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environmental consultants

BS 5837:2012 Arboricultural Impact Assessment and Arboricultural Method Statement

Barnsley Business and Innovation Centre
for:

EDGE PS Limited

SHF.1717.001.Ar.R.001.A

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BS 5837:2012 Arboricultural Impact Assessment and Arboricultural Method Statement

Project:	Barnsley Business and Innovation Centre
For:	EDGE PS Limited
Status:	Rev. A
Date:	October 2019
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Reviewer:	Graham Bailey BSC, DIP,CMLI – Associate Director Landscape

Contents

1.0 Non-Technical Summary

1.1 Arboricultural Survey

1.1.1 The site is the north-western part of Barnsley Business and Innovation Centre and comprises a car park, amenity grass and semi-mature trees and tree groups. The tree survey for the site was prepared by Access Ecology in April 2017, recording 19 individual trees and six tree groups within the site and within 15m of the site boundary. They are young and semi-mature trees in good to fair condition and of low and moderate value. None of the trees are protected by Tree Preservation Order or fall within the boundaries of any Conservation Area.

1.2 Development Proposals

1.2.1 The Client proposes the erection of an Innovation Centre with a mix use of offices and workshop units in the north-western corner of the site, which includes the reconfiguration of the existing car park. Existing car parking near the south-western and the eastern boundary will be extended.

1.3 Arboricultural Impact Assessment

1.3.1 The development will require the removal of five trees and one tree group, and the reduction of two large tree groups on the north-west boundary by 20% and 40% respectively which is expected to have a moderate impact on views into the site from Innovation Way in the North.

1.3.2 Operations linked to the development are further expected to have an adverse effect on any retained trees on site unless adequate protection measures are provided.

1.4 Arboricultural Method Statement

1.4.1 The erection of a protective barrier will be required to safeguard any retained trees during the construction of the new building and the car park.

1.4.2 Replacement tree and shrub planting should be specified by the Project Landscape Architect with a focus on screening the site from the North.

2.0 Objectives

2.1 Introduction

2.1.1 Enzygo Limited [Enzygo] have been commissioned by Edge PS Limited to prepare an Arboricultural Impact Assessment and Arboricultural Method Statement for the proposals to build an Innovation Centre off Innovation Way in Rotherham.

2.1.2 This report should assist both the client, their design team and decision makers in understanding the impact of the development proposals both on trees on and in close proximity to the site and subsequent effects on the wider landscape and which measures should be in place to adequately protect retained trees.

2.2 Structure of the Report

2.2.1 **Chapter 2.0** provides a brief description of the site and its location as well as a summary of the existing Arboricultural Survey report on which this report is based.

2.2.2 **Chapter 3.0** gives a brief description of the development and details the direct and indirect impact the proposals are expected to have on existing trees.

2.2.3 **Chapter 4.0** provides full details of any methodologies to be adopted in order to adequately protect any retained trees during construction and safeguard the health and safety of the trees in the future. It further makes recommendations for the mitigation of any adverse arboricultural impact.

2.3 Site Overview

2.3.1 The site is located off Innovation Way, approximately 2km north-west of Barnsley town centre. It is part of the existing Barnsley Business and Innovation Centre and comprises existing commercial buildings, car parking, amenity grass and semi-mature tree and shrub planting.

2.3.2 The site falls within the Barnsley Metropolitan District.

2.4 Arboricultural Survey

2.4.1 An Arboricultural Survey Report to BS 5837:2012 covering all trees both within the development site as well as within 15m of the site boundary was prepared by Access Ecology in April 2017.

2.4.2 They 25 young and semi-mature trees and tree groups in good to fair condition and of low and moderate value. The wide range of species found on site comprise native and non-native species including Corsican pine, alder, Norway maple and birch.

2.4.3 None of the trees are protected by Tree Preservation Order or fall within the boundaries of any Conservation Area.

2.4.4 The report includes a full tree survey schedule which describes each tree in accordance with BS 5837:2012 clause 4.4.2.

2.5 Project Description

2.5.5 It is understood the planning application is for the erection of an Innovation Centre (BBIC) with a mix use of offices and workshop units as well as car parking and landscaping. Existing car parking in the south-western corner as well as along the eastern boundary will be extended.

2.5.6 Further details regarding the proposed development can be found in the information submitted with the planning application, Barnsley Planning ref. 2017/0571.

3.0 Arboricultural Impact Assessment (AIA)

3.1 Development proposals

3.1.1 This AIA is based on the development proposals as shown on AAD Architects' Proposed Site plan received 10th September 2019.

3.2 Tree removal

Building construction and hard landscape installation

3.2.1 Five trees (T4, T8, T24 and two trees within group T11-T18) and one tree group (G5) will need to be removed entirely to facilitate building construction and the car park extension. In addition, the southern sections of G3, G9 and G10 require removal to facilitate access to the building footprint and construction of the new car park along the northern boundary of the site.

