpoints. However, due to the fact that this view is not actually on the route of the core path, it is considered that the magnitude of change from the actual core path is lower i.e. **Low**.

One operational, the converter station in particular plus the substation infrastructure would be notable new components of the view. It is feasible that some of the new components would be screened by either intervening topography, existing vegetation or a combination of both. It is likely that the upper parts of the convertor station would be seen crossing the horizon and seen against a sky backdrop, making it more noticeable. Large parts of the Proposed Development would be seen to the rear of the existing substation in the view which would mitigate the level of change to a degree. It is considered that the magnitude of change at year 1 from this location would be **medium**. However, due to the fact that this view is not actually on the route of the core path, it is considered that the magnitude of change from the actual core path is Low at year 1. At year 12, the planting would be more mature and would provide some integration of the



		Proposed Development into the landscape. However, due to the elevation of the view, the planting on the mounds would not be as effective at screening as when viewed at a lower elevation. The magnitude of change at year 12 would remain at medium . However, due to the fact that this view is not actually on the route of the core path, it is considered that the magnitude of change from the actual core path is Low at year 12. Level of Effect It is important to note that these levels of effect are reported for a location which is off the route of the core path. A recreational receptor would be taking a slight detour to achieve a view over the Site. This is reflected in the judgement regarding the magnitude of change. The level of visual effect during the construction period is considered to be minor (Not Significant) and temporary. The level of visual effect during the operational phase is considered to be minor (Not Significant) at year 1 and year 12 (see photomontage VP4).
5	A9 alongside Project Achalone	Existing View This viewpoint represents residential receptors located on the opposite side of but adjacent to the A9. It also represents road users of the A9. Three view directions are included here, looking northeast, east and southeast. The viewpoint is adjacent to a farmstead at Achalone but is similar to other properties aligning the A9 and facing the site. The views are very close to the site, open, across rising ground and include the stone boundary wall which aligns the whole of the site along the A9. This is an attractive and characteristic feature. Looking northeast, to the rear of the wall, the ground rises gently towards the horizon. Dense evergreen trees form the boundary with Banniskirk House as well as those situated to the north adjacent the site's boundary with the A9. Looking east, the stone boundary wall is the main close feature. The field to the rear of the wall, rises gently towards the horizon and includes the properties at Banniskirk Mains plus a thin line of coniferous trees along the skyline. The sky is an expansive feature. Looking southeast, there are no farmsteads in the view and the stone wall forms the closest feature. Spittal Hill forms a distinctive high point along the horizon. Coniferous plantations are a feature of the landscape within the view. There are also a number of low voltage wooden poles crossing the road and adjacent to the site. The views from this location have a medium value as features in the view are typical of the area. There are few detracting features but the A9 and its traffic is the main one.







		further limit the extent of the existing views. The magnitude of change at year 12 would remain high . Level of Effect The level of visual effect during the construction period is considered to be major (Significant) and temporary for residential receptors and moderate (Significant) for road users. The level of visual effect during the operational phase is considered to be major (Significant) for residential receptors and moderate (Significant) for road users at year 1 and year 12 (see photomontage for VP 5).
6	Minor road accessing Banniskirk Mains (north)	Existing View This viewpoint represents views for residential receptors at Banniskirk Mains. This is a slightly elevated view (93m AOD) resulting in very long open views towards the far horizon. The Site sits in the middle ground and extends across most of the view. Mixed woodland sits to the north of the view as part of Banniskirk House and coniferous woodland sits to the south. Part of the Site is located to the rear of the woodland associated with Banniskirk House. Land cover in the foreground is pasture whilst the middle ground appears to be arable. Coniferous plantations are a key feature of the wider and longer view. A number of distinctive mountain peaks are located at the far horizon. In a wider context Spittal Hill can be seen to the south and the village of Halkirk to the north of the view. The view from this location has a medium-high value as it is slightly elevated,
		Wide There are a number of distinctive natural features, and the extent is very long and wide. There are very few noticeable detracting features, except for the line of towers crossing the view. However, for the most part (two towers being the exception) these are seen against a solid background making them less obvious. The existing view in the vicinity of Banniskirk Mains.
		Sensitivity of visual receptors Residential receptors are of high susceptibility and in combination with the medium-high value view are of high sensitivity. Magnitude of change During the construction period, activity and plant would be seen over a wide extent and fairly close to the viewpoint. Tall equipment would be seen against the sky background making this more apparent. Some activity would be screened by intervening vegetation. It is considered that the magnitude of change during construction would be medium.
		Once operational, there would be a large change in the nature of the view. New structures and buildings would be present in the view over a wide extent. These would sit along and cross the horizon altering the quality of the view. It is feasible that some of the components would block views of the distant mountain peaks. A



