INSTALLATION OF BATTERY ENERGY STORAGE FACILITY
AT
HUNSHELF PRIMARY SUB-STATION
TOFTS LANE
BARNSLEY
S36 8WR

LANDSCAPE AND VISUAL IMPACT ASSESSMENT (LVIA)

Prepared by

Entrust Professional Services Limited

May 2017

Contents

1. Introduction 3
2. Site Selection 3
3. Assessment Methodology 3
4. Development 7
5. Landscape Baseline Conditions 8
6. Visual Baseline and Assessment 13
7. Summary of Effects 26
8. Conclusions 27

1. Introduction

Background

1.1 This Landscape and Visual Impact Assessment (LVIA) has been prepared by Entrust Planning Consultants (the Agent) on behalf of Enstor Power (UK) Limited (the Applicant) which has entered into a joint venture agreement with the site provider, Northern Power Grid, for the development of a 40MW Battery Energy Storage Facility and all associated works on land at Hunshelf Primary Sub-Station, Tofts Lane, Barnsley, S36 8WR.

1.2 This Landscape and Visual Impact Assessment aims to provide the local planning authority and wider community with a tool to help assess the impacts of the Proposed Development. It describes the landscape and visual baseline conditions existing at the Site and its surroundings and assesses any potential impacts. The content of this document has been prepared in accordance with the Guidelines for Landscape and Visual Impact Assessment (3rd Edition) 2013 (GLVIA) produced jointly by the Landscape Institute and the Institute of Environmental Management and Assessment.

1.3 This report should be read in conjunction with the accompanying '*Viewpoint Analysis'* and '*ZTV results'.*

2. Site Selection

2.1 The application site (the Site) is located within a well enclosed depression in elevated land to the south east of Penistone and the north of Stocksbridge. The application site sits adjacent to the existing Hunshelf Primary Sub-Station and is occasionally used for grazing. The existing field which forms part of the sub-station land is relatively small and contained in character by the existing dry stone walls and palisade fencing associated with the existing sub-station. The surrounding area is agricultural in nature and is used for grazing cattle and sheep. To the north west, there is an existing wind turbine near Dyson Cote Farm. The site has been chosen as it will be located adjacent to an existing compound which has already compromised this area of the landscape. It is also noted that there are no overlooking residential properties in the area, therefore reducing visual impact.

2.2 The Proposed Development will occupy dis-used operational land within Hunshelf Primary Sub-station ownership boundary, within a rural area and greenbelt. Once the site is developed, the site will be primarily used for energy storage, to store electrical energy in periods of low demand and release in periods of high demand. The site will be bound by an additional boundary treatment of native hedging to substantially screen the site when travelling along Tofts Lane and nearby PRoW's (Public Right of Way).

3. Assessment Methodology

3.1 Entrust has undertaken this appraisal work based on an area around the Site that covers a 1km radius from the Proposed Development. The extent of the study area reflects the very limited extent of visibility which will occur across the surrounding area circa 500m, as shown on the Zone of Theoretical Visibility (ZTV) map.

3.2 The ZTV assumes that climatic visibility is 100%. In reality, climatic conditions can reduce the extent of visibility. The ZTV therefore represent the maximum potential, theoretical visibility i.e. the worst-case scenario.

3.3 The level of effect is assessed through a combination of two considerations - the sensitivity of the landscape or visual receptor and the magnitude of change that will result from the Proposed Development. In accordance with the Landscape Institute's GLVIA, the methodology requires the application of professional judgement. Levels of effect are defined as being minor, moderate or major. Intermediate levels may also be applied such as minor-moderate and moderate-major.

3.4 Sensitivity is an expression of the ability of a landscape or visual receptor to accommodate the Proposed Development. The sensitivity is determined through a combination of the value of the receptor, and the susceptibility of the receptor to the Proposed Development.

3.5 Levels of sensitivity - high, high-medium, medium, medium-to-low, low and negligible are applied in order that the judgement used in the process of appraisal is made clear. The criteria used to determine sensitivity differs for the effects on landscape receptors and visual receptors.

Table 1: Landscape Quality/Value

Quality/Value	Sensitivity of Landscape
High	Areas that exhibit a very strong, positive character and which are in excellent or very good condition with valued features that combine to give an experience of unity, richness and harmony. As a result, these landscapes may also demonstrate a high scenic quality. These are landscapes that may be considered to be particularly sensitive to change if inappropriately dealt with. 'Exceptional' may be used to describe smaller areas of especially high quality/value or landscapes which, by virtue of the extent of their positive attributes, may also be described as exceptional. This is likely to apply to National Parks/Areas of Outstanding Natural Beauty/National Scenic Areas.
Medium	Areas that exhibit positive character and are considered to be in good condition with some valued features but which may have evidence of alteration to degradation/erosion of features resulting in areas of more mixed character. Scenic quality and attractiveness may not be as high as for 'High' quality landscape. Change may not necessarily be detrimental nor require special attention to detail. These areas may be valued at more than simply the local i.e. community scale, for example Areas of Great Landscape Value, Special Landscape Areas.
Low	Areas generally negative in character, in poor condition with a weak landscape structure with few, if any, valued features. Scope for positive enhancement frequently occurs. This classification may be subdivided into poor and very poor.

3.6 The sensitivity of a landscape element that may be physically altered is an expression of its value and quality, and the potential to mitigate that effect.

3.7 The sensitivity of a landscape character receptor is an expression of its ability to accommodate the Proposed Development as part of its own character or as part of the visual setting or context of the character receptor. This is dependent on the value of the landscape receptor and its susceptibility to change.

Sensitivity	Typical descriptors
High	Receptors with proprietary interest in the view such as residential properties, and receptors undertaking recreation where the view is a key reason for the activity, e.g. user of public footpaths, bridleways, and open access land.
Medium	Receptors with moderate interest in their environment, e.g. workers, pedestrians, cyclists, and other non-motorised users of major movement corridors and people taking part in outdoor sports.
Low	Receptors with passing or momentary interest in their environment, e.g. motorists.

Table 2: Visual Sensitivity

3.8 The sensitivity of a visual receptor is determined by a combination of the value of the view and the susceptibility of the visual receptors to the change that the Proposed Development will have on the view. Visual receptors are the people who will be experiencing the views.

3.9 Magnitude of Change is an expression of the extent of the effect on the landscape and visual receptors that will result from the introduction of the Proposed Development. The magnitude of change is assessed in terms of the size and scale of the effect and the geographical extent of the area influenced.

3.10 Levels of magnitude of change - high, medium-to-high, medium, medium-to-low, and low are applied in order that the judgement used in the process of appraisal is made clear. The criteria used to determine magnitude of change differ for the effects on landscape receptors and visual receptors, as well as the cumulative effects on both.

Magnitude	Description of Change
High	Total loss or major alteration to key landscape elements/features/characteristics such that post development the landscape character area would be fundamentally changed.
Medium	Partial loss or alteration to one or more key landscape elements/features/characteristics such that post development the landscape character area would be partially changed.
Low	Minor loss or alteration to one or more key landscape elements/features/characteristics such that post development the change/loss would be discernible but the landscape character would be similar to the baseline.
Negligible	Very minor loss of alteration to one or more key landscape elements/features/characteristics of the baseline conditions. Change would be barely distinguishable approximating to no change.

Table 3: Magnitude of Change

3.11 The magnitude of change on landscape elements is quantifiable, and is expressed in terms of the degree to which a landscape element will be removed or altered by the Proposed Development.