3.2.1 Whilst the impact of the removal of G5, located in the centre of the site, is considered to be negligible, the partial removal of G3, G9 and G10 as well as trees T4 and t8 is expected to open a gap in the green screen along the northern boundary, with moderate effects on views from Innovation Way.

3.3 Residual impact of development on retained trees

3.3.1 Construction operations near retained trees are likely to cause accidental damage of tree trunks and low hanging branches of trees along the northern and western site boundary.

3.3.2 The extension of the car parking areas along the eastern site boundary may cause a reduction in what is expected to be the trees' Root Protection Area. However, as the trees are relatively young and of good vitality, it is recommended to retain these trees as they have a good chance to mitigate any root loss by growing new roots away from the car park. No dig construction is considered impractical given the limited impact and the age of the trees affected.

3.4 Recommendations

3.4.1 All methodologies specified in the Arboricultural Method Statement (AMS) in Chapter 4.0 should be implemented to ensure any retained trees are adequately protected during construction. All site managers and site operatives should be aware of the potential impact of the works on retained trees and follow the protection methodologies specified in Chapter 4.0.

3.4.2 Where the effects of tree removal are significant, replacement tree planting should be specified by the Project Landscape Architect with a focus on native species and/or species already present on site and within the local area where appropriate.

4.0 Arboricultural Method Statement (AMS)

This AMS should be read in conjunction with Appendix 1 – Tree Protection Plan.

4.1 Tree Removal and Access Facilitation Pruning

4.1.1 Prior to the site being set-up, a qualified arborist will remove only the trees listed in 3.2 above and carry out any tree works included in the Preliminary Management Recommendations of the Tree Survey Schedule (refer to Tree Survey report by Access Ecology report by dated April 2017).

4.1.2 Any tree works should be carried out in accordance with *BS 3998:2010- Tree works recommendations*. To find a suitably qualified tree surgeon, please refer to the Arboricultural Association's list of Registered Contractors.

4.1.3 Any tree works proposed in the respective survey season should be preceded by a nesting bird and roosting bat check carried out by a suitably qualified ecologist.

4.1.4 Canopies overhanging the proposed new car parking areas should be lifted to 3m height.

4.2 Protective Barrier

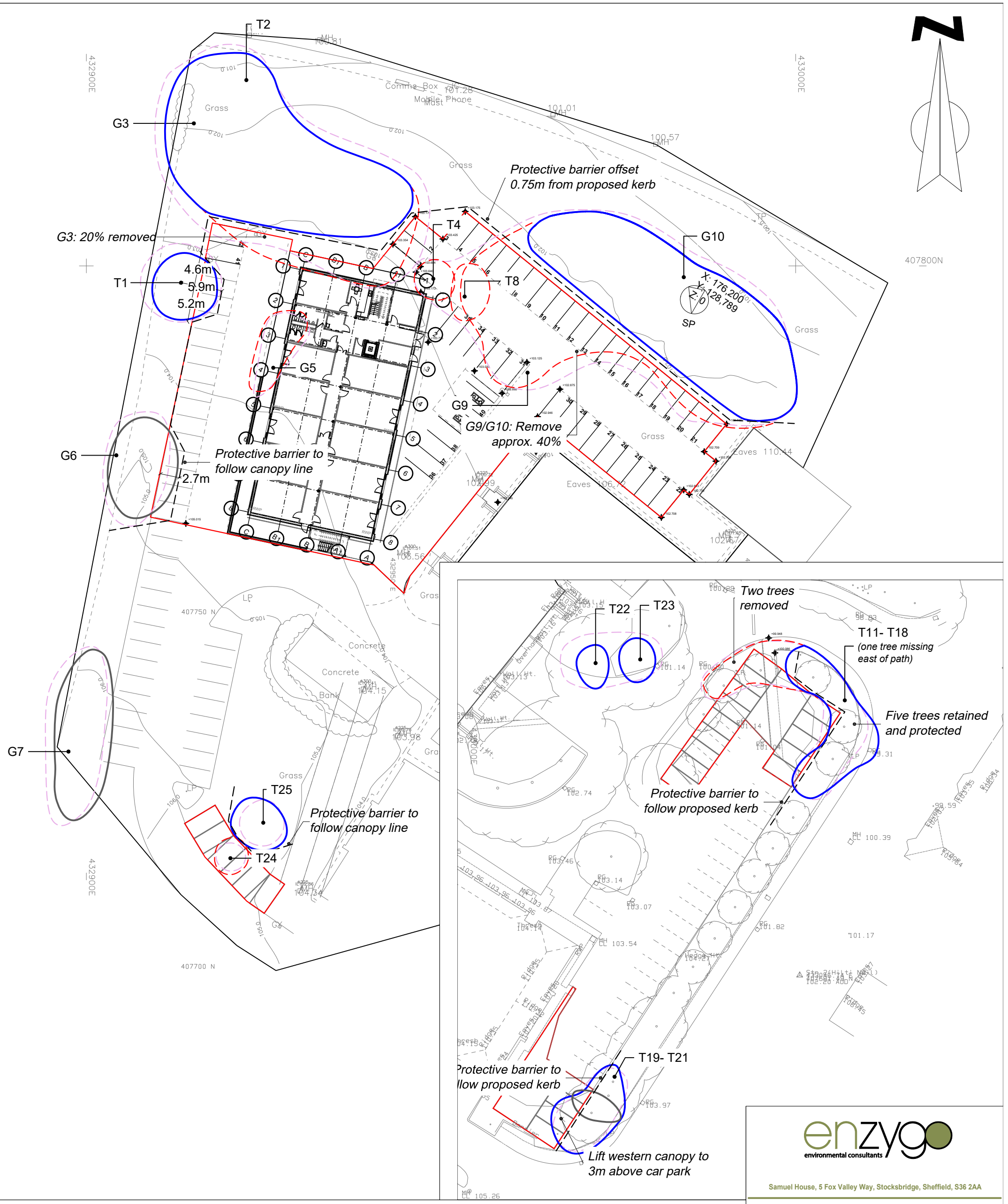
4.2.1 Where construction operations are likely to cause damage to above ground parts of retained trees or compaction of the Root Protection Areas (RPA), a protective barrier should be erected prior to commencement of any works on site to create a sacrosanct Construction Exclusion Zone (CEZ). The alignment of the fence should follow the canopy line of the trees or the edges of the RPA, whichever is greater. The alignment of the barrier, including indicative setting-out information, is shown on the drawing included in Appendix 1 – Tree Protection Plan.

