



**Arboricultural Method Statement & Tree Protection Plan – In
Accordance with BS 5837:2012**

Proj. No 9502	Monks Hall Treehouse, Syleham Road, Eye, Suffolk, IP21 4LN		
Client:		Blue Forest	
Date of Report:	13/05/2022	Revision:	Original

***Arboricultural Method Statement &
Tree Protection Plan
In Accordance with
BS 5837:2012***

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1.0 Introduction

1.1 Terms of Reference

- 1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Blue Forest to prepare a bespoke Arboricultural Method Statement for the proposed development at Monks Hall Treehouse, Syleham Road, Eye, Suffolk, IP21 4LN.
- 1.1.2 This report provides supplementary information to that submitted in the Tree Survey, Arboricultural Impact Assessment, and Preliminary Method Statement & Tree Protection Plan dated 01/09/2021, ref: 8989.
- 1.1.3 In accordance with the requirements of Babergh Mid Suffolk District Council, information is required regarding the following:
- (i) Tree Protection
 - (ii) Site Access and Storage of Material, Equipment and Waste
 - (iii) Ground Protection Measures
 - (iv) Access facilitation pruning
 - (v) Construction Methods
 - (vi) Services
 - (vii) Phasing and Monitoring Schedule

2.0 Specific Details

2.1 Tree protection

- 2.1.1 Prior to the commencement of development and immediately after the completion of the necessary tree surgery and felling work, protective fencing will be erected on site. This must be fit for purpose (including any ground protection if necessary) in full accordance with the requirements of BS 5837:2012 and positioned as shown on drawing no. 9502-D-AMS (Appendix G).
- 2.1.2 Details of fencing are supplied in attached Appendix F.

2.2 Site Access and Storage of Materials, Equipment and Waste

- 2.2.1 Access to the site will be via the existing farm tracks through Monks Hall and then through the arable field to the west of the proposed treehouse. All access through the field will be of a sufficient distance away from the woodland as to avoid the vulnerable RPA.
- 2.2.2 All materials, equipment and waste will be stored outside the RPA of the retained trees. The precise location/s for storage will be confirmed and approved in writing by the main contractor and the Local Planning Authority.

2.3 Ground Protection Measures

- 2.3.1 During the construction process, Root Protection Areas must not be exposed to compaction or contamination. Where they cannot be enclosed by fencing (for practical site access reasons) it will be necessary to provide temporary ground protection that is fit for purpose. Examples of light weight and heavy duty ground protection measures are supplied in Appendix F.



2.3.2 Due to the complexities of construction, it is not possible to predict at this stage which type of ground protection will be necessary. Therefore, this must be agreed on site by the Monitoring Arboricultural Consultant (item 2.7.2).

2.4 **Access Facilitation Pruning**

2.4.1 Access facilitation pruning is fully detailed in the Tree Survey, Arboricultural Impact Assessment, and Preliminary Method Statement & Tree Protection Plan dated 01/09/2021, ref: 8989. However, for ease of data management the specification is reproduced at Appendix C.

2.5 **Construction Methods**

2.5.1 The foundations required for the proposed tree house will be constructed in accordance with the specialist foundation designs as set out by Blue Forest in their Treehouse Construction Method Statement.

2.5.2 Where it is necessary to install ground piles a suitable temporary piling mat will be installed prior to piling works commencing. The piling mat will be of suitable load bearing capacity as to support the piling rig machine.

2.5.3 The piling rig machine to be used will be of a sufficiently small size as to be operable beneath the crowns of the retained trees. Furthermore, the machine will only be operated when a qualified banksman is present as to avoid damage arising when close to the trees above ground.

2.5.4 The installation of the specialist foundations shall be supervised by a competent Arboriculturalist to ensure that the arboricultural aspects of the specialist foundations are complied with. As such, the method statement flowchart/checklist included on drawing no. 9502-D-AMS should be used as an auditable monitoring schedule to assess the progress of key events/activities.