3.12 The magnitude of change resulting from the Proposed Development on a landscape receptor is made by combining the assessments of size or scale of change and geographical extent.

3.13 The magnitude of change resulting from the Proposed Development on a visual receptor is made by combining the assessment of size or scale of the change in views and the geographical extent over which such changes occur.

3.14 Effects on Landscape and Visual Receptors - The level of the effect is determined through the combination of the sensitivity with the magnitude of change that will be brought about by the Proposed Development. The appraisal applies professional judgement and identifies the level of effect defined as being minor, moderate, or major. Intermediate levels may also be applied such as major-moderate, and moderate-minor.

Magnitude → Sensitivity ↓	**High**	**Medium-High**	**Medium**	**Medium-Low**	**Low**	**Negligible**
High	Major	Major	Major-Moderate	Moderate	Moderate	Negligible
Medium-High	Major	Major-Moderate	Major-Moderate	Moderate	Moderate or Moderate-Minor	Negligible
Medium	Major-Moderate	Major-Moderate	Moderate	Moderate or Moderate-Minor	Moderate-Minor	Negligible
Medium-Low	Major-Moderate	Moderate	Moderate or Moderate-Minor	Moderate-Minor	Moderate or Moderate-Minor	Negligible
Low	Moderate	Moderate or Moderate-Minor	Moderate-Minor	Moderate or Moderate-Minor	Minor	Negligible

Table 4: Illustrative Matrix of Effects

3.15 Where the landscape or visual effects have been classified as major or major-moderate significant effects may occur. Effects identified as moderate or less are not considered to be significant. As with many aspects of landscape and visual assessment, significance of effect also needs to be quantified with respect to the scale over which it is felt. An effect may be locally significant, or significant with respect to a small number of receptors, but not significant when judged in a wider context.

3.16 Any effect may be described as temporary or permanent, direct or indirect, positive or negative and cumulative. These various types of effect described in table 4 have a bearing on the acceptability or otherwise of any impact.

3.17 Landscape and visual effects can be described as temporary or permanent and reversible or irreversible. Due to the long-term nature of energy storage applications, they are generally

regarded as a long-term reversible addition to the landscape, preserving the choice for future generations whether or not to retain what might be regarded as the landscape fabric of today.

4. Development

4.1 There are 26 no. units in total proposed; all 40ft units (12192mm Length x 2600mm Width x 2896mm Height). The facility will be contained within a 2.5m high perimeter fence, along with a number of pole mounted CCTV cameras to be painted the same colour as the units. The units are proposed to sit on a series of raised concrete supports which are 300mm high AGL, which will result in the overall height of the units with foundations being 3002mm high. Please refer to accompanying plans, photomontages and 3D model.

4.2 The proposed facility will be located at **E: 426320, N: 399980.**

4.3 The scale and location of the Proposed Development has been carefully considered in order to achieve a balance between the battery storage facility potential output and landscape and visual impacts in the immediate area. Due to the nature of the Proposed Development, it is considered that there will be a certain degree of landscape and visual impact for consideration in the planning 'balance' when assessing the merits of the proposal. However, the facility has been sited in a depression to avoid long range visual impact and has been kept to the lowest height possible to provide the best output and to not have an adverse impact on the immediate landscape.

4.4 The proposal is located within greenbelt and it is requested to review the accompanying Greenbelt Assessment in relation to this topic.

5. Landscape Baseline Conditions

5.1 This section provides a summary of the key landscape receptors with the full baseline description which merit detailed consideration in the assessment of effects.

5.2 There are a number of constraints within a 1km radius area. All constraints are identified in Figure 1 below.

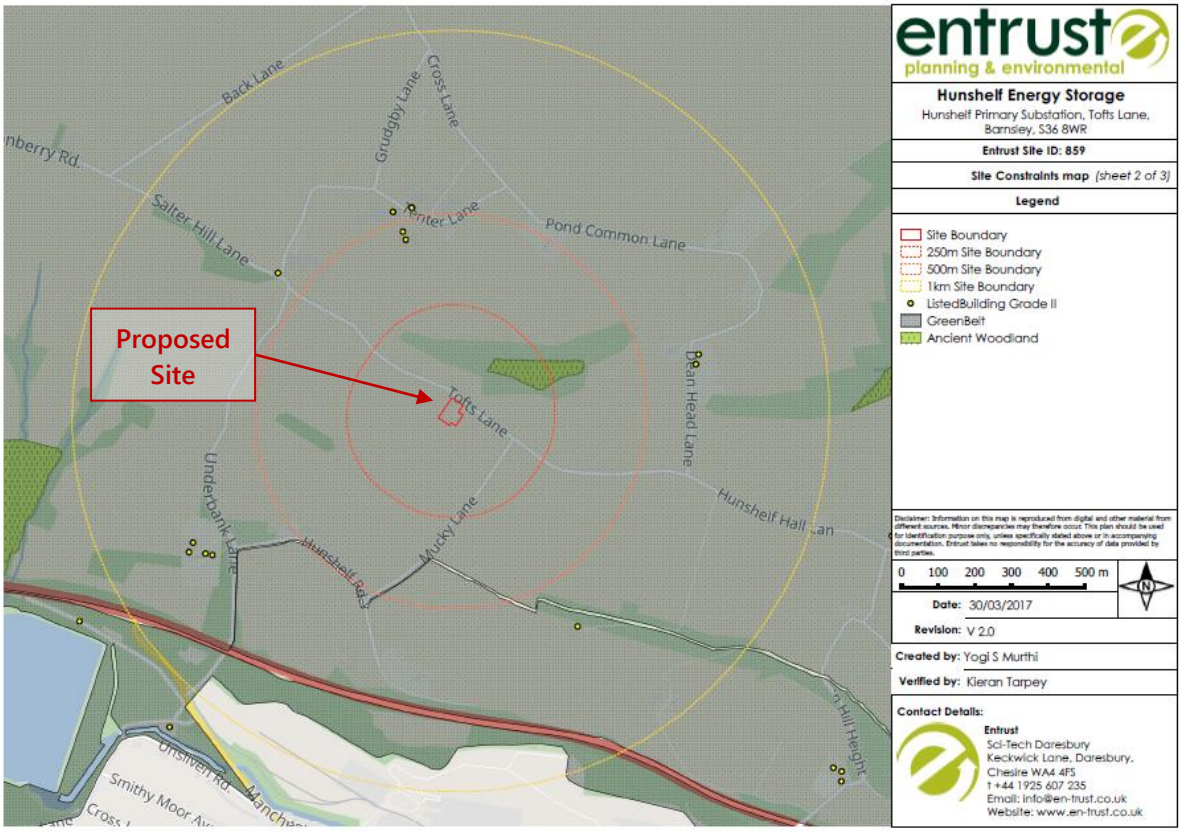


Figure 1: Constraints near to the Site

5.3 The Site is not located within any nationally important landscape of ecological designations. The above map demonstrates that the Site is away from any major ecological and landscape designations (such as National Parks, AONBs, NNR, LNR, SSSI, SPA and SAC). The site is located within Barnsley Green Belt and is approximately 50m away from an Ancient Woodland which is severely compromised by the HV pylon line that runs through it and which was recently part felled to accommodate the HV power lines. To identify the most suitable location for the Proposed Development, the Agent identified the nearby constraints within and adjacent to Hunshelf Primary Substation. A buffer zone was used base on certain requirements.

