



ARBORICULTURAL METHOD STATEMENT

to BS 5837:2012 at

Land at
***Halifax Road,
Thurgoland,
Barnsley,
South Yorkshire
S35 7ED***

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:
Arncliffe Homes Limited
Bramley Grange,
Skeltons Lane,
Thorner,
Leeds,
West Yorkshire
LS14 3DW

Date: February 2020

Reference: AWA3071



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1. Introduction

1.1 Instruction

1.1.1 We were instructed by Stuart Carver of Arncliffe Homes Limited to prepare an arboricultural method statement for the proposed development at:

- **Land at Halifax Road, Thurgoland, Barnsley, South Yorkshire S35 7ED**

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 November 2017, detailed within Appendix 3 of this report.

1.3 Description of Development

1.3.1 It is proposed to build a new residential development 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 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 tree and hedge removals
- 3 Install tree protection fencing and ground protection boards
- 4 Pre commencement meeting/ confirm fencing and boards are as specified
- 5 Construct development
- 6 Remove tree protection fencing and ground protection boards

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 and hedge removals 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 work requirements with the tree contractor. If necessary, liaise with the contractor on site during tree works.
3 Tree Protection	Installation of the tree protection fencing and ground protection boards 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 fencing and boards until completed to the standard specified in this method statement.
4 Site Meeting	Following installation of tree protection fencing and ground protection boards, the LPA shall be invited to inspect the fencing, boards 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, boards, and tree works are as specified by taking photographs.
5 Construction	Undertake the construction of the new development, including installation of 'no-dig' hard surfaces.	If necessary, liaise with the local authority and the site foreman to ensure any issues are adequately resolved.
6 Site Finishing	Removal of tree protection fencing and ground protection boards 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 fencing and boards.

3. Tree Management

3.1 Tree Works

- 3.1.1 Trees, tree groups and hedges G13, G14, T15, T16, G17, T19, G37 and sections of G18, G20 and G21 require removal to facilitate the development.
- 3.1.2 The trees, tree groups and hedges requiring removal are highlighted in red on the plan at Appendix 4 and as 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 Protection Fencing

- 4.1.1 The tree protection fencing for this site should be located as shown on the Tree Protection Plan (TPP) at Appendix 4 (as illustrated with a thick purple line).
- 4.1.2 The tree protection 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 (see Figures 1 and 2 at Appendix 1 for examples).
- 4.1.3 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 (see Figure 3 at Appendix 1 for an example). 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.

- 4.1.4 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.
- 4.1.5 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 within 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 The tree protection 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.
- 4.1.7 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 Figures 4 and 5 at Appendix 1 for example signs).
- 4.1.8 The tree protection 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 development work is within the exposed RPA of the adjacent Sycamore T39. As such, ground protection will be required within the RPA of T39 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.

- 4.2.2 Interlinked ground protection boards should be used (see Figure 6 at Appendix 1 for an example). They should be located as shown on the Tree Protection Plan (TPP) at Appendix 4 (as illustrated with a light blue hatched area).
- 4.2.3 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.
- 4.2.4 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.

4.3 New Hard Surfaces

- 4.3.1 New hard surfaces, in the form of driveways and footpaths, are proposed within the RPA of retained trees T5, T6 and T39.
- 4.3.2 The works within the RPA 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.
- 4.3.3 The design and construction of the hard surfaces needs 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.
- 4.3.4 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.
- 4.3.5 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 systems.

4.3.6 The ground protection boards protecting the RPA of T39 should remain in place until the final 'no dig' hard surfacing is installed.

4.3.7 The 'no dig' footpath within the RPA of T5 and T6 should be installed after the main construction phase. The tree protection fencing should be temporarily breached to install the footpath.

4.4 New Boundary Fencing

4.4.1 New boundary fencing is proposed within the RPA of retained trees T5 and T6. The encroachment into the trees' RPAs should not significantly adversely impact on the health or future condition of the trees, provided posts and panels type footings are used as opposed to strip footings, with the holes for the posts dug by hand, and care is taken during the construction to avoid root damage.