2.6 **Services**

2.6.1 The following principles will be adhered to when installing services:

- It is proposed that the majority of underground service runs will be placed outside the RPA of the tree on the site. Where it has not been possible to do this, the proposed length infringing the RPA will be hand dug 'broken trenches' (NJUG 4 paragraph 4) to ensure the maximum protection of the trees' roots. The trenches may also be excavated using an air spade, or trenchless technology can be employed if this methodology is considered appropriate by the relevant service company (thus allowing services to pass below and through the roots without the need for traditional excavation). If it is necessary to cut any small roots as part of any of these processes, they should be severed in such a way as to ensure that the final wound is as small as possible and free from ragged, torn ends.
- All routes for overhead services will aim to avoid the trees. Where this is not possible, any tree work will be agreed prior to commencement with the Local Planning Authority.
- All service providers (Statutory Authorities) will be consulted prior to commencement of works with the aim of minimizing the number of service runs on the site.
- All service runs/trenches where they encroach within the RPA of retained trees will be agreed with the Local Planning Authority prior to commencement of works.



- All services which infringe within the RPA of the retained tree will only be installed with the monitoring arborist in attendance to supervise all associated excavation and installation works.

2.7 Phasing and Monitoring Schedule

- 2.7.1 The proposal involves the integration of a number of complex aspects that affect tree protection (e.g. – but not exclusively – access and movement of materials). For this reason, the project must be carefully phased to ensure the highest level of protection for trees at all times. Accordingly, Hayden’s Arboricultural Consultants have produced a method statement flowchart/checklist phasing recommendation to cover the major operations on site as they affect retained trees. This is included on drawing no. 9502-D-AMS.
- 2.7.2 In accordance with item 6.3 of BS 5837:2012, the site and associated development must be monitored regularly by a competent Arboriculturalist to ensure that the arboricultural aspects of the planning permission are complied with. As such, the method statement flowchart/checklist included on drawing no. 9502-D-AMS should be used as an auditable monitoring schedule to assess the progress of key site events/activities.
- 2.7.3 In addition to the method statement flowchart/checklist, it is beneficial to identify the key arboricultural responsibilities associated with the progression of the development. Accordingly, a draft “Statement of Supervision (Arboriculture)” has been included at Appendix E. The purpose of this document is to identify a definite decision making and data recording structure in the monitoring process, together with providing a list of specific inspection trigger points. Prior to works commencing on site, this document should be re-issued with contact names and document reference numbers included.
- 2.7.4 It is the responsibility of the Site Manager, with authorization from their Client, to commission and plan Arboricultural Monitoring site visits as listed in the Statement of Supervision (Appendix E) and on drawing no. 9488-D-AMS. Hayden’s upon this request will produce a detailed quotation to match with the critical Arboricultural Monitoring points outlined.



3.0 Appendices

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Appendix A - Species List

Species List:

Ash	<i>Fraxinus excelsior</i>
Elder	<i>Sambucus nigra</i>
English Oak	<i>Quercus robur</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Holly	<i>Ilex aquifolium</i>



Appendix B

Schedule of Trees

SCHEDULE OF TREES (AIA) Monks Hall Treehouse, Syleham Road, Eye, Suffolk

Surveyed By: Steve Holyland
Managed By: Steve Holyland

Date:

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		On site	RPA (m ²)	Aspect	Aspect	SULE						
H001	Hawthorn, Elder, Hazel	120	4.5		Low	N1.5, E1.5, S1.5, W1.5	A denser understorey feature at the edge of the wood more like a hedgerow. This is mostly made up of Hawthorn. Unmanaged in form.	C2	No work required.	4	Fell section to ground level.	0
		1.44	0		EM	High						
		6.5			10+ years	Woodland floor						
T001	English Oak	490	17		Low	N4, E6.5, S7.5, W5	Typical woodland specimen. Epicormic growth up main stem. Main stem has a lean towards the east. Crown dominance is to the east and south. Crown features minor and major deadwood but no target.	B2	No work required.	4		
		5.88	8		EM	High						
		108.6			20+ years	Woodland floor, Dense undergrowth						
T002	English Oak	510	17		Low	N4.5, E4.5, S4.5, W5	Typical woodland specimen. Epicormic growth up main stem. Crown features minor and major deadwood but no target.	B2	No work required.	4		
		6.12	4.5		EM	High						
		117.7		W	20+ years	Woodland floor, Dense undergrowth						
T003	English Oak	760	18.5		Low	N6, E3, S4, W6	Tree is located on the edge of the woodland. Epicormic growth up main stem. The crown is very dominant to the west as this is the exposed side on the edge of the woodland. The east side is almost bare other than some major deadwood. The crown height on the east to south east is circa. 9 metres from ground level. Crown features minor and major deadwood but no target.	B2	No work required.	4	Crown lift southern aspect to allow up to 1m clearance from proposed treehouse.	0
		9.12	2		EM	High						
		261.3		W	20+ years	Woodland floor, Dense undergrowth						
T004	English Oak	540	17		Low	N6.5, E4.5, S4, W5	Typical woodland specimen. Main stem has a slight lean to the north. Epicormic growth up main stem. Crown features minor and major deadwood but no target.	B2	No work required.	4	Crown lift southern aspect to allow up to 1m clearance from proposed treehouse.	0
		6.48	4.5		EM	High						
		131.9			20+ years	Woodland floor, Dense undergrowth						
T005	English Oak	500	15		Low	N2, E3, S3, W3	Tree is clearly in a poor condition with a dead and dying crown. Tree has tried to respond with Epicormic growth and Adventitious growth but tree is still dying.	U	No work required.	4	Fell to ground level.	0
		6	3		EM	High						
		113.1			<10 years	Woodland floor, Dense undergrowth						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		On site	RPA (m ²)	Aspect	Aspect	SULE						
T006	Ash	190	16		Low	N3.5, E7.5, S2.5, W2	Younger tree emerging through canopy. Tall spindly specimen. Main stem has a lean to the east. Crown is also dominant to the east.	C2	No work required.	4	Fell to ground level.	0
		2.28	5.5		SM	Moderate						
Yes		16.3		E	10+ years	Dense undergrowth, Woodland floor						
T007	English Oak	460	17		Low	N4.5, E3, S4.5, W4.5	Typical woodland specimen. Epicormic growth up main stem. Crown features minor and major deadwood but no target.	B2	No work required.	4	Crown lift southern and western aspects to allow up to 1m clearance from proposed treehouse.	0
		5.52	3.5		EM	High						
Yes		95.7			20+ years	Woodland floor, Dense undergrowth						
T008	English Oak	520	17		Low	N6.5, E5, S3.5, W3.5	Crown is more sparse than adjacent trees of the same species in the woodland. No sign as to cause.	B2	Monitor annually for signs of deterioration.	3		
		6.24	3		EM	High						
Yes		122.3			20+ years	Woodland floor, Dense undergrowth						
T009	English Oak	460	12		Low	N4.5, E4.5, S4, W4.5	Main stem bifurcates at 2.5 metres and the crown is more open and wide spreading. The leader on the west side has died leaving major deadwood.	C2	No work required.	4	Fell to ground level.	0
		5.52	2		EM	High						
Yes		95.7		S	10+ years	Dense undergrowth, Woodland floor						
T010	English Oak	520	17		Low	N4.5, E4.5, S4.5, W4.5	Typical woodland specimen. Epicormic growth up main stem. Crown features minor and major deadwood but no target.	B2	No work required.	4	Crown lift northern aspect to allow up to 1m clearance from proposed treehouse.	0
		6.24	2.5		EM	High						
Yes		122.3			20+ years	Woodland floor, Dense undergrowth						
T011	English Oak	670	17		Low	N4, E5.5, S7, W4.5	Tree is located on the edge of the woodland. Epicormic growth up main stem. The crown is very dominant to the south and south east, as this is the exposed side on the edge of the woodland. The north side is almost bare. The crown height on the north is circa. 13 metres from ground level. Crown features minor and major deadwood but no target.	B2	No work required.	4	Crown lift northern aspect to allow up to 1m clearance from proposed treehouse.	0
		8.04	4		EM	High						
Yes		203.1		W	20+ years	Woodland floor, Dense undergrowth						
T012	English Oak	550	14		Low	N3, E2.5, S3, W6.5	A multi-stem specimen from 0.5 metre. The union is very upright and tight but sufficient. Dense bushy Epicormic growth. Crown is dominant to the east, as that is the edge of the woodland.	B2	No work required.	4		
		6.6	1		EM	High						
Yes		136.8			20+ years	Dense undergrowth, Woodland floor						

