TREE CONSULTANTS

ARBORICULTURAL METHOD STATEMENT

to BS 5837:2012 at

Land at

Old Brierley Hall
Common Road
Brierley
Barnsley
S72 9EA

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 document report 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:
Steve Robinson
Old Brierley Hall

Date: *October 2019*
Reference: *AWA2917*

Institute of Chartered Foresters
Registered Consultant

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1. Introduction

1.1 Instruction

1.1.1 We have been instructed by Steve Robinson of Old Brierley Hall to prepare an arboricultural method statement for the proposed development at:

- **Old Brierley Hall, Common Road, Brierley, Barnsley, S72 9EA**

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 August 2019, detailed within Appendix 4 of this report.

1.3 Description of Development

1.3.1 It is proposed to renovate and extend the current barn structure and build a new detached garage, with associated access, landscaping and facilities. The proposed development layout has been provided by my client and is the basis for the Tree Protection Plan (TPP) at Appendix 5.

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 the removal of the Lime tree T4 and minor pruning works to T5 and T6 (as detailed in Appendix 4).

3 Install tree protective fencing and ground protection.

4 Pre commencement meeting / confirm fencing and tree protection is as specified.

5 Construction of specialist foundations for detached garage structure as the first construction operation on site.

6 Demolition of small outbuilding.

7 Construction of new development.

8 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 Works	Tree removals and pruning works shall be carried out as the first operation on site, in accordance with Appendix 4 and as detailed in section 3.1.	Review the tree work requirements with the tree contractor. If necessary, liaise with the contractor on site during tree works.
3 Tree Protection	Installing the tree protective fencing and ground protection 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 protective fencing and ground protection boards until completed to the standard specified in this method statement.
4 Site Meeting	Following installation of tree protection measures, the LPA shall be invited to inspect the fencing, ground protection and 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, ground protection, and tree works are as specified by taking photographs of the tree protection measures.
5 Construction of Garage Foundations	Undertake the construction of the detached garage foundations within the RPA of T5, T6 and T7 using approved pile and beam type footings.	Installation of specialist foundations within RPA of retained trees shall be carried out under arboricultural supervision and a written record kept at Appendix 3. If necessary, liaise with the local authority and the site foreman to ensure any issues are adequately resolved.
6 Demolition of Outbuilding	Undertake the demolition of the small outbuilding within the RPA of T10	Demolition of structures within the RPA of retained trees shall be carried out under arboricultural supervision and a written record kept at Appendix 3. If necessary, liaise with the local authority and the site foreman to ensure any issues are adequately resolved.
7 Construction	Undertake the remaining construction of the new development.	If necessary, liaise with the local authority and the site foreman to ensure any issues are adequately resolved.
8 Site Finishing	Removal of tree protective 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 Works

3.1.1 The development will require the removal of the Lime tree, T4. This tree is highlighted in red on the plan at Appendix 5 and as detailed in the tree data schedule at Appendix 4

3.1.2 In addition, the trees T5 and T6 will require minor pruning works as detailed at Appendix 4.

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 Protection 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).

4.1.1 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.

4.1.2 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.

4.1.3 The protective fencing will be appropriate to the degree and proximity of likely construction works. In this instance, the default BS 5837:2012 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.

4.1.4 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. 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).

4.1.5 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.

4.1.6 Once the fencing is erected, waterproof warning signs labelled '*Tree Protection Area'* 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).

4.1.7 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

4.2.1 The central area of the development site comprises areas of hard surface and open ground, much of which has suffered from historical compaction to the extent that it is unlikely to be compacted further by construction traffic and the storage of materials.

4.2.2 As such, ground protection may be required within the RPA of T5, T6, T7, T8, T9, T10 and T11, but only where there is open, uncompacted ground. This is 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 indicatively on the Tree Protection Plan (TPP) at Appendix 5 (as illustrated with an orange hatched area), but only where the ground is not protected by current hard surfaces and has not suffered from extensive historical compaction.

4.2.4 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.

4.2.5 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.

4.2.6 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.

4.2.7 To protect the roots that are potentially present within the RPA of the retained trees, no excavations should be carried out within the orange hatched area shown on the TPP without the express permission of the local planning authority and under arboricultural supervision.

