



**BS 5837:2012 ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT**

*at*

**LAND AT BUXTON LEISURE CENTRE**

*prepared for*

**LEISURE ENERGY**

*by*

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**QUALITY MANAGEMENT**

|                      |                              |
|----------------------|------------------------------|
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## **1. INTRODUCTION**

### **PURPOSE AND SCOPE OF THE SURVEY**

- 1.1 Leisure Energy, have commissioned epd (part of Glendale Countryside) to conduct an Arboricultural Impact Assessment (AIA) and produce a Method Statement to British Standard (BS) 5837:2012. The assessment was undertaken to inform a application for works at the Buxton Leisure Centre.
- 1.2 The purpose of this report is to demonstrate how the tree constraints have been considered in, and influenced the location of cabling and associated trenching works from the leisure centre to the carpark. It also provides the local authority with the necessary information to assess the tree issues associated with the application.
- 1.3 The aim is to present the information in a manner that can easily be understood by people without specific knowledge of tree related matters.

### **THE SITE**

- 1.4 The site is located in Buxton at the leisure centre adjacent to the A53.

### **PROPOSED DEVELOPMENT**

- 1.5 The Proposals comprise the erection of solar panels on the roof of the leisure centre and the installation of the associated cabling, infrastructure and packaged plant located in the car park.

### **SITE VISIT, DATA COLLECTION AND TREE PLANS**

- 1.6 The pre-development survey and assessment of the trees on site was undertaken in accordance with the British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' (BS5837:2012).
- 1.7 The tree data collected from the Site is set out in the attached tabulated Tree Survey Schedule (TSS) at **Appendix B**.
- 1.8 The survey identified 10 individual trees (prefixed 'T'). The surveyed vegetation has been numbered accordingly on the Tree constraints Plan (TCP), Tree Removal Plan (TRP) and Tree Protection Plan (TPP), (see **Appendix D accordingly**).
- 1.9 The TCP details the existing Site with the readily definable tree constraints, whilst the TRP and TPP also has an overlay of the development proposals along with associated projected tree related impacts. The plans are based on existing site data and proposed Site plans that were provided in electronic format by the Clients engineer, and for the purpose of this report, it is assumed that these are accurate.

## **2. LEGISLATION IN RESPECT OF TREES AND ASSOCIATED WILDLIFE**

### **TREE PRESERVATION ORDERS AND CONSERVATION AREA DESIGNATIONS**

- 2.1 Due to the overall listed status of park area, the trees within the site are deemed to be subject to a Tree Preservation Order (TPO). Trees that are protected by TPO require the express permission of the local district authority and/or their acting tree officer before any works may be carried out on them. Trees existing within a conservation area are protected by Section 211 of the Town and Country Planning Act 1990, in that anyone wishing to carry out work of any kind on such trees is required to submit a Section 211 application with the Local Authority, allowing

six weeks' notice for any works. During such time, the Local Authority may assess such trees with a view to issuing further protection via TPO's if considered necessary.

#### PROTECTED SPECIES

- 2.2 Prior to the commencement of any tree works, the trees should be assessed for the presence of protected species, some of which are subject to the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017.
- 2.3 Where there is evidence that bats, birds or other protected species are present, the advice of a suitably qualified ecologist should be sought.
- 2.4 If tree works are carried out during the bird nesting season (March to August inclusive), trees would need to be inspected by a qualified ecologist within the 24 hour period prior to the commencement works.

### 3. THE TREE POPULATION

- 3.1 The Site is described in Section 1.0 of this Report. As noted previously, 10 individual trees were surveyed for the purpose of this assessment. There are a limited range of tree species on, and immediately adjacent to, the Site, with Common Yew making up 50% of the tree species.
- 3.2 The trees on-Site are either mature or semi mature, with varying heights, the tallest individual tree recorded at a height of 22m.
- 3.3 The largest diametrical crown spread was for an individual Yew tree at 10 m.
- 3.4 Detailed tree dimensions and other pertinent information, such as structural defects and physiological deficiencies, are included in the TSS in Appendix B. In respect to the TSS, it should be noted that tree quality is categorised within the existing Site context without taking any development proposals into account. However, recommendations for works included in the TSS takes both current Site usage into consideration and the proposed Site development where there are definable development related issues with regards to specific trees. The TSS includes a column ('Category Value') listing the trees' respective retention values, where they are rated either 'A', 'B', 'C' or 'U', as per BS5837:2012 Table 1 (Appendix B). 'A' category trees are those considered to be of 'high quality' therefore the most suitable for retention. 'B' category trees are those considered to be of 'moderate quality'. As detailed in Table 1 (below), 'C' category tree are those unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories. 'U' category trees are those 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.