TreeNo	Species	DBH	Height		Visual	Crown Spread	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
		Min Dist	Crown Base	Lowest Branch	Age	Water Demand						
		RPA (m ²)	Aspect	Aspect	SULE	Ground Cover						
T013	English Oak	940	20		Low	N7.5, E6.5, S7, W7.5	Mature tree located on the edge of the woodland. The crown is very dominant to the west, as this is the exposed side on the edge of the woodland. The east side is almost bare other than some major dead wood. The crown height on the east to south east is circa. 13 metres from ground level. Crown features minor and major deadwood but no target.	B2	No work required.	4		
		11.28	2.5		M	High						
Yes		399.7		W	20+ years	Woodland floor, Dense undergrowth						
T014	English Oak	650	17		Low	N5, E5.5, S4, W5	Main stem has a twist and distortion at circa. 7 metres from ground level. This could be a possible weak failure point in the future. Crown features minor and major deadwood but no target.	C2	Monitor annually for signs of deterioration.	3	Crown lift northern, eastern and southern aspects to allow up to 1m clearance from proposed treehouse.	0
		7.8	3		EM	High						
Yes		191.1		W	10+ years	Woodland floor, Dense undergrowth						
W001	English Oak, Ash, Elder, Hawthorn, Hazel, Holly	900	25		Low	N9, E9, S9, W9	A woodland which is mainly made up of early mature to mature Oak. Ash is also occasionally present. The Oak throughout the woodland are in a fair condition but their crowns are lacking a usually expected vigour and in general there is a higher than average amount of major and minor deadwood. The lack in vigour could perhaps be due to the poor weather and growing season of 2021 but tree health should be annually monitored in case this is a wider issue. The occasional tree has been spotted to have some very minor black stem bleeds. Woodland has a dense understorey of mainly Elder and Hawthorn.	B2	Monitor annually for signs of deterioration.	3		
		10.8	0		M	High						
Yes		366.4			20+ years	Dense undergrowth, Woodland floor						

Appendix C

Schedule of Works to Allow Development

SCHEDULE OF WORKS (AIA)

Monks Hall Treehouse, Syleham Road, Eye, Suffolk

Surveyed By: Steve Holyland

Surveyed:

Managed By: Steve Holyland

Tree No.	Species	Work required	Priority
H001	Hawthorn, Elder, Hazel	Fell section to ground level.	0
T003	English Oak	Crown lift southern aspect to allow up to 1m clearance from proposed treehouse.	0
T004	English Oak	Crown lift southern aspect to allow up to 1m clearance from proposed treehouse.	0
T005	English Oak	Fell to ground level.	0
T006	Ash	Fell to ground level.	0
T007	English Oak	Crown lift southern and western aspects to allow up to 1m clearance from proposed treehouse.	0
T009	English Oak	Fell to ground level.	0
T010	English Oak	Crown lift northern aspect to allow up to 1m clearance from proposed treehouse.	0
T011	English Oak	Crown lift northern aspect to allow up to 1m clearance from proposed treehouse.	0
T014	English Oak	Crown lift northern, eastern and southern aspects to allow up to 1m clearance from proposed treehouse.	0

Appendix D

Explanatory Notes

Explanatory Notes



Categories

Below is an explanation of the categories used in the attached Tree Survey.