4.4.2 The new post and panel boundary fencing within the RPA of T5 and T6 should be installed after the main construction phase. The tree protection fencing should be temporarily breached to install the fencing.

4.5 Drainage and Utilities

4.5.1 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.

4.6 Additional Precautions

4.6.1 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.

- 4.6.2 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.
- 4.6.3 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.

5.1 Post Construction Landscaping

- 5.2.1 Many of the trees on site may be subject to some form of landscaping or seeding beneath their canopies after the development phase. At this stage the tree protection fencing will have been removed and the property may be occupied.
- 5.2.2 Landscaping works should be carried out in such a way as to avoid ground level changes or deep digging. Tractor mounted rotovation or other mechanised cultivation methods must not be used.
- 5.2.3 No heavy machinery should be brought into the vicinity of retained trees.
- 5.2.4 Herbicides should be appropriate for the purpose and should not be used in such a way as to damage any retained trees or vegetation.

5. Signature

I trust this report provides all the required information.

Signed



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Adam Winson

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

28th February 2020

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Appendix 1: Images and Figures

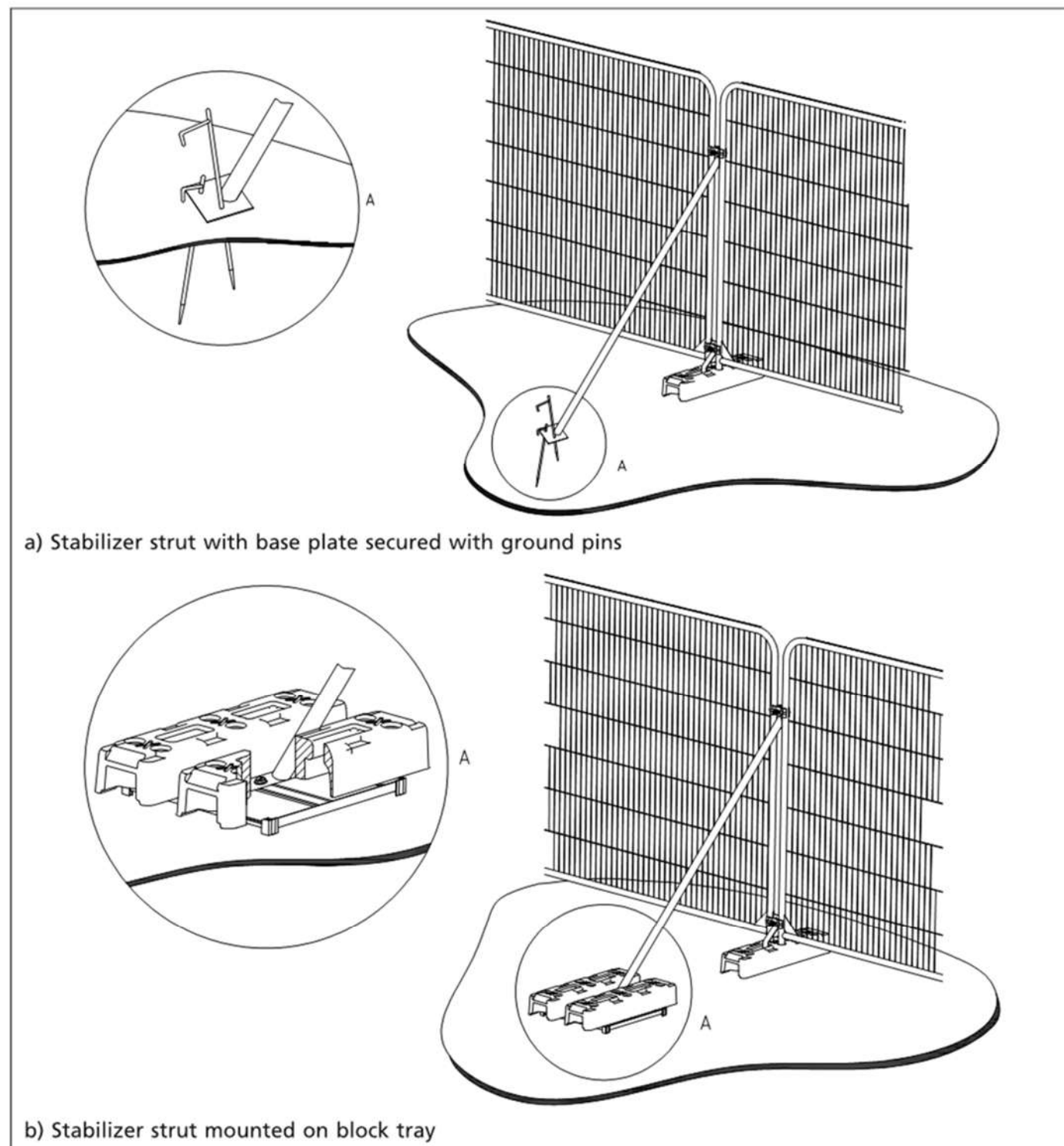


Figure 1: Secured 'Heras' type fencing with stabilizing system and fixed central pins (©BSI)



Figure 2: Secured 'Heras' type fencing with stabilizing system and anti-tamper couplers



Figure 3: Anti tamper couplers to secure fencing and avoid unauthorised access



Figure 4: Warning sign for fencing



Figure 5: Example of A3 correx tree protection warning sign fixed to fencing panel