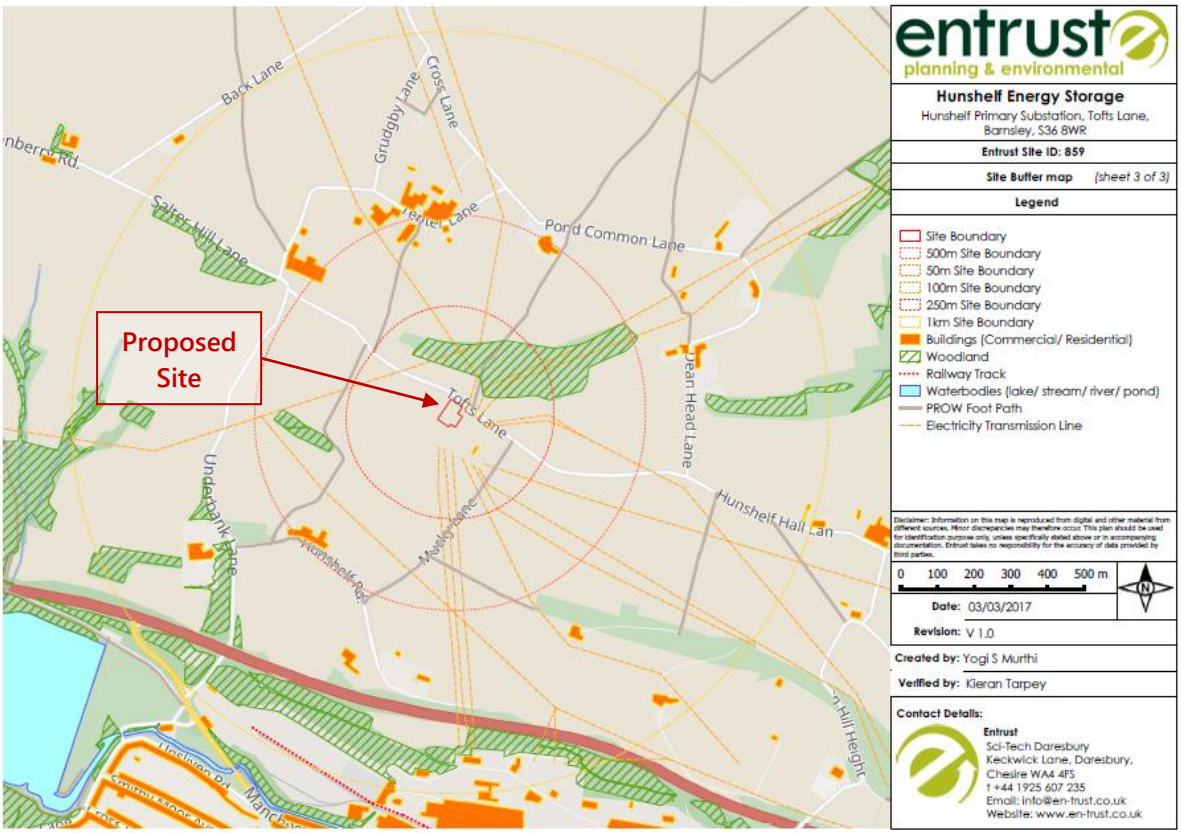


Figure 2: Buffer zone from nearby constraints to the Site

Natural England Landscape Character Assessment

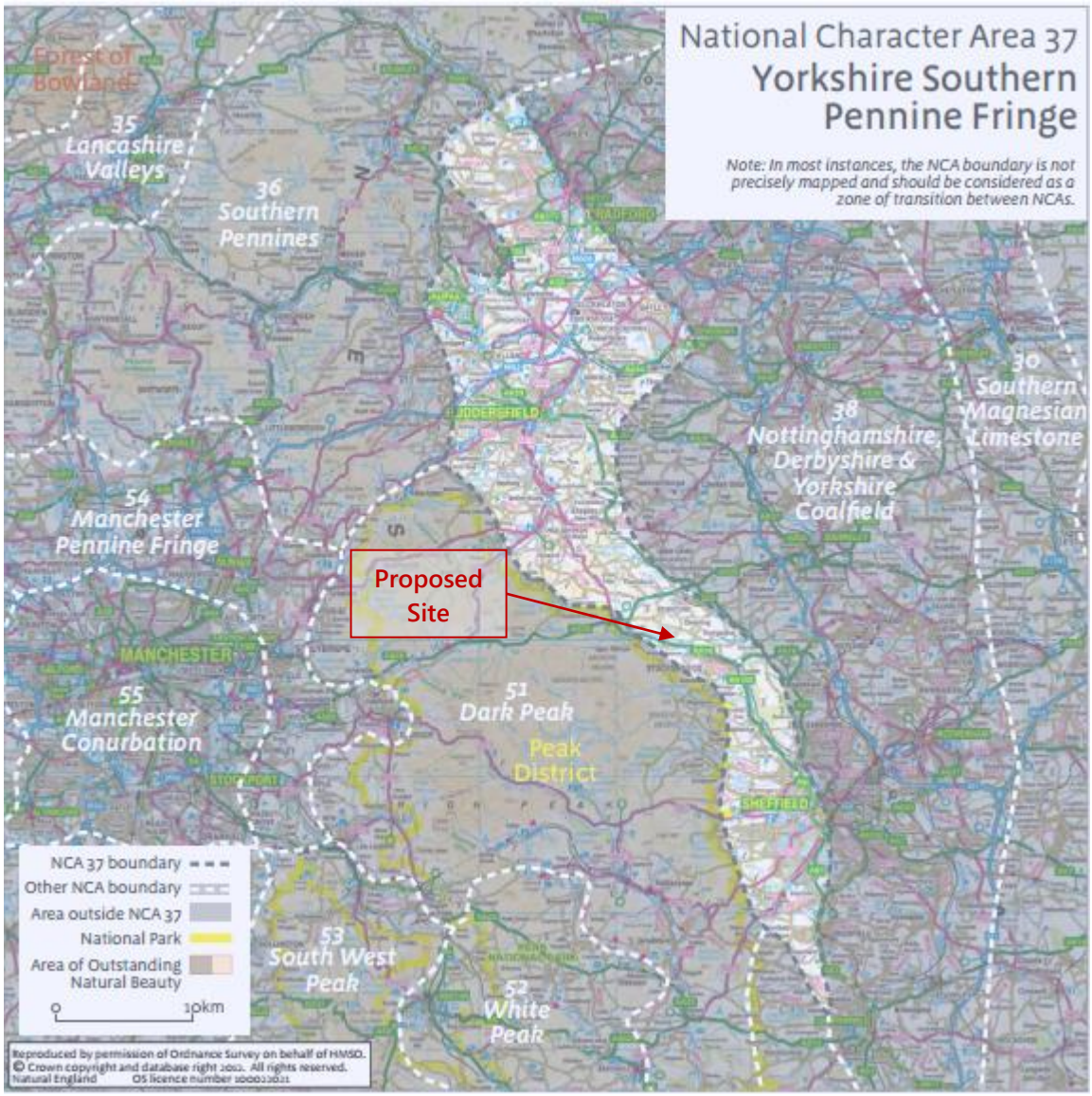


Figure 3: Site is within National Character Area 37 Yorkshire Southern Pennine Fringe (Source: Natural England, 2017)

5.4 The Proposed Site is located within 'The Yorkshire Southern Pennine Fringe National Character Area (NCA37)'. NCA37 is a transitional landscape from the upland areas of the Southern Pennines NCA in the west through to the low-lying land of the Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA to the east. The most striking aspect of the landscape is the mingling of predominantly 'gritstone' industrial towns and villages with the strong valley forms and pastoral agriculture of the Pennine foothills. The gritstone industrial buildings and settlements bring a sense of visual unity to the landscape. The landscape is dominated by industrial buildings and structures such as factories, chimneys, railways and canals. Travellers crossing the NCA from west to east experience a change from pastoral treeless hill tops, where drystone walls are the predominant field boundary, to wooded valleys, where large urban settlements such as Bradford, Huddersfield and Sheffield are

focused in the valleys and were built up around the former industries such as coal mining, steelmaking and the woollen industry.

