TREE CONSULTANTS

ARBORICULTURAL METHOD STATEMENT

to BS 5837:2012 at

4 Belridge Close,
Barnsley,
South Yorkshire,
S75 1HZ

This document describes how the trees will be protected and managed during the development of this site. It explains how and when the protection measures must be installed and maintained throughout the development.

A copy of this report document must be permanently available on site for the duration of all development activity and should be referenced for practical guidance on how to protect the retained trees at this site.

Prepared for:
White Agus Partnership
8 Morston Business Park,
Whaley Road,
Barugh Green,
Barnsley,
S75 1HQ

Date: *April 2017*

Reference: *AWA1855*

Institute of Chartered Foresters
Registered Consultant

Office: 0114 272 1124 Mobile: 0776 631 0880 Email: info@awatrees.com Website: awatrees.com
Union Forge, 27 Mowbray Street, Sheffield, S3 8EN. AWA Tree Consultants Limited. Company No. 8520123. Registered in England & Wales.

Contents

1. Introduction

1.1 Instruction

1.1.1 We are instructed by Thomas Agus of White Agus Partnership to prepare an arboricultural method statement for the proposed development at:

- **4 Belridge Close, Barnsley, South Yorkshire, S75 1HZ**

1.2 Purpose

1.2.1 This method statement has been prepared in order to demonstrate that the development operations at this site can be undertaken with minimal risk of adverse impact on the trees to be retained.

1.2.2 This method statement conforms to BS 5837: 2012 *Trees in relation to design, demolition and construction - Recommendations*. It is based on the arboricultural data, collected at a site visit during February 2017, detailed within Appendix 3 of this report.

1.3 Description of Development

1.3.1 It is proposed to build a new single storey extension to the north of the property. The proposed development layout has been provided by my client and is the basis for the Tree Protection Plan (TPP) at Appendix 4.

1.4 Details of Consent

1.4.1 Planning consent is subject to this method statement being agreed upon in advance by the Local Planning Authority. The contents of this report must be adhered to, before, during, and after the construction phase.

1.4.2 As such, no equipment, machinery or materials shall be brought onto the site in connection with the development until this arboricultural method statement detailing tree management and tree protection measures has been submitted to and approved by the Local Planning Authority.

2. Method Statement Timeline

2.1 Overview of Sequence of Operations

2.1.1 In overview, it is necessary to undertake the following sequence of operations in relation to arboricultural input for development operations.

1 Method Statement approved by the LPA

2 Undertake all tree pruning works associated with the development

3 Install protective fencing

4 Install ground protection boards

5 Pre-commencement meeting/ confirm fencing is as specified

6 Construction of new single storey extension

7 Removal of tree protection

2.2 Specific Sequence of Operations

2.2.1 The following timeline table informs the key principles for development operations proceeding in relation to arboricultural requirements conditioned as part of this method statement.

2.2.2 The actions and timescales within this table must be adhered to in order to discharge the arboricultural method statement planning condition for this site.

2.2.3 The precise timing and order of some of the development operations may need to be changed due to site specific operational requirements, yet any operations that may affect the trees on the site must be done so under arboricultural supervision by a suitably qualified person appointed by the contractor.