Figure 6: Interlinked ground protection boards placed on top woodchip

Appendix 2: Relevant Contact Details

Contact Name	Organisation/ Details	Contact Number	Contact E-mail
Stuart Carver	Arncliffe Homes Limited	0113 237 5914	stuartcarver@arncliffehomes.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

Tree ID	Tree Species		Maturity	Measurements				Crown (m)					Tree Condition							Value		Management
	Common Name	Latin Name		Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiology	Structural	Life Expectancy	Amenity	Category	Works
T1	Lawson Cypress	<i>Chamaecyparis lawsoniana</i>	Semi-mature	7	1	170	No	1	2	2	2	2	No visual defects	Single stemmed, Vertical, Ivy covered	Normal		Good	Good	>40 yrs	Low	C	No works required
T2	Ash	<i>Fraxinus excelsior</i>	Semi-mature	10	1	200	No	3	5	4	2	4	No visual defects	Single stemmed, Significant lean	Normal	Significant lean to north over adjacent garden	Good	Fair	20 to 40 yrs	Moderate	C	No works required
T3	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	10	1	260	No	4	4	3	3	3	No visual defects	Single stemmed, Slight lean	Normal		Good	Good	>40 yrs	Moderate	C	No works required
G4	Elder, Privet	<i>Sambucus nigra, Ligustrum vulgare</i>	Semi-mature	4	10+	6	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Tight unions	Normal	Understorey group of shrubby Elder and Privet, Unmanaged, Some screening value	Good	Fair	20 to 40 yrs	Low	C	No works required
T5	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	13	1	380	No	3	4	5	1	4	No visual defects	Single stemmed, Twin stemmed at 2.5m, Slight lean, Tight unions, Partially included bark	Normal	Leaning slightly to north	Good	Fair	20 to 40 yrs	Moderate	C	No works required
T6	Sycamore	<i>Acer pseudoplatanus</i>	Early-mature	14	1	470	No	3	4.5	4.5	5	4.5	No visual defects	Single stemmed, Twin stemmed, at 1.5m, Vertical, Stubs, Old pruning wounds	Normal	Slight included bark in union of two main stems at 1.5m	Good	Good	>40 yrs	Moderate	B	No works required

