
LEGACY BATTERY STORAGE FACILITY

LANDSCAPE AND VISUAL APPRAISAL

May 2021



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Figure 1 Landscape and Visual Context

Figures 2a-b Viewpoints

Appendix 1 Extracts from Wrexham LANDMAP Supplementary Planning Guidance

1.0 Introduction

- 1.1.1 This Landscape and Visual Appraisal (LVA) follows best practice guidance set out in *Guidelines for Landscape and Visual Impact Assessment*¹, hereafter referred to as the GLVIA.
- 1.1.2 Landscape and visual effects are separate, although closely related and interlinked issues.
- 1.1.3 Landscape effects are caused by physical changes to the landscape (including the built environment, or ‘townscape’), which may result in changes to the distinctive character of that landscape and how it is perceived.
- 1.1.4 Visual effects are changes to what can be seen by people as a result of what is proposed. A visual assessment assesses the change in visual amenity undergone by people (either individually or in groups) that would arise from any change in the nature of views experienced.
- 1.1.5 In accordance with the guidance set out in the GLVIA, the LVA adopts an approach proportionate to the likely significant effects of the Proposed Development, and as such (as explained in Section 3.0), is light-touch.
- 1.1.6 The LVA aims to establish the following:
- A clear understanding of the Site and its context, in respect of the physical and perceived landscape and in respect of views and visual amenity;
 - An understanding of the Proposed Development in terms of how this would relate to the existing landscape and views;
 - An identification of the likely effects of the Proposed Development upon the landscape and upon views, throughout the life-cycle of the Proposed Development;
 - Potential for mitigation to reduce / eliminate any potential adverse effect on the landscape or views arising as a result of the Proposed Development; and
 - A conclusion as to the residual likely significant landscape and visual effects of the Proposed Development.

¹ Landscape Institute and Institute for Environmental Management and Assessment, 3rd edition 2013. *Guidelines for Landscape and Visual Impact Assessment*. Abingdon: Routledge.

- 1.1.7 It should be noted that the landscape (including the context in which views are experienced) is dynamic, i.e. it is affected by social, economic, technological and climatic changes, all of which can influence patterns of land use, land cover and land management. As such, the baseline context for the LVA is not static.
- 1.1.8 The LVA was undertaken by a Chartered Member of the Landscape Institute (CMLI) with over fourteen years' post qualification experience in the landscape and visual assessment of major infrastructure projects. The LVA was directed and reviewed by a second CMLI with over twenty-five years' similar experience.

2.0 The Proposed Development

2.1.1 For a full description of the Proposed Development, refer to the Planning Statement, and the accompanying Drawings.

2.1.2 In summary, the Proposed Development would comprise:

- 52 no. containers (double stacked) housing Battery Energy Storage Systems (BESS) and sitting on an access deck;
- 26 no. battery inverter / transformer stations;
- 1no. client control room;
- 2no. switchgear units;
- 1no. auxiliary transformer;
- 1no. 40 cubic metre water tank;
- 2.4m high steel palisade security fencing surrounding the entire BSF facility;
- CCTV monitoring / lighting column points;
- A single access track with gated entrances to the north and south; and
- Availability for limited parking on the proposed areas of hardstanding.

2.1.3 The containers housing the BESS would each have a height of approximately 3m. They would be double-stacked, and as such, the overall maximum height would be 6m.

3.0 Methodology and Guidance

Legislation and Guidance

- 3.1.1 Details of the planning and policy background for the proposal, including an appraisal of effects on relevant landscape-related policies, as set out in the adopted statutory Development Plan, are included in the Planning Statement. Key legislation and policies relevant to the LVA are summarised below.

European Landscape Convention

- 3.1.2 The UK Government is a signatory of the European Landscape Convention (ELC), which became binding in March 2007. The Convention is aimed at the protection, management and planning of all landscapes and raising awareness of the value of a living landscape. It relates chiefly to public bodies and to the policies, plans and programmes produced by these.
- 3.1.3 The LVA is a development specific process which accords with Article 6C of the ELC. The LVA is informed by extant Landscape Character Assessment studies (described in Section 4 below), which more directly relate to the provisions of Article 6C.

Planning Policy

- 3.1.4 For details of relevant planning policies, refer to the Planning Statement. Relevant policy documents are listed below:
- *Planning Policy Wales*²;
 - *UDP*³.