		number of taller electrical components would be seen against the sky making them more visible. It is considered that the magnitude of change at year 1 would be high . At year 12, as there is no planting or mounding proposed along the open section of the northeastern boundary due to services restrictions, the magnitude of change would remain high . Level of Effect The level of visual effect during the construction period is considered to be moderate (Significant) and temporary. The level of visual effect during the operational phase is considered to be major (Significant) at year 1 and year 12 (see photomontage for VP 6.).
7	A882 between crossing of railway and Clayock	Existing View This viewpoint represents road users of the A882 and residential receptors in the vicinity of Clayock. This medium distance view is fairly open and extends across fields of pasture with a fair amount of intervening trees located along the horizon. Spittal Hill can be seen rising along the horizon to the southeast. A few farmsteads and residential properties are visible in the view. Views towards the Site are screened by the forestry at Clayock Moss and a much larger plantation to the east. Views towards the Site from further southeast along the A882 are blocked by the higher ground (150m AOD) east of Banniskirk Mains and this is the case for its length within the Study Area. The value of the view from this location is medium as it is typical of rural views in the area.
		 The existing view from A882 near Clayock. The existing view from A882 near Clayock. Sensitivity of visual receptors Residential receptors are of high susceptibility and in combination with the medium value are of medium-high sensitivity. Road users are of low susceptibility and in combination with the medium value are of medium-high sensitivity. Road users are of low susceptibility and in combination with the medium value of change During the construction period it is unlikely there would be any views of construction activity in the vicinity of the site due to intervening topography and vegetation. It is possible that tall equipment such as cranes might be visible, but this would be at quite a distance. It is considered the magnitude of change during construction would be negligible. Once operational, although the screened ZTV indicates that there might be some intermittent visibility in the vicinity of Clayock, in reality the Proposed Development components are likely to be screened by a combination of intervening topography and the plantations such as Banniskirk Moss to the south. Views of the Proposed



	Development whilst travelling along the A882 would also be difficult to achieve despite the road climbing as it crosses the railway track. The remainder of the road to the southeast and aligning properties are not likely to have visibility of the Proposed Development according to the screened ZTV. It is considered the		
	magnitude of change during operation would be negligible .		
	Level of Effect		
	The level of visual effect during the construction period is considered to be negligible (Not Significant) and temporary.		
	The level of visual effect during the operational phase is considered to be negligible (Not Significant) at year 1 and year 12.		

8.6.4 Mitigation Measures

In order to mitigate the landscape and visual effects of the Proposed Development during construction and operation, it is recommended that existing trees adjacent to the works are protected during construction according to BS 5837.

A landscape mitigation plan has been prepared (**Volume 3 Figure 8.5**). The residual effects presented at year 12 in this EIAR, assume that this planting would be implemented in full at the Site. The design of the planting mitigation has been influenced by the need to provide screening of a number of very large and tall buildings and infrastructure as part of the Proposed Development. The location of planting has been limited to a degree by engineering restrictions in place to allow overhead and underground cables to enter and exit from the Site. In some locations for example to the east of the platforms, this has prevented the placement of planting or mounding. However, where planting and mounding is feasible, for example aligning the A9, this combination will provide near and distant screening and integration of the Proposed Development into the landscape over time. Mounding will be located along the boundary with the A9 as well as within the site to provide early screening before the planting has sufficiently matured and can reinforce that early screening. Retaining material on site resulting from the creation of the platforms will be a sustainable measure and reduce additional construction activity if material were to be removed from the Site.