- 3.5 Table 1. below lists the number of trees and their tree/group number for each category.

Table 1: BS5837-2012 Retention Categories of the Surveyed Trees

| Tree Quality                                                                                                        | Ret. Cats. | Tree/Group Numbers         | Totals |
|---------------------------------------------------------------------------------------------------------------------|------------|----------------------------|--------|
| Those of a moderate or high quality that should be afforded appropriate consideration in the context of development | 'A'        |                            | 0      |
|                                                                                                                     | 'B'        | T3, T5, T10                | 7      |
| Those of a low quality that should not be considered a material constraint to development                           | 'C'        | T1, T2, T4, T6, T7, T8, T9 | 3      |
| Those that should be removed for management reasons regardless of site proposals                                    | 'U'        |                            | 0      |
| Totals                                                                                                              |            |                            | 10     |

- 3.6 Accordingly, the tree data has been overlaid on the development plan provided by the engineer (August 2023) in order to appraise the projected impacts that the development will potentially have on the Site vegetation, and the trees to be removed are shown on the TRP.

#### Projected Arboricultural Losses Relating to the Proposal

- 3.7 Implementation of the proposed development as it stands is projected to require the removal of the following trees detailed in Table 2 and on the TRP.

Table 2: Arboricultural Impacts of Proposed Development and Other Tree Removal Proposals

| Tree Quality                                                                                                        | Ret. Cats. | Removals necessary to implement development | Removals suggested for non-development related reasons | Total number of tree removals |
|---------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------|--------------------------------------------------------|-------------------------------|
| Those of a moderate or high quality that should be afforded appropriate consideration in the context of development | 'A'        | N/A                                         |                                                        | 0                             |
|                                                                                                                     | 'B'        | 0                                           | 0                                                      | 0                             |
| Those of a low quality that should not be considered a material constraint to development                           | 'C'        | T2                                          | 0                                                      | 1                             |
| Those that should be removed for management reasons regardless of site proposals                                    | 'U'        | N/A                                         |                                                        | 0                             |
| Totals                                                                                                              |            |                                             |                                                        | 1                             |

#### Potential Impacts on Retained Trees

- 3.8 The proposals require the removal of one existing Tulip tree (T2) to provide sufficient space for the new pipework from the carpark to the building. All other trees are to be retained. It should be noted T2 is a Cat. C tree and is a poor example of its species.

#### Mitigation for Projected Tree Losses

- 3.9 It is proposed to plant a like for like species standard tree within the soft verge slightly away from where the works are taking place.

## 4. SUMMARY AND CONCLUSIONS

- 4.1 The site is located at Buxton leisure centre, 10 individual trees were surveyed in respect of the proposed development of the Site. Two retention categories throughout the site (B and C) where recorded.
- 4.2 The Proposals comprise the erection of solar panels on the roof of the leisure centre and the installation of the associated cabling, infrastructure and packaged plant located in the car park.

- 4.3 An evaluation of the proposed development in the context of the existing Site has indicated that it will be necessary to remove one tree. There will be no trees lost with high or moderate value. It is proposed to plant a like for like species standard tree within the soft verge slightly away from where the works are taking place to replace the tree lost to the works. In order to ensure successful existing tree preservation, it is essential that the retained trees are protected in strict accordance with current Government guidance and the recommendations included herein.