Tree ID	Tree Species		Maturity	Measurements				Crown (m)					Tree Condition							Value		Management
	Common Name	Latin Name		Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiology	Structural	Life Expectancy	Amenity	Category	Works
G7	Holly	<i>Ilex aquifolium</i>	Semi-mature	4	6	5	No	1	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds	Normal	Outgrowing its position and intruding into adjacent footpath	Good	Fair	20 to 40 yrs	Low	C	No works required
T8	Holly	<i>Ilex aquifolium</i>	Semi-mature	3.5	1	80	Yes	1	2	2	2	2	No visual defects	Single stemmed, Vertical	Normal	Situated in adjacent land. No access. Variegated variety.	Good	Good	20 to 40 yrs	Low	C	No works required
G9	Cypress, Privet	<i>Chamaecyparis lawsoniana</i> , <i>Ligustrum vulgare</i>	Semi-mature	2	10+	6	No	0.5	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs	Minor deadwood, Minor dieback	Managed hedge. Some screening value.	Good	Good	20 to 40 yrs	Low	C	No works required
G10	Hawthorn	<i>Crataegus monogyna</i>	Semi-mature	2	10+	6	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs, Tight unions	Minor deadwood, Minor dieback	Managed hedge. Good habitat and screening value.	Good	Good	>40 yrs	Low	C	No works required
G11	Hawthorn, Holly	<i>Crataegus monogyna</i> , <i>Ilex aquifolium</i>	Semi-mature	2	10+	6	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs, Tight unions	Minor deadwood, Minor dieback	Managed hedge. Good habitat and screening value.	Good	Fair	>40 yrs	Low	C	No works required
G12	Hawthorn	<i>Crataegus monogyna</i>	Semi-mature	1.5	10+	10	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs, Tight unions	Minor deadwood, Minor dieback	Managed hedge. Good habitat and screening value.	Good	Good	>40 yrs	Low	C	No works required

Tree ID	Tree Species		Maturity	Measurements				Crown (m)					Tree Condition							Value		Management
	Common Name	Latin Name		Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiology	Structural	Life Expectancy	Amenity	Category	Works
G13	Holly, Elder	<i>Ilex sp. Sambucus sp.</i>	Semi-mature	2	10+	6	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs, Tight unions	Minor deadwood, Minor dieback	Western section of hedge is dead	Fair	Fair	20 to 40 yrs	Low	C	Removal required to facilitate development
G14	Holly, Elder	<i>Ilex aquifolium, Sambucus nigra</i>	Semi-mature	2	10+	5	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs, Tight unions	Minor deadwood, Minor dieback		Poor	Fair	10 to 20 yrs	Low	C	Removal required to facilitate development
T15	Elder	<i>Sambucus nigra</i>	Mature	4	10+	60	No	1	3	2	2	2	No visual defects	Multiple stemmed at base, Vertical, Epicormic growths, Tight unions	Minor dieback, Minor deadwood		Fair	Fair	10 to 20 yrs	Low	C	Removal required to facilitate development
T16	Elder	<i>Sambucus nigra</i>	Semi-mature	4	6	50	No	1	2	2	2	2	No visual defects	Multiple stemmed at base, Vertical, Epicormic growths, Tight unions	Minor dieback, Minor deadwood		Fair	Fair	10 to 20 yrs	Low	C	Removal required to facilitate development
G17	Hawthorn, Elder	<i>Crataegus sp. Sambucus sp.</i>	Semi-mature	1.5	10+	10	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs, Tight unions	Minor deadwood, Minor dieback	Managed hedge. Good habitat and screening value.	Good	Fair	>40 yrs	Moderate	C	Removal required to facilitate development
G18	Hawthorn, Holly	<i>Crataegus sp. Ilex sp.</i>	Semi-mature	3	10+	50	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs, Tight unions, Ivy covered	Minor deadwood, Minor dieback	Unmanaged roadside hedge	Fair	Fair	>40 yrs	Moderate	C	Partial removal required to facilitate development