5.5 Given the fact that the proposal is for a small development adjacent to an existing sub-station, located in a depression on the upland area, it is believed that it is highly unlikely that the Proposed Development would have a detrimental effect on the character of this NCA.

Barnsley Landscape Character Assessment (2016 Review)

5.6 The Barnsley Landscape Character Assessment identifies the site as being located within 'F2 Penistone Upland Farmland' Landscape Character Area.

5.7 F2 Penistone Upland Farmland is described as having "a distinctly upland character, enhanced by its proximity to, and views across, unenclosed moorland. The network of intact stone walls is a dominant and unifying feature of the landscape, resulting in an extremely strong, and distinctive, geometric field pattern. Some of these field divisions relate to early Tudor enclosures of small walled fields, perhaps most notably at Oxspring where long narrow fields form a striking pattern on the landscape. Other distinctive field patterns arise as a result of the circular boundaries of sheep pens.

5.8 Woodland cover is relatively low, although ribbons of deciduous woodland thrive in the shelter of the incised valleys of the dykes that drain into the River Don. There are also some large deciduous woodlands in the shelter of the slopes that descend into the valley of the Little Don River. Beech trees are a feature of the area, either growing in a stunted form on the steeper, ungrazed slopes, or as isolated stands silhouetted on the skyline. Often stone walls bound these stands. Power lines and pylons are also prominent elements of the skyline.

5.9 This is a rural agricultural landscape. The land remains almost entirely grazed pasture and is famous for its former wool industry and the `Penistone' wool. Remaining unimproved areas on the steeper or more elevated slopes, and damp pastures alongside dykes and springs, are valuable for nature conservation.

5.10 The area has a tamed character, but retains a sense of remoteness. The only built elements are the stone farmsteads and agricultural barns that are scattered at low density throughout the area, although Penistone, located on the edge of the Don Valley, is a notable centre of population. Straight rural lanes, bounded by stone walls, cut across the hills, linking adjacent farms. The tranquillity and stillness of the area is disturbed in the vicinity of the A628, a busy freight route between Barnsley and Manchester. The presence of disused quarries and shafts indicate the former piecemeal mining activities in the area.

5.11 Views are panoramic, stretching over the valley of the River Don to the north and over the valley of the Little Don River to the adjacent open moorland the south. The wind farm at Spicer Hill (in the adjacent F1 Ingbirchworth Upland Farmland character area) is a prominent feature in views.

Strength of Character

5.12 F2 Penistone Upland Farmland is a good example of the Upland Farmland landscape type as a result of its strong topography, intact network of stone walls, rural upland character and panoramic views. The presence of these characteristics ensures that the overall strength of character is considered to be strong.

Condition

5.13 Although this area is an extensive tract of intact farmland, the condition of some of the individual features are in decline. For example, many of the stone walls are beginning to

erode and natural regeneration of trees is low. Some vernacular stone buildings are in a state of dereliction. Overall landscape condition may be described as moderate.

Landscape Management and Opportunities

5.14 The following points have been identified as priorities in F2 Penistone Upland Farmland.

- Conserve the network of stone walls that are strong features of the landscape and promote the restoration and re-building of declining stone walls.
- Conserve the rural stone buildings and barns as features of the landscape, restoring these in favour of building new properties.
- Maintain the low-density development pattern of rural farmsteads and hamlets.
- Ensure any new development is well placed within areas screened by landform and trees.
- Consider a tree planting strategy to enhance tree cover and provide shelter for wildlife, encouraging natural regeneration of trees where possible.
- Conserve stands of beech on the skyline as features of the landscape.
- Conserve traditional stone gate posts as features of the agricultural landscape and consider replacement of those that have been lost.
- Care should be taken in introducing new agricultural buildings into the landscape - attention to scale, materials and colour will be crucial to their successful integration.
- Consider opportunities to develop the network of footpaths for recreation, and to study and interpret the wildlife habitats through nature trails and interpretative centres.
- Consider opportunities to interpret and explain the area's rich history in the form of heritage trails, together with a programme of identifying and restoring significant local landmarks and historic artefacts including stone walls.
- Consider new opportunities for farmers to diversify into recreation and other land
- uses.

5.15 The landscape capacity of this character area is low - it is a rural area characterised by low density, scattered farmsteads and hamlets. In searching for areas for future development small, isolated sites that are sheltered by landform and/or vegetation or sites within/on the edges of Penistone may be appropriate.

5.16 The following principles have been suggested for any new development in the Penistone Upland Farms Landscape Character Area:

- Conserve natural features such as stone walls, trees and natural landform in any new development.
- Ensure that new development does not turn its back on the landscape, but maintains a visual and physical connection with its rural context.
- New development should take advantage of its setting, for example by making the most of views over the valley of the River Don.
- Consider views from the north side of the valley of the River Don in planning any new development - colours and materials will need to be chosen carefully to integrate the development into the landscape. Muted colours, particularly on roofs, will be important in successfully integrating new development.
- Conserve `The Green' as a central open space within area F2c.
- Conserve the Coal Pit Dike corridor as a natural feature of the town and enhance public access to it.
- The scale of built development will be crucial to its successful integration. Low rise two storey properties are likely to be most successfully accommodated into this rural landscape.

- Maintain views to existing landmark buildings such as church towers and spires in planning new development.
- Maintain strategic views out from settlements across the surrounding countryside and conserve public access to the wider landscape.
- New development should be accompanied by native tree and shrub planting to soften the urban edge.
- Consider the use of local stone for boundary features.

5.17 As mentioned before, the Proposed Development would be located outside any Special Landscape Areas. The immediate surroundings of the Site exhibit the majority of the key characteristics with gently undulating landform and higher terrain to the northwest of the Site. None of the identified most sensitive parts of the landscape are likely to be significantly affected by the Proposed Development.

5.18 The Proposed Development would be located within a dish shaped depression near Snowden Hill. The ZTV study indicates that the Proposed Development's visibility would be outside of any sensitive landscape designations. Furthermore, the scale of the landscape and Proposed Development in relation to the localised vegetation and sloping topography would result in the view being far more constrained in reality.

Summary of Landscape Impact Assessment

5.19 The summary of the results shown in Table 5 above demonstrates that the significance of the impacts would be Moderate - Negligible. As mentioned before, the Proposed Development would be located within a depression near Snowden Hill and nearby existing dry stone walls and vegetation. There are no long or medium range views across the landscape as the proposed site location successfully absorbs the proposal without creating any significant adverse landscape character impacts. Further there is significant screening existing and proposed to further reduce any landscape impacts surrounding the site and as evident in the ZTV which shows a theoretical visibility of circa. 500m which means there are no medium-long range views within this landscape character type.

6. Visual Baseline and Assessment

6.1 The following visual assessment can be used in order to help the planning department and the community understand the nature and scale of the Proposed Development. The inclusion of the visual information is also useful to determine the significance of the impact on the surrounding sensitive visual receptors.

6.2 The photomontage visualisations, have been presented in A3 landscape format to better illustrate the visual impacts on the surrounding area. The photomontages are intended to be a realistic representation of the potential impacts.