The planting will be designed to avoid providing a solid block of planting alongside the A9 and to prevent an overbearing appearance where opposite residential receptors. To that end, the planting location and width will vary, and grass meadows will be allowed to establish adjacent to the road corridor. The species mix of the woodland and scrub edging will be primarily native, but some evergreen species will be used to assist with winter screening.

Grass meadows will be encouraged across the site and some of the mounding will be seeded to create habitats with different aspects.

All screen planting will be protected against deer invasion and grazing.

A lighting plan will be developed during detailed design to limit light pollution during construction and operation.

8.6.5 Cumulative Effects

Although there are a number of existing electrical infrastructure features in the Study Area, in the vicinity of the Site, these do not fundamentally change the landscape character of the area. The existing Spittal substation is situated some distance from the A9 and is primarily viewed against a solid background. Towers are located in the landscape, but they are not defining characteristics. The overall characteristic is countryside which is primarily enjoyed by people travelling through on roads, as well as by people living within the Study Area. In addition, there is not a great deal of activity in the area despite there being an active quarry and the busy A9 near the Site.



Cumulative Project Details

For the **West of Orkney Windfarm Grid Connection (Substation)**, it is proposed that the windfarm would connect from a landfall site at Crosskirk / Greeny Geo to the existing onshore substation and a proposed substation located at Spittal, Caithness via underground cable. The proposed substation location would be across the A9 from the Banniskirk Hub. Construction and operation would likely occur during the same periods as the Proposed Development,

The **Ayre Windfarm Grid Connection** would connect from a landfall location at Sinclair's Bay to a Grid Connection Point (GCP) at Spittal. It appears this will connect into Banniskirk Hub from the NE via UGC. This connection will include a substation which according to the Highland Renewables Database is located near Clayock. There is no potential for construction cumulative effects to arise as the cumulative project is not starting construction until after Banniskirk construction is finished. Operation would likely occur during the same period as the Proposed Development.

The **Watten Windfarm** would comprise of up to 7 turbines, up to 220 m tall, and ancillary infrastructure, including a battery energy storage system (approx. 20 MW. It would be located approx. 5 km to the southeast of Banniskirk Hub. Construction and operation would likely occur during the same periods as the Proposed Development. Although this cumulative project is outside the 4 km study area, it will be included in the future baseline due to its height and potential visibility.

The **Spittal to Peterhead HVDC** is an underground cable which would join into Banniskirk Hub from the east. It would ultimately link Spittal and Peterhead. Construction would occur during the same period as the Proposed Development. As this is an underground cable it is considered that there would no operational cumulative effects occurring during the operation of the Proposed Development. Therefore, operational cumulative effects are not considered further.

The **Cable connecting Banniskirk Hub to existing Spittal Substation** would be an underground cable which would connect Banniskirk to the existing Spittal Substation. Construction would likely occur during the same period as the Proposed Development. As this is an underground cable it is considered that there would be no operational cumulative effects occurring during the operation of the Proposed Development. Therefore, operational cumulative effects are not considered further for this cumulative project.

The **Spittal to Beauly OHL** requires the construction of a new 400 kV OHL between Spittal, Loch Buidhe and Beauly. It is assumed that the OHL would enter Banniskirk at the SE corner. Construction and operation would likely occur during the same periods as the Proposed Development.

Cumulative Landscape Effects - Construction

Of the six cumulative projects taken forward to assessment, five would be under construction at the same time as the Proposed Development. The scale of construction of the Proposed Development is much larger than the majority of these cumulative projects. The West of Orkney Windfarm Grid Connection substation is the nearest in scale, but this is still much smaller. Construction would be occurring in relative proximity to the Proposed Development on the other side of the A9. construction. The Watten Windfarm would be the next in scale of construction requiring similar equipment and tall cranes which would be visible in the wider landscape. At approx. 5.5 km from the site, construction activity for the Watten Windfarm would be barely discernible especially as it would be occurring to the rear of Spittal Hill. The construction of the Spittal to Beauly OHL would occur within the site boundary and then extend as far as the 4 km study boundary. Construction activity and the presence of cranes would mainly occur at the location of each tower, and some would also be seen in close vicinity with construction activity occurring at the Site.