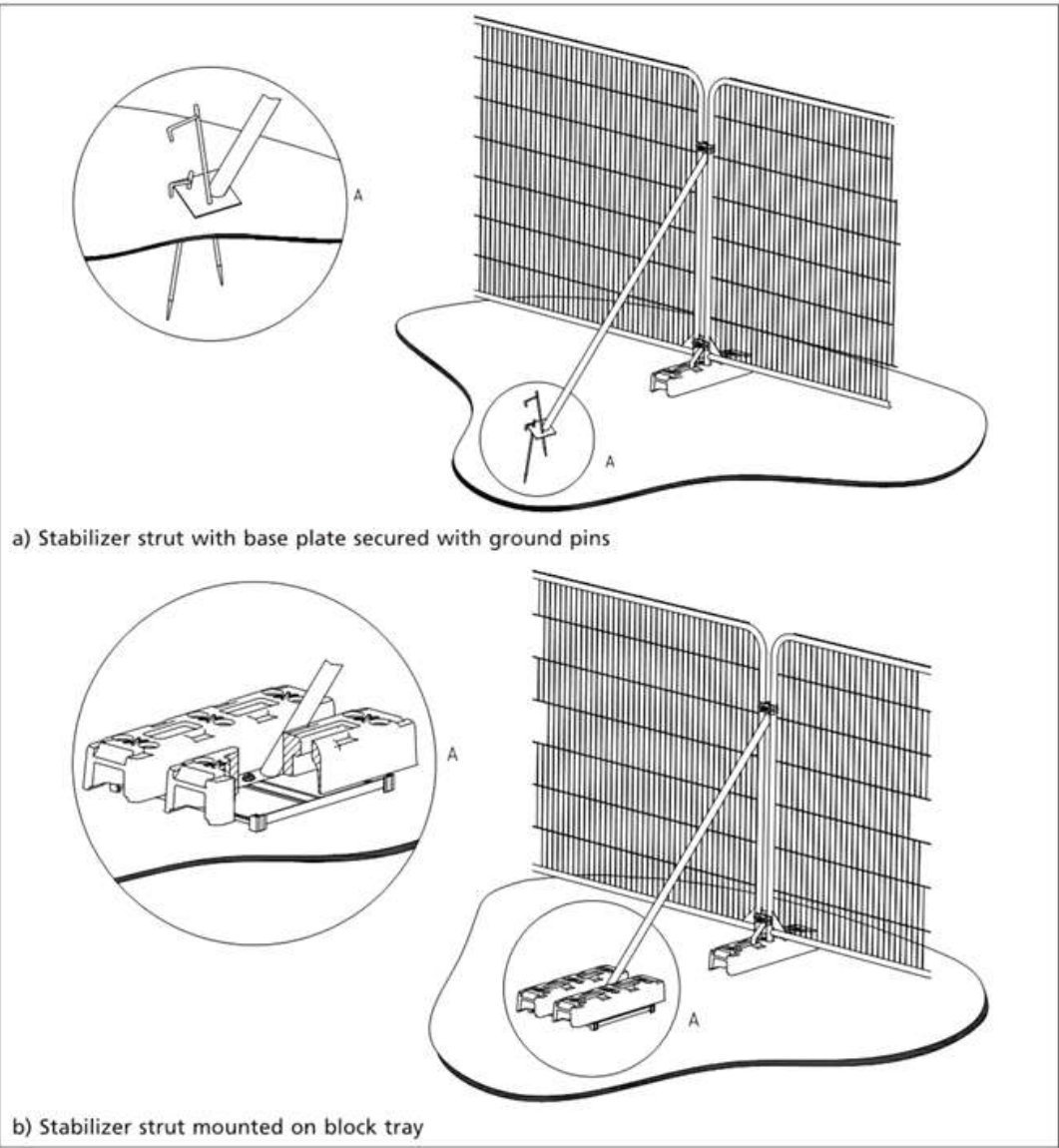
Tree ID	Tree Species		Maturity	Measurements				Crown (m)					Tree Condition							Value		Management
	Common Name	Latin Name		Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiology	Structural	Life Expectancy	Amenity	Category	Works
T19	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	6	2	150, 150	Yes	1	2.5	2.5	2.5	2.5	No visual defects	Twin stemmed at base, Vertical growth orientation, Tight union, Ivy covered	Normal	Limited access. Roadside position on banking.	Good	Good	>40 yrs	Low	C	Removal required to facilitate development
G20	Hawthorn	<i>Crataegus monogyna</i>	Semi-mature	2	10+	6	Yes	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Old pruning wounds, Stubs, Tight unions	Normal	Limited access. Roadside position on banking.	Good	Good	>40 yrs	Moderate	C	Partial removal required to facilitate development
G21	Hawthorn, Blackthorn, Laurel, Dog Rose, Maple	<i>Crataegus sp. Prunus sp. Rosa sp. Acer sp.</i>	Semi-mature	2	10+	20	No	0	See plan				No visual defects	Single & Multiple stemmed, Vertical, Stubs, Old pruning wounds	Normal	Shrubby roadside group	Good	Good	>40 yrs	Moderate	C	Partial removal required to facilitate development
T22	Maple	<i>Acer campestre</i>	Semi-mature	6.5	1	250	No	1	3	3.5	2.5	2	No visual defects	Single stemmed, Twin stemmed at 1.5m, Slight lean	Normal	Limited access prevented accurate stem measurement. Affecting telephone wire above.	Good	Good	>40 yrs	Low	C	No works required
T23	Maple	<i>Acer campestre</i>	Semi-mature	6	2	200, 150	No	1	3	3.5	3.5	3.5	No visual defects	Twin stemmed at base, Vertical	Normal	Limited access prevented accurate stem measurement. Affecting telephone wire above.	Good	Good	>40 yrs	Low	C	No works required
T24	Alder	<i>Alnus glutinosa</i>	Semi-mature	6	1	120	No	2.5	1	2.5	2	0.5	No visual defects	Single stemmed, Vertical	Unbalanced	On roadside banking. Encroaching on BT wire above.	Good	Good	>40 yrs	Low	C	No works required