Sequence of Operations		
Stages	***Action***	***Arboricultural Input***
1 Approval	This AMS is submitted to and approved in writing by the LPA.	If necessary, liaise with contractor and LPA to discuss methodologies detailed.
2 Tree Work	All tree pruning works associated with the development shall be carried out as the first operation on site, in accordance with Appendix 3 and as detailed in section 3.1.	Review the tree pruning work requirements with the tree contractor. If necessary, liaise with the contractor on site during tree works.
3 Protective Fencing	Installing the tree protective measures will take place prior to any storage of plant, materials and machinery. As shown at Appendix 4.	If necessary, liaise with the contractor installing the protective fencing until completed to the standard specified in this method statement.
4 Ground protection	Installing the tree root/ ground protective measures will take place prior to any storage of plant, materials and machinery. As shown at Appendix 5.	If necessary, liaise with the contractor installing the interlink boards until completed to the standard specified in this method statement.
5 Site Meeting	Following installation of Tree Protection Fencing, the LPA shall be invited to inspect the fencing, assess the tree works, and discuss any other site operations that have implications for trees.	Meeting with a representative of the LPA and the site manager. Alternatively, contractor can confirm the fencing, and tree works are as specified by taking photographs of the tree protection measures.
6 Construction	Undertake the construction of the new development.	Provide ongoing arboricultural advice and supervision of contractors during installation of digging of mini-piles. If necessary, liaise with the local authority and the site foreman to ensure any issues are adequately resolved.
7 Site Finishing	Removal of tree protection measures must only be undertaken when all site traffic and machinery has left the site.	If acceptable to the LPA, the contractor can take photos of the site to give to the LPA to gain approval for the removal of protective fencing.

3. Tree Management

3.1 Tree Pruning works

3.1.1 The development will require pruning work to implement the new development design. The trees T1, T2 and T3 will require the smaller overhanging branches (of less than 5cm diameter) to be cut back, to crown lift the trees up to around 5m from ground level.

3.1.2 All tree pruning works are detailed in the tree data schedule at Appendix 3.

3.1.3 All tree work should be carried out according to British Standard 3998: 2010 Tree Work - Recommendations.

3.1.4 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance.

4. Tree Protection

4.1 Tree Fencing

4.1.1 The protective fencing for this site should be located as shown on the Tree Protection Plan (TPP) at Appendix 5 (as illustrated with a thick purple line).

4.1.2 The precise fencing location may need to be slightly adjusted on site due to local site conditions, but is not expected to differ from that shown on the TPP. The final fencing position must be agreed on by the LPA before the commencement of any site works.

4.1.3 The tree protective fencing details should be incorporated into relevant subsequent plans, method statements used for design purposes and construction drawings issued for use on site, to ensure that all interested parties are fully aware of the areas in which access and works may and may not take place.

4.1.4 The protective fencing will be appropriate to the degree and proximity of likely construction works. In this instance, the default BS5837 (2012) tree protection fencing is deemed disproportionate. It is suggested (if

acceptable by the LPA) an adequate level of protection for the trees could be provided by 'Heras' type fencing, of welded mesh panels on rubber or concrete feet. The fencing should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence.

4.1.5 The fencing panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins or mounted on a block tray (see Appendix 1 for an example).

4.1.6 The area enclosed by the fencing is referred to as the Construction Exclusion Zone (CEZ); this area should be considered a restricted area. No pedestrians, vehicles, storage of materials, equipment or machinery should be allowed with the CEZ unless specified within this method statement. The site manager must ensure that all personnel are aware of the restrictions that apply to the fenced-off area.

4.1.7 In this instance, it has not been possible to fully enclose the entire RPA for all trees that are to be retained. However, any encroachment of the new development into the RPA of any individual tree has been deemed acceptable, and is generally mitigated by the hard surfaces that are already in place at the site.

4.1.8 Once the fencing is erected, waterproof warning signs labelled '*Tree Protection Area- No Access'* should be placed at 3m intervals to ensure that all personnel are aware of the restrictions that apply to the fenced-off area (see Appendix 1 for an example sign).

4.1.9 The protective fencing should be inspected for faults or damage by the site manager or other responsible named person on a regular basis and a written record kept. Any faults or defects should be repaired or replaced as soon as is reasonably practicable. The Tree Protection Fencing shall not be removed, breached or altered without prior written authorisation from the local planning authority and under arboricultural supervision by a suitable named responsible individual appointed by the site manager.

4.2 Ground Protection

4.2.2 The development work is within the exposed RPA of retained trees. As such ground protection will be required to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.

4.2.3 Interlinked ground protection boards should be used. They should be located as shown on the Tree Protection Plan (TPP) at Appendix 4 (as illustrated with a light blue hatched area).

