



The Sirius Group

BESS Cellarhead, nr Wetley Rocks, Staffordshire Moorlands

Arboricultural Assessment

January 2021

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Photograph 3: View of T9 showing wound scar and fruiting bodies, looking southeast

Photograph 4: View of T27 looking south showing lean and areas of dead bark and limbs

Photograph 5: View of southern access point looking northeast from the existing road showing position of T18 (L) and G7 and T36.

Photograph 6: View of southern access point looking northwest from the existing road showing position of T18 (L) and G7, T36 and T37

PLANS

Tree Survey Plan (10541-T-01)

Tree Retention Plan (10541-T-02)

Detailed Access Plan (10541-T-03)

APPENDICES

Appendix A: Tree Schedule

Appendix B: Protective Fencing Specifications

1.0 NON-TECHNICAL SUMMARY

- 1.1 FPCR were commissioned by The Sirius Group to undertake an Arboricultural Assessment on land to the west of Wetley Road, Staffordshire Moorlands to identify any potential constraints or opportunities arising from proposals to build a battery storage facility.
- 1.2 A Tree Survey in accordance with BS 5837 (2012) '*Trees in Relation to Design, Demolition and Construction - Recommendations*' was conducted to provide a baseline to inform the assessment of impacts. The tree survey was carried out on Friday 10th December 2021 and recorded all the tree cover within and within influencing distance of the site in accordance with the guidance contained in BS 5837 (2012).
- 1.3 No direct consultation has been carried out with the relevant local planning authority, Staffordshire Moorlands District Council but online records show there to be no Tree Preservation Orders or Conservation Areas that would apply to any of the trees subject to this tree survey and as such at the time of writing, no statutory constraints would apply to the development proposals in respect of trees. Confirmation of online records is recommended.
- 1.4 The site supports mostly mature tree cover, in the form of individual trees and small groups of trees confined to the field boundaries. Common beech *Fagus sylvatica* and horse chestnut *Aesculus hippocastanum* were the dominant species and were of mature proportions. As would typically be expected, the agricultural environment in which the trees are growing has meant low levels of general tree management having been applied over the years and as such some of the trees had suffered from storm events resulting in crown failures during periods of adverse weather, the damage resulting from which having not been rectified. Trees were also showing damage commonly associated with livestock browsing and poaching of the ground around the bases of trees.
- 1.5 Despite this, the structural integrity of existing trees and their health were generally found to be sound and were a prominent feature of the local landscape thus should be retained where it is safe to do so and management work applied as deemed necessary and appropriate to manage any risks to acceptable levels. This report does not constitute a tree safety or risk – benefit assessment as it is beyond the scope of the brief, but it has made preliminary management suggestions for certain trees where it is recommended that further assessment is needed to determine the most appropriate course of action in the interests of safety to users of the site and to satisfy the landowners Duty of Care.
- 1.6 Most of the boundaries to the field compartments were enclosed with maintained hedgerows, dominated by hawthorn *Crataegus monogyna*.
- 1.7 The proposals have been designed using a constraint led process thus would retain most existing trees requiring only a very small number of arboriculturally unremarkable trees to be removed to facilitate the access point.
- 1.8 The only other arboricultural impact of note is the need to place sections of the security fencing within the RPA's of a small number of trees, however this would be deemed 'low impact' and managed through supervision of the works and hand digging of the post holes and would be best dealt with through the imposition of a suitably worded planning condition to any approval.

- 1.9 Mitigation for the small number of tree losses to access will be provided through the extensive landscaping supporting the proposals, which will include standard, individual tree planting, additional hedgerows and areas of woodland planting. The proposed landscaping is set to greatly increase the overall amount of tree cover which currently exists within the site and wider landscape and will serve to provide much needed succession to the existing maturing population thus securing future tree cover.
- 1.10 There will be no change to the character, composition or environmental value of the tree cover or the amenity which that tree cover provides as a result of the proposals.
- 1.11 From an arboricultural perspective, due to the vast majority of the trees being unaffected by the proposals, a sympathetic design which will be existing trees integrated with the proposals, replacement and new tree planting to increase overall canopy cover in the locality, it can be concluded that the proposals do not result in any adverse effects.
- 1.12 The proposals therefore meet the aspirations of both local and national policy in respect of arboriculture.