Assessment Methodology

- 3.1.5 The LVA has been undertaken guided by published good practice guidelines set out in the GLVIA. The GLVIA advocates use of professional judgement when undertaking assessment/ appraisal of development proposals, with reasoned justification required to support any conclusions made.
- 3.1.6 From review of the ZTV presented on Figure 1 and photography illustrating the views towards the Site presented on Figures 2a and 2b, all of which are discussed in greater below, it is clear that the Proposed Development would not exert any influence of

² Welsh Government, 2021. *Planning Policy Wales, edition 11*

³ Wrexham Council, adopted 2005. *Wrexham Unitary Development Plan*

note beyond the extents of the Legacy Substation. This is the professional judgment of the author of the LVA, and conclusions in this regard are explained in Section 4.0, and summarised in Section 6.0.

- 3.1.7 A detailed assessment of landscape and visual effects, identifying the sensitivity of a range of receptors, the magnitude of change that each receptor would undergo as a result of the Proposed Development, and the resulting effect that each would experience has not therefore been undertaken, in the interest of keeping the LVA proportionate to the effects that would occur.
- 3.1.8 The LVA follows the Landscape Institute's current guidance regarding the production of visualisations (TGN 06/19)⁴.

Consultation

- 3.1.9 Pre-application consultation regarding the LVA for a proposed gas peaking plant at the same site was undertaken with Wrexham Council in 2020. This would have included 12m high structures (i.e. twice the height of the Proposed Development), and it is considered that comments received in 2020 are applicable to the Proposed Development.
- 3.1.10 As part of the 2020 consultation exercise, the Wrexham Case Officer suggested two viewpoint locations for inclusion in the LVA. Comments from Natural Resources Wales highlighted the following:
- the construction and physical form of the development (i.e. the gas peaking plant with 12mm high structures) is unlikely to have significant visual effect upon visual receptors within the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB); and
 - Whether there would be cumulative effects with the nearby solar farm.

The Study Area

- 3.1.11 Given the type of development proposed and the context into which it would be introduced (within an existing Substation compound that is well screened by earthworks and vegetation), it is considered that any landscape and visual effects are

⁴ Landscape Institute, 2019. *Visual Representation of Development Proposals. Technical Guidance Note 06/19*

more likely to arise at relatively close distances to the Proposed Development, up to approximately 2.5km from the Site. The Study Area is illustrated on Figure 1.

Assessment of Significance / Assessment Criteria

- 3.1.12 In the case of developments that do not require Environmental Impact Assessment (such as that proposed), there is no requirement to state whether an effect is significant or not. However, it is considered likely to be of assistance to the decision-maker if such a statement is included in the LVA.
- 3.1.13 Not all landscape and visual effects arising as a result of a particular proposal will be significant. Furthermore, where likely significant environmental effects are predicted, this does not automatically mean that such effects are unacceptable. The acceptability of landscape and visual effects is a matter to be weighed in the planning balance alongside other factors. What is important is that the likely environmental effects of any proposal are transparently assessed and described in order that the relevant determining authority can bring a balanced and well-informed judgement to bear as part of the decision-making process.

Limitations

- 3.1.14 Assessment work reflects the level of vegetation cover present at the time of field work in the Study Area (June 2020), with deciduous foliage present. Where relevant to its conclusions, the LVA makes assumptions as to the likely visibility of the Proposed Development at other times of year.

4.0 Baseline

Data Collection

- 4.1.1 Baseline data for the LVA has been gathered by both desk and field based surveys. These have included review of extant landscape character assessment studies (see below) and field visits to gain an understanding of the landscape and visual context of the Site.

The Site and its Surroundings

- 4.1.2 The Site is located within land forming part of the Legacy National Grid Substation, immediately north of the Substation structures themselves. High embankments covered in woodland enclose the Substation and its curtilage on all sides, meaning that the structures within are not widely apparent from the surrounding area. Lines of overhead pylons converge on the Substation from the surrounding area.
- 4.1.3 The Site is located in a predominantly rural area, approximately 1.48km west of the A483. The landform generally falls in elevation from west to east. Land use is mainly agricultural. There is a solar farm to the north-west of the Site. Residential properties are scattered throughout the landscape, with a greater concentration along the B5426 to the south of the Site. The nearest larger settlements are Rhostyllen and Rhosllannerchrugog approximately 1.5km to the east and south respectively. Immediately to the south of the Substation is the Legacy Tower, which is a notable local landmark structure associated with water treatment, dating from the early twentieth century.
- 4.1.4 Public footpaths run through the fields west of the Site, one of which runs adjacent to the Substation boundary. A further footpath is located east of the Site, running along the line of Offa's Dyke, a medieval boundary feature that is designated as a scheduled monument.