4.2.4 The precise location of the boards may need to be slightly adjusted on site due to local site conditions, but is not expected to differ significantly from that shown on the TPP.

4.2.5 The new temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

4.2.6 For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane.

4.2.7 For pedestrian-operated plant up to a gross weight of 2t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane.

4.2.8 For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

4.3 Construction of Extension

4.3.2 The new single storey extension is situated within the RPA of the retained trees. The encroachment into the trees RPA should not significantly adversely impact on the health or future condition of the trees, provided care is taken during the construction to avoid root damage which will include the use of pile and beam type footings.

4.3.3 The foundations for the base are to be built upon mini-pile and beam type foundations so as to minimise any root damage to the retained trees. The rooting activity at the point where the piles are proposed should be investigated by hand excavation. Consultations should first be undertaken with a structural engineer to ensure that this method of construction is viable and to assess the minimum diameter piles that would suffice for the structure.

4.3.4 The machinery required to dig and install the mini-piles is to pass over the RPA of the retained trees. Before the mini-pile machinery is brought onto site an assessment must be made as to whether ground protection will be needed to distribute the machinery weight. The details of the mini-pile machinery should be made available the LPA prior to accessing the site. The digging and installation of the piles should be done under arboricultural supervision and a written record kept.

4.3.5 Care must be taken to prevent contamination with chemical spillages, including petrol, diesel and oils. Cement mixers and any other toxic materials should not be permitted within the RPA of the trees.

4.4 Drainage and Utilities

4.4.2 Drainage and utilities are to be directed away from the retained trees. Over-ground services should ideally be routed away from areas where they are likely to interfere with the crowns of mature trees. New underground services should be grouped together and routed away from RPAs. *NJUG 10: Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees* should be considered when installing services.

4.5 Additional Precautions

4.5.2 Allowance should be made for operations outside of the CEZ that could indirectly impact on trees. Including space for site huts, temporary toilet facilities (including their drainage) and other temporary structures; and space for storing (whether temporary or long-term) materials.

4.5.3 Care must be taken to prevent contamination with chemical spillages, including petrol, diesel and oils. Cement mixers and any other toxic materials should not be permitted within the RPA of the trees. Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA.

4.5.4 Fires on the site should be avoided if possible. Where they are unavoidable, and approved by the Local environmental health authority, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and the wind direction should be considered when determining its location, and it should be attended always until safe enough to leave.

5. Signature

I trust this report provides all the required information.

Signed

.....

Adam Winson,
Chartered Arboriculturist, MSc, BSc (Hons), MICFor, AIEEM.