#### **ARBORICULTURAL METHOD STATEMENT**

### **5. RECOMMENDATIONS FOR SUCCESSFUL TREE RETENTION IN THE CONTEXT OF DEVELOPMENT**

- 5.1 Tree protection fencing is to be installed prior to any construction works taking place. This is to avoid damage to trees and preserve soil structure. The default BS5837 specification for fencing will be used and an indicative specification is provided in Appendix C. The location of protection barriers is shown on the Tree Protection Plan 23-011-03
- 5.2 Any site offices, welfare units, and storage areas will respect the trees and their RPAs. These will be sited outside tree protection areas and their locations agreed onsite.
- 5.3 The fenced area will form a Construction Exclusion Zone and must remain undisturbed for the entire duration of construction. All site operatives will be made aware of the need to respect the fencing, and signage will be fixed to the fencing to ensure it is not moved.
- 5.4 Service runs and installation of utility cables also need to respect trees and their RPAs. If any conflicts are highlighted, then the advice of either a consultant arboriculturist or the council Arboricultural Officer will be obtained.
- 5.5 The following precautions will be observed when working near to the Construction Exclusion Zone:
- No spoil, plant, machinery, construction materials or vehicles will track or be stored within the fenced area or leant against the fence panels;
  - No fuel, chemical or other contaminated liquids must be discharged in proximity to trees or where it may flow toward tree RPA;
  - No construction activity of any kind will take place within the fenced areas and fencing must not to be moved; and
  - Damage to fencing must be reported to the site manager and rectified as soon as possible. All fencing will be maintained so that it is fit for purpose.
  - All works in relation to T4 to be undertaken by an air space or hand dig.

#### **Underground Utilities**

- 5.6 Where utilities need to be brought onto the site, these should be routed away from the RPAs of retained trees. Where this is not possible, methodologies on the installation of underground services without damage to tree roots should be considered.
- 5.7 All service providers should be consulted prior to commencement of works with the aim of minimising the number of service runs on the site. Any foreseeable incursions to RPAs should be

communicated to the appointed arboricultural consultant and the LPA at the earliest possible time to prevent breach of planning conditions and damage to retained trees.

Tree Protection Plan, Temporary Protective Fencing Specification and Construction **Appendix C & D**

- 5.8 This includes a Tree Protection Plan showing the tree protection fencing and Construction Exclusion Zones (CEZ's. A Temporary Protective Fencing Specification and Tree Protection Index which specifies the type of fencing,

**6. OTHER RECOMMENDATIONS**

Non-Development Related Tree Works and Recommendations

- 6.1 Any general management pruning works for retained trees that are stated to be non-development related, as detailed in the TSS, are recommended in accordance with prudent arboricultural management and should, therefore, be carried out regardless of any development proposals and potential changes in land usage associated with the Site. All tree works should be carried out in accordance with BS3998:2010 - Tree Work – Recommendations.

- 6.2 Tree Work Related Consents No tree pruning nor removal works should commence on-Site until necessary consents have been obtained from the LPA.

Arboricultural Contractors

- 6.3 All tree works should be carried out by suitably qualified and experienced arboricultural contractors carrying appropriate public liability insurance cover and be implemented to the minimum current UK industry standards and in accordance with industry codes of practice. Only certificated personnel should, in accordance with The Control of Pesticides Regulations, apply any pesticides.

New Tree Planting

- 6.4 All tree planting at the Site should be carried out in accordance with a softworks specification.

**APPENDICES**

**Appendix A References**

**Appendix B BS5837:2012 Tree Schedule**

**Appendix C Temporary Protective Fencing Specification and Construction**

**Appendix D Tree Constraints Plan. Tree Removal Plan & Tree protection Plan**

**APPENDIX A – REFERENCES**

- BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations. BSI, London

**APPENDIX B – TREE SURVEY SCHEDULE**

| Tree number | Species<br>Tree age       | Estimated height (metres) | Average crown width (metres) | Dbh cm @1.5m | Number of trees and group description (groups) | Physiological condition<br>Structural condition | Amenity value<br>Longevity                                                                           | Work Description | Notes                                                                                                                                                                                                  |
|-------------|---------------------------|---------------------------|------------------------------|--------------|------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| T1          | Laurel<br>Semi mature     | 5                         | 4                            | 28           | N/A                                            | Normal<br>Normal                                | C - Low - Poor<br>example of species and or not prominent - Not Noteworthy<br><br>More than 40 years | Nothing to note  | No significant defects observed                                                                                                                                                                        |
| T2          | Tulip Tree<br>Semi mature | 12                        | 5                            | 29           | N/A                                            | Normal<br>Fair                                  | C - Low - Poor<br>example of species and or not prominent - Not Noteworthy<br><br>More than 40 years | Nothing to note  | Asymmetric crown, with slight lean (15 degrees) to the north east. This is consistent with suppression and crowding caused by a recently removed mature cypress spp to the west.<br><br>Minor deadwood |