Landscape Designations

- 4.1.5 The Clwydian Range and Dee Valley AONB is located approximately 815m west of the Site at the closest point (refer to Figure 1 for location).
- 4.1.6 The special qualities of the AONB are set out in the *Clwydian Range and Dee Valley Management Plan 2014-2019* as follows:

- Tranquillity;

- Remoteness and wildness, space and freedom;
- Heather Moorland and Rolling Ridges;
- Broadleaved woodland and Veteran trees;
- River Valleys and the River Dee;
- Limestone grasslands, cliffs and screes;
- Historic Settlement and Archaeology;
- Industrial Features and the World Heritage Site;
- Historic Defence Features;
- Small historic features;
- Traditional boundaries;
- Iconic Visitor and Cultural Attractions;
- The Offa's Dyke National Trail and Promoted Routes;
- The Built Environment; and
- People and Communities.

4.1.7 The Site lies within the non-statutory local-level Special Landscape Area (SLA) designation, which is protected by UDP Policy EC5:

“Within Special Landscape Areas, priority will be given to the conservation and enhancement of the landscape. Development, other than for agriculture, small-scale farm-based and other rural enterprises, and essential operational development by utility service providers, will be strictly controlled. Development will be required to conform to a high standard of design and landscaping and special attention will be paid to minimising its visual impact from both nearby and distant viewpoints”.

4.1.8 It should be noted that as part of the preparation of the emergent replacement local plan, a new report titled *Special Landscape Areas Study EBN03* (Wrexham Borough Council, January 2017), includes a review and revision of the SLA designation, and proposes the removal of the Site and the surrounding area from the SLA. With this in mind, it seems likely that in future, land within the Study Area is unlikely to be subject to SLA designation, once the emergent local plan is adopted.

Landscape Character Assessment and Related Studies

4.1.9 LANDMAP is the formally adopted methodology for landscape assessment in Wales and, as such, forms the baseline for this assessment. The *Wrexham LANDMAP*

*Supplementary Planning Guidance*⁵ subdivides the Borough into a series of four broad landscape types and twenty-seven geographically distinct landscape character areas (LCA). Relevant extracts from this document are included as Appendix 1. The Site is located within the Rural/Urban Villages landscape type and within LCA 7c: Rhosllannerchrugog – Rhostyllen Ruabon - Penrycae.

Future Landscape Change

- 4.1.10 In the absence of the Proposed Development, it is likely the Site would be retained in its present state, i.e. an undeveloped area adjacent to the Legacy Substation.
- 4.1.11 There is however clearly a development pressure associated with the need to provide new sources of electricity supply, and the desirability of co-locating such facilities with suitable substations (such as Legacy). As such, it is entirely likely that other energy development proposals may come forward at the Site, or in other nearby locations.

Visual Baseline

ZTV

- 4.1.12 Zone of Theoretical Visibility (ZTV) mapping has been used to identify the extent of the visibility of the Proposed Development. The ZTV reflects the theoretical visibility of the proposed double stacked battery storage units (at a height of 6m above ground level).
- 4.1.13 The ZTV was produced using a commercial 2m Photogrammetric Digital Surface Model (DSM) available from Bluesky International. This is derived from aerial photography captured in 2017, and does take account of screening features. The DSM is based upon a 2m grid spacing. The horizontal RMSE⁶ of the data is 1m, and the vertical RMSE is 1.5m.
- 4.1.14 The ZTV was calculated and created using QGIS open source software. The ZTV calculation process takes account of the curvature of the earth's surface and light refraction. The eye height of the receptor in the computer model was set at 1.7m above ground level in accordance with guidance set out in GLVIA.
- 4.1.15 This gives a realistic picture of the visibility of the Proposed Development, but does treat vegetation as a solid feature, when in reality views can sometimes be available

⁵ Wrexham Council, 2007. *Wrexham LANDMAP Supplementary Planning Guidance*

⁶ Root Mean Square Error, i.e. the accuracy of the data

through leaves and branches especially in winter. The ZTV is presented on Figure 1.