4.3 Demolition

4.3.1 The demolition of the existing small outbuilding at the site will take place within the RPA of the retained tree T10. The demolition works within the RPA should not adversely impact on the health or future condition of the tree provided it is carried out in accordance with the specifications below.

4.3.2 The demolition should be undertaken inwards within the footprint of the existing building (often referred to as "top down, pull back"). This should be carried out under arboricultural supervision and a written record kept at Appendix 3.

4.3.3 The advice of the project arboriculturist should be sought where underground structures present within the RPA are, or will become, redundant. In general, it is preferable to leave such structures in situ, as their removal could damage adjacent tree roots.

4.3.4 Where an existing hard surface is scheduled for removal, care should be taken not to disturb tree roots that might be present beneath it. Hand-held tools or appropriate machinery should be used to remove the existing surface, working backwards over the area, so that the machine is not moving over the exposed ground. If a new hard surface is to be laid, it might be preferable to leave any existing sub-base in situ, augmenting it where required.

4.4 Construction

4.4.1 The proposed detached garage structure is situated within the RPA of the retained trees T5, T6 and T7. 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, including the use of pile and beam type footings.

4.4.2 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 structures.

4.4.3 The engineer's specifications for the pile and beam footings must be provided to and approved in writing by the LPA before any works are undertaken.

4.4.4 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. Significant tracked or wheeled machines will require ground protection (e.g. interlinking, non-slip road plates) over the RPA to access the area.

4.4.5 The digging and installation of the piles should be done under arboricultural supervision and a written record kept at Appendix 3.

4.5 New Hard Surfaces

4.5.1 If new hard surfaces are proposed within the RPA of retained trees, the works should not adversely impact on the health or future condition of the trees provided a 'no-dig' method of construction is utilised in accordance with the specifications given below.

4.5.2 The design and construction of the hard surfaces need to be sensitive to the requirements of tree roots, substantial enough to withstand the expected levels of traffic and practicable in terms of ease of fabrication.

4.5.3 The finished surface must be porous in order to allow air and water to reach the tree roots, whilst at the same time being able to withstand the

load applied. Toxic substances which could leach into the ground must be avoided. Severance of roots and soil compaction should be avoided. Any minor excavations in these areas to remove the existing surface vegetation/turf layer must be done so using hand tools only and under arboricultural supervision.

4.5.4 We are not qualified to recommend any particular construction method in terms of durability or structural integrity and any proposed construction should be approved by a qualified structural engineer prior to implementation. Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement system, such as those provided by Geosynthetics Limited (http://www.geosyn.co.uk).

4.5.5 The construction of any no-dig hard surfaces within the RPA of the retained trees must be done under arboricultural supervision and a written record kept at Appendix 3.

4.5.6 Any hard surfaces that are currently in situ within the RPA of retained trees should be retained where possible and incorporated into the new development design.

4.6 Drainage and Utilities

4.6.1 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.

4.7 Additional Precautions

4.7.1 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.

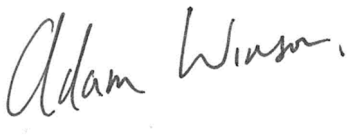
4.7.2 Care must be taken to prevent contamination with chemical spillages, including petrol, diesel and oils. Cement mixers and any other toxic materials should not be permitted within the RPA of the trees. Any materials whose accidental spillage would cause damage to a tree should be stored and handled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

4.7.3 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.

15th October 2019

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Appendix 1: Images and Figures