4.2.2 The protective barrier must not be removed or realigned unless in accordance with this report or until all construction work has been completed and all construction vehicles and plant have departed from site.

4.2.3 The protective barrier should be installed in accordance with *BS 5837:2012 Figure 2 Default specification for protective barrier* which consists of a horizontal and vertical scaffold framework that should be braced to resist impact from construction plant and vehicles. Please refer to Appendix 3 – Protective barrier to BS5837:2012 for further information and a detailed specification.

4.2.4 All weather notices should be firmly attached to the barrier to inform any site operatives of the purpose of the fencing, e.g. "Construction Exclusion Zone- No access".

5.0 Appendix 1 – Tree Protection Plan



KEY - Tree Protection Plan

Tree Categories BS 5837 (2012)

- **Tree Category A**
- **Tree Category B**
- **Tree Category C**
- **Tree Category U**
- **Root Protection Area (RPA)**
- **Tree to be removed**
- **Protective barrier** — **BS 5837 (2012) Figure 2**

REV	DATE	BY	COMMENTS
A	17/10/2019	VM	Detached car parking

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CLIENT: EDGE PS Limited

SCALE: 1:500@A3

PROJECT REF: SHF.1717.001

DRAWN: VM

CHECKED: GB

DATE: Sep 2019

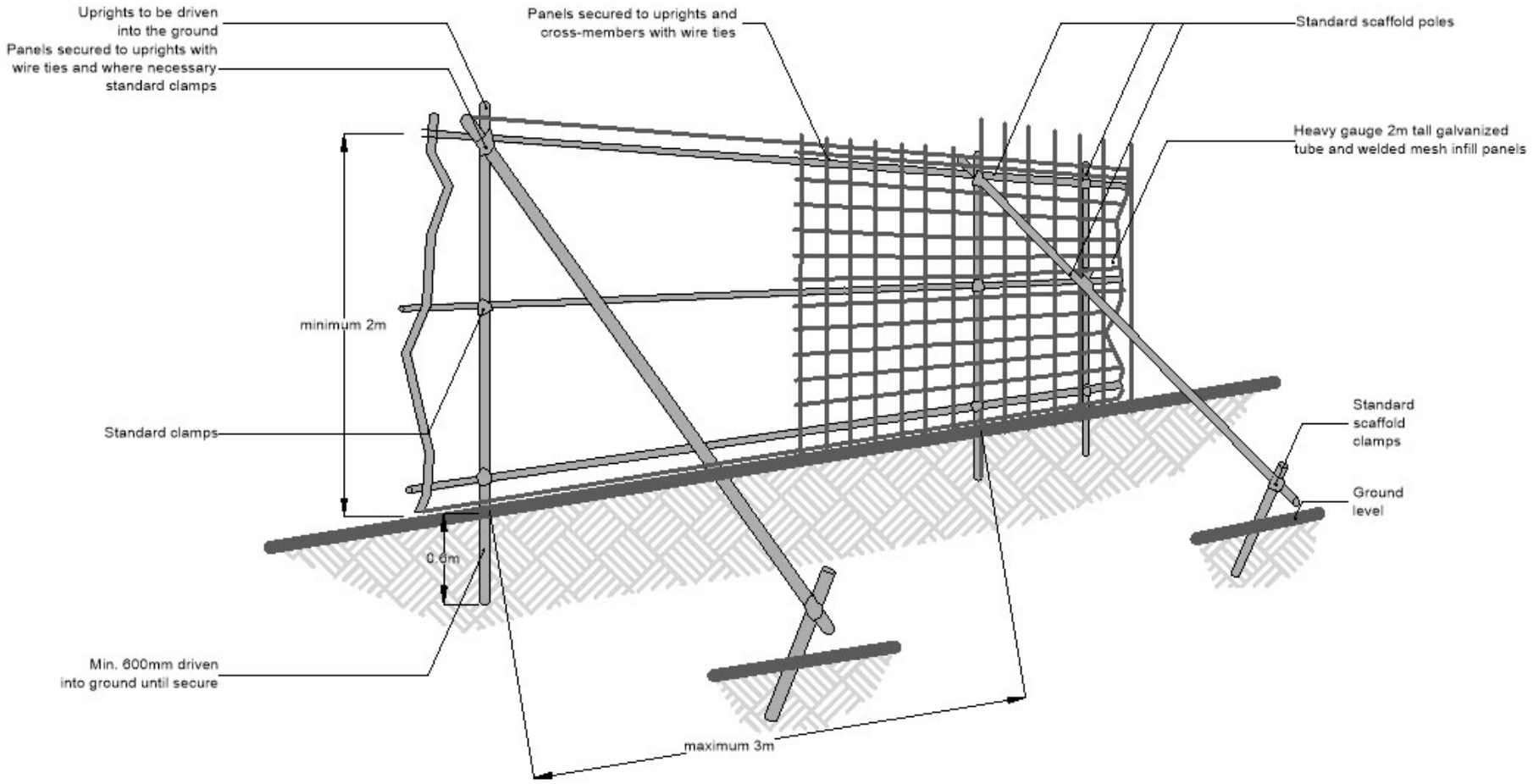
PROJECT: Barnsley Business and Innovation Centre

TITLE: Tree Protection Plan

FIGURE NO: SHF.1717.001.Ar.D.001.A

6.0 Appendix 2 – Protective barrier to BS5837:2012

6.1 **Default specification for protective barrier**



7.0 Appendix 3 – Methodology

7.1 Introduction

7.1.1 This report and all methodologies adopted to carry out the Arboricultural Impact Assessment and Arboricultural Method Statement are based on recommendations outlined in *British Standard (BS) 5837:2012 Trees in relation to design, demolition and construction-Recommendations*. This was published by BSI Standards Limited and came into effect on 30th April 2012. It supersedes BS 5837:2005 which is withdrawn.

7.2 Arboricultural Impact Assessment (AIA)