6.3 The viewpoint locations have been consulted and agreed upon with the case officer at Barnsley Metropolitan Council at the preplanning stage as well as being informed by the Zone of Theoretical Visibility (ZTV) map, which was used to demonstrate the potential visibility within the surrounding landscape.

6.4 The inclusion of the visualisations, are useful in order to determine the significance of the impact on the surrounding landscape and from sensitive visual receptors.

6.5 The following specific desk-based tasks have been undertaken:

- Consultation with the local planning authority within the detailed study area, regarding methodology, key views and viewpoint locations;
- Identification of the Zone of Theoretical Visibility (ZTV); and
- Identification of potential receptors within the visual envelope.

Potential Visual Effects

6.6 The main sources of visual effects arising from the Proposed Development would be its appearance as a new feature in the view. The likely magnitude or level of change in the view is considered in relation to the sensitivity of the visual receptor to the Proposed Development.

6.7 The GLVIA advises that in evaluating visual effects, the magnitude of visual change is described by reference to the scale of change in the view, the degree of contrast or integration of any new features, the duration and nature of effects, the angle of view in relation to the main activity of the receptor, viewing distance and the extent of the area over which changes would be visible. The visual effects of the Proposed Development will generally reduce with increasing viewing distance. As distance increases, the relative size of the Proposed Development reduces and a broader area is viewed in which peripheral landscape features occupy more of the view and so compete for the attention of the viewer.

6.8 At any given distance, the magnitude of visual effects will vary according to a range of factors, including the proportion of the Proposed Development that may be visible and its position in the view. The presence of other features within the view that draw the eye, and the extent to which views of the Proposed Development from the viewpoint in question are obstructed or filtered by intervening landform or by landscape elements such as topography, woodlands, or by the built environment.

Zone of Theoretical Visibility (ZTV)

6.9 The Zone of Theoretical Visibility (ZTV) map provides a means of identifying potential receptors (viewers) that impact assessments can be undertaken. It is prepared using specialist software that utilises a radial sightline methodology to calculate visibility. It assumes a viewing height of 2 metres and includes correction for the curvature of the earth and atmospheric effects. The ZTV assumes a single target on the top of the units at its highest point. The resulting ZTV is an estimation of how many of these points would be visible from each point in the study area. As only topographic obstructions are included, the visualisations present a worst-case model, as objects such as vegetation and buildings are not considered. It is therefore not representative of visual effects in itself nor does the presence of a receptor within the boundary indicate that the development would necessarily appear in views currently experienced by that receptor.

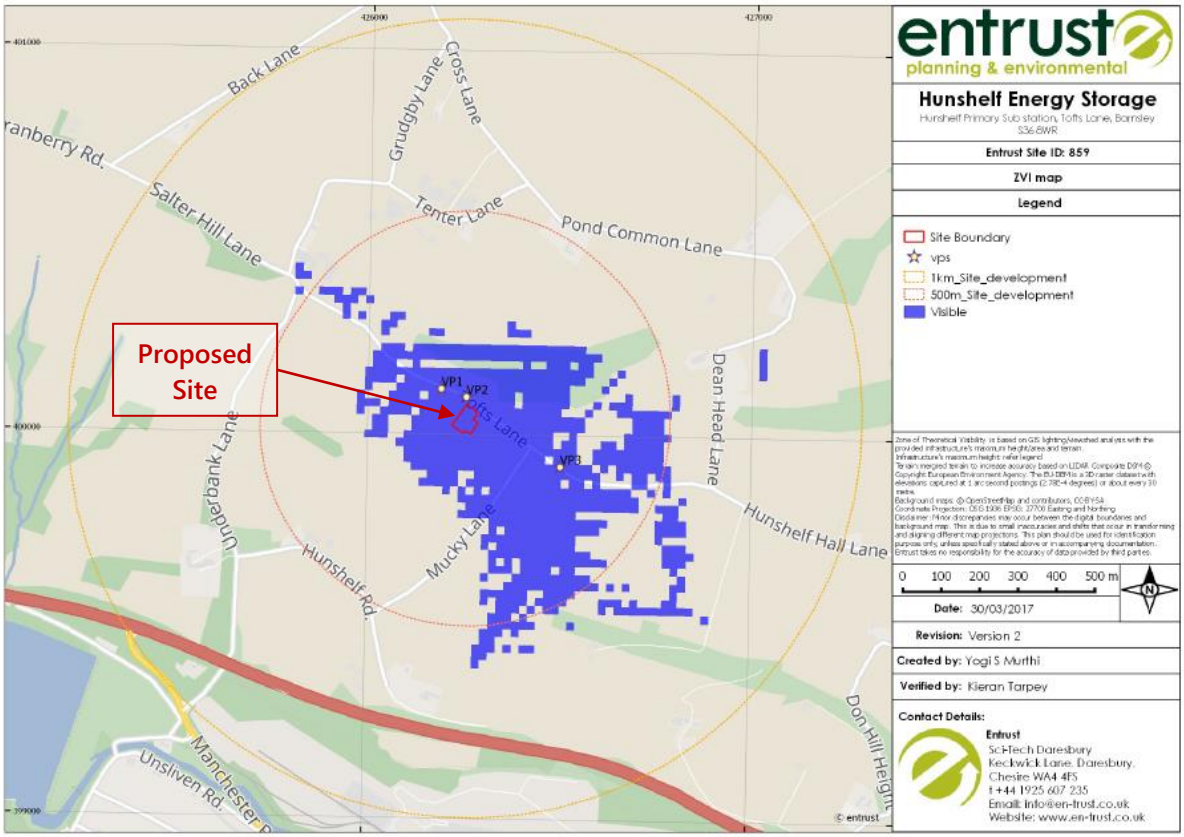


Figure 4 – Zone of Theoretical Visibility

ZTV results

6.11 The results of the ZTV exercise reveal that the site is not visible when viewed over 1km away and the vast majority of the visibility will be in the 500m around the site. The realistic visibility is anticipated to be lower as there would be significant screening provided by the dry-stone walls in the area, existing sub-station and scattering of trees in addition to the proposed landscaping.

6.12 The ZTV maps illustrate that the Proposed Development would be theoretically visible mainly to the southern direction. To the wider areas to the western, northern and eastern direction of the Proposed Development is significantly less, this is due to the rising topography of the landscape. The existing sub-station present adjacent to the site will block most of the visibility from the south east. It should be noted that there are no residential dwellings that will overlook the site and have visibility of the site.

Viewpoint Selection

6.18 Photographs towards the Site have been taken and can be found in Visual Analysis.

6.19 For each of the viewpoints, illustrative photomontages have been prepared to indicate the likely size and location of the Proposed Development. The photomontages have been prepared for the views considered to be most sensitive. The evaluation involved the following tasks:

- Analysis of the sensitivity of the viewpoint receptors to the anticipated change in their view; and
- Identification of the anticipated magnitude of change in existing views at these locations.