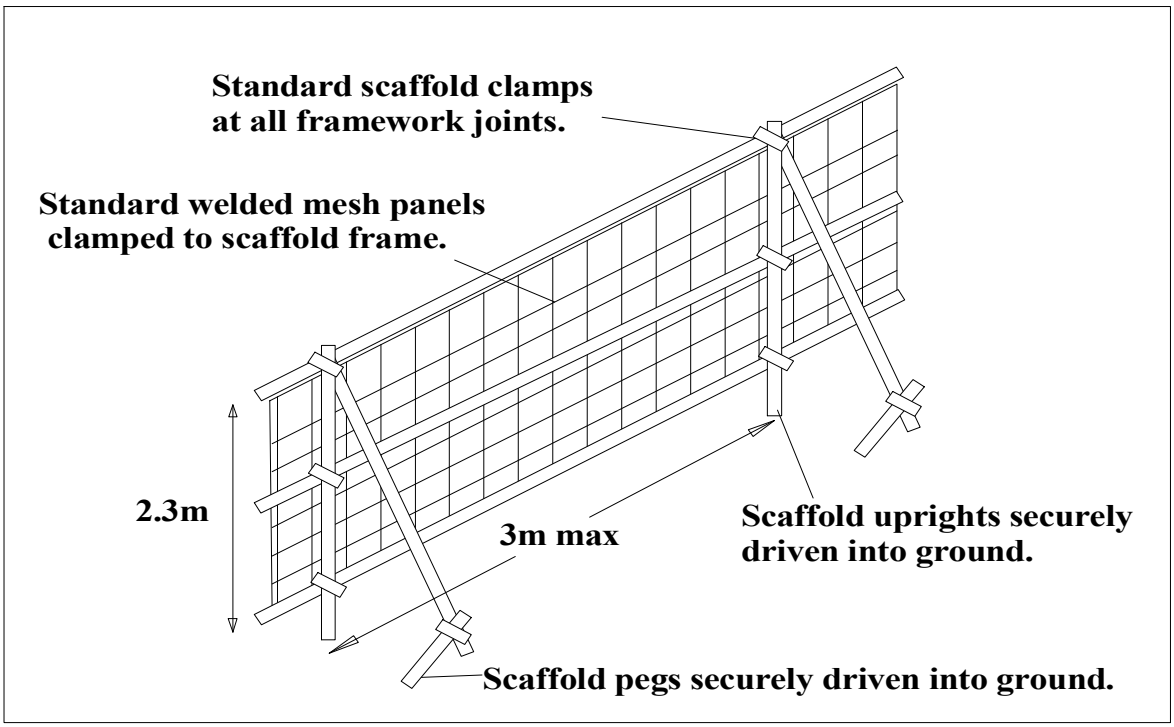


Figure 1: Fencing to BS 5837:2012



Figure 2: Photo of Fencing to BS 5837:2012

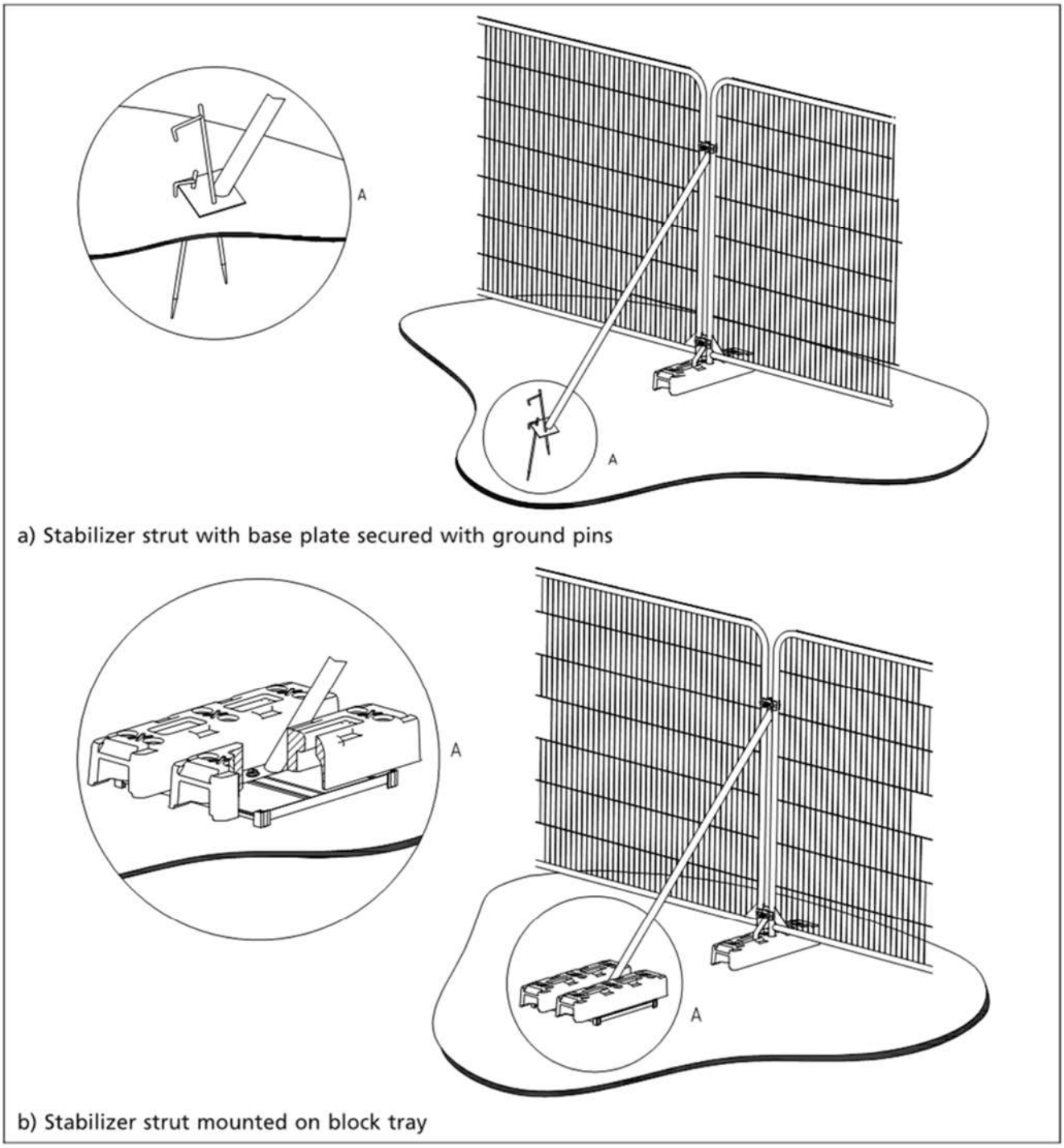


Figure 3: Secured 'Heras' type fencing with stabilizing system and fixed central pins (©BSI)



Figure 4: Warning sign for fencing



Figure 5: Example of A3 Correx Tree Protection Warning Sign fixed to fencing panel.



Figure 6: Secured 'Heras' type fencing with stabilizing system and anti-tamper couplers



Figure 7: Anti-tamper couplers to secure fencing and avoid unauthorised access



Figure 8: Inter-linked ground protection boards placed on top woodchip

Appendix 2: Relevant Contact Details

Contact Name	Organisation/ Details	Contact Number	Contact E-mail
Steve Robinson	Old Brierley Hall	07972172 831	176180@gmail.com
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: Record of Arboricultural Supervision

Required Site Visits	
Name of Site Inspector/ Arboricultural Consultant	
Supervision Stages	**Comments/ Required Actions**
Site visit 1: Inspect the tree protective fencing and ground protection boards prior to any development works. Confirm tree protection completed to the standard specified in this method statement.	***Signed and Dated***
Site visit 2: Supervision of contractors during digging and installation of piles for specialist foundation of garage structure within RPA of retained trees.	***Signed and Dated***
Site visit 3: Supervision of contractors during demolition of small outbuilding within RPA of retained trees.	***Signed and Dated***
Site visits - Monthly: Supervise any other sensitive operations, if required, as they arise in relation to trees.	***Signed and Dated***