Tree ID	Tree Species		Maturity	Measurements				Crown (m)					Tree Condition							Value		Management
	Common Name	Latin Name		Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiology	Structural	Life Expectancy	Amenity	Category	Works
T25	Maple	<i>Acer campestre</i>	Semi-mature	7	2	210, 110	No	3	2	3.5	2.5	1	No visual defects	Twin stemmed at base, Vertical	Normal	On roadside banking. Encroaching on BT wire above.	Good	Good	>40 yrs	Low	C	No works required
T26	Alder	<i>Alnus glutinosa</i>	Semi-mature	8	1	160	No	3	2	2.5	2	1	No visual defects	Single stemmed, Vertical	Normal		Good	Good	>40 yrs	Low	C	No works required
T27	Maple	<i>Acer campestre</i>	Semi-mature	7	1	200	No	2	3	2.5	3	2.5	Exposed roots	Single stemmed, Vertical	Normal	Limited access prevented accurate stem measurement. Some exposed primary roots due to position on banking.	Good	Good	>40 yrs	Low	C	No works required
T28	Alder	<i>Alnus glutinosa</i>	Semi-mature	8	2	120, 160	No	2	2	3	2	1	No visual defects	Twin stemmed at base, Slight lean, Bark damage	Normal	Bark wounds to main stems but healing well	Good	Good	>40 yrs	Low	C	No works required
T29	Maple	<i>Acer campestre</i>	Semi-mature	8	1	200	No	2	3	2.5	2.5	3.5	No visual defects	Single stemmed, Twin stemmed at 1.5m, Vertical	Normal		Good	Good	>40 yrs	Low	C	No works required
T30	Maple	<i>Acer campestre</i>	Semi-mature	7	1	210	No	2	2.5	3.5	2.5	0.5	No visual defects	Single stemmed, Slight lean	Unbalanced		Good	Fair	>40 yrs	Low	C	No works required