25th April 2017

AWA Tree Consultants Limited
Union Forge
27 Mowbray Street
Sheffield
S3 8EN

www.awatrees.com

Appendix 1: Images and Figures

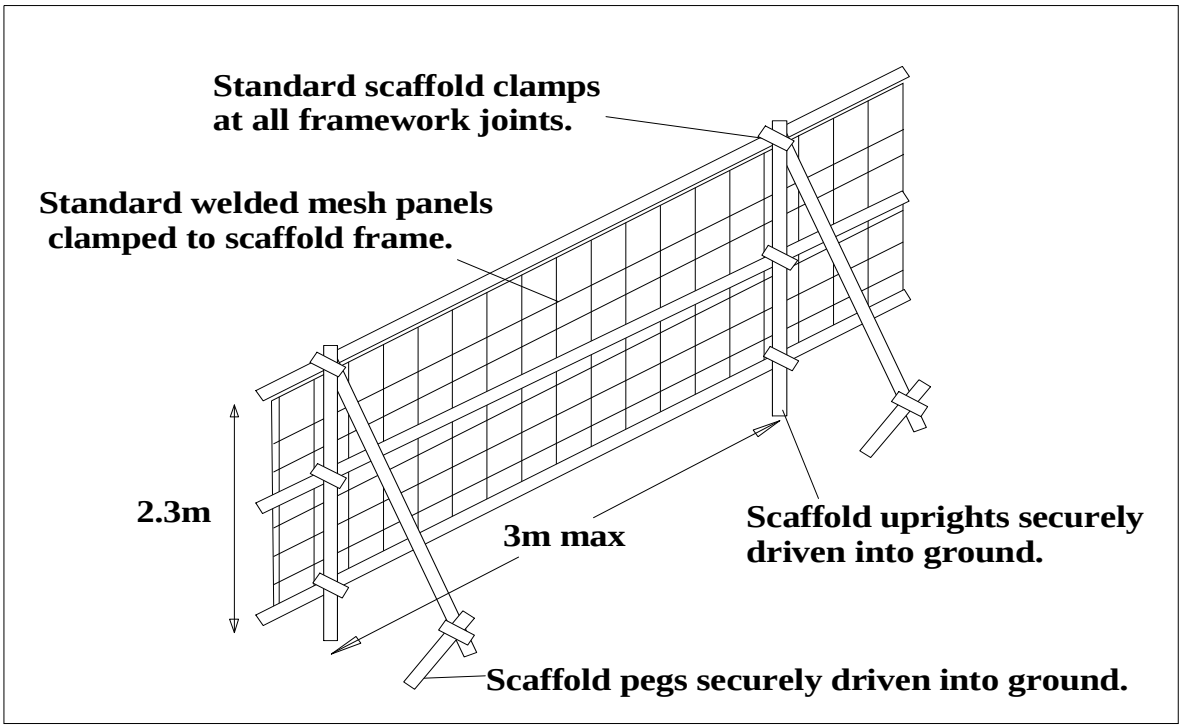


Figure 1: 'Fencing to BS 5837: 2012'.

Figure 2: 'Photo of Fencing to BS 5837: 2012'.