Additional Comments/ Required Actions:	

Additional Comments/ Required Actions:

Signed and Dated

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*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T1	Beech	*Fagus sylvatica*	Mature	17	1	630	No	5	3.5	4	3.5	4	No visual defects	Single stemmed, Vertical, Old pruning wounds	Normal, Minor deadwood	Growing 1.2m from top of retaining wall.	Good	Fair	>40 yrs	High	**B**	No action required
T2	Lime	*Tilia europaea*	Semi-mature	12	1	370	No	2	4.5	4	2	4	No visual defects	Single stemmed, Vertical, Old pruning wounds, Stubs, Epicormic growths	Normal, Minor deadwood	Growing 1.5m from top of retaining wall.	Good	Fair	>40 yrs	Moderate	**B**	No action required
T3	Lime	*Tilia europaea*	Early-mature	16	1	490	No	2	2.5	4	2	4	No visual defects	Single stemmed, Vertical, Old pruning wounds, Stubs, Epicormic growths	Minor dieback, Minor deadwood	Growing 1.2m from top of retaining wall.	Fair	Fair	>40 yrs	Moderate	**B**	No action required
T4	Lime	*Tilia europaea*	Early-mature	14	1	450	No	2	1.5	3.5	5	3	No visual defects	Single stemmed, Vertical, Old pruning wounds, Stubs, Epicormic growths	Small / sparse, Minor dieback, Moderate deadwood, Snapped / hanging branches	Growing 2.0m from top of retaining wall, 0.9m from out building. Several branches are resting on the out building roof.	Fair	Fair	20 to 40 yrs	Moderate	**C**	Removal required to facilitate development
T5	Lime	*Tilia europaea*	Mature	19	1	720	No	2	6.5	5.5	6	5	No visual defects	Single stemmed, Vertical, Old pruning wounds, Stubs, Ivy covered, Tight union	Normal, Minor deadwood	Growing close to the corner of raised lawn area.	Good	Fair	>40 yrs	High	**B**	Crown raise canopy over proposed garage structure