- 4.1.16 The ZTV was verified in the field, and gives an accurate reflection of the screening provided by the tree cover located at the Substation perimeter (as can be seen in the photography presented on Figures 2a-b).

Viewpoints

- 4.1.17 Two Viewpoints have been included in the LVA in order to illustrate how the Proposed Development would affect the view. The locations of the viewpoints are shown on Figure 1. As set out in Section 3.0, viewpoint locations were initially suggested by the Wrexham Council Case Officer in relation to a different proposal at the same Site in 2020. The precise location of each Viewpoint was determined on-site.
- 4.1.18 Photography from each viewpoint is presented on Figures 2a-b. Photography was taken using a Canon EOS 5D Mark II digital single lens reflex (DSLR) camera with a full-frame sensor, using a 50mm lens. The precise location of each photograph was recorded using a hand-held Garmin Oregon 600 GPS device (which has an accuracy of approximately 3m). Following the Site visit, the GPS data was loaded into Google Earth, to double check that the GPS recording was accurate.
- 4.1.19 The Viewpoint photographs are presented on Figures 2a-b. In relation to the visualisation categories set out in *Landscape Institute Guidance Note 06-19*⁷, these are Type 1 Visualisations (annotated photograph).
- 4.1.20 Viewpoints can fall into three categories, as set out in the GLVIA:
- Representative viewpoints (which represent the experience of different types of receptors in the vicinity);
 - Specific viewpoints (a particular view, for example a well-known beauty spot);
 - Illustrative viewpoints (which illustrate a particular effect/ issue, which may include limited / lack of visibility).
- 4.1.21 It should be noted that the viewpoint itself is not the receptor; rather it is the people that would be experiencing the view from the viewpoint. Receptors in the vicinity of the Site that are likely to experience views of the Proposed Development include:

⁷ Landscape Institute, 2019. *Visual Representation of Development Proposals. Technical Guidance Note 06/19*

- Local residents;
- Users of public rights of way;
- Road users (including pedestrians); and
- Agricultural workers.

4.1.22 Viewpoint details are set out in Table 1.

Table 1 Viewpoint Locations

Viewpoint	British National Grid Co-ordinates	Viewpoint Category
1: B5246, Bronwylfa Road, west of Site	329810, 348810	<i>Illustrative</i> of the level of screening around the Site
2: Minor road, north-east of Site	328946, 348468	<i>Illustrative</i> of the level of screening around the Site

5.0 Assessment of Effects

Construction Phase

- 5.1.1 Refer to the Planning Statement for a description of the construction stage of the Proposed Development.
- 5.1.2 Construction sites feature distinctive elements that are likely to draw attention, including temporary signage and fencing, and site operatives wearing high-visibility clothing. Construction also, by necessity, requires the use of suitable vehicles and other plant, some of which would potentially be readily apparent by virtue of their colour, form and movement. A temporary contractor's compound would be located within the footprint of the Proposed Development, which would also feature potentially visible built forms including site offices, welfare facilities, storage, etc.
- 5.1.3 The Legacy Substation located adjacent to the Site is routinely accessed by construction/ maintenance vehicles/ plant. As such, the occasional presence of such traffic is not unfamiliar and forms part of the baseline context against which construction effects should be considered.
- 5.1.4 Construction would chiefly involve elements that are relatively low in height and which would typically benefit from the level of screening provided by vegetation in the surrounding landscape. Nevertheless, some visibility of construction activity would occur such as temporary cranes (if required) that may potentially be glimpsed through or above the perimeter vegetation. There would inevitably be short-term landscape and visual effects during the construction phase, however these would be temporary in duration, limited in extent, and would **not be significant**.

Operational Phase: Landscape Effects

Landscape Fabric

- 5.1.5 The introduction of the Proposed Development would result in the replacement of an area of grassland, located immediately adjacent to the existing Legacy Substation, with new structures, hard surfaces, fencing. The design of the Proposed Development has ensured that there would be no encroachment into the root protection zone of the adjacent trees and this would be ensured during construction through the use of appropriate tree protection fencing.

- 5.1.6 Grassland of the type that would be affected by the Proposed Development is commonplace locally and has only a low sensitivity to change. Given the limited amount of such grassland that would be lost to accommodate the Proposed Development, it is clear that effects on landscape fabric would **not be significant**. As such, further detailed assessment is not considered necessary.