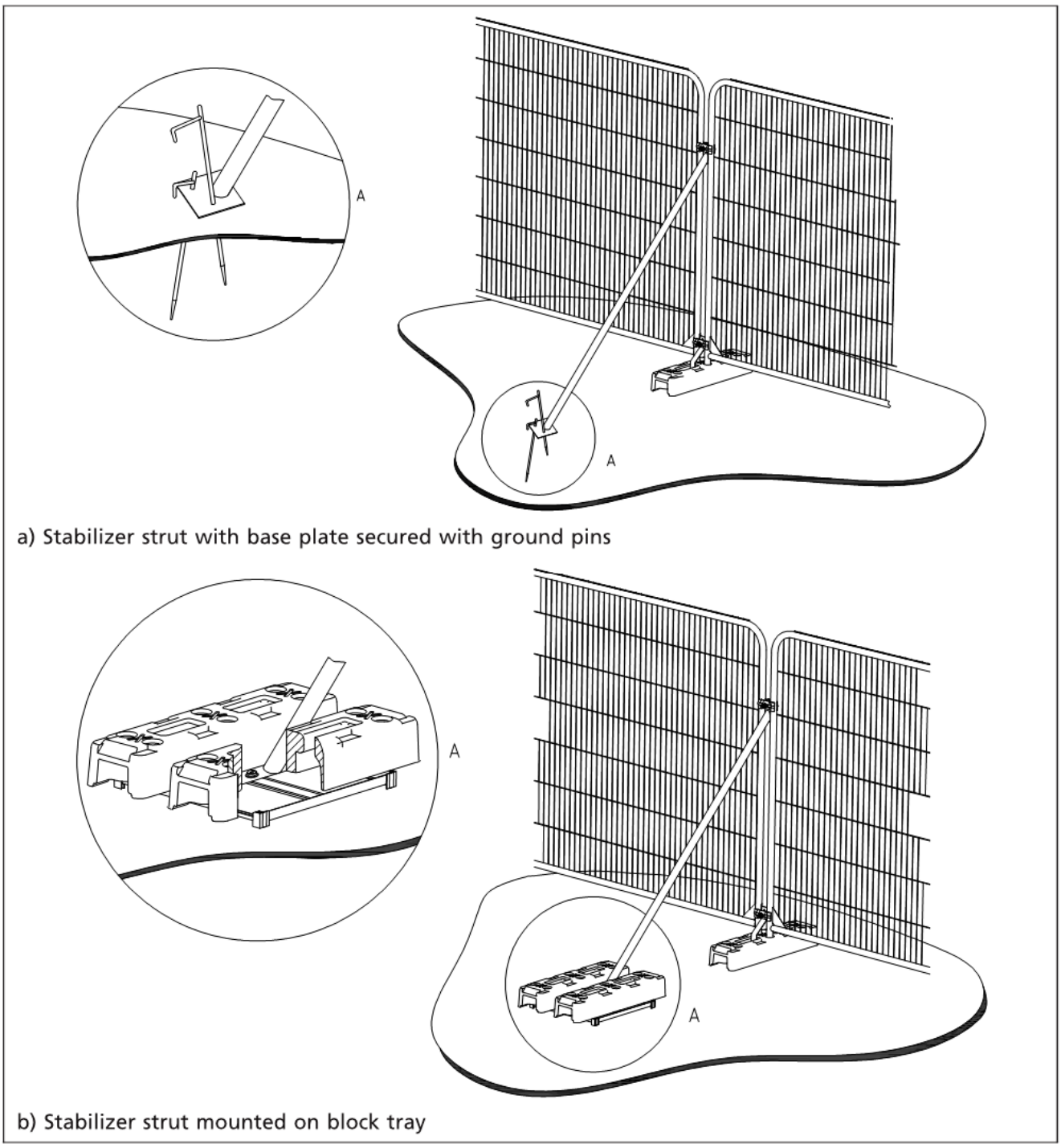


Figure 3: Secured 'Heras' type fencing with stabilizing system and fixed central pins (©BSI).

Figure 3: `Example of warning sign for fencing'.

Appendix 2: Relevant Contact Details

Contact Name	Organisation/ Details	Contact Number	Contact E-mail
Thomas Agus	White Agus Partnership	01226 208482	thomas@whiteaguspartnership.co.uk
Adam Winson	AWA Tree Consultants Ltd. Arboricultural Consultant	0114 272 1124	adam@awatrees.com
Edward Jowett	Barnsley Tree Officer Development Management	(01226) 772557	EdwardJowett@barnsley.gov.uk

Appendix 3: Tree Data

	Tree Species		Measurements					Crown (m)						Tree Condition						Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Dia (mm)*	*Estimated*	*Ave Height*	*Height of 1st branch*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Physiology*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T1	Oak	*Quercus robur*	Early-mature	18	1	480	Yes	4	4n	5	3.5	7	7.5	No visual defects - limited access around base	Single stemmed; Vertical; Twin stemmed at 3m; Old pruning wounds	Recent growth from old pruning wounds overhanging into site up to 5m, before any significant branches.	Good	Good	>40 yrs	Moderate	**B**	Crown lift southern crown to 5m (removing only small branches <5cm diameter and sucker growth)
T2	Oak	*Quercus robur*	Early-mature	18	1	500	Yes	8	5n	6	5	5.5	5.5	No visual defects - limited access around base	Single stemmed; Vertical; Old pruning wounds	Recent growth from old pruning wounds overhanging into site up to 5m, before any significant branches.	Good	Good	>40 yrs	Moderate	**B**	Crown lift southern crown to 5m (removing only small branches <5cm diameter and sucker growth)
T3	Oak	*Quercus robur*	Early-mature	16	4	190, 100, 100, 280	Yes	4	5e	4	4	4.5	2.5	No visual defects - limited access around base	Multiple stemmed at base	No major visible defects - high crown only slightly overhanging site	Good	Fair	>40 yrs	Moderate	**B**	Crown lift southern crown to 5m (removing only small branches <5cm diameter and sucker growth)
T4	Oak	*Quercus robur*	Early-mature	18	3	300, 280, 250	Yes	5	4e	5	5	4.5	4.5	No visual defects - limited access around base	Multiple stemmed at base; Bark damage; Minor cavities; Minor decay	No major visible defects	Good	Fair	>40 yrs	Moderate	**B**	No works required
T5	Oak	*Quercus robur*	Early-mature	17	1	380	Yes	4	3s	3	3.5	3.5	3.5	No visual defects - limited access around base	Single stemmed; Vertical	Small / sparse; Minor deadwood	Fair	Fair	>40 yrs	Moderate	**B**	No works required