The two underground cable cumulative projects (Spittal to Peterhead HVDC and Cable connecting Banniskirk to existing Spittal Substation) as well as the underground cable which would enter the site from the northeast associated with the Ayre Windfarm Grid Connection, would consist of low-level construction activity occurring in close proximity to the Site. This activity would extend the extent of construction activity outside of the Site



boundary. Construction activity would be much smaller in scale compared to that associated with the Proposed Development.

The activities and presence of tall equipment associated with the construction of the Proposed Development would contribute more to cumulative construction landscape effects than most of the cumulative projects followed by the windfarms and the OHL. However, their construction during the same timeframe would increase the magnitude of change to the character of the landscape, particularly on a more local level, albeit temporarily. Taking the large scale of the LCT into consideration and the relatively wide visibility of the construction activity associated with a number of the cumulative projects, the cumulative magnitude of change is considered to be **low** and the additional cumulative landscape effect of the Proposed Development in combination with the cumulative projects would be **minor** during construction.

In terms of the local landscape, it is considered that the cumulative magnitude of change would be **high** and the additional cumulative landscape effect of the Proposed Development in combination with the cumulative projects would be **major** during construction.

Cumulative Landscape Effects – Operation

Of the cumulative projects, the one which is likely to contribute the most towards operational cumulative effects is the West of Orkney Windfarm Grid Connection. The substation associated with this connection would be located in close proximity to the Proposed Development to the southwest, adjacent to the existing Spittal substation and parallel to the A9. The extent of the site is similar to that of the Proposed Development with a large platform. Detail is lacking at this stage, but the platform is shown towards the centre of the site with tree planting on mounding surrounding the platform. During operation, both the Proposed Development and this substation would be new and visible structures in the landscape seen from the A9 and overlooked from higher ground to the south and southwest. The introduction of these two structures in addition to the existing Spittal substation would change the character of the local landscape.

The location of a substation associated with the Ayre Windfarm Grid Connection to the northwest of the site, in the vicinity of Clayock, introduces electrical infrastructure into a part of the local landscape which is devoid of such structures. However, there is a fair amount of screening and enclosure provided by the coniferous and mixed woodland in the vicinity.

. The Watten Windfarm at 220m tip heights would be widely visible across the LCT at up to 20 km in most directions, Interestingly, the project ZTVs shows little or no visibility in the vicinity of the project site due to the adjacent Spittal Hill.

Although tall towers exist within the Study Area, they are not generally that close to the Site. They are present and more noticeable to the west where they align with the A9. The introduction of the Spittal to Beauly OHL into the landscape would introduce tall towers within the Proposed Development boundary and these would then extend east of Spittal Hill before leaving the Study Area. These approximately 50 m high towers would be visible for up to 10 to 15 km although not as obvious as wind turbines due to their lattice metal framework.

As noted previously, it is considered that no operational cumulative effect would arise from the underground cable cumulative projects.

The cumulative projects included above would contribute towards operational cumulative effects in combination with the Proposed Development. It is considered that the Proposed Development due to its overall scale and location would contribute the most towards cumulative effect.

Taking the large scale of the LCT into consideration and the visibility of the Proposed Development elements as well as those associated with a number of the cumulative projects, the cumulative magnitude of change is considered to be **low** and the additional cumulative landscape effect of the Proposed Development in combination with the cumulative projects would be **minor** during operation.



In terms of the local landscape it is considered that the cumulative magnitude of change would be **high** and the additional cumulative landscape effect of the Proposed Development in combination with the large number of cumulative projects over a relatively small area would be **major** during operation.

Cumulative Visual Effects - Construction

Cumulative visual effects occur when a number of cumulative projects are visible within a view (at a viewpoint) as well as the Proposed Development. If the viewer does not need to turn their head to see several relevant project, this is known as a combined view. If the viewer needs to turn their head up to 90 degrees (in another direction) to see another relevant development, this is called a successive view and is considered less salient than the combined view. However, this might not be the case if the viewer is surrounded by relevant projects.