2.0 INTRODUCTION

- 2.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Sirius to present the findings of an Arboricultural Assessment and survey of trees located on land to the west of Wetley Rocks, Staffordshire Moorlands (hereafter referred to as the site)
- 2.2 The site is centered on Ordnance Survey grid reference SJ 947 493
- 2.3 The survey was carried out on Friday 10th December 2021.

Scope of Assessment

- 2.4 The tree survey and assessment of existing trees has been carried out in accordance with guidance contained within British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (hereafter referred to as BS5837). The guidelines set out a structured assessment methodology to assist in determining which trees would be deemed either as being suitable or unsuitable for retention.
- 2.5 The guidance also provides recommendations for considering the relationship between existing trees and how those trees may integrate into designs for development; demolition operations and future construction processes so that a harmonious and sustainable relationship between any retained trees and built structures can be achieved.
- 2.6 The purpose of the report is therefore to firstly, present the results of an assessment of the existing trees' arboricultural value, based on their current condition and quality and to secondly, provide an assessment of impact arising from the proposed development of the site.
- 2.7 This report has been produced to accompany a planning application for a battery storage facility including the means of access and has included an assessment of any impact to the tree cover. The survey has therefore focused on any trees present within or bordering the site that may potentially be affected by the future proposals or will pose a constraint to any proposed development.

Site Description

- 2.8 The site is situated to the north of Werrington and Cellarhead, to the west of Wetley Rocks and east of Wetley Moor Common, within the Staffordshire Moorlands and comprises two pasture fields enclosed by well-maintained hedgerows, which support the majority of existing trees. Directly to the west, separated from the site by a narrow belt of mixed species woodland planting is a National Grid station. A series of pylons from the electricity substation occupy positions within the northern field of the two fields with cables extending southwards and northwards beyond the site.
- 2.9 A small access road leading to the substation and farm buildings lies to the south and a collection of agricultural sheds are located off the north-eastern corner of the site.
- 2.10 The surrounding land use is predominately agricultural, both arable and pasture, along with a small number of private residential properties and farms.

3.0 PLANNING POLICY

National Planning Policy Framework July 2021

- 3.1 National Planning Policy is defined by the National Planning Policy Framework (NPPF). This sets out the Government's most current and up to date planning policies for England and how these should be applied. The current NPPF is dated July 2021.
- 3.2 Paragraphs 10 and 11 of the NPPF state that there is a presumption in favour of sustainable development and states that for decision making, the LPA should be '*c) approving development proposals that accord with an up-to-date development plan without delay*'. In the absence of a development plan or the development plan is out of date, the acting LPA should grant planning consent so far as the development proposals do not breach the policies and guidance outlined in the NPPF.
- 3.3 In relation to arboriculture, the NPPF also states that:
- *131 'Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined (footnote 50), that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users' (footnote 50: unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate)*
 - *180 (c) 'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons (footnote 63) and a suitable compensation strategy exists';*
and provides specific guidance that:
 - *180 (d) 'development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity'.*
- 3.4 With reference to paragraph 180 (c), examples of what is deemed to be '*wholly exceptional*' are included within Footnote 63 and provides the examples of '*infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat*'.

Local Planning Policy

- 3.5 Local planning decisions regarding all future developments are assessed against a framework to ensure that the district or county in question is developed in a well-informed and coherently systematic manner, this may include decisions to ensure that the right number and types of houses are built and incorporating the correct type of shopping and recreation facilities, whilst protecting the local ecological resources, landscape context and intrinsic heritage value of an area.
- 3.6 Within the context of Staffordshire Moorlands District Council, the adopted Local Plan (adopted on 9th September 2020) sets out the Council's vision and strategy for the district until 2033 within which are several policies relating to trees. The policies are listed below:

Section 7.7 : Natural Environment

(Spatial Objective SO9 To protect and improve the character and distinctiveness of the countryside and its landscape, biodiversity and geological resources)

Trees and Woodlands

The following extracts set out the Council's particular requirements where planning applications are to be submitted.