6.20 It is possible to identify a number of sensitive receptors within the study area, which should then be further investigated through field visits and the production of photomontages. The most important viewpoints (VPs) are identified as being points whereby the development is likely to show the greatest amount of visibility or impact on the largest number of users and as such these warranted further investigations. The chosen viewpoint locations have been agreed with the case officer prior to undertaking the site visit. Viewpoints selected are from sensitive visual receptors such as residential properties, nearest settlements, local roads and public right of way networks. These VPs are:

VP1 – Entrance to Sub-Station
VP2 – PRoW to North East of Site
VP3 – PRoW Mucky Lane
VP4 – Near Passing Place on Tofts Lane
VP5 – North West of Tofts Lane
VP6 – PRoW near Dyson Cote Farm
VP7 – PRoW near Dyson Cote Farm (south)
VP8 - Tester Lane
VP9 – Pond Common Lane
VP10 – Sharp Royd Nook
VP11 – Hunshelf Road
VP12 – Underbank Lane

6.21 The visuals will illustrate the views from locations where the Proposed Development would be theoretically visible. This has in turn informed the locations of the final viewpoints. The

viewpoints were selected where theoretical points of visibility intersected public roads, neighbouring residential properties, public rights of way (PROWs) and nearby settlements.

6.22 The above viewpoints, when fully considered, would provide a thorough approach to the Landscape and Visual Impact Assessment in relation to the Proposed Development. It is ascertained that the considered viewpoints are locations which are publicly accessible and their assessment subjects the Proposed Development, to assess the highest possible impact of the Application. The remainder of this section now considers each of these viewpoints in turn and discusses the potential impact of the Proposed Development and comments on its potential significance.

Viewpoint Analysis

6.23 The Tables that follow describe the views available from each of the 12 viewpoints selected for assessment. For each viewpoint, high sensitivity is ascribed to receptors that include local residents and those engaged in outdoor recreational pursuits (e.g. walkers) and whose attention is focussed on the landscape.

Viewpoint 1	VP1 – Entrance to Sub-Station E: 426409, N: 399999 Distance to site: 40m
Existing Character	This viewpoint has been taken from Tofts Lane (Public Highway) at the site entrance to the existing Hunshelf Primary Sub-station. The viewpoint looks west towards the site. The landscape is relatively flat at this viewpoint; however, it does rise to the north and west, forming the depression in the hill here. There are a number of significant vertical features including pylons, HV lines, electricity poles, LV lines and a wind turbine which are the dominating features in this viewpoint. The background is predominantly grazed agricultural land. It should be noted that the existing electricity infrastructure here which stretches across the viewpoint, reduces the sensitivity of the development and this part of the landscape and greenbelt.
Receptor Type and Sensitivity	Motorists on Tofts Lane (low sensitivity receptors)
Nature of Change	The Proposed Development would be fully visible from this viewpoint, nevertheless the Proposed Development (almost completely screened by proposed landscaping) will be seen in relation to the pylons, HV and LV lines, wind turbine and existing sub-station. These features would ensure that the Proposed Development was not perceived as a standalone man-made structure nor a dominating structure in this viewpoint and its impact would thus be considerably diluted. It should be noted, that there is a natural backdrop by way of rising topography for the battery storage units and ancillary development, in addition to the proposed landscaping which almost completely screens and softens the proposal considerably.
Magnitude of Change	Medium: Change noticeable involving a medium level of change in the character and composition of the baseline i.e. pre-development

	view. The battery storage facility would be fully visible from this location; however, the visual impact will be minimised, due to the surrounding natural and man-made features, the proposed colouring of the units and associated infrastructure as well as the proposed landscaping screening by use of established and semi-mature vegetation from the outset of the development.
Summary of Visual Assessment	Sensitivity: Low (motorists along Tofts Lane)
	Magnitude: Medium
	Level of Effect: Moderate - Minor (Motorists along Tofts Lane)
Significant effect?	No

Viewpoint 2	VP2 – PRoW to North-East of Site E: 426337, N: 400133 Distance to site: 82m
Existing Character	This viewpoint is taken from a PRoW which runs from Tofts Lane to the north of the site, up through the Ancient Woodlands. The viewpoint looks directly down across a field currently used for grazing towards the site. There are a number of existing manmade features including the existing substation and electricity poles, pylons and HV/LV lines here which have compromised the landscape. The landscape consists of a rising topography in the west which gently slopes down towards the site. The ProW evident from a lack of track/markings appears to be rarely used.
Receptor Type and Sensitivity	Users of the PRoW (high sensitivity receptors)
Nature of Change	The Proposed Development will be seen in relation to the existing dry stone wall, existing sub-station and associated infrastructure, proposed landscaping and high voltage transmission lines. The proposed development, will have a natural rising backdrop of the fields to the south where the topography rises slightly. Part of the fencing and battery units will be visible from this location, although screened substantially by the proposed landscaping.
Magnitude of Change	Medium – The magnitude of change is medium considering that the Proposed Development will not protrude above the existing skyline due to the natural backdrop and will be almost fully screened by proposed landscaping in this part of the landscape which is not pristine and substantially compromised.
Summary of Visual Assessment	Sensitivity: High (Users of PRoW)
	Magnitude: Medium
	Level of Effect: Major-Moderate (Users of PRoW)

Significant effect?	No

Viewpoint 3	VP3 – PRoW near Mucky Lane E: 426342, N: 399845 Distance to site: 170m
Existing Character	The viewpoint is located on Mucky Lane which is a public right of way. The viewpoint looks out to the west, taking account of the existing sub-station buildings, pylons, poles and HV/LV power lines. The topography to the west gently rises, helping to provide a backdrop to reduce visual impact in the local area.
Receptor Type and Sensitivity	Users of PRoW (high sensitivity receptors)
Nature of Change	The Proposed Development would be partially visible from this viewpoint. It should be noted, that the Proposed Development sits to the rear of the existing sub-station which is wholly visible from this viewpoint amongst other man made features such as the transmission lines, palisade fencing and dry stone walls all of which dominate this viewpoint.
Magnitude of Change	Negligible: The energy storage units, although partially visible, would be a barely distinguishable new feature in this congested part of the landscape which would sit amongst other existing developments.
Summary of Visual Assessment	Sensitivity: High (Users of PRoW)
	Magnitude: Negligible
	Level of Effect: Negligible (Users of PRoW)
Significant effect?	No

Viewpoint 4	VP4 – Near Passing Place on Hunshelf Hall Lane E: 426547, N: 399893 Distance to site: 275m
Existing Character	The viewpoint is located to the east of the Proposed Development on Hunshelf Hall Lane. The viewpoint has been selected to take into account views from the public highway, looking to the west. The landscape at this location is undulating in this photomontage. The full extent of the depression on the hill can be seen here. There are dry-stone walls and semi-mature trees which help to partially screen the Proposed Development. The proposed landscaping helps to soften views of the proposed development considerably. The existing vertical features namely the pylons and

	wind turbine dominates views here.
Receptor Type and Sensitivity	Motorists on Hunshelf Hall Lane (low sensitivity receptors)
Nature of Change	The Proposed Development would be almost fully visible from this viewpoint, albeit at a distance. The Proposed Development sits amongst other man made elements within the landscape which is not pristine. The landscape at this location gently undulates to provide a backdrop to the Proposed Development which will not protrude above the skyline.
Magnitude of Change	Medium: The proposed energy storage facility although visible, would sit amongst other existing man made features such as high voltage transmission lines, pylons, wind turbine, existing sub-station compound, road and dry stone walls. The existing natural vegetation and proposed landscaping provides natural screening for the Proposed Development and soften views from this viewpoint.
Summary of Visual Assessment	Sensitivity: Low (motorists along Tofts Lane)
	Magnitude: Medium
	Level of Effect: Moderate-Minor
Significant effect?	No