It is considered that most of the cumulative projects could contribute towards cumulative visual effects during construction, with the degree of effect relating to their location in relation to the visual receptor and the proximity to the Proposed Development and each other. The cumulative projects are in reasonably close proximity and the scale of construction effects is likely to be a on a more local scale than affecting more distant receptors. The tallest equipment such as cranes are likely to be static during the construction period for the substations, but more mobile and temporary for the towers and windfarm. General construction activity occurs at fairly low height and will not have a large geographic influence.

There is the potential for combined views from a number of the representative viewpoints. Views from the north from Halkirk (VPs 1 & 2) are likely to include views of the taller construction equipment of the Proposed Development plus the Spittal to Beauly OHL. It is possible that construction equipment at the substation associated with the West of Orkney Windfarm Grid Connection would be visible from this location as it would be located close to the Proposed Development. It is also possible that construction associated with the Ayre Windfarm Grid Connection would be visible although there is more woodland and trees in the vicinity which might provide screening. It is unlikely that construction of the underground cable routes would be visible from these locations. At distances of approx. 10 km, construction activity associated with the Watten Windfarm is unlikely to be discernible from these viewpoints.

Another combined view from the north, near Clayock (VP7) would include views of the construction of the Ayre Windfarm Grid Connection substation in proximity and the Proposed Development Construction of the Watten Windfarm is unlikely to be discernible. The taller equipment constructing the Spittal to Beauly OHL is likely to be partially visible above existing intervening vegetation but reducing further as it heads southeast towards the edge of the Study Area. Construction of the substation associated with the West of Orkney Windfarm Grid Connection is unlikely to be visible as it would be located behind the Proposed Development.

Combined close views would also be available from Banniskirk Mains (VP6). The views would include construction of the Proposed Development and the Spittal to Beauly OHL. Construction of the OHL would move gradually towards the southeast where it would be less noticeable and become a successive view. Construction of the substation associated with the West of Orkney Windfarm Grid Connection would likely be hidden behind the Proposed Development, but taller equipment might occasionally be visible. A successive view of the construction of the Ayre Windfarm Grid Connection substation would also be available as the project is located due north of the viewpoint. Visibility of the construction of the Watten Windfarm would not be likely, there would be existing activity in views looking west including farming activities and traffic moving along the A9. However, there would be a definite increase in construction activity from this representative viewpoint.

Views in close proximity to the site and for users of the A9 are represented by VP5. This would be a very close combined view of the construction of the Proposed Development, and the Spittal to Beauly OHL. This would include construction activity, vehicles and tall equipment. Construction of the substation associated with the West of Orkney Windfarm Grid Connection would be to the rear of the property at VP5 and to the rear of other properties aligning the A9. This would not be a successive view from this viewpoint location, but construction of the cumulative project would be visible from the rear grounds of this and other properties. Visibility of the construction of the Watten Windfarm would not be likely. It is possible that the construction of the cumulative



projects requiring taller construction equipment and construction of the Proposed Development would be seen in sequence at some point whilst driving along the A9 in either direction.

Views from the south and higher ground are represented by a location near Achanarras Quarry (VP 4). This elevated location would offer combined views of the construction of all the cumulative projects. There is very little activity occurring in the existing view. Construction activity at the Proposed Development and the substation associated with the West of Orkney Windfarm Grid Connection would potentially be read as one large construction project such is their proximity to each other. Construction of the Ayre Windfarm Grid Connection substation would be seen in the distance towards the north and rear of the Proposed Development. Construction of the Spittal to Beauly OHL would be seen traversing the view as each tower is erected and the lines are strung.

It is considered that the cumulative magnitude of change for visual receptors will vary depending on their location and the content of the view. In terms of construction effects, receptors at VPs 1, 2 and 7 are likely to experience **low** magnitudes of change which would result in **minor** cumulative effects during construction. Receptors at VPs 3, 4 and 6 are likely to experience **medium** magnitudes of change which would result in **moderate** cumulative effects during construction. Receptors at VP5 are likely to experience a **high** magnitude of change which would result in a **major** cumulative effect during construction for residential receptors and road users.

Cumulative Visual Effects – Operation

It is considered that none of the underground cable projects would result in operational cumulative effects with the Proposed Development.