7.125 – The Council will require that tree survey information in accordance with the current British Standard 5837 – Trees in relation to Design, Demolition and Construction is submitted with all planning applications, where trees are present on site. The tree survey information should include protection, mitigation and management measures.

7.126 – New developments will be required to ensure that any canopy cover lost within a development site will be replaced and where these cannot be accommodated on site the Council will work with applicants to ascertain if a suitable site (s) can be found off-site for replacement planting in the locality, sufficient to replace the canopy cover lost to accommodate the development. In order to help maximise the chances of survival for replacement trees, developments should also ensure that a landscape implementation and management plan reflecting current best practice is put in place.

• Policy NE 2

Trees, Woodland and Hedgerows

The Council will protect existing trees, woodlands and hedgerows, in particular, ancient woodland, veteran trees and ancient or species-rich hedgerows from loss or deterioration.

This will be achieved by:

- Requiring that existing woodlands, healthy trees and hedgerows are retained and integrated within a proposed development unless the need for, and benefits of, the development clearly outweigh the loss;*
- Requiring new developments to provide tree cover that secures a good level of sustainability through tree retention, planting and soft landscaping, including where possible the on site replacement of any trees that are removed with sufficient tree planting to replace or increase the canopy cover on-site as appropriate. Landscaping*

schemes will also be required to mitigate against negative landscape impact and complement the design of new development and make provision for future maintenance. Where it is not possible to secure this new or replacement tree planting within the site, the Council will work with applicants to ascertain if a suitable site (s) can be found off-site for replacement planting in the locality;

- *Resisting development that would directly or indirectly damage existing ancient woodland, veteran trees and ancient or species-rich hedgerows.*

The Council will refer to its adopted Tree Strategy in the consideration of proposals; and will in general seek to retain as many trees and as much hedgerow on site as possible.

Statutory Considerations

- 3.7 Local authorities have a Duty under the Town and Country Planning Act to create Tree Preservation Orders (TPO) to protect and preserve specific trees and woodlands that bring significant amenity benefit to a particular site or location. Under a TPO it is a criminal offence to cut down, top, lop, uproot or wilfully destroy a tree protected by that Order, or to cause or permit such actions, if carried out without the prior written consent of the acting LPA. Anyone found guilty of such an offence is liable and in serious cases, may result in prosecution and incur an unlimited fine.
- 3.8 No direct consultation with the Local Planning Authority has taken place, however, it is understood having used the online search facility on the website for the Local Planning Authority, Staffordshire Moorlands District Council that there are no Tree Preservation Orders and Conservation Areas that would apply to any trees present on, or in close proximity to the assessment site and therefore no statutory constraints would apply to the development in respect of trees. Before any tree works are undertaken confirmation of the online information should be sought from the Local Authority.
- 3.9 Information provided on Tree Preservation Orders and Conservation Areas is accurate to the date of this assessment and cannot be assumed to remain unchanged. The last check was carried out on the 13th December 2021.

Non-Statutory Considerations

- 3.10 Veteran Trees and Ancient Woodland are material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework (NPPF) 2021.
- 3.11 To compile existing baseline information on relevant arboricultural considerations information was sought from both statutory and non-statutory nature conservation organisations; the Multi Agency Geographic Information for the Countryside (MAGIC)¹ website and Woodland Trust Ancient Tree Inventory².

¹ <http://magic.defra.gov.uk/>

² <https://ati.woodlandtrust.org.uk/>

- 3.12 The Multi Agency Geographic Information for the Countryside (MAGIC)³ website highlighted tree cover directly adjacent to the site (around the perimeter of the National Grid substation as the following:
- The Priority Habitat Inventory, Deciduous Woodland (England)
 - The National Forestry Inventory (Broadleaved Woodland)
- 3.13 The Priority Habitat Inventory is a spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.⁴
- 3.14 The deciduous woodland inventory is a rolling programme designed to provide accurate information about the size, distribution, composition and condition of forests and woodlands.⁵
- 3.15 Priority habitat designation and inclusion within the National Forestry Inventory does not provide any statutory protection.
- 3.16 The Woodland Trust Ancient Tree Inventory identified no Ancient or Veteran Trees and none of the assessed trees were considered as ancient or veteran trees in accordance with accepted methodologies and guidance.