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TREE DATA

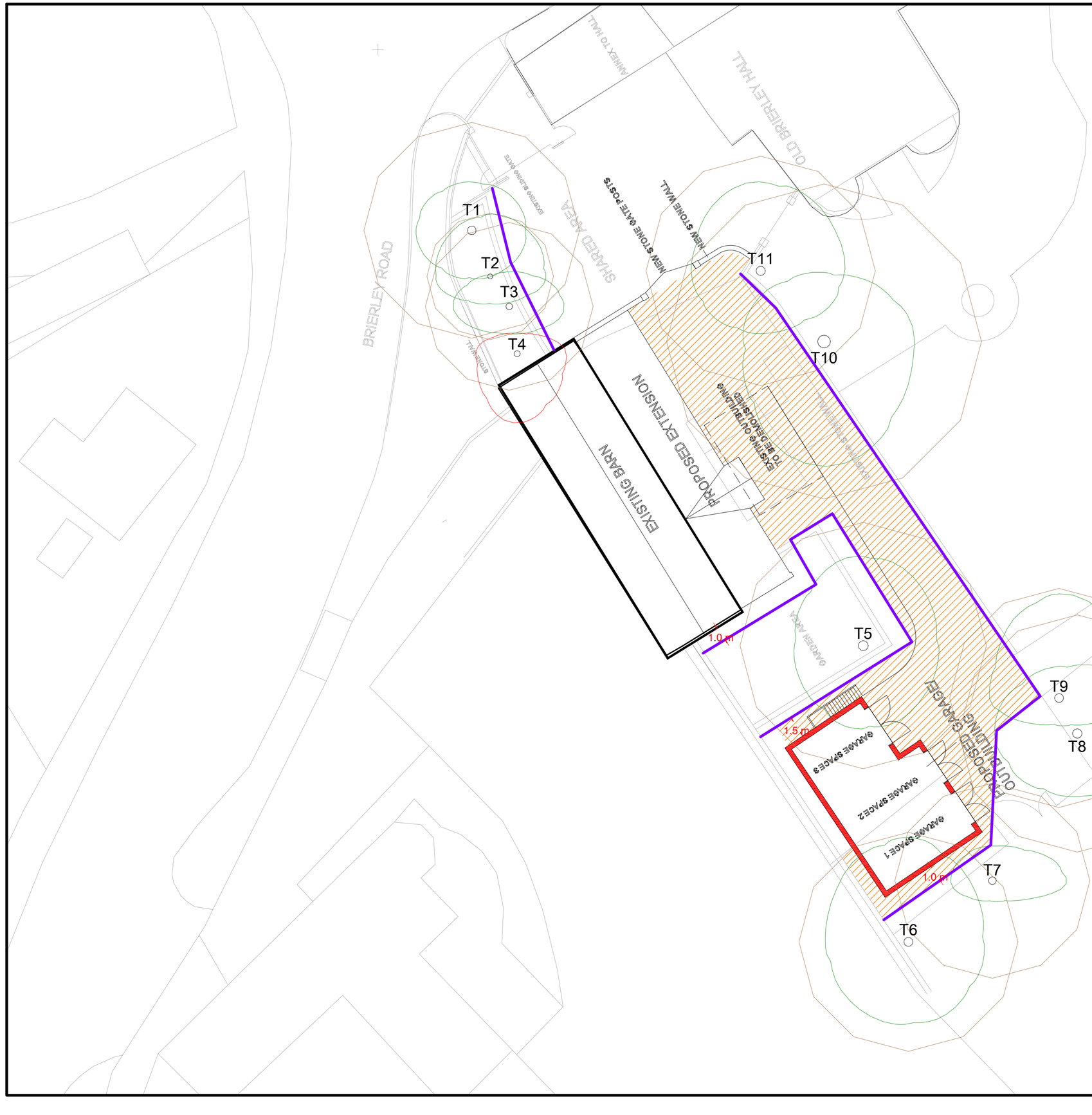
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T6	Sycamore	*Acer pseudoplatanus*	Early-mature	12	1	640	No	2	7.5	5.5	6	6	Soil compaction, Adjacent ground works	Single stemmed, Vertical, Old pruning wounds, Stubs, Bark damage	Minor dieback, Minor deadwood	Compaction from large stones laid out at base to north. Possible recent groundworks to south east. Recent installation of adjacent fence.	Fair	Fair	>40 yrs	Moderate	**B**	Crown raise canopy over proposed garage structure
T7	Poplar	*Populus tremula*	Early-mature	15	1	570	No	3	2.5	5.5	1.5	3	No visual defects, Adjacent ground works	Single stemmed, Slight lean, Old pruning wounds, Stubs, Epicormic growths, Bark damage, Minor cavities, Ivy covered	Small / sparse, Minor dieback, Moderate deadwood	Possible recent groundworks to south. Recent installation of adjacent fence.	Fair	Fair	20 to 40 yrs	Moderate	**C**	No action required
T8	Poplar	*Populus tremula*	Early-mature	18	4	390, 380, 340, 260	No	6	5	7	4.5	6	Soil compaction, Adjacent ground works	Multiple stemmed at base, Slight lean, Old pruning wounds, Epicormic growths, Tight union	Normal, Minor deadwood	Growing at base of low retaining wall to the west.	Good	Fair	>40 yrs	Moderate	**B**	No action required
T9	Poplar	*Populus tremula*	Early-mature	18	1	640	No	3	7.5	5.5	2	5	Soil compaction	Single stemmed, Slight lean, Old pruning wounds, Epicormic growths	Normal, Moderate deadwood	Growing at base of low retaining wall to the west.	Good	Fair	>40 yrs	Moderate	**B**	No action required