There is the potential for combined views from a number of the representative viewpoints. Views from the north from Halkirk (VPs 1 and 2) are likely to include the Proposed Development and the Spittal to Beauly OHL. The project ZTV for the Watten Windfarm indicates that theoretically, there might be visibility of a couple of turbines at approx. 10km distance from these viewpoints. The Ayre Windfarm Grid Connection substation might be partially visible although woodland in that area might provide screening. It is possible that the substation associated with the West of Orkney Windfarm Grid Connection would be visible from this location as it would be located close to the Proposed Development. Towers are already located in views from these viewpoints.

Another combined view from the north, near Clayock (VP7) would include a close view of The Ayre Windfarm Grid connection substation, and views of the Proposed Development. The project ZTV for the Watten Windfarm indicates that theoretically, there might be visibility of 5-6 turbines at approx. 8 km distance from this viewpoint. The towers of the Spittal to Beauly OHL are likely to be partially visible above existing intervening vegetation whilst the substation associated with the West of Orkney Windfarm Grid Connection is unlikely to be visible as it would be located behind the Proposed Development.

Combined views would be available from the west at Yellow Moss (VP3) which would include the Proposed Development, the substation associated with the West of Orkney Windfarm Grid Connection and the Spittal to Beauly OHL. The project ZTV for the Watten Windfarm indicates that theoretically, there might be visibility of all turbines at approx. 7.5km distance from this viewpoint. The introduction of these projects into the landscape would greatly increase the presence of electrical infrastructure in the view. The Ayre Windfarm Grid Connection substation is unlikely to be visible due to intervening woodland and trees whilst the two BESS projects to the west of the A9 might be visible in successive views.

Combined close views would also be available from Banniskirk Mains (VP6). The views would include the Proposed Development and the Spittal to Beauly OHL. The substation associated with the West of Orkney Windfarm Grid Connection would likely be hidden behind the Proposed Development. The project ZTV for the Watten Windfarm indicates that theoretically, there would be few or no turbines visible from this viewpoint. A successive view of the construction of the Ayre Windfarm Connection substation would be available as the project is located due north of the viewpoint. The introduction of these projects into the landscape would increase the presence of electrical infrastructure in the view.



Views in close proximity to the site and for users of the A9 are represented by VP5. This would be a very close combined view of the Proposed Development and the Spittal to Beauly OHL. These would all be new infrastructure elements in the view. The project ZTV for the Watten Windfarm indicates that theoretically, there would be no turbines visible from this viewpoint. The substation associated with the West of Orkney Windfarm Grid Connection would be to the rear of the property at VP5 and to the rear of other properties aligning the A9. This would not be a successive view from this viewpoint location, but the cumulative project would be visible from the rear grounds of this and other properties. It is unlikely that the other cumulative projects would be visible from this viewpoint due to intervening vegetation or the introduction of the one of the cumulative projects or the proposed Development into the views. It is likely that a number of the cumulative projects and the Proposed Development would be seen in sequence at some point whilst driving along the A9 in both directions.

Views from the south and higher ground are represented by a location near Achanarras Quarry (VP 4). This elevated location would offer combined views of all of the cumulative projects. The existing Spittal substation would also be included in the combined view. There are existing towers crossing the entire view. The Proposed Development and the substation associated with the West of Orkney Windfarm Grid Connection would potentially be read as one large infrastructure project such is their proximity to each other. The Ayre Windfarm Grid Connection substation would be seen in the distance towards the north and rear of the Proposed Development The Spittal to Beauly OHL would be seen as additional towers in the view, but the Warren Windfarms would be seen as a new element south of Spittal Hill and being a successive view. There would be quite a change to the baseline view with the introduction of all these cumulative projects.

It is considered that the cumulative magnitude of change for visual receptors will vary depending on their location and the content of the view. In terms of operational effects, receptors at VPs 1,2 and 3 are likely to experience **medium** magnitudes of change which would result in **moderate** cumulative effects during operation. Receptor at VPs 4, 5 and 6 are likely to experience **high** magnitudes of change which would result in **major** cumulative effects during operation, including for road users at VP5. However, the level of effect for VP 4 is reduced to a **Moderate** cumulative effect for the reasoning explained in the assessment of the Proposed Development. (VP location off the route of the core path). Receptors at VP 7 are likely to experience a **low** magnitude of change which would result in a minor cumulative effect during operation.

