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# ARBORICULTURAL ASSESSMENT

Client

**JT Energy Storage Ltd (Windel Energy)**

Project

**JT Energy Storage**

Date

**May 2025**

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| Rev | Issue Status | Prepared/Date | Approved/Date |
|---|---|---|---|
| - | Final | AW /17/04/25 | HR / 22/04/25 |
| A | Final | AW / 08/05/25 | HR / 08/05/25 |
| | | | |
| | | | |

# 1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of JT Energy Storage Ltd (Windel Energy) to present the findings of an Arboricultural Assessment and survey of trees located at Land to the east of Dalzell Street near Woodend, between the villages of Bigrigg, Cleator and Moor Row (hereafter referred to as the site), OS Grid Ref NY 008 137.

**Site Description**

1.2 The Site comprises land to the east of Dalzell Street between the villages of Bigrigg, Cleator and Moor Row (NGR: E: 300842, N: 513769). The larger settlements of Egremont, Cleator Moor and Whitehaven are all located within a 5km radius of the Site. The Lake District National Park boundary lies approximately 2.7km to the north-east. The Site is wholly located within the administrative boundary of Cumberland Council.

1.3 The Site boundary including the underground cable route to the point of connection at Woodend substation measures 1.18ha. The proposed cable route will follow Dalzell Street southwards to the point of connection at Woodend substation.

1.4 The Site area, excluding the cable route, wherein the Proposed Development will be located will be approximately 0.58ha. The Site area for the triangular field to the northern portion of the Site to be used for BNG purposes is 0.32ha.

1.5 The Site comprises pasture land, which has most recently been used for the grazing of livestock. The Site is split across two fields, separated by an access track. The Site boundaries are demarcated by hedgerow and scattered trees.

1.6 Access to the site is via the existing track taken from Dalzell Street, a local road. Dalzell Street connects with the A5086 and the A595, approximately 1-1.25km to the south of the Site.

1.7 The Site is adjoined to the eastern boundary by National Cycle Route 72, a long-distance route, which connects Ravenglass, Cumbria with South Shields, Tyne & Wear. To the north and south of the Site is agricultural land. To the western boundary is Dalzell Street.

**Scope of Assessment**

1.8 A tree survey and assessment of existing trees was carried out by FPCR Environment and Design on **Tuesday 11th February 2025** in accordance with guidance contained within British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' (hereafter referred to as BS5837).

1.9 This report has been produced to accompany a planning application for the: '*Construction and installation of a Battery Energy Storage System (BESS) and associated infrastructure, landscaping and buried cable route*'.

1.10 The purpose of this report is therefore to firstly, present the results of this 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.

## 2.0 PLANNING POLICY

### National Planning Policy Framework December 2024

2.1 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 version of the NPPF was updated in February 2025.

2.2 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'.

2.3 In relation to arboriculture, the NPPF states that:

- Paragraph 136 '*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 52), 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 52: unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate)*
- *Paragraph 193 (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 70) and a suitable compensation strategy exists'.*
- *Paragraph 193 (d) 'development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.*

2.4 With reference to paragraph 193 (c), examples of what is deemed to be 'wholly exceptional' are included within Footnote 70 as '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'.

## 3.0 SURVEY METHODOLOGY

3.1 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.

3.2 Trees have been assessed as groups, hedgerows or woodland 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'[1]. 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'[2].

3.3 An assessment of individual trees within groups, hedgerows and woodland has been made where a clear need to differentiate between them, for example, to highlight significant variation between attributes including physiological or structural condition or where a potential conflict may arise.

**BS5837 Categories**

3.4 Trees, groups, hedgerows, and woodland 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).

3.5 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.

3.6 Categories A, B and C are applied to trees that should be of material consideration 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.

3.7 **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:

1 Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

[2] http://www.countrysideinfo.co.uk/woodland_manage/whatis.htm

- 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.
- 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.

3.8 **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.

3.9 **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.

3.10 **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.

**Ancient and Veteran Trees**

3.11 Various published methodologies are currently available for the identification of Ancient and Veteran trees which, due to the complexity and subjectivity of the process of defining and assessing these trees, often have conflicting definitions.

3.12 This Arboricultural Assessment has used the criterion for defining a veteran tree based upon the definition within BS:5837.

*"Tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned".'*

**NOTE** These characteristics might typically include a large girth, signs of crown retrenchment / reorganisation and hollowing of the stem.

3.13 Stem girth is the most reliable guide when determining the age of trees and in normal growing conditions, ancient and veteran trees are those which have a large girth by comparison with other trees of the same species. To inform the assessment of chronological age reference has been made to the chart provided within Lonsdale (2013) (shown below in Figure 1).

3.14 BS:5837 does not provide a definition for ancient trees and therefore the assessment and the criterion being used for identifying ancient trees is based upon government guidance on, Ancient woodland, ancient trees and veteran trees: advice for making planning decisions[3] which states.

*"All ancient trees are veteran trees, but not all veteran trees are ancient. The age at which a tree becomes ancient, or veteran will vary by species because each species ages at a different rate."*

3 Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

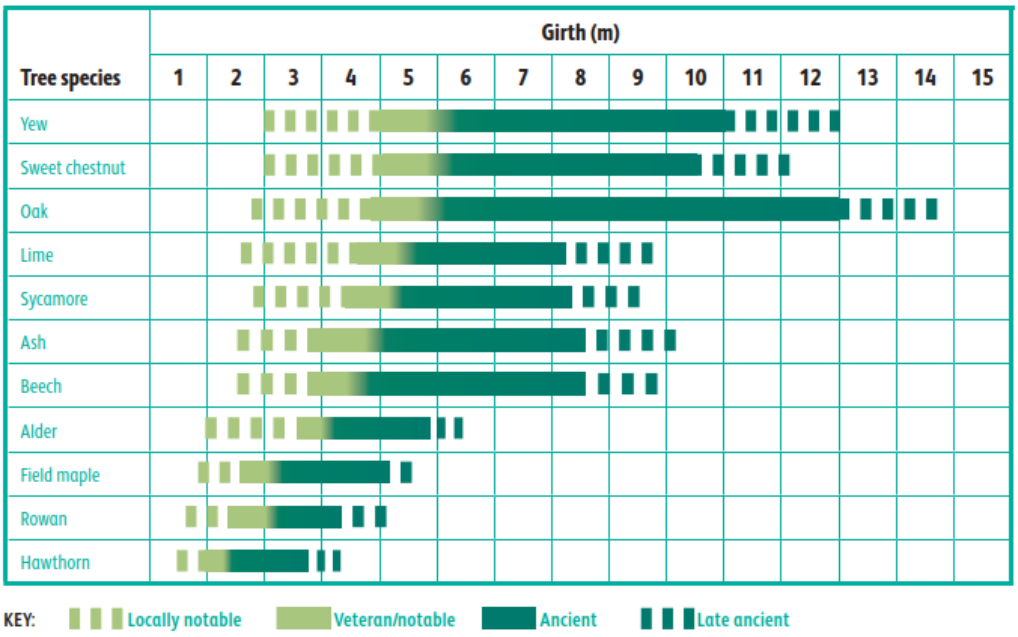


**Figure 1: The chart of girth in relation to age and development classification of trees, as shown in Lonsdale (2013)4.**

3.15 Ancient and veteran trees are also material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework (NPPF) 2024, which includes its own definition of ancient and veteran trees. This Arboricultural Assessment has also considered any potential candidates against the below definition:

*'A tree which, because of its age, size, and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.'*[5]

3.16 RAVEN 2 (Recognition of Ancient, Veteran & Notable trees) Julian Forbes-Laird (2023)[6] has been adopted for gathering survey information as this provides a standardised framework for recording characteristic ancient/veteran features and this Arboricultural Assessment has also considered any potential candidates against this framework.

**Considerations and Limitations of the Tree Survey**

3.17 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.

3.18 The statements made in this report regarding the assessed trees applies to the date of survey and cannot be assumed to remain unchanged. 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

[4] Lonsdale, D. (Ed.). 2013). Ancient and other veteran trees: further guidance on management. London: The Tree Council.
5 Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

[6] Recognition of Ancient, Veteran & Notable Trees – RAVEN 2 (2023) – Julian Forbes-Laird Consultancy.

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.

3.19 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.

3.20 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 NHBC Chapter 4.2 Building near Trees.

## 4.0 RESULTS

4.1 A total of four individual trees, four groups of trees and one hedgerow were surveyed as part of the Arboricultural Assessment. Trees were surveyed as individual trees, groups, hedgerows and woodland as per the survey methodology.

4.2 Appendix A presents details of all individual trees, groups, hedgerows and woodlands recorded during the assessment including heights, diameters at 1.5m from ground level, crown spread (given as a radial measurement from the stem), age class, comments as to the overall condition at the time of inspection, BS5837 category of quality and suitability for retention and the root protection area (RPA), calculated in accordance with Annex C, D and Section 4.6 of BS5837:2012.

4.3 General observations particularly of structural and physiological condition for example the presence of any decay and physical defect and preliminary management recommendations have also been recorded where appropriate.

4.4 The individual positions of trees, groups, hedgerows and woodlands 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.

4.5 The proposed buried cable route to the substation will be located within the road corridor. Given that it is well set back from the road verge, there would not be an impact upon the trees/hedgerows along the road corridor boundary and as such no assessment has been undertaken.

**Results Summary**

4.6 Tree cover ranged in quality from moderate (category B) to low (category C). No trees were considered to be of either high quality (category A) or unsuitable for retention (category U). The vast majority of trees were considered to be of low quality due to either their unremarkable arboricultural merit or lack of landscape value. Where trees were considered to be of a moderate quality, this was mainly due to the landscape benefit they conferred to the site.

4.7 Trees were both planted and naturally colonised with all specimens being native in origin.

4.8 Ash *Fraxinus excelsior*, hawthorn *Crataegus monogyna* and sycamore *Acer pseudoplatanus* were most commonly observed. Other species recorded during the assessment included goat willow *Salix caprea*, blackthorn *Prunus spinosa*, elder *Sambucus nigra* and hazel *Corylus avellana.*

4.9 Table 1 below summarises the trees assessed and several of the trees have been discussed in more detail following the table, owing to their physical condition or arboricultural significance.

**Table 1: Summary of Trees by Retention Category**

| | Individual Trees | Total | Groups of Trees | Total |
|---|---|---|---|---|
| Category U - Unsuitable | | 0 | | 0 |
| Category A (High Quality / Value) | | 0 | | 0 |
| Category B (Moderate Quality / Value | | 0 | G2, G3 | 2 |
| Category C (Low Quality / Value) | T1, T2, T3, T4 | 4 | G1, G4, H1 | 3 |

Individual Trees

4.10 All individual trees were regarded as low quality. These trees were limited in both arboricultural and landscape value. T1 – T3, were all hawthorn specimens that most likely would have once been part of a hedgerow. They were typical for their species with no obvious major defects.

4.11 T4 was a multi-stemmed ash specimen that was found to the north of the farm access track. The crown housed features typically associated with ash specimens such as deadwood and epicormic growth.

Groups of Trees

4.12 G1 was a group of ash that would once have been managed as part of a hedgerow. These specimens were of lapsed coppice form and were multi-stemmed from their base. All canopies interlocked and these housed minor deadwood and epicormic growth throughout.

4.13 G4 was an outgrown section of hedgerow that appeared to not be managed in anyway. It was of scrubby form and provided little arboricultural or landscape benefit to the site.

4.14 The two moderate quality groups (G2 and G3) were of greater landscape importance and helped screen views into the site from various vantage points. G2 was a linear group that was found either side of the dismantled railway line. It consisted primarily of self-set species which created a buffer between the site and the cycle route that now follows the route of the former railway line. G3 consisted mainly of ash and sycamore with occasional sections of hawthorn found at the base. This group screened views southwards out of the site towards the adjoining field parcels.

Hedgerows

4.15 One hedgerow was recorded during the survey. This was a typical agricultural hedgerow that consisted primarily of hawthorn. H1 was well managed and pruned back away from the boundary fence by flail. Ancient and Veteran Trees

4.16 None of the assessed trees were considered as ancient or veteran trees in accordance with our veteran survey methodology.

**Statutory Considerations**

4.17 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.

4.18 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.

4.19 It is understood following consultation with the Local Planning Authority, Cumberland Council, that there are no Tree Preservation Orders or Conservation Area designations that would apply to any trees present on, or in proximity to the assessment site and therefore no statutory constraints would apply to the development in respect of trees.

4.20 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 Wednesday 5th February 2025.

## 5.0 ARBORICULTURAL IMPACT ASSESSMENT

5.1 The following paragraphs present a summary of the tree survey and discussion of particular trees and groups recorded in the context of any proposed development in the form of an Arboricultural Impact Assessment in accordance with section 5.4 of BS5837. Any final tree retentions will need to be reconciled with the advice contained within this report.

5.2 The AIA has been based upon the proposed site layout and seeks to outline the relationship between the proposals and the existing trees and hedgerows.

5.3 An overlay of the layout has been incorporated in the Tree Retention Plan to assist in identifying the relationship and any potential conflicts between the proposals and the existing trees and hedgerows. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.

5.4 The design of the layout has been constraint led, and this design approach has resulted in a site layout that has no impact upon the existing tree stock. Access to the site will be gained via the existing track which currently serves as access to agricultural buildings to the east and north of the site.

5.5 All retained trees have been provided with an adequate standoff from any part of the proposed built element of the proposals. Tree cover along the southern boundary and trees situated upon the railway embankment are to be retained. This tree cover will continue to provide screening of the site and obscure views of the development. To further buffer the site, new tree planting could be located along the boundaries of the site.

5.6 From an arboricultural perspective, there is no arboricultural impact of these proposals and by developing the land, there is an opportunity to increase the tree cover on site through new tree planting.

## 6.0 NEW TREE AND HEDGEROW PLANTING

6.1 The landscaping scheme set out in the Landscape Visual Assessment considers the use of native tree species (for their low maintenance requirements and nature conservation value). Species choice should be selected on the basis of their suitability for the final site use.

6.2 When deciding upon suitable tree species, careful consideration would need to be given to the following: ultimate height and canopy spread, form, habit, density of crown, potential shading effect, colour, water demand, soil type and maintenance requirements in relation to both the built form of the new development and existing properties.

6.3 Through careful species selection, the landscape scheme shall reduce the risk of trees being removed in the future on the grounds of nuisance. Nuisance can be perceived in a number of ways and vary from person to person however most commonly, within the context of trees, low overhanging branches, excessive shading, seasonal leaf fall and the misinformed perception that trees close to buildings cause damage.

**Rooting Environment and Soil Volumes**

6.4 The success of any landscaping scheme relies on an adequate provision of a high-quality rooting environment within which trees can thrive and reach their full potential. Planting trees with due care and consideration can, in the long term, provide a greater return on a schemes green investment and ensure trees remain healthy and grow to mature proportions. Healthy mature trees integrate well into the built environment; increase the maturity of the landscape; help provide a natural green and leafy urban environment in which people would want to reside whilst also benefiting local wildlife.

6.5 The planting of trees within confined urban environments should consider the use of appropriately designed planting pits specifically engineered to promote tree health and longevity. Crucially the aim will be to provide an adequate volume of quality soil for roots to suitably develop by calculating the amount of available soil volumes needed and selecting species whose mature size is compatible with the site. This is an integral component of the planning stage (Lindsey & Bassuk, 1991).

**General Planting Recommendations**

6.6 Wherever possible, following discussions with the developer and utility companies, common service trenches should be specified to minimise land take associated with underground service provision and facilitation access for future maintenance.

6.7 Tree planting should be avoided where they may obstruct overhead power lines or cables. Any underground apparatus should be ducted or otherwise protected at the time of construction to enable trees to be planted without resulting in future conflicts.

## 7.0 TREE PROTECTION MEASURES

7.1 Retained trees should be adequately protected during works through the erection of the requisite tree protection measures. These protection measures should be detailed as part of a site-specific Arboricultural Method Statement, which could be imposed as a condition of planning approval.

7.2 Measures to protect trees should follow the guidance in BS5837 and be applied where necessary for the purpose of protecting trees within the site whilst allowing sufficient access for the implementation of the proposed layout. These have been broadly summarised below.

**General Information and Recommendations**

7.3 All trees retained on site should be protected by suitable barriers or ground protection measures around the calculated RPA, crown spread of the tree or other defined constraints of this assessment as detailed by section 6 and 7 of BS5837.

7.4 Barriers should be erected prior to commencement of any construction work and once installed, the area protected by fencing or other barriers will be regarded as a construction exclusion zone.

7.5 Any trees that are not to be retained as part of the proposals should be felled prior to the erection of protective barriers. Particular attention needs to be given by site contractors to minimise damage or disturbance to retained specimens.

7.6 Construction access may take place within the root protection area if suitable ground protection measures are in place. This may comprise single scaffold boards over a compressible layer laid onto a geo-textile membrane for pedestrian movements. Vehicular movements over the root protection area will require the calculation of expected loading and the use of proprietary protection systems.

**Tree Protection Barriers**

7.7 Tree protection fencing should be fit for the purpose of excluding any type of construction activity and suitable for the degree and proximity of works to retained trees. Barriers must be maintained to ensure that they remain rigid and complete for the duration of construction activities on site.

7.8 In most situations, fencing should comprise typical construction fencing panels attached to scaffolding poles driven vertically into the ground, as illustrated in Appendix B.

7.9 Where site circumstances and the risk to retained trees do not necessitate the default level of protection an alternative will be specified appropriate to the level / nature of anticipated construction activity.

**Protection outside the exclusion zone**

7.10 Once the areas around trees have been protected by the barriers, any works on the remaining site area may be commenced providing activities do not impinge on protected areas.

7.11 All weather notices should be attached to the protective fencing to indicate that construction activities are not permitted within the fenced area. The area within the protective barriers will

then remain a construction exclusion zone throughout the duration of the construction phase of the proposed development.

7.12 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles where they are near retained trees.

7.13 Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree stem. No concrete should be mixed within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.

7.14 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.

7.15 Any trees which need to be felled adjacent to or are present within a continuous canopy of retained trees, must be removed with due care (it may be necessary to remove such trees in sections).

## 8.0 TREE MANAGEMENT

8.1 All retained trees should be subjected to sound arboricultural management as recommended within section 8.8.3 of BS5837 Post Development Management of Existing Trees, where there is a potential for public access to satisfy the landowner's duty of care.

8.2 Landowners responsible for trees, especially those within the public domain, have a legal 'duty of care' to ensure that visitors and neighbours of their land are reasonably safe and that nobody comes to harm or injury, by his or her negligence, through taking measures to reduce risks as far as is 'reasonably practical' (The Health and Safety at Work Act 1974).

8.3 To ensure that risks are reduced as far as is 'reasonably practicable' it will be necessary that, a review of the relationship between retained trees and the new development should be undertaken by a qualified arboriculturist to assess the retained tree cover and prepare a schedule of tree works.

8.4 The Occupiers Liability Act (1957 and 1984) also places a 'duty of care' to ensure that no reasonably foreseeable harm takes place due to tree defects. That duty of care should be reasonable, proportionate, and reasonably practicable when managing the risk.

8.5 It is currently expected that a suitably qualified Arboriculturist or tree surveyor should inspect trees with an appropriate level of regularity. The purpose of the inspections is to determine whether a tree could foreseeably cause harm by virtue of its size and physical condition.

8.6 All tree works undertaken should comply with British Standard 3998:2010 and should therefore be carried out by skilled tree surgeons.

8.7 All vegetation and, particularly, woody vegetation proposed for clearance should be removed outside of the bird-breeding season (March - September inclusive) as all birds are protected under the Wildlife and Countryside Act, 1981 (as amended) whilst on the nest. Where this is not possible, vegetation should be checked for the presence of nesting birds prior to removal by an experienced ecologist.

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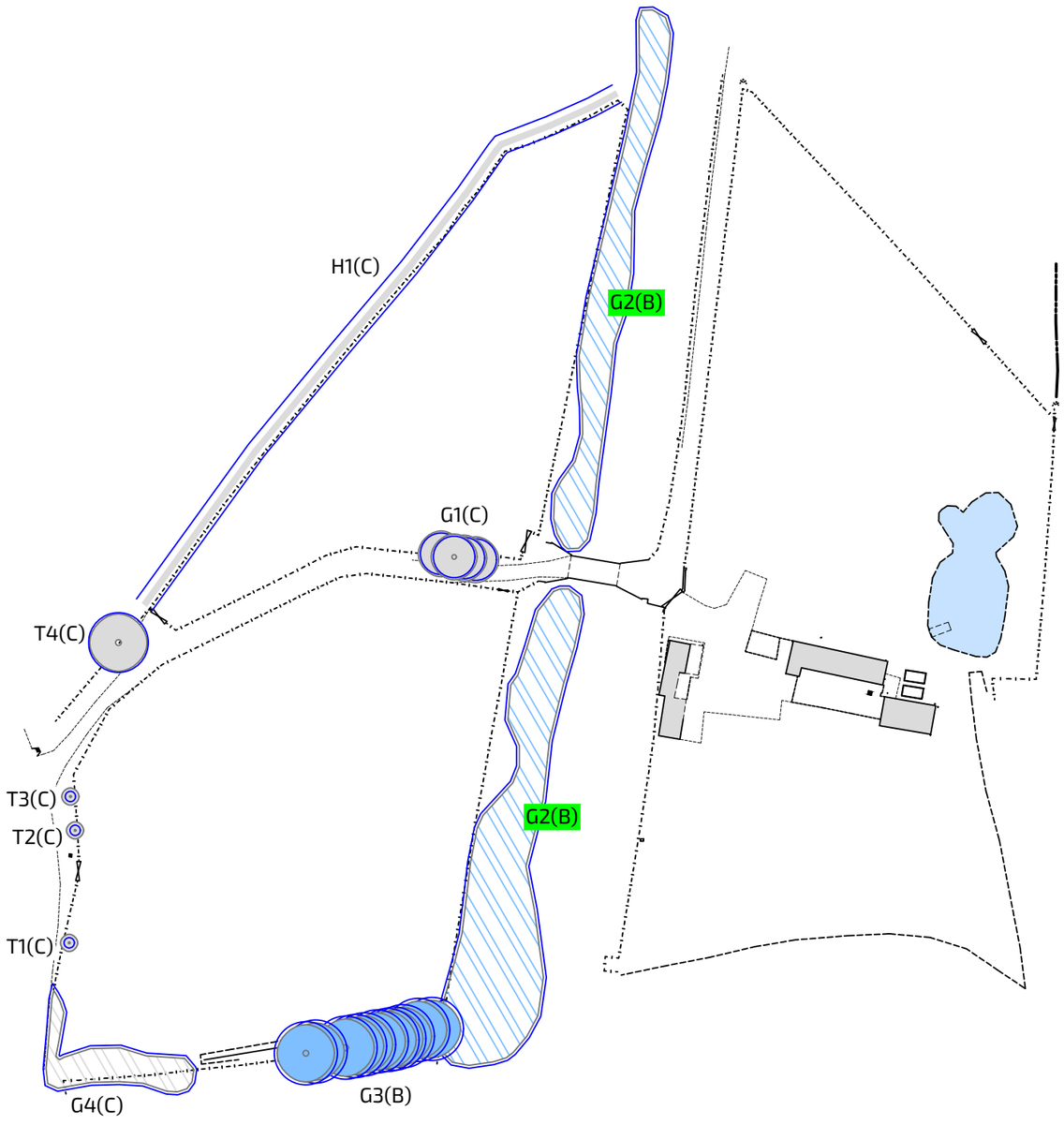


N

0 25 50m

## Notes:

All dimensions to be verified on site. Do not scale this drawing, use figure dimensions only. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.
The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified site prior to and decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculation foundation depths.

- Category B - Trees / Groups of Moderate Quality (BS5837:2012)
- Category C - Trees / Groups of Low Quality (BS5837:2012)
- Hedgerow
  Colour Indicates BS5837:2012 Category
- Root Protection Area
- T1(A) G1(A) Individual/Group number and BS5837:2012 Category

| rev | date | description | drwn/chkd |
|---|---|---|---|
| - | 13.02.25 | First Issue | AW / HCT |
| A | 01.05.25 | Updated Client Name | AW / HCT |
| B | 08.05.25 | Updated Survey Area | AW / HCT |

client

**JT Energy Storage Ltd (Windel Energy)**

project

**JT Energy Storage**

title

**TREE SURVEY PLAN**

scale

1:1000 @ A3

number

13156-T-01

status

-

rev

B

FPCR | environment & design

L:\13100\13156\ARB\Plans\Tree Survey Plan.dwg
t: 01509 672772 e: mail@fpcr.co.uk w: www.fpcr.co.uk

N

0 25 50m

## Notes:

All dimensions to be verified on site. Do not scale this drawing, use figure dimensions only. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.
The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified site prior to and decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculation foundation depths.

Tree/Group to be Retained

Hedgerow Proposed to be Retained and Incorporated into the New Development

Root Protection Area
(Shown for retained trees only)

T1 (A)
G1 (A)

Individual / Group Number and BS Category

| rev | date | description | drwn/chkd |
|---|---|---|---|
| - | 05.03.25 | First Issue | AW / HCT |
| A | 17.04.25 | Updated Layout | AW / HR |
| B | 01.05.25 | Updated Client Name | AW / HR |
| C | 08.05.25 | Updated | AW / HR |

client

**JT Energy Storage Ltd (Windel Energy)**

project

**JT Energy Storage**

title

**TREE RETENTION PLAN**

scale

1:1000 @ A3

number

13156-T-02

status

-

rev

C

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# Appendix A - Tree Schedule

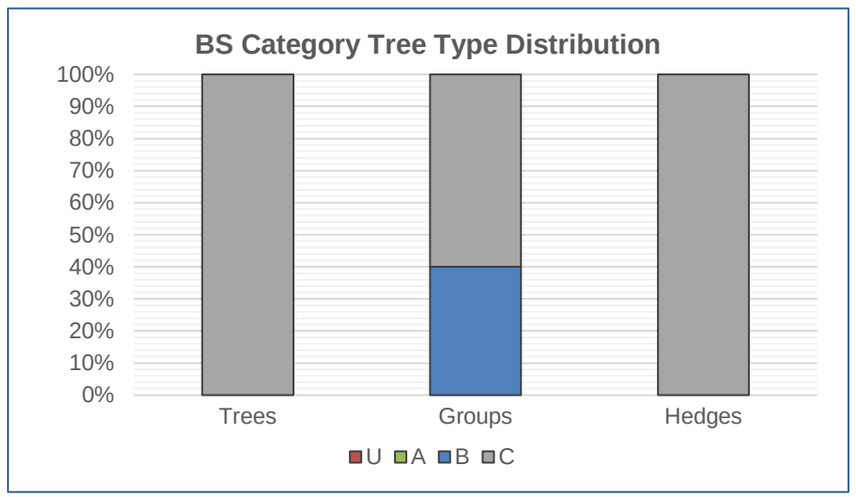
| Measurements | Age Classes | Quality Assessment of BS Category | ULE (relates to BS Category) |
|---|---|---|---|
| **Height -** Measured using a digital laser clinometer (m) | **YNG**: Establishing, typically with good vigour and fast growth rates and strong apical dominance; c. less than 1/3 life expectancy | **Category U -** Trees 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. | <10 years |
| **Stem Dia. -** Diameter measured (mm) in accordance with Annex C of the BS5837 | **SM:** Semi-mature trees less than 1/3 life expectancy | **Category A -** Trees of high quality with an estimated remaining life expectancy of at least 40 years. | 40+ years |
| **Crown Radius -** Measured using a digital laser clinometer radially from the main stem (m) | **EM:** Established, typically vigorous and increasing in apical height and lateral spread; 1/3 - 2/3 life expectancy. Offers landscape significance | **Category B -** Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. | 20-40 years |
| **Abbreviations**<br><br>est - Estimated stem diameter<br>avg - Average stem diameter for multiple stems<br>upto - Maximum stem diameter of a group | **M:** Fully established over 2/3 life expectancy, generally good vigour and achieving full height potential with crown still spreading | **Category C -** Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. | 10-20 years |
| | **OM:** Fully mature, at the extremes of expected life expectancy, vigour decreasing, declining or moribund | Sub-categories: (i) - Mainly arboricultural value<br>(ii) - Mainly landscape value<br>(iii) - Mainly cultural or conservation value | |
| | **V:** biological, cultural or aesthetic value comprising niche saproxylic habitat. Individuals of large proportions (stem girth) in comparison to trees of the same species/surviving beyond the typical age range for their species. | **The BS category particular consideration has been given to the following:**<br>• The presence of any structural defects in each tree/group and its future life expectancy<br>• The size and form of each tree/group and its suitability within the context of a proposed development<br>• The location of each tree relative to existing site features e.g. its screening value or landscape features<br>• Age class and life expectancy | |

| Structural Condition | Physiological Condition | Root Protection Area (RPA) |
|---|---|---|
| **Good -** No significant structural defects | **Good -** No significant health problems | • The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m).<br><br>• The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected.<br><br>• Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped. |
| **Fair -** Structural defects that can be remediated | **Fair -** Symptoms of ill-health that can be remediated | |
| **Poor -** Significant defects beyond remediation, present a risk of failure in the foreseeable future | **Poor -** Significant ill-health. Unlikely the tree will recover in the long term | |
| **Dead -** Dead tree with structural integrity of tree severely compromised | **Advanced Decline / Dead -** Advanced state of decline and unlikely to recover or Dead | |

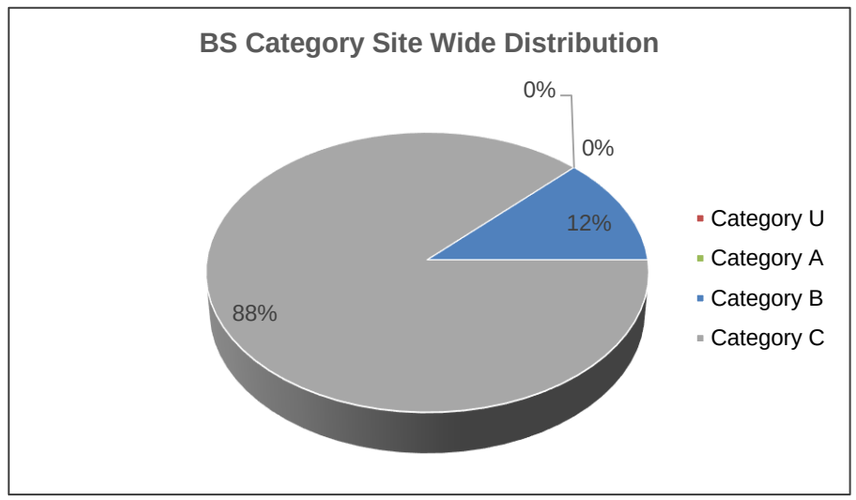
## Appendix Summary

| | Individual Trees | Totals | Tree Groups and Hedgerows | Totals |
|---|---|---|---|---|
| **Category U** | | 0 | | 0 |
| **Category A** | | 0 | | 0 |
| **Category B** | | 0 | G2, G3 | 2 |
| **Category C** | T1, T2, T3, T4 | 4 | G1, G4, H1 | 3 |
| | **Total** | 4 | **Total** | 5 |

**BS Category Tree Type Distribution** displays the proportion of trees assessed in each type to enable a better understanding of the category distribution.



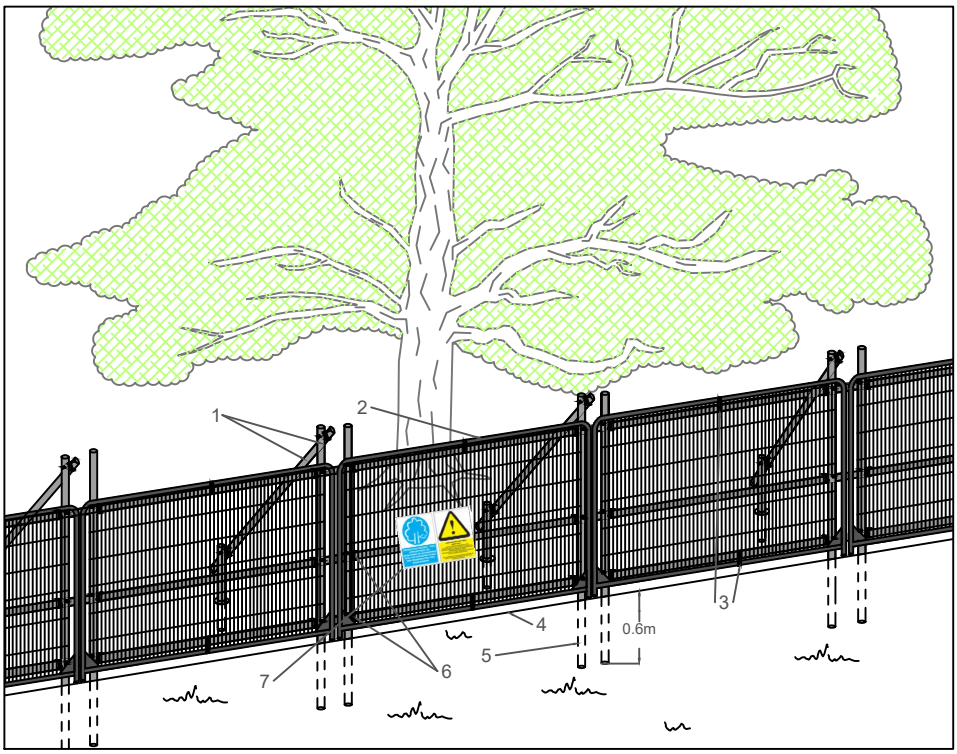

**BS Category Site Wide Distribution** shows the proportion of trees assessed in each category across the whole site which allows an interpretation of the site's overall quality.



| Tree No | Species | Height | Stem Dia. | Crown Radius | Age Class | Overall Condition | Structural Condition | RPA | RPA Radius | BS5837 Cat |
|---|---|---|---|---|---|---|---|---|---|---|
| **INDIVIDUAL TREES** | | | | | | | | | | |
| T1 | Hawthorn<br>Crataegus monogyna | 4 | est 6x 30 | 1.5 | M | F | Remnant of hedgerow<br>Typical form and features | 2 | 0.9 | C (i) |
| T2 | Hawthorn<br>Crataegus monogyna | 4 | est 6x 30 | 1.5 | M | F | Remnant of hedgerow<br>Typical form and features | 2 | 0.9 | C (i) |
| T3 | Hawthorn<br>Crataegus monogyna | 4 | est 6x 30 | 1.5 | M | F | Remnant of hedgerow<br>Typical form and features | 2 | 0.9 | C (i) |
| T4 | Ash<br>Fraxinus excelsior | 12 | est 280 280 | 5 | M | F | Twin stemmed from base<br>Farm access track to south<br>Extensive epicormic growth | 71 | 4.8 | C (i) |

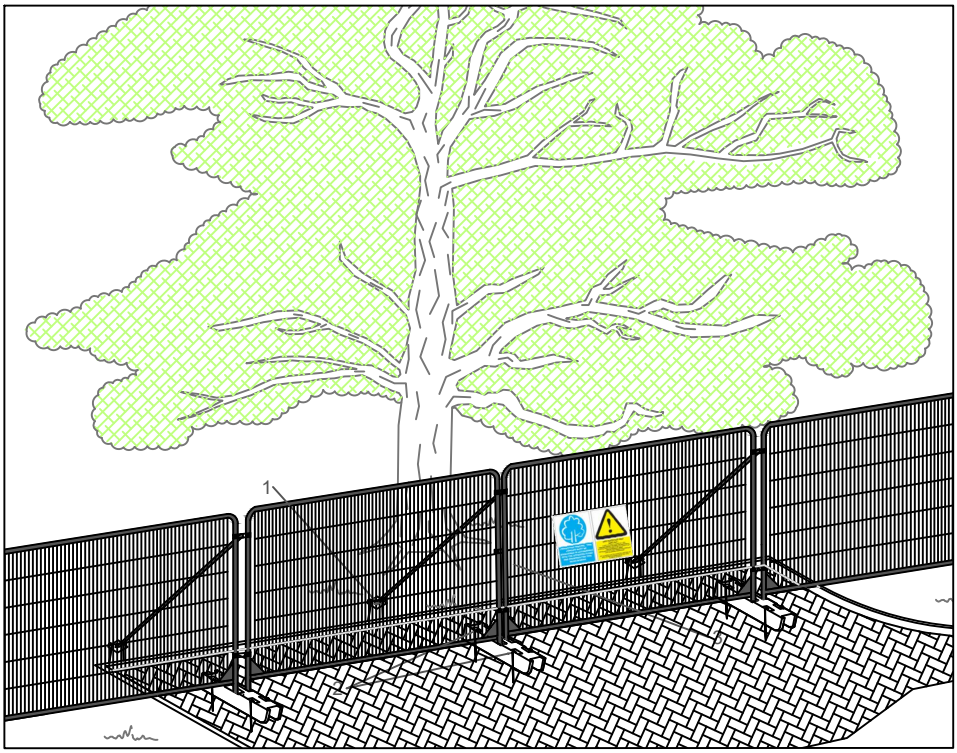
| Group No | Species | Height | Stem Dia. | Crown Radius | Age Class | Overall Condition | Structural Condition | RPA | RPA Radius | BS5837 Cat |
|---|---|---|---|---|---|---|---|---|---|---|
| **GROUPS OF TREES** | | | | | | | | | | |
| G1 | Ash<br>Fraxinus excelsior | 14 | est<br>300 | 4 | M | P / F | Access track directly south of stems<br>Linear group of lapsed coppices<br>Interlocking crowns with extensive deadwood throughout<br>Epicormic growth | 41 | 3.6 | C (ii) |
| G2 | Blackthorn<br>Prunus spinosa<br>Crack Willow<br>Salix fragilis<br>Elder<br>Sambucus nigra<br>Hawthorn<br>Crataegus monogyna | 10 | est<br>300 | 5 | M | F | Group of self set trees upon embankment<br>Provides screening and separation of the individual parcels of land that make up the assesment area<br>Scrubby forms for the most part with occasional single stemmed individual being noted | 41 | 3.6 | B (ii) |
| G3 | Ash<br>Fraxinus excelsior<br>Hawthorn<br>Crataegus monogyna<br>Sycamore<br>Acer pseudoplatanus | 16 | est<br>450 | 5 | EM / M | F | Linear group of trees running along southern edge of site<br>Ash and sycamore with understory of hawthorn<br>No obvious major defects | 92 | 5.4 | B (ii) |
| G4 | Elder<br>Sambucus nigra<br>Hawthorn<br>Crataegus monogyna | 3 | est<br>120 | 2 | M | P / F | Sporadic self set group situated within southern corner of the site<br>Limited arboricultural or landscape value | 7 | 1.4 | C (ii) |

| Hedge No | Species | Height | Stem Dia. | Crown Radius | Age Class | Overall Condition | Structural Condition | RPA | RPA Radius | BS5837 Cat |
|---|---|---|---|---|---|---|---|---|---|---|
| **HEDGEROWS** | | | | | | | | | | |
| H1 | Elder<br>Sambucus nigra<br>Hawthorn<br>Crataegus monogyna | 4.5 | avg<br>140 | 0.5 | M | F | Boundary hedgerow<br>Maintained by flail | 9 | 1.7 | C (ii) |




## Specification for High Intensity Protection Barrier

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3. Panels secured to scaffold frame with wire ties
4. Ground level
5. Uprights driven into the ground until secure (min depth of 0.6m)
6. Standard scaffold clamps
7. Construction Exclusion Zone signs




## Specification for Low Intensity Protection Barrier

1. Stabiliser strut with base plate secured with ground pins
2. Feet blocks secured with ground pins
3. Construction Exclusion Zone signs

## APPENDIX B
## PROTECTIVE FENCING SPECIFICATIONS



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