³ <http://magic.defra.gov.uk/>

⁴ Contains public sector information licensed under the Open Government Licence v3.0.

⁵ <https://www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/>

4.0 SURVEY METHODOLOGY

- 4.1 The survey of trees has been carried out in accordance with the criteria set out in Chapter 4 of BS5837. The survey has been undertaken by a suitably qualified and experienced arboriculturist and has recorded information relating to all those trees within the site and those adjacent to the site which may be of influence to any proposals. Trees were assessed for their arboricultural quality and benefits within the context of the proposed development in a transparent, understandable and systematic way.
- 4.2 Trees have been assessed as groups and hedgerows where it has been determined appropriate.
- The term group has been applied where trees form cohesive arboricultural features either aerodynamically, visually or culturally including biodiversity or habitat potential for example parkland or wood pasture.
 - For the purposes of this assessment, a hedgerow is described as any boundary line of trees or shrubs less than 5m wide at the base and are managed under a regular pruning regime.
 - For the purposes of this assessment woodland is described as a habitat where ‘trees are the dominant plant form. The individual tree canopies generally overlap and interlink, often forming a more or less continuous canopy’⁶. Woodlands however, are not just formed of trees and generally include a great variety of other plants. These will include ‘mosses, ferns and lichens, as well as small flowering herbs, grasses and shrubs’⁷.
- 4.3 An assessment of individual trees within groups and hedgerows has been made where a clear need to differentiate between them, for example, in order to highlight significant variation between attributes including physiological or structural condition or where a potential conflict may arise.

BS5837 Categories

- 4.4 Trees have been divided into one of four categories based on Table 1 of BS5837, ‘*Cascade chart for tree quality assessment*’. For a tree to qualify under any given category it should fall within the scope of that category’s definition (see below).
- 4.5 Category U trees are those which would be lost in the short term for reasons connected with their physiology or structural condition. They are, for this reason not considered in the planning process on arboricultural grounds. Categories A, B and C are applied to trees that should be of material considerations in the development process. Each category also having one of three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural or conservation values accordingly.
- 4.6 **Category (U) – (Red):** Trees which are unsuitable for retention and are in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Trees within this category are:
- Trees that have a serious irremediable structural defect such that their early loss is expected due to collapse and includes trees that will become unviable after removal of other category U trees.

⁶ http://www.countrysideinfo.co.uk/woodland_manage/whatis.html

⁷ http://www.countrysideinfo.co.uk/woodland_manage/whatis.html

- Trees that are dead or are showing signs of significant, immediate or irreversible overall decline.
- Trees that are infected with pathogens of significance to the health and/ or safety of other nearby trees or are very low quality trees suppressing adjacent trees of better quality.
- Certain category U trees can have existing or potential conservation value which may make it desirable to preserve.

4.7 **Category (A) – (Green):** Trees that are considered for retention and are of high quality with an estimated remaining life expectancy of at least 40 years with potential to make a lasting contribution. Such trees may comprise:

- Subcategory (i) trees that are particularly good examples of their species, especially if rare or unusual, or are essential components of groups such as formal or semi-formal arboricultural features for example the dominant and/or principal trees within an avenue.
- Subcategory (ii) trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.
- Subcategory (iii) trees, groups or woodlands of significant conservation, historical, commemorative or other value for example veteran or wood pasture.

4.8 **Category (B) – (Blue):** Trees that are considered for retention and are of moderate quality with an estimated remaining life expectancy of at least 20 years with potential to make a significant contribution. Such trees may comprise:

- Subcategory (i) trees that might be included in category A but are downgraded because of impaired condition for example the presence of significant though remediable defects, including unsympathetic past management and storm damage.
- Subcategory (ii) trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.
- Subcategory (iii) trees with material conservation or other cultural value.