No Identifies the tree on the drawing.

Species Common names are given to aid understanding for the wider audience.

BS 5837 Main Category Using this assessment (BS 5837:2012, Table 1), trees can be divided into one of the following simplified categories, and are differentiated by cross-hatching and by colour on the attached drawing:

Category A - Those of high quality with an estimated remaining life expectancy of at least 40 years;

Category B - Those of moderate quality with an estimated remaining life expectancy of at least 20 years;

Category C - Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm;

Category U - Those trees in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

BS 5837 Sub Category Table 1 of BS 5837:2012 also requires a sub category to be applied to the A, B, C, and U assessments. This allows for a further understanding of the determining classification as follows:

Sub Category 1 - Mainly arboricultural qualities;

Sub Category 2 - Mainly landscape qualities;

Sub Category 3 - Mainly cultural values, including conservation .

Please note that a specimen or landscape feature may fulfil the requirements of more than one Sub Category.

DBH (mm) Diameter of main stem in millimetres at 1.5 metres from ground level. Where the tree is a multi-stem, the diameter is calculated in accordance with item 4.6.1 of BS 5837:2012.

Age Recorded as one of seven categories:

Y Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH.

S/M Semi-mature. An established tree, but one which has not reached its prospective ultimate height.

E/M Early-mature. A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread.

M Mature. A mature specimen with limited potential for any significant increase in size, even if healthy.

O/M Over-mature. A senescent or moribund specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications.



D Dead.

Height	Recorded in metres, measured from the base of the tree.
Crown Base	Recorded in metres, the distance from ground and aspect of the lowest branch material.
Lowest Branch	Recorded in metres, the distance from ground and aspect of the emergence point of the lowest significant branch.
Life Expectancy	Relates to the prospective life expectancy of the tree and is given as 4 categories: 1 = 40 years+; 2 = 20 years+; 3 = 10 years+; 4 = less than 10 years.
Crown Spread	Indicates the radius of the crown from the base of the tree in each of the northern, eastern, southern and western aspects.
Minimum Distance	This is a distance equal to 12 times the diameter of the tree measured at 1.5 metres above ground level for single stemmed trees and 12 times the average diameter of the tree measured at 1.5 metres above ground level tree for multi stemmed specimens. (BS 5837:2012, section 4.6).
RPA	This is the Root Protection Area, measured in square metres and defined in BS5837:2012 as “a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority”. The RPA is shown on the drawing.. Ideally this is an area around the tree that must be kept clear of construction, level changes of construction operations. Some methods of construction can be carried out within the RPA of a retained tree but only if approved by the Local Planning Authority’s tree officer.
Water Demand	This gives the water demand of the species of tree when mature, as given in the NHBC Standards Chapter 4.2 “Building Near Trees”.
Visual Amenity	Concerns the planning and landscape contribution to the development site made by the tree, hedge or tree group, in terms of its amenity value and prominence on the skyline along with functional criteria such as the screening value, shelter provision and wildlife significance. The usual definitions are as follows: Low An inconsequential landscape feature. Moderate Of some note within the immediate vicinity, but not significant in the wider context. High Item of high visual importance.
Problems/ Comments	May include general comments about growth characteristic, how it is affected by other trees and any previous surgery work; also, specific problems such as deadwood, pests, diseases, broken limbs, etc.
Work Required (TS)	Identifies the necessary tree work to mitigate anticipated problems and deal with existing problems identified in the “Problems/comments” category.



Work Required (AIA)

Identifies the tree work specifically necessary to allow a proposed development to proceed.

Priority

This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey.