7.2.1 Once the Tree Survey and Tree Constraints Plan has been prepared and a site layout is available, these are superimposed to establish the potential impact of the development, including the construction phase, on the existing tree stock.

7.2.2 The requirement for tree removal is ascertained where tree stems are located within or very close to proposed building footprints and hard landscape and/or within areas with significant proposed level changes and other works requiring soil movement (incl. excavations).

7.2.3 In a second stage an assessment is carried out of the impact both the construction operations and the development proposals may have of retained trees, including hard landscape in RPA, vertical structures and tree canopies

7.2.4 Using information provided by the client on construction operations, including site access, construction vehicle and plant movement and location of the site compound and material storage areas, the potential impact on both below and above ground parts of retained trees is assessed.

7.2.5 In addition to assessing the impact of the development on existing trees, Enzygo also include an assessment of the impact of existing trees on the future use of the site, including shading, spatial constraints and the use of gardens, open spaces, paths and roads. Potential conflicts between trees and the safety of the site have also been analysed.

7.3 Arboricultural Method Statement (AMS)

7.3.6 The Arboricultural Method Statement (AMS) gives an overview on all methodologies to be adopted to minimise the effects the development, including construction operations, are expected to have on retained trees.

7.3.7 The AMS further includes a full specification for all methodologies which are necessary to protect retained trees.

7.3.8 Methodologies include protective barriers installed to create a Construction Exclusion Zone (CEZ) around retained trees, temporary ground protection where Root Protection Areas (RPA) cannot be fully fenced off, access facilitation pruning where there are conflicts between parts of the canopy and the development, specialist construction methods for buildings within the RPA and any methodologies to be adopted for utilities within the RPA.

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