Tree ID	Tree Species		Maturity	Measurements				Crown (m)					Tree Condition							Value		Management
	Common Name	Latin Name		Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiology	Structural	Life Expectancy	Amenity	Category	Works
T31	Maple	<i>Acer campestre</i>	Semi-mature	9	1	270	No	2	3.5	4	3.5	2.5	No visual defects	Single stemmed, Twin stemmed at 1.5m, Vertical, Tight unions, Partially included bark	Normal	Included bark in union of two main stems at 1.5m	Good	Fair	>40 yrs	Low	C	No works required
T32	Maple	<i>Acer campestre</i>	Semi-mature	6	1	160	No	2	3	2	3	3	No visual defects	Single stemmed, Vertical	Normal	Hedgerow tree with good prospects.	Good	Good	>40 yrs	Low	C	No works required
T33	Ash	<i>Fraxinus excelsior</i>	Semi-mature	7	1	150	No	3.5	2	2	2	2	No visual defects	Single stemmed, Slight lean	Normal		Good	Good	>40 yrs	Low	C	No works required
T34	Birch	<i>Betula pendula</i>	Early-mature	9	1	250	Yes	2	4	3.5	2	2.5	No visual defects	Single stemmed, Slight lean, Stubs, Old pruning wounds	Normal	Situated in adjacent land. No access.	Good	Good	>40 yrs	Moderate	C	No works required
G35	Lilac, Cypress, Berberis	<i>Syringa sp.</i> , <i>Cupressus sp.</i> , <i>Berberis sp.</i>	Early-mature	3	10	5	Yes	0.5	See plan				No visual defects	Single & Multiple stemmed, Vertical	Normal	Adjacent shrub group. No access.	Fair	Fair	20 to 40 yrs	Moderate	C	No works required
T36	Rowan	<i>Sorbus aucuparia</i>	Mature	6	1	250	Yes	2	4	4	4	4	No visual defects	Single stemmed, Vertical	Normal	Situated in adjacent land. No access.	Good	Good	>40 yrs	Moderate	C	No works required

Tree ID	Tree Species		Maturity	Measurements				Crown (m)					Tree Condition							Value		Management
	Common Name	Latin Name		Height (m)	Stems	Stem Dia (mm)	Estimated	Ave Height	N	E	S	W	Roots	Stem	Crown	Comments	Physiology	Structural	Life Expectancy	Amenity	Category	Works
G37	Elder, Hawthorn	<i>Sambucus nigra</i> , <i>Crataegus monogyna</i>	Semi-mature	2	10+	5	No	0	See plan				No visual defects	Single & Multiple stemmed, Old pruning wounds, Tight unions	Normal	Shrubby unmanaged hedge	Good	Good	20 to 40 yrs	Low	C	Removal required to facilitate development
G38	Holly, Hawthorn, Laurel	<i>Ilex sp.</i> , <i>Crataegus sp.</i> , <i>Prunus sp.</i>	Semi-mature	3	10+	5	Yes	1	See plan				No visual defects	Single & Multiple stemmed, Old pruning wounds, Tight unions	Normal	Shrub group. Situated in adjacent land. No access.	Good	Good	20 to 40 yrs	Low	C	No works required
T39	Sycamore	<i>Acer pseudoplatanus</i>	Mature	10	1	500	Yes	4	4.5	4.5	4.5	4.5	No visual defects	Single stemmed, Slight lean, Stubs, Old pruning wounds	Pruning wounds Small/ sparse, Minor deadwood	Situated in adjacent land. No access. Pruned/ pollarded at approximately 9m. Leaning on wall to north.	Good	Fair	>40 yrs	Moderate	B	No works required