Landscape Character

- 5.1.7 The landscape character of the area around the Site is described in the Supplementary Planning Guidance as set out in Section 4 above and in Appendix 1. The presence of existing structures at the Substation is an established but very minor influence upon character, with the extensive planted earthworks around the perimeter acting to segregate the Substation from the wider landscape. The ZTV presented on Figure 1 demonstrates clearly that theoretical visibility of the Proposed Development would be confined largely within the extent of the existing Legacy Substation. The very limited patches of theoretical visibility that would occur from outside the boundary would not be sufficient to result in any change in character. Character would remain as described in Appendix 1.
- 5.1.8 As such, there would be **no effect** on landscape character as a result of the Proposed Development. The Proposed Development would be located inside the earthworks and tree cover that surround the Legacy Substation, and its presence would have no influence upon the character of the surrounding area.

Operational Phase: Visual Effects

ZTV

- 5.1.9 The ZTV presented on Figure 1 demonstrates the very localised nature of the visibility of the proposed double stacked battery storage units once the presence of screening vegetation is taken into account. The location of the Legacy Substation, surrounded by large planted earthworks, would provide very effective screening, and theoretical visibility of the Proposed Development from outside would be very limited.

Viewpoints

- 5.1.10 The photography from Viewpoints 1 and 2 presented on Figures 2a and 2b demonstrates the level of screening provided by the dense tree cover located around the perimeter of the Substation. This corroborates the findings of the ZTV, and clear views of the Proposed Development would not be available from either Viewpoint. It is possible that in winter, when deciduous foliage is absent, that glimpses of the proposed double stacked battery storage units could be available through the trees, but these would not be distinct features and their presence would have no appreciable influence upon the views available. Change in view would be negligible, and visual effects would **not be significant**.

Wider Visual Effects

- 5.1.11 As illustrated by the ZTV presented on Figure 1, the Proposed Development would in general not be visible from outside the Substation. The Substation itself is well screened and is not prominent, and this would not change as a result of the Proposed Development. At worst there may be glimpses of the proposed double stacked battery storage units through the perimeter vegetation in winter, but this would always be in the context of similar glimpses of existing Substation structures, and where existing pylons are visible above the trees. The Proposed Development would have no material influence upon the type and make-up of views available across the landscape. Visual effects would **not be significant**.

Night-time Effects

- 5.1.12 As described in the Planning Statement, the Proposed Development would only be lit infrequently, when maintenance staff are present. All lighting would be specified and installed to minimise light spillage. The level of screening around the perimeter of the Legacy Substation is such that there would be little potential for such light spillage to occur beyond the boundary. Night-time landscape and visual effects resulting from the Proposed Development would be very limited in scale and would **not be significant**.

6.0 Effects on Landscape Designations

Clwydian Range and Dee Valley AONB

- 6.1.1 The ZTV presented on Figure 1 illustrates that the Proposed Development would not be theoretically visible from within the AONB. As such, the direct physical presence of the Proposed Development would not affect land within the AONB.
- 6.1.2 The Noise Assessment that forms part of the planning submission confirms that noise generated by the Proposed Development would be below levels that could affect the tranquillity of the AONB.
- 6.1.3 As the Proposed Development would not be visible, there would be no interaction with other development that could give rise to cumulative landscape and visual effects.
- 6.1.4 It is therefore clear that the special qualities of the AONB would not be affected by the presence of the Proposed Development.

Special Landscape Area

- 6.1.5 The Proposed Development would be located within the SLA, but as noted in Section 5 above, it would be very well contained by the surrounding planted earthworks at the perimeter of the Legacy Substation. Its presence would have no influence beyond the extent of the Substation that would materially detract from the quality of the landscape within the SLA designation, or that would conflict with the purposes of UDP Policy EC5.

7.0 Mitigation

- 7.1.1 As landscape and visual effects would not be significant, no mitigation measures are proposed.

8.0 Summary and Conclusions

- 8.1.1 The Proposed Development would be modest both in extent and in height, being largely contained within an existing plot defined by the planted earthworks at the perimeter of the Legacy Substation. The proposed new structures would be barely visible outside of the Substation curtilage and would have no appreciable influence upon the wider landscape or views across it. The landscape and visual effects of the Proposed Development would not be significant.