4.9 **Category (C) – (Grey):** Trees that are considered for retention and are of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm. Such trees may comprise:

- Subcategory (i) unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
- Subcategory (ii) trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value or trees offering low or only temporary / transient screening benefits.
- Subcategory (iii) trees with no material conservation or other cultural value.

Site Plans

- 4.10 The individual positions of trees and groups have been shown on the Tree Survey Plan. The positions of trees are based on a topographical / land survey, as far as possible, supplied by the client. Where topographical information has not identified the position of trees these have been plotted using a global positioning system and aerial photography to provide approximate locations. The crown spread, root protection area and shade pattern (where appropriate) are also indicated on this plan.
- 4.11 As part of this assessment, a Tree Retention Plan and Detailed Access Plan has been prepared to show the proposed layout in relation to the existing tree cover allowing an assessment of any potential conflicts. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.

Tree Constraints and Root Protection Areas

- 4.12 Below ground constraints to future development are represented by tree roots and the soil environment in which they grow which needs to be protected if the tree is to be retained. Tree rooting systems are essential for the uptake of water and nutrients, serving the storage of carbohydrates for the future growth and function of the tree, and form structural anchorage and support for the stem and crown. The perceived rooting area of the tree; referred to as the root protection area (RPA) needs to be protected if the tree is to be retained.
- 4.13 The RPA is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. The RPA has been calculated in accordance with Annex C, D and Section 4.6 of BS5837:2012 and requires suitable protection for the tree to be successfully incorporated into any future scheme. As such, the RPA of existing trees is an important material consideration when considering site constraints and planning development activities.
- 4.14 Where applicable the shape of the Root Protection Area has been modified to consider the presence of any nearby obstacles (existing or past) which may have restricted root growth and the likely root distribution i.e. the presence of hard standing, structures and underground apparatus. Where groups of trees have been assessed, the Root Protection Area has been shown based on the maximum sized tree in any one group and so may exceed the Root Protection Area required for some of the individual specimens within the group. Further detailed inspection of the individual trees forming a group may be required where development impacts upon the group.
- 4.15 Whilst it is generally accepted that the roots from a tree may extend far greater distances than the notional RPA, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients), with roots predominantly located in the upper 1,000 mm of the soil horizon; the RPA offers an accepted protective buffer from development.
- 4.16 Above ground constraints such as the current crown spread of the trees and an illustration of the shade pattern (where appropriate) have been considered and identified within the Tree Survey Plan and Tree Retention Plan indicates their potential area of shading influence.

Considerations and Limitations of the Tree Survey

- 4.17 The survey was completed from ground level only and from within the boundary of the site. Aerial tree inspections or an assessment of the internal condition of the stem/s or branches were not undertaken at this stage as this level of survey is beyond the scope of the initial assessment.
- 4.18 The statements made in this report regarding the assessed trees does not take into account the effects of extreme / adverse weather conditions, changes in land use prior to the site's development, unforeseen accidents or anti-social behaviours, such as vandalism, which occur since the date of the survey. As such, the assessment of tree condition given within applies to the date of survey and cannot be assumed to remain unchanged.
- 4.19 It will be necessary to review all comments and observations made within this report, in accordance with sound arboricultural practice, within two years of the date of survey (unless explicitly stated elsewhere within this report). Further review may also be necessary where site conditions change or works to trees are carried out which have not been specified in detail within this report.
- 4.20 Hedgerows are identified as a Habitat of Principal Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The tree survey conducted, in accordance with BS5837, does not assess hedgerows against the Hedgerow Regulations 1997 or specifically from an ecological perspective, and is outside the scope of this assessment.
- 4.21 It may be necessary during detailed design to undertake further assessment and accurate positioning of woody species within tree groups and hedgerows to assist structural calculations for foundation design of structures in accordance with current building regulations. The exact position of individual trees or species included as part of a tree group should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculating foundation depths in accordance with NHBC Chapter 4.2 Building near Trees.