- 1 Urgent – works required immediately;
- 2 Works required within 6 months;
- 3 Works required within 1 year;
- 4 Re-inspect in 12 months,
- 0 Remedial works as part of implementation of planning consent.



BS 5837:2012 Terms and Definitions

Access Facilitation Pruning	One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
Competent Person	Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached. <i>NOTE - a competent person is expected to be able to advise on the best means by which the recommendations of this British Standard may be implemented.</i>
Construction	Site-based operations with the potential to affect existing trees.
Construction Exclusion Zone	Area based on the root protection area from which access is prohibited for the duration of a project.
Root Protection Area (RPA)	Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
Service	Any above or below ground structure or apparatus required for utility provision. NOTE - examples include drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.
Stem	Principal above ground structural component(s) of a tree that supports its branches.
Structure	Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.
Tree Protection Plan	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures.
Veteran Tree	Tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. NOTE - these characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem.



Appendix E

Statement of Supervision

Monks Hall Treehouse, Syleham Road, Eye, Suffolk, IP21 4LN

Statement of Supervision (Arboriculture)

Introduction

In accordance with Planning Permission DC/21/06290 (dated 14/01/2022), Blue Forest are undertaking the development of the above site.

The purpose of this document is to ensure that all works that have an impact on retained trees are undertaken in accordance with the approved Method Statement and Tree Protection Plan. As such, the purpose of the Statement is to identify the following arboricultural issues:

- Approved documents;
- Key staff and contacts;
- Critical phases of pre-commencement, induction and construction.

Approved Documents

The following documents must be available to all those with responsibility for arboricultural matters during construction:

- BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.
- Notice of Planning Decision DC/21/06290, dated 14/01/2022.
- Preliminary Arboricultural Method Statement & Tree Protection Plan for this project – produced by Hayden’s Arboricultural Consultants dated 01/09/2021.
- Arboricultural Method Statement & Tree Protection Plan for this project – produced by Hayden’s Arboricultural Consultants dated 11/05/2022.

Key Staff

The following have or are to be appointed responsible for arboricultural matters at the site:

- Developer: Blue Forest (or their representative).
- Arboricultural Consultant: Hayden’s Arboricultural Consultants Ltd. Contact Mr Stephen Holyland (Arboricultural Consultant) – 01284 765391, info@treesurveys.co.uk, (or his representative).
- Site Manager/Agent – TBC, (or their representative).

Critical phases of pre-commencement, induction, construction & completion

REF	ACTIVITY	ONE OFF /REPEAT	ATTENDEES	ACTION
1	Pre-commencement meeting (to discuss working methods, timescales and tree protection schemes)	One off	Developer, Arboricultural Consultant, Site Manager/Agent, Ground Works Contractor, Council Arboricultural Officer	Arboricultural Consultant to record minutes – copies to be submitted to attendees
2	Inspection of completed tree surgery	One off	Arboricultural Consultant, Site Manager/Agent	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
3	Inspection of installed tree protection	One off	Arboricultural Consultant, Site Manager/Agent	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
5	Final tree assessment – after fencing removal	One off	Developer, Arboricultural Consultant, Site Manager/Agent, Ground Works Contractor, Council Arboricultural Officer	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer
-	Additional inspections (if necessary) to ensure periods not greater than three months elapse between any of above listed monitoring events	Dependent on progress of the project	Arboricultural Consultant, Site Manager/Agent	Arboricultural Consultant to record minutes – copies to be submitted to Developer and Council Arboricultural Officer

Variations and Incidents

Any proposed variations to the proposed working method (relating to arboricultural matters) will be referred by the on-Site Manger/Agent to the Developer who will seek advice from the Arboricultural Consultant. The Arboricultural Consultant shall advise on minor amendments (e.g. realignment of fencing etc) and will subsequently report these to the Arboricultural Officer by e mail or minutes. Issues directly relating to tree surgery or tree retention will be forwarded by the Arboricultural Consultant (with recommendations) to the Arboricultural Officer for approval. Except in an emergency situation **and** when the Arboricultural Officer is unavailable, no such actions will occur without the written approval of the Arboricultural Officer.