APPENDICES

Rhosllannerchrugog - Rhostyllen Ruabon - Penycae

7c

This is one of a series of Local Planning Guidance Notes based on Wrexham LANDMAP (adopted November 2004), setting out recommendations for each Landscape Character area.



Rhosllannerchrugog Rhostyllen - Ruabon Penycae summary

- Rural and urban areas affected by history of mining and quarrying
- Villages (Rhos, Penycae, Rhostyllen, Ruabon) characterised by high density and use of Ruabon red brick
- Prehistoric military border area - Gardden hill fort and Offa's Dyke
- Much accessible natural greenspace forming ecological network, including woodland and grassland habitats of high value
- The A483 and railway follow the lower edge of area

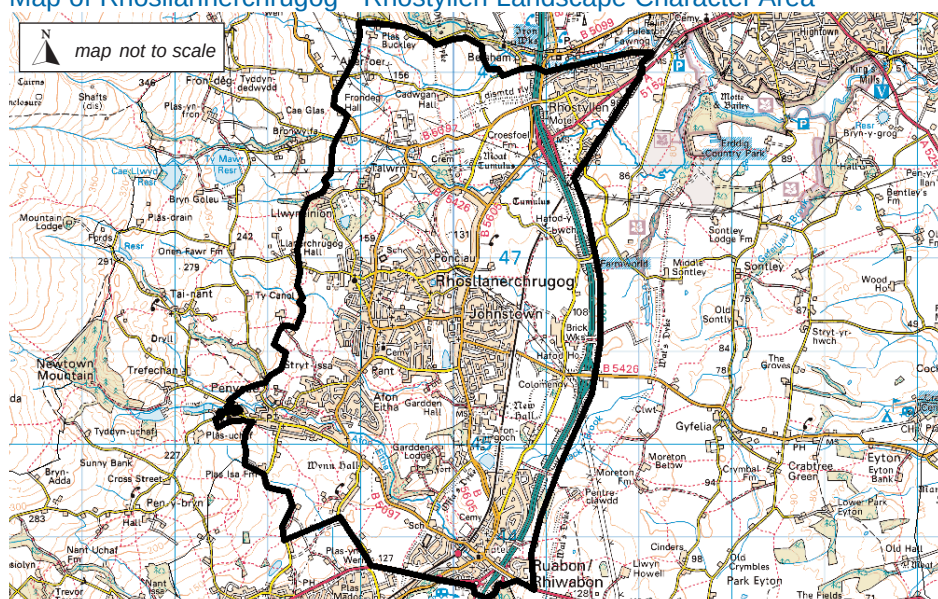


Closely-built former mining communities with a rich cultural heritage, located on the lower slopes of Ruabon Mountain, and distinguished by the widespread use of local Ruabon red brick

Landscape context

Rhosllannerchrugog - Rhostyllen is one of four character areas in Wrexham which have a mixed rural and urban landscape. The other areas are Chirk, Cefn Mawr and West Wrexham Ridges and Valleys

Map of Rhosllannerchrugog - Rhostyllen Landscape Character Area



Character Area boundaries should be considered transitional rather than precise
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Key characteristics

Visual character:

- Lower slopes of Ruabon Mountain consisting of undulating farmland, with residential and industrial development.
- Bersham colliery and tip, and the former Hafod tip, now restored, are landmarks

Geological character:

- Gentle Carboniferous Coal Measure slopes (sandstone) mostly overlain by glacial till, although Rhosllannerchrugog centre is built on an outcrop
- A sandstone ridge, highest at Gardden Hill and followed to the north by Offa's Dyke (part now under Johnstown) runs through the centre of the character area

- To the east of Johnstown, Etruria Marl has been quarried to make the characteristic red bricks and tiles

Ecological character:

- Most farmland is improved grassland of low biodiversity value
- Some former industrial sites are now of high wildlife value, including Stryt Las (great crested newts), the former Hafod tip (a young broadleaved woodland), and birch woodland north of Rhos
- Fragmented areas of semi-natural vegetation include broadleaved scrub, neutral grassland, upland oak woodland along the Afon Eitha valley, beech woodland on Gardden Hill, neutral grassland at Legacy substation, lowland pasture, and oak/ash/sycamore woodlands around the Crematorium and Llwyneinion

Historical character:

- Settlements are mainly of 19th -20th century origin but Penycae and Ruabon have older centres
- Coal mining remains are frequent but Bersham Colliery, with its coal spoil tip and remaining headgear is of particularly high value. Industrial sites are linked by a network of disused industrial railways
- Border area - prehistoric military hillfort at Gardden and Offa's Dyke, marking a former political and military boundary

Cultural character:

- Rhostyllen, with modern industrial and commercial areas next to the A483, is now closely linked to Wrexham town
- Johnstown, once linked with the brickworks and Hafod colliery, is a mainly English-speaking community.
- Rhosllannerchrugog is a culturally rich community with strong Welsh culture and language
- Surrounding farming is under pressure, with part time holdings and increase in 'horsiculture'
- Hafod y Bonc Country Park is a former tip now important for environmental education and recreation

Landscape sensitivity:

The distinctive Welsh identity of the area is vulnerable to development pressure, particularly infill housing of standardised design and materials. The A483 corridor is visually threatened by nearby landfill, masts, building development and power lines. Surrounding farmland is also very vulnerable to urban pressures

Overall management strategy:

Enhancement, conservation and sustainable development

Management guidance

Aims	Guidelines
Enhance visual character	● Promote urban forestry and enhance remaining areas of neglected or derelict land ● Rationalise/reduce overhead power line clutter ● Survey and assess use of sandstone and local brick in walls and buildings
Develop an accessible green network	● Retain and improve environment for pedestrians and cyclists within settlements through the development of accessible natural green space and green network (refer to Green Strategy due March 2007)
Conserve geological features	● Maintain morphological integrity of landform and assess new exposures
Enhance and extend existing habitats for wildlife	● Develop wildlife corridors as part of a green network, linking areas of fragmented habitats (refer to Green Network Strategy due March 2007) ● Maintain ponds and protected great crested newts ● Maintain, enhance and expand: scrub, broadleaved woodland, lowland pasture and hedges ● Diversify improved grassland and farmland and reduce chemical use in agriculture
Preserve archaeological features	● Preserve mining remains, especially winding house, headgear and tip at Bersham, maintain and repair ● Development which adversely affect the site or setting of Offa's Dyke or Gardden Hill Fort would not be permitted ● Preserve historic core of Ruabon, including mills and chapels
Survey area of potential archaeological interest	● Evaluate historic core of settlements prior to development and assess in relation to wider historic landscape ● Carry out surveys of former colliery sites, railway lines and quarries, and assess in context of wider industrial landscape. Conserve historic transport routes
Strengthen cultural identities of settlements	● Preserve coal mining heritage at Bersham Colliery as visible reminder of Wrexham's former industrial base ● Preserve character of lower Ruabon slopes e.g. field systems, industrial sites ● Support Welsh-language cultural initiatives, and culturally distinct communities