|    |                          |     |    |    |     |                  |                                                                                                                  |                 |                                                                                                   |
|----|--------------------------|-----|----|----|-----|------------------|------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------|
| T3 | Juniper spp.<br>Mature   | 1.6 | 3  | 17 | N/A | Normal<br>Normal | B - Medium<br>More than 40<br>years                                                                              | Nothing to note | Evidence of<br>previous reduction<br>work                                                         |
| T4 | Common Yew<br>Mature     | 7   | 8  | 45 | N/A | Fair<br>Normal   | C - Low - Poor<br>example of<br>species and or<br>not prominent -<br>Not Noteworthy<br><br>More than 40<br>years | Nothing to note | Asymmetric crown<br>due to suppression<br>from recently<br>removed cypress.<br><br>Minor deadwood |
| T5 | Lawson Cypress<br>Mature | 22  | 10 | 73 | N/A | Normal<br>Normal | B - Medium<br>20 to 40 Years                                                                                     | Nothing to note | Evidence of pruning<br>to low crown to<br>obtain clearance<br>from adjacent<br>building           |

|    |                      |    |   |    |     |              |                                                                                                              |                 |                                                                                                             |
|----|----------------------|----|---|----|-----|--------------|--------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------|
| T6 | Common Yew<br>Mature | 10 | 7 | 66 | N/A | Fair<br>Fair | C - Low - Poor<br>example of<br>species and or<br>not prominent -<br>Not Noteworthy<br>More than 40<br>years | Nothing to note | Wounds to surface<br>roots<br><br>Minor epicormic<br>growth to 1.5m<br><br>Suppressed within<br>wooded area |
| T7 | Common Yew<br>Mature | 10 | 5 | 48 | N/A | Fair<br>Fair | C - Low - Poor<br>example of<br>species and or<br>not prominent -<br>Not Noteworthy<br>More than 40<br>years | Nothing to note | Wounds to surface<br>roots<br><br>Historic pruning<br>wounds to lower<br>crown                              |
| T8 | Common Yew<br>Mature | 12 | 8 | 70 | N/A | Fair<br>Fair | C - Low - Poor<br>example of<br>species and or<br>not prominent -<br>Not Noteworthy<br>More than 40<br>years | Nothing to note | Wounds to surface<br>roots<br><br>Historic pruning<br>wounds to lower<br>crown                              |

|     |                      |    |   |    |     |                |                                                                                                              |                 |                                    |
|-----|----------------------|----|---|----|-----|----------------|--------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------|
| T9  | Common Yew<br>Mature | 10 | 9 | 78 | N/A | Fair<br>Fair   | C - Low - Poor<br>example of<br>species and or<br>not prominent -<br>Not Noteworthy<br>More than 40<br>years | Nothing to note | Wounds to surface<br>roots         |
| T10 | Common Yew<br>Mature | 22 | 9 | 65 | N/A | Normal<br>Fair | B - Medium<br>More than 40<br>years                                                                          | Nothing to note | No significant<br>defects observed |

## **APPENDIX C – TEMPORARY PROTECTIVE FENCING SPECIFICATION**

- Construction Exclusion Zones (CEZ's), enclosed by temporary protective fencing, as detailed on the TPP and to be agreed with the local planning authority (LPA), shall:
- be retained in place throughout the development process, as detailed in BS5837:2012 ;
- be sited in the area(s) defined by the root protection areas or, if applicable, the CEZ, as detailed on the TPP;
- be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
- preclude any delivery of site accommodation and/or materials and/or plant machinery;
- exclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties including the LPA; and
- exclude the storage of all development related materials and substances associated with the works.

## **TEMPORARY PROTECTIVE FENCING CONSTRUCTION**

The construction of the temporary protective fencing will be in accordance with BS 5837: 2012 and will comprise:

- weld mesh panel fencing:
- the panels shall butt together and be securely fixed to a scaffold framework;
- the scaffold framework shall comprise of upright poles of at least 3.0 m in length driven no less than 0.6 m into the ground at maximum 3.0 m centres with horizontal and diagonal poles fixed to the uprights;
- the two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 m with 3 no. clamps to each joint;
- the diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45° angle and extend back into the CEZ and clamped to a 0.7 m length of scaffold tube that shall be driven no less than 0.5 m into the ground;
- all weather signage outlining the status of the CEZ should be securely fixed to the fencing.
- the fencing is to be inspected at regular intervals during construction
- the fencing shall not be fixed to any tree or structure and is only to be constructed as per points 1 to 5 above.

Also see the diagram on the Tree Protection Plan drawing 23-011-03

**APPENDIX D TREE CONSTRAINTS PLAN. TREE REMOVAL PLAN, TREE PROTECTION PLAN** (see appendix D, drawings 23-011-01, 02 & 03) PL01