Viewpoint 5	VP5 – North West of Site on Tofts Lane E: 426116 N: 400158 Distance to site: 160m
Existing Character	This viewpoint is taken from Tofts Lane, to the west of the proposed development site. The viewpoint looks to the east, once again, showing the full extent of the undulating landscape surrounding the proposed site. The existing built form; pylons and substation are clearly visible. The landform rises in the background to provide a natural backdrop and helps to draw the attention of the viewer away from the proposed site.
Receptor Type and Sensitivity	Motorists on Tofts Lane (low sensitivity receptors)
Nature of Change	The Proposed Development would be visible at this location. The proposed development would sit within the substation land which is bound by dry-stone walls, fencing and post and rail stock type fencing to the east. The proposed development would sit amongst a number of existing vertical features, primarily high voltage transmission pylons and low voltage transmission poles as well as

	the existing sub-station itself which dominates this view. There is also existing fencing which surrounds the existing sub-station. Due to the site being located within a dip in the landscape which rises to the ease and west away from the site means the host landscape can quite comfortably absorb the proposal which is aesthetically more acceptable in terms of colouring and landscaping than the existing substation.
Magnitude of Change	Medium: Change noticeable involving a medium level of change in the character and composition of the baseline i.e. pre-development view. The energy storage facility would be mostly visible from this location, however, the visual impact will be minimised, due to the surrounding natural and man-made landscape features, proposed landscaping and low level siting of the proposal in this undulating landscape. Although, the Proposed Development would be almost completely visible, the surrounding landscape with its existing manmade elements distracts the eye away from the proposal and due to the undulating topography is capable of absorbing the new structure without any overbearing visual effects. Further the proposed landscaping and colouring of the units significantly reduces their impacts from this viewpoint.
Summary of Visual Assessment	Sensitivity: Low (Motorists along Tofts Lane)
	Magnitude: Medium
	Level of Effect: Moderate (Motorists along Tofts Lane)
Significant effect?	No

Viewpoint 6	VP6 – PRoW near Dyson Cote Farm E: 426063, N: 400243 Distance to site: 252m
Existing Character	The viewpoint is taken from the PRoW running from Tofts Lane to the north, near the existing wind turbine at Dyson Cote Farm. The viewpoint looks eastwards towards the site. The landscape at this location is considerably undulating, rising from Tofts Lane to the North. The existing pylon towering over the site dominates this viewpoint.
Receptor Type and Sensitivity	Users of the PRoW (high sensitivity receptors)
Nature of Change	The Proposed Development will be seen behind the existing electricity pylon and the existing dry stone wall set against the existing substation. Although the energy storage facility would be mostly visible, the Proposed Development would not be a dominant structure in this viewpoint and would be respectful of the

	scale of the landscape as it appears lower in height compared to the existing substation and is located at a steep fall in the topography which rises in both directions away from the site. It should be noted that there are already existing man-made structures within this viewpoint. These features would ensure that the Proposed Development was not be perceived as a standalone or isolated man-made structure over a medium-long distance, and its impacts would thus be considerably diminished.
Magnitude of Change	Medium - Low: Change noticeable involving a medium-low level of change in the character and composition of the baseline i.e. pre-development view. The proposed development would be mostly visible from this location; however, the scale of the proposed development is respectful to its surroundings and the Proposed Development would appear lower in height to the existing sub-station compound. The undulating landscape helps to soften views the proposed development considerably from this viewpoint.
Summary of Visual Assessment	Sensitivity: High (Users of PRoW)
	Magnitude: Medium-Low
	Level of Effect: Moderate (Users of PRoW)
Significant effect?	No

Viewpoint 7	VP7 – PRoW near Dyson Cote Farm (south) E:425988, N: 400169 Distance to site: 270m
Existing Character	This viewpoint is located on the PRoW running from Tofts Lane to the south near Dyson Cote Farm. The viewpoint looks out over agricultural fields which appear to be used for grazing. There are a number of dry-stone walls which intervene throughout the view and help obscure some visibility of the proposed site. The steeply rising topography from the site in this direction is clearly evident which diminishes its impact within this part of the landscape.
Receptor Type and Sensitivity	Users of PRoW (high sensitivity receptors)
Nature of Change	The Proposed Development would be partially visible from this viewpoint; however, the majority of the lower section of the proposed development would be screened by the natural topography and existing dry stone wall. No part of the proposed development would break the skyline and the existing sub-station compound sits adjacent to the proposed development.
Magnitude of Change	Negligible: The vast majority of the proposed development would be screened by the existing dry stone wall and the naturally sloping topography. Only the top of the some of the units and proposed

	landscaping would be visible in comparison to the large existing sub-station compound.
Summary of Visual Assessment	Sensitivity: High (users of PRoW)
	Magnitude: Negligible
	Level of Effect: Negligible (users of PRoW)
Significant effect?	No

Viewpoint 8	VP8 – Tenter Lane E: 426302, N: 400593 Distance to site: 510m
Existing Character	The viewpoint is taken from the side of the road along Tenter Lane, a rural unsurfaced road which connects the small hamlet of Snowden Hill to Pond Common Lane. The viewpoint has been taken from the east of Tenter House Farm. The viewpoint looks over to the south across fields which appear to be used for grazing. The undulating landscape which rises up to the top of Snowden Hill completely blocks sight of the proposed development from this location.
Receptor Type and Sensitivity	Motorists (low sensitivity receptors) Residents at Snowden Hill (high sensitivity receptors)
Nature of Change	The Proposed Development will be fully screened by the topography at this location. As the ZTV demonstrates, the proposed development would not be visible from this location.
Magnitude of Change	Negligible: The proposed development is not visible from this location.
Summary of Visual Assessment	Sensitivity: low (motorists) High (residents at Snowden Hill)
	Magnitude: Negligible
	Level of Effect: Negligible (motorists and residents at Snowden Hill)
Significant effect?	No

Viewpoint 9	VP9 – Pond Common Lane E: 426592, N: 400547 Distance to site: 570m

Existing Character	This viewpoint is taken where a PRoW crosses Pond Common Lane, near Pond Farm. The viewpoint looks south towards the proposed development, in the direction of Stocksbridge. The landscape here, similarly to the viewpoint at Tenter Lane, rises up to the south, forming a ridge which blocks sight of the proposed development.
Receptor Type and Sensitivity	Residents of Pond Farm (high sensitivity receptors) Users of Prow (high sensitivity receptors) Motorists along Pond Common Lane (low sensitivity receptors)
Nature of Change	The Proposed Development would be fully screened due to the rising topography from this location. The viewer would not be able to see any part of the proposed development as evident in the ZTV.
Magnitude of Change	Negligible: The proposed development will be fully screened by the topography.
Summary of Visual Assessment	Sensitivity: High (residents of Pond Farm), High (users of PRoW), Low (Motorists along Pond Common Lane).
	Magnitude: Negligible
	Level of Effect: Negligible (residents of Pond Farm, Users of PRoW and Motorists along Pond Common Lane).
Significant effect?	No

Viewpoint 10	VP10 – Sharp Royd Nook E: 427026, N: 400267 Distance to site: 735m
Existing Character	This viewpoint is located on Sharp Royd Nook (public highway) in between Edgemount and the Dean Head complex looking westwards towards the proposed development. Due to the natural topography in the area which rises to the west, the proposed development will not be visible from this location.
Receptor Type and Sensitivity	Residents at Edgemount and Dean Head Complex (high sensitivity receptors). Motorists along Sharp Royd Nook (low sensitivity receptor).
Nature of Change	The proposed development will not be visible at this location due to the rising topography to the west. The viewer will not be able to see the proposed development from this viewpoint as evident in the ZTV.