A handwritten signature in black ink, appearing to read 'S. Holyland', written in a cursive style.

Stephen Holyland
Arboricultural Consultant
Hayden's Arboricultural Consultants Ltd

11th May 2022.

Reasons for a Qualified Monitoring Arboriculturalist

It is essential that the works are monitored by a qualified and experienced Arboriculturalist for the following reasons.

1. An Arboriculturalist has the skill and expertise to identify if the approved tree surgery specification has been complied with and the knowledge to provide appropriate remedial advice.
2. It is necessary for informed decisions to be made regarding the impact of tree surgery, particularly root pruning. The location of roots is assessed via a calculation, but in reality, roots may grow in a more unpredictable fashion dependent on topographic and historic features. Under CDM it is essential that expert individual knowledge is available and can advise on the inevitable unforeseen circumstances that arise.
3. An Arboriculturalist provides the point of liaison and information exchange with the Local Planning Authority's Tree Officer who is also normally a qualified Arboriculturalist. This allows fellow professionals to discuss the technical matters that inevitably arise and agree appropriate and balanced solutions. Having an Arboriculturalist engaged on the supervision of a project provides comfort to the Local Planning Authority that tree protection measures are complied with and hence it is much more likely that there will be less direct scrutiny from the Local Planning Authority (regarding tree matters) during the build of the project than would otherwise be the case.
4. Arboricultural input is essential to confirm that tree protection measures are adequate and fit for purpose. This can often save the client time (and therefore money) by identifying working methods and systems that are site efficient.
5. As living entities sensitive to their environment, the condition of trees changes, and over the course of a project it may be necessary to advise on additional tree surgery or felling as a result of, for example disease or storm damage.
6. An Arboriculturalist will provide detailed briefing notes and "toolbox talks" to site staff to ensure their compliance with conditions and prevent arboricultural breaches of conditions arising which can have severe consequences for project progression.
7. Close liaison between the Site Manager and the Arboriculturalist will ensure that the retained trees are protected but as minimal an inconvenience to construction as possible. This leads to the final outcome which is the completion of the project with retained healthy trees complementing the buildings in the manner that the designers and planners envisaged.



David M Carmichael
Practice Manager



Tree Protection Briefing Note

Introduction:

The trees that are to remain as part of the development are important and must not be harmed. They have been carefully selected as part of an extensive appraisal, design and planning process and therefore are legally protected by a combination of Tree Preservation Orders and Planning Conditions. This means that any damage caused to retained trees is a serious offence, as is the undertaking of any work to trees that has not been authorised in writing by the Local Planning Authority. Contravention of this legislation is liable to lead to heavy personal or corporate fines together with the imposition of stop notices, expensive mitigation measures and replacement planting instructions. Given this, it is vital that all development staff are familiar with the approved Tree Protection Plan (TPP).

Typical Forms of Construction Damage to Trees:

1. **Physical Injury to Trunk and Crown.** Construction equipment can injure the above-ground portion of a tree by breaking branches, tearing the bark, and wounding the trunk. These injuries are permanent and, if extensive, can be fatal.
2. **Root Cutting*.** Excavation, grading and trenching associated with construction and underground service installation can be very damaging to tree roots which are vital for both anchoring the tree in the ground and gathering moisture and nutrients. Unacceptable levels of damage to the roots will lead to a tree losing vitality, dropping branches, dying or becoming unsafe – either immediately or in the future.
3. **Soil Compaction.** An ideal soil for root growth and development contains about 50% pore space for water and air movement. Tracking by construction equipment and the storage of materials can compact soil and dramatically reduce pore space. Compaction inhibits root growth, limits water penetration, and decreases oxygen needed for root survival. If the compaction is too severe, in addition to preventing effective root growth, it will cause physical injury to both anchor and feed roots.
4. **Smothering Roots by Adding Soil*.** The majority of fine moisture and nutrient absorbing roots are within the top 30 cm of soil. Even a few centimetres of soil piled over the root system to change the grade can smother fine roots and eventually lead to the death of larger roots.
5. **Rooting Zone Contamination*.** Many materials used on development sites (e.g. salt, lime, concrete, cement, oil) are toxic to trees. If such contaminants are spilled or allowed to leach into the RPA, they can quickly kill the roots, thus causing the same effects as root cutting, soil compaction and smothering.



* As the location of tree roots cannot be seen, each retained tree close to a developable portion of the site has a designated Root Protection Area (RPA) as shown on the approved TPP. No excavation, grading, trenching, storage of materials nor any other activity may take place within the designated RPA unless it is in accordance with the approved Tree Protection Plan and completed under the supervision of Hayden's Arboricultural Consultants.

Preventing Damage to Trees During Construction:

The approved TPP provides specific instruction on the tree protection measures required across whole site in order to prevent damage. The primary methods of protection are as follows: -

1. **Installation of Protective Fencing.** The alignment and specification of this is shown to scale on the approved TPP. It must be erected prior to any demolition or development commencing on site and must not be moved or altered without prior written agreement of the Hayden's Arboricultural Consultants or the Local Planning Authority. No activities may take place within the fenced area, and no materials may be stored within the fenced area. The fencing may not be removed until ALL construction activities in the vicinity have been completed and only then with the written agreement of Hayden's Arboricultural Consultants or the Local Planning Authority.
2. **Ground Protection.** Where fencing is impractical the TPP provides instruction on other forms of effective ground protection. An example of this would be the provision of a temporary load bearing surface to prevent soil compaction and contamination. This must be of bespoke design for each situation so as to ensure it is fit for purpose. As with the fencing, this must be installed prior to any demolition or development commencing on site and must not be moved or altered without prior written agreement of the Hayden's Arboricultural Consultants or the Local Planning Authority. The temporary ground protection may not be removed until ALL construction activities in the vicinity have been completed and only then with the written agreement of Hayden's Arboricultural Consultants or the Local Planning Authority.
3. **Monitoring Visits from Hayden's Arboricultural Consultants.** Under the terms of the planning permission the development must be monitored by an Arboriculturalist on a suitably frequent basis. The purpose of this is twofold: -
 - a. To ensure that the above tree protection measures are complied with and report findings to the developers AND the Local Planning Authority.
 - b. To be available to provide help and advice regarding the inevitable requests for changes and supervision when working around retained tree.
4. **Operational Planning.** Whilst it is understood that trees are far from the only issue to be managed on site, they do represent a significant and potentially costly constraint if the protection measures required in the TPP are not strictly adhered to and as a result construction damage to trees occurs. Therefore, if problems in terms of work space conflicting with tree protection measures are identified, early liaison with Hayden's Arboricultural Consultants is essential so as to agree supervised works, alternate working methods or if necessary seek additional approval from the Local Planning Authority. Failure to identify these matters at an early stage may lead to significant delays as it can be a lengthy procedure in gaining a response from the Local Planning Authority.



Conclusion:

- Tree Protection Measures are there to protect the environment. They are also there to protect you. If they are complied with, trees will not be harmed. Therefore, DO NOT amend the protection unless you have written consent from Hayden's Arboricultural Consultants or the Local Planning Authority.
- If you are unsure on any tree related matter, seek advice before you act. Hayden's Arboricultural Consultants will discuss your concerns and help find practical and timely solutions (where possible).
- Hayden's Arboricultural Consultants, in conjunction with the Local Planning Authority, may change the frequency of Arboricultural Monitoring Inspections if it is deemed necessary to ensure the approved standards of tree protection are adhered to.
- Hayden's Arboricultural Consultants can be contacted in the first instance at the Head Office on 01284 765391.