AWA TREE CONSULTANTS

	Tree Species		Measurements					Crown (m)						Tree Condition						Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Dia (mm)*	*Estimated*	*Ave Height*	*Height of 1st branch*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Physiology*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T6	Oak	*Quercus robur*	Early-mature	17	1	350	Yes	5	5w	3	2	4	4	No visual defects - limited access around base	Single stemmed; Vertical	Slightly unbalanced crown	Good	Good	>40 yrs	Moderate	**B**	No works required
T7	Willow	*Salix caprea*	Semi-mature	7	1	130	Yes	4	4w	1.5	1.5	3	3	No visual defects - limited access around base	Vertical; Old pruning wounds; Stubs. Minor decay	Small / sparse	Fair	Fair	10 to 20 yrs	Low	**C**	No works required
T8	Sycamore	*Acer pseudoplatanus*	Mature	17	3	300, 500, 250	Yes	6	5s	7	8	7	6	No visual defects - limited access around base	Multiple stemmed at base	Normal; Overhanging slightly into the site.	Good	Good	>40 yrs	Moderate	**B**	No works required
T9	Sycamore	*Acer pseudoplatanus*	Mature	16	1	500	No	5	4e	5.5	6.5	4	5	No visual defects. Situated on raised mound	Single-stemmed vertical	No major visible defects	Good	Good	>40 yrs	High	**B**	No works required
T10	Sycamore	*Acer pseudoplatanus*	Mature	15	1	480	No	3	3e	2	6	6	6	No visual defects. Situated on raised mound	Single stemmed; Minor cavities	Slightly unbalanced	Good	Fair	>40 yrs	Moderate	**B**	No works required

Adjacent Oak and
Sycamore Woodland

Oak 7m tall

Sycamore 17m

Sycamore 18m

Sycamore 18m

Birch 8m

Oak sapling

Willow 8m

Birch 8m

Oak sapling

Elder 3m

Birch 6m

Rowan sapling

Hawthorn 3m

T1

T2

T3

T4

T5

T6

T7

T8

T9

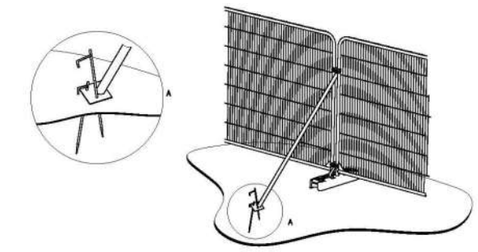
T10

Laurel hedge

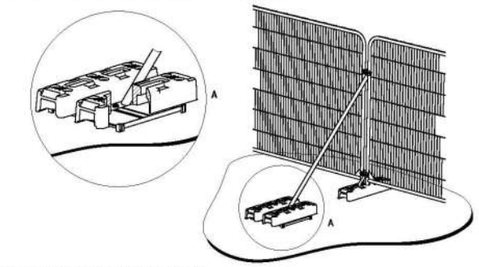
New Extension

Sycamores 18m

Inset 1: Examples of Tree Protection Fencing



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

NORTH

AWA TREE CONSULTANTS

Appendix 5:
TREE PROTECTION PLAN

4 Belridge Close, Barnsley
Ref: AWA1855

BRITISH STANDARD 5837:2012

SCALE :1:200 PAPER: A3

	TREES TO BE RETAINED
	TREES FOR REMOVAL
	SHRUBS TO BE RETAINED
	TREE STEM
	TREE STEM TO REMOVE
	TREE PROTECTION FENCING
	INTERLINKED GROUND PROTECTION BOARDS
	RPA: ROOT PROTECTION AREA