It is acknowledged that the levels of cumulative effect during operation are likely to reduce over time as planting mitigation measures establishes and matures. However, this is only relevant to those cumulative projects and the Proposed Development which include planting mitigation measures. The OHL and windfarm are not generally mitigated by planting and therefore their visibility in the landscape and in views will remain undiminished over time. Therefore, cumulative effects are reported at a point when all cumulative projects are operational at the same time and at year 1.

8.7 Summary

Table 8.6 provides a summary of the assessment of landscape and visual effects for construction and the residual effects remaining at year 12 following the maturing and further establishment of planting mitigation with the exception of cumulative effects which are presented at year 1 of operation.

Environmental Feature	Project Interaction	Mitigation Measures	Receptor Sensitivity	Magnitude of Change/Effect	Level of Effect during construction and year 12 for landscape and visual effects
Landscape Character	Plant activity and equipment from construction.	Best practice construction methods.	Medium (Local and LCT)	High (Local) Low (LCT)	Moderate (Significant) Temporary (Local)

Table 8.6: Summar	y Table of Landscap	e and Visual Assessment
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					Minor (Not significant) Temporary (LCT)
Landscape Character	Introduction of project infrastructure during operation.	Landscape mitigation. (Includes mounding and planting)	Medium (Local and LCT)	High (Local) Low (LCT)	Moderate (Significant) (Local) Minor (Not Significant
Visual receptors (7 representative VPs in total)	Effects on views during construction phase	Existing trees adjacent to the works are protected during construction according to latest BS. Trees in relation to design, demolition and construction. Lighting Plan	High (Recreational & Residential) Medium-High (Residential) Medium (Road used by tourists) Low (Road user)	VP 7 – Negligible VPs 1, 2 & 3 - Low VP 4 & 6 – Med VP 5 - High	VP 7 – Negligible (Not significant) VPs 1, 2, 3 & 4- Minor (Not significant) VP & 6 – Moderate (Significant) VP 5 – Major (Significant) Moderate for A9 road users (Significant)
Visual receptors (7 representative VPs in total)	Effects on views during operational phase	Landscape mitigation. (Includes mounding and planting) Lighting Plan	High (Recreational & Residential) Medium-High (Residential) Medium (Road used by tourists) Low (Road user)	VP 7 – Negligible VPs 1, 2 & 3 - Low VP 4 – Medium VP 5 & 6 - High	VP 7 – Negligible (Not significant) at Year 1 and Year 12 VP4 - Minor (Not significant) at Year 1 and Year 12 VPs 1, 2, 3, – Moderate (Significant) at Year 1 and Year 12 VP 5 – Major (Significant) at Year 12 VP 5 – Major (Significant) at Year 12 VP 6 – Major (Significant) at Year 1 and Year 12
Landscape Cumulative Effects	Construction	As appropriate for Project construction mitigation.	Medium (Local and LCT)	Low (LCT) High (Local)	Minor (Not Significant) (LCT) Major (Significant) (Local)



	Operation	Landscape/ planting mitigation where applicable to cumulative projects.	Medium (Local and LCT)	Low (LCT) High (Local)	Minor (Not Significant) (LCT) Major (Significant) (Local)
Visual Cumulative Effects	Construction	As appropriate for Project construction mitigation.	High (Recreational & Residential) Medium-High (Residential) Medium (Road used by tourists) Low (Road user)	VPs 1. 2 & 7 – Low VPs 3, 4 & 6 – Medium VP 5 - High	VPs 1, 2 & 7 – Minor (Not significant) VPs 3, 4 & 6 – Moderate (Significant) VP 5 – Major (Significant)
	Operation	Landscape/ planting mitigation where applicable to cumulative projects.	High (Recreational & Residential) Medium-High (Residential) Medium (Road used by tourists) Low (Road user)	VP 7 - Low VPs 1, 2, 3 & 4 – Medium VP, 5 & 6 - High	VP 7 – Minor (Nor significant) VPs 1, 2, 3 & 4 – Moderate (Significant) VP 5 & 6 – Major (Significant)