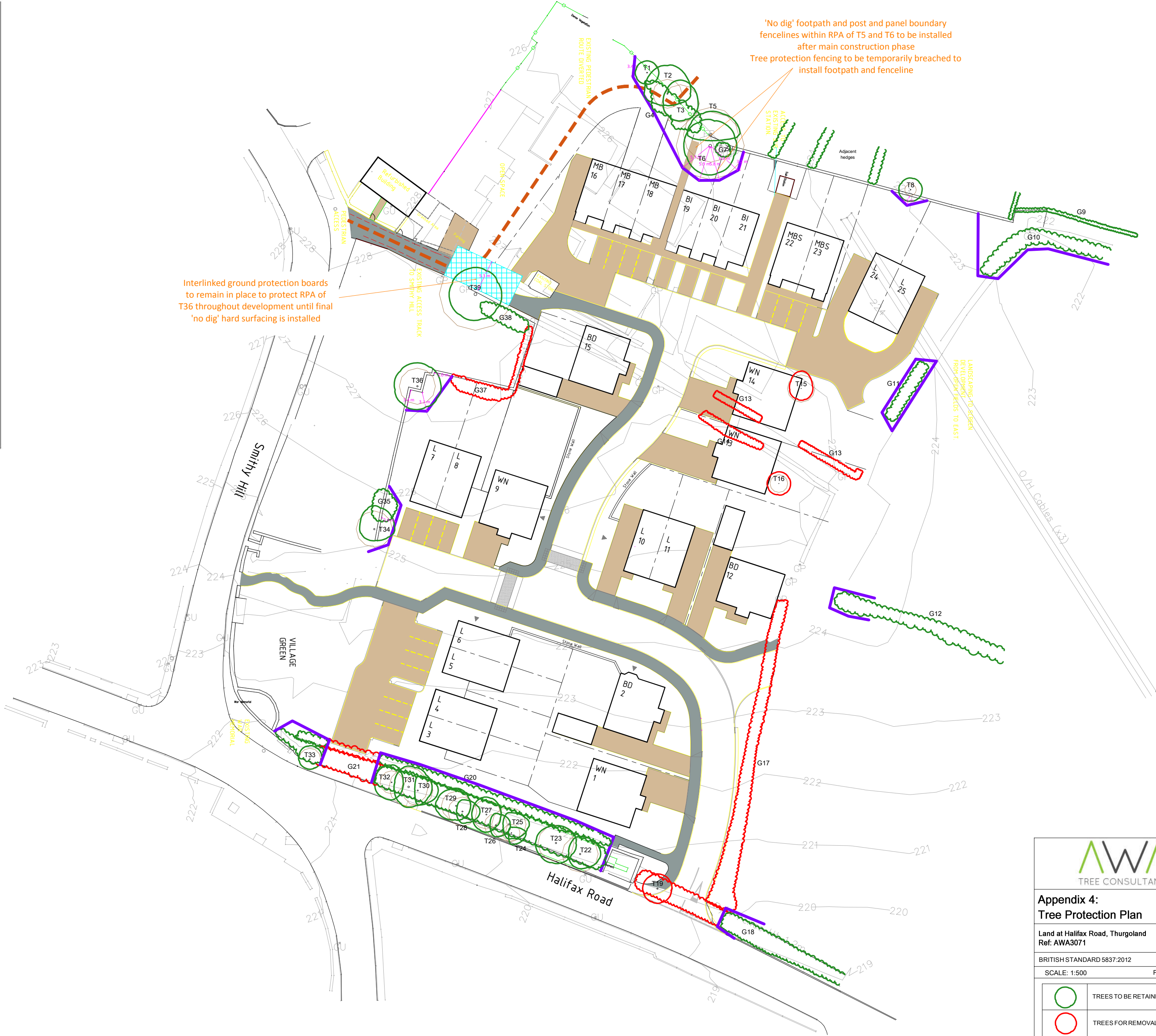
Inset 1: Tree protection fencing



Inset 2: Photo of tree protection fencing



Inset 3: Example warning sign for tree protection fencing



Appendix 4:
Tree Protection Plan

Land at Halifax Road, Thurgoland
Ref: AWA3071

BRITISH STANDARD 5837:2012

SCALE: 1:500 PAPER: A2

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