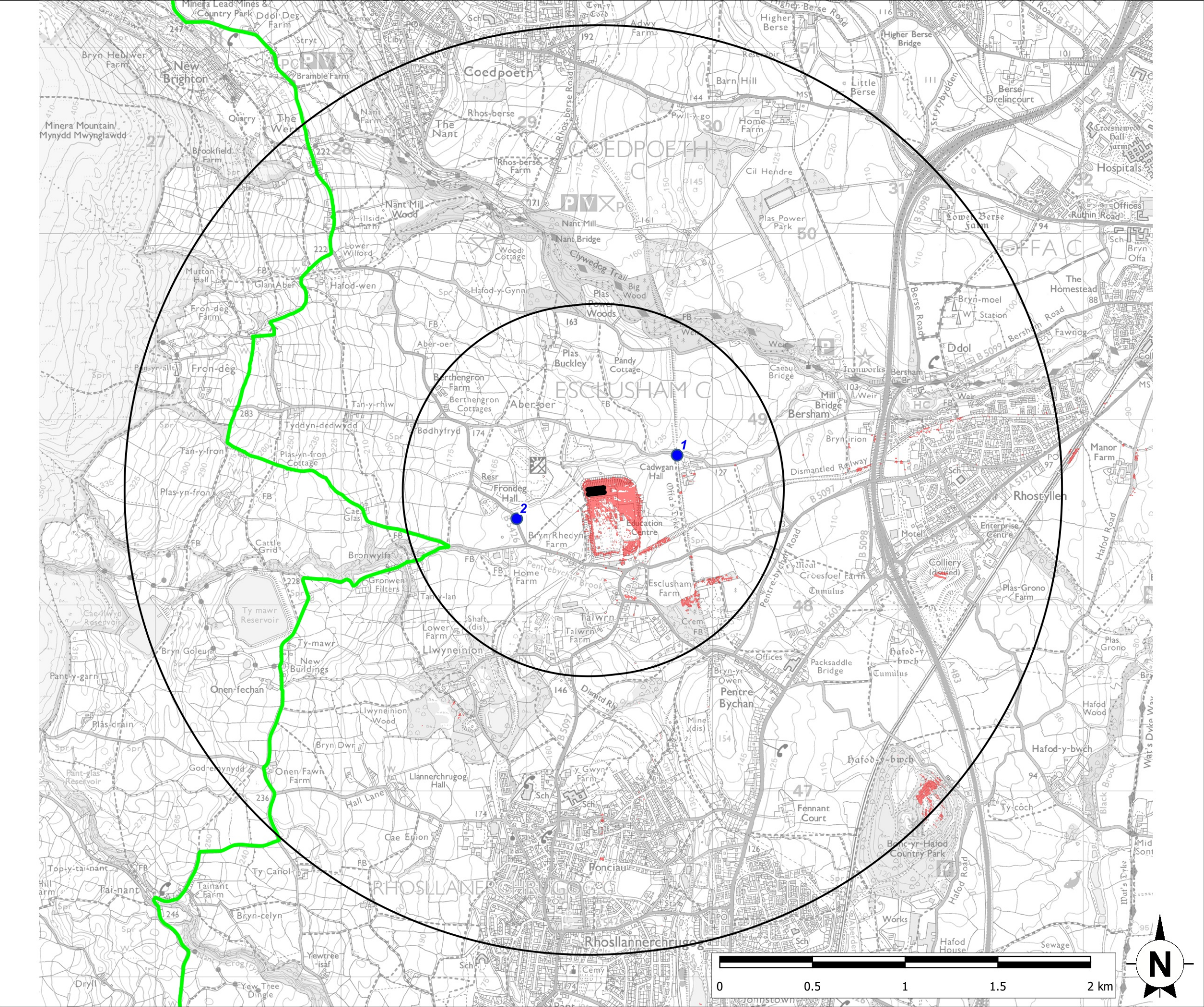
For further information contact:

Planning Environment
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Wrexham County Borough Council
Lambpit Street, Wrexham. LL11 1AR
Tel:01978 292019
www.wrexham.gov.uk/planning

All our information is available in accessible formats



FIGURES



- Key
- Proposed Battery Storage Units (height 6m)
 - ◻ 1km and 2.5km radius around proposed stacks
 - ◻ Clwydian Range and Dee Valley AONB
 - Viewpoint Location
 - ◻ ZTV of Proposed Battery Storage Units

NOTES:

1. Zone of Theoretical Visibility has been generated using BlueSky 2m photogrammetric digital surface model (DSM) data captured in 2017, which takes account of the screening effects of vegetation, buildings or other structures.

2. ZTV generation has allowed for the curvature of the earth and light refraction.

3. ZTV has been generated based upon an observer eye height of 1.7m above ground level

LEGACY BATTERY STORAGE FACILITY	
Figure 1	
Landscape and Visual Context	
Scale 1:20,000@A3	Date May 2021



Print on A3 paper.
View at a comfortable arm's length

Existing View

Visualisation Type:	Type 1	Enlargement Factor:	100%	Camera:	Canon EOS 5D FFS	HFoV:	39.6°	LEGACY BATTERY STORAGE FACILITY Figure 2a: Viewpoint 1	
Projection:	Planar	Date and Time of Photograph:	04/06/20 14:05	Lens:	Canon EF 50mm 1:1.8 II	Direction of View:	South-west		



Print on A3 paper.
View at a comfortable arm's length

Existing View

Visualisation Type:	Type 1	Enlargement Factor:	100%	Camera:	Canon EOS 5D FFS	HFoV:	39.6°	LEGACY BATTERY STORAGE FACILITY Figure 2b: Viewpoint 2	
Projection:	Planar	Date and Time of Photograph:	04/06/20 14:21	Lens:	Canon EF 50mm 1:1.8 II	Direction of View:	East		