Magnitude of Change	Negligible: The proposed development will be fully screened by the topography at this location.
Summary of Visual Assessment	Sensitivity: High (residents at Dean Head and Edgemount), Low (Motorists along Sharp Royd Nook)
	Magnitude: Negligible
	Level of Effect: Negligible (Local Residents and Motorists)
Significant effect?	No

Viewpoint 11	VP11 – Hunshelf Road E: 426005, N: 399569 Distance to site: 500m
Existing Character	This viewpoint is located on Hunshelf Road, to the east of Carr Head Farm. The viewpoint looks to the north where the topography significantly rises up near Snowden Hill. The proposed development sits in a depression close to the top of the hill, therefore obscuring views to the proposed development. There are a number of existing vertical features in the area such as transmission pylons, low voltage transmission lines and dry-stone walls / fencing.
Receptor Type and Sensitivity	Motorists along Hunshelf Road (low sensitivity receptors), Workers at the stables at Carr Head Farm (medium sensitivity receptors).
Nature of Change	The Proposed Development would not be visible at this location due to the rising topography.
Magnitude of Change	Negligible: The proposed development would not be visible due to the topography.
Summary of Visual Assessment	Sensitivity: Low (motorists along Hunshelf Road), Medium (workers at Carr Head Farm).
	Magnitude: Negligible
	Level of Effect: Negligible (motorists and workers on farm)
Significant effect?	No

Viewpoint 12	VP12 – Underbank Lane E: 425604, N: 399952 Distance to site: 620m

Existing Character	This viewpoint is located at Underbank Lane which is one of the main routes connecting Stocksbridge to Penistone. The road runs in a north – south direction to the west of the proposed development. The viewpoint looks out from the end of the drive of Underbank Hall across to the site. There are large amounts of vegetation at this location, which along with the rising topography, help to obscure views to the proposed development. It is worth noting that the ZTV and wireframes demonstrate that the proposed development would not be visible from this location.
Receptor Type and Sensitivity	Residents at Underbank Hall (high sensitivity receptors), Motorists along Underbank Lane (low sensitivity receptors)
Nature of Change	The Proposed Development would be fully screened by the natural topography at this location. The close proximity of the semi mature trees, running alongside Underbank Lane also creates a tunnel effect through overarching branches and naturally directs motorists view away from the proposed development.
Magnitude of Change	Negligible: The proposed development would be fully screened by the topography at this location.
Summary of Visual Assessment	Sensitivity: High (residents at Underbank Hall) Low (Motorists along Underbank Lane).
	Magnitude: Negligible
	Level of Effect: Negligible (residents and motorists)
Significant effect?	No

7. Summary of Effects

Direct/indirect effects:

7.1 The proposed energy storage facility and ancillary development would introduce a group of small vertical infrastructure components approximately 3m high into the landscape where there will be a functional relationship with the established electricity sub-station compound adjacent to it. It will not change the existing dominating impacts locally created by pylons and other infrastructure. The surrounding landscape is characterised by medium scale fields bounded by dry stone walls and scatterings of hedgerows and a small group of semi mature trees, which provide substantial screening of the Site from the immediate and wider areas. The proposed energy storage facility will not be in close proximity to any residential properties nor will the Proposed Development harm any key views in the area. Due to its modest scale and presence adjacent to an existing sub-station, the proposed development will not be a dominant feature. The accompanying viewpoints demonstrates that the predicted visual effects and the assessment has concluded that the direct/indirect effects on the local landscape will experience a moderate impact which is not significant.

Visual effects

7.2 Effects on views from residential properties:

The nearest residential property to the Site is located on Tenter Lane which is in excess of 410m away. The residential property will not have direct views towards the proposed development as demonstrated in the ZTV map. VP8 demonstrates the predicted visual effect and the assessment has concluded that the property will experience a negligible impact which is not significant.

7.3 Effect on views from nearest settlements:

The two closest settlements are within approximately 2km of the Proposed Development, namely, Stocksbridge and Snowden Hill with the closest being located approximately 450m to the north west of the Site. The undulating landscape screens all of the proposed development from the nearest settlements. The overall effects on the nearest villages and settlements is considered to be negligible which is not significant.

7.4 Effects on views from the local road network:

In general views of the Proposed Development from local roads will be limited to a radius of circa. 500m from the Site, when travelling towards the Proposed Development. Beyond this, the potential for views from roads would be highly restricted due to the sheer separation distance, screening from the built environment, and the undulating topography as well as the low height of the proposal together with colouring and landscaping proposed. Closer to the Site, the potential visual impact would be most experienced on Tofts Lane to the north and Hunshelf Hall Road to the east. However, even where views of the Proposed Development would occur in theory they are likely to be intermittent due to the screening effect from roadside walls and mature hedgerows and existing infrastructure which dominates local viewpoints. It is therefore considered that the effects on passing motorists are unlikely to exceed moderate, which is not significant.

7.5 Effects on views from local right of way network

There is an established network of public rights of way (PROWs) in the immediate surroundings. The nearest Public Footpath is located 5m (at the closest point), travelling from the north of the site, up towards Snowden Hill. Due to the existing man-made structures within the local landscape and woodland, this has reduced the sensitivity of the local landscape in relation to The Proposed Development. Viewpoints such as VP2, VP3, VP6, VP7 and VP9 provide the potential visual impacts from the aforementioned public footpaths, it is considered that the effects on users of the footpaths are unlikely to exceed major-moderate which is not significant. It is worth noting that only one Viewpoint, (VP2) resulted in a Major-Moderate score, from which, the entire existing sub-station compound and transmission lines are visible, demonstrating that the landscape has already been compromised. Further the local PRoW's do not appear to be used extensively evident by a lack of tracks/markings.

8. Conclusions

8.1 The planning application is for a Battery Energy Storage System and ancillary development. The Proposed Development would have a height of approximately 3m.

8.2 This report has addressed issues relating to the anticipated potential impacts upon the landscape character and visual amenity of the study area likely to result from the construction of the Proposed Development.

8.3 The Battery Energy Storage System is located on dis-used land at Hunshelf Primary Sub-Station, approximately 1.7km to the northwest of the settlement of Stocksbridge. This land forms part of a large scale and open agricultural landscape within Barnsley.

8.4 A ZTV has been prepared to illustrate the wider theoretical visibility of the Proposed Development within 5km of the Site. The ZTV indicates that the majority of the area will not have a theoretical visibility, except areas to the southeast within circa. 500m. The area of visibility to the south east is still confined to the area around Mucky Lane and the surrounding fields. There application site will not be seen from any residential properties in the immediate surrounding area.

8.5 There will be no significant losses of landscape features arising from the construction of the Proposed Development. Some changes in the character of the host landscape will occur locally due to the presence of the Proposed Development as a new landscape element but these are considered to be restricted to the immediate vicinity. The Proposed Development would not be seen as a standalone man-made structure in the immediate area due to the presence of the existing electrical transmission lines, pylons and existing sub-station which dominates local views in all direcfions.

8.6 In relation to the visual amenity, a detailed assessment based on 12 viewpoints has been undertaken and these visualisations clearly demonstrate that no significant visual impacts will occur from this proposal. The nearest residents, local road users, heritage assets, settlements, and public rights of way would only experience at most a Moderate, Moderate-Minor, or Negligible impact which is not significant. Only one receptor would experience a Major-Moderate impact, however the view from this receptor has already been compromised by the development of the sub-station and electricity pylons.

8.8 It is acknowledged that the introduction of the Proposed Development to the landscape will represent a degree of change to both the landscape character and visual aspects of the study area which is confined to the immediate surrounds of the site. However, the degree of change is considered to be able to be accommodated without a significant adverse impact to either the landscape character or visual amenity.