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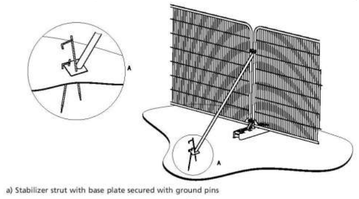
TREE DATA

	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*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T10	Beech	*Fagus sylvatica*	Mature	15	1	920	No	2.5	5	6.5	9	6	Soil compaction, Soil erosion, Exposed roots, Root damage / loss	Single stemmed, Slight lean, Stubs, Old pruning wounds, Bark damage	Minor dieback, Minor deadwood	Growing within gravelled driveway. Several large exposed roots at base with historical damage.	Fair	Fair	>40 yrs	Moderate	**B**	No action required
T11	Hornbeam	*Carpinus betulus*	Mature	16	1	670	No	2.5	6.5	6	4.5	5	Soil compaction, Soil erosion, Exposed roots	Multiple stemmed at 2m, Slight lean, Old pruning wounds, Stubs, Bark damage, Tight union, Minor cavities	Minor dieback, Moderate deadwood	Growing within gravelled driveway. Several large exposed roots at base with historical damage. Top of stone wall has been shaped around the western stem. Several cavities with historical decay from large old pruning wounds on main stems.	Fair	Fair	20 to 40 yrs	Moderate	**B**	No action required

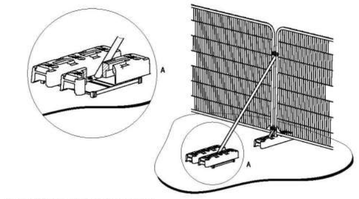
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Inset 1: Example of Tree Protection Fencing



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Inset 2: Example of Tree Protection Sign



NORTH

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Appendix 5:
TREE PROTECTION PLAN

Land at Old Brierley Hall, Barnsley, S72 9EA
Ref: AWA2917

BRITISH STANDARD 5837:2012

SCALE: 1:200 PAPER: A2

	TREES TO BE RETAINED
	TREES FOR REMOVAL
	TREE STEM
	TREE PROTECTION FENCING
	GROUND PROTECTION AS REQUIRED IN THIS AREA
	RPA: ROOT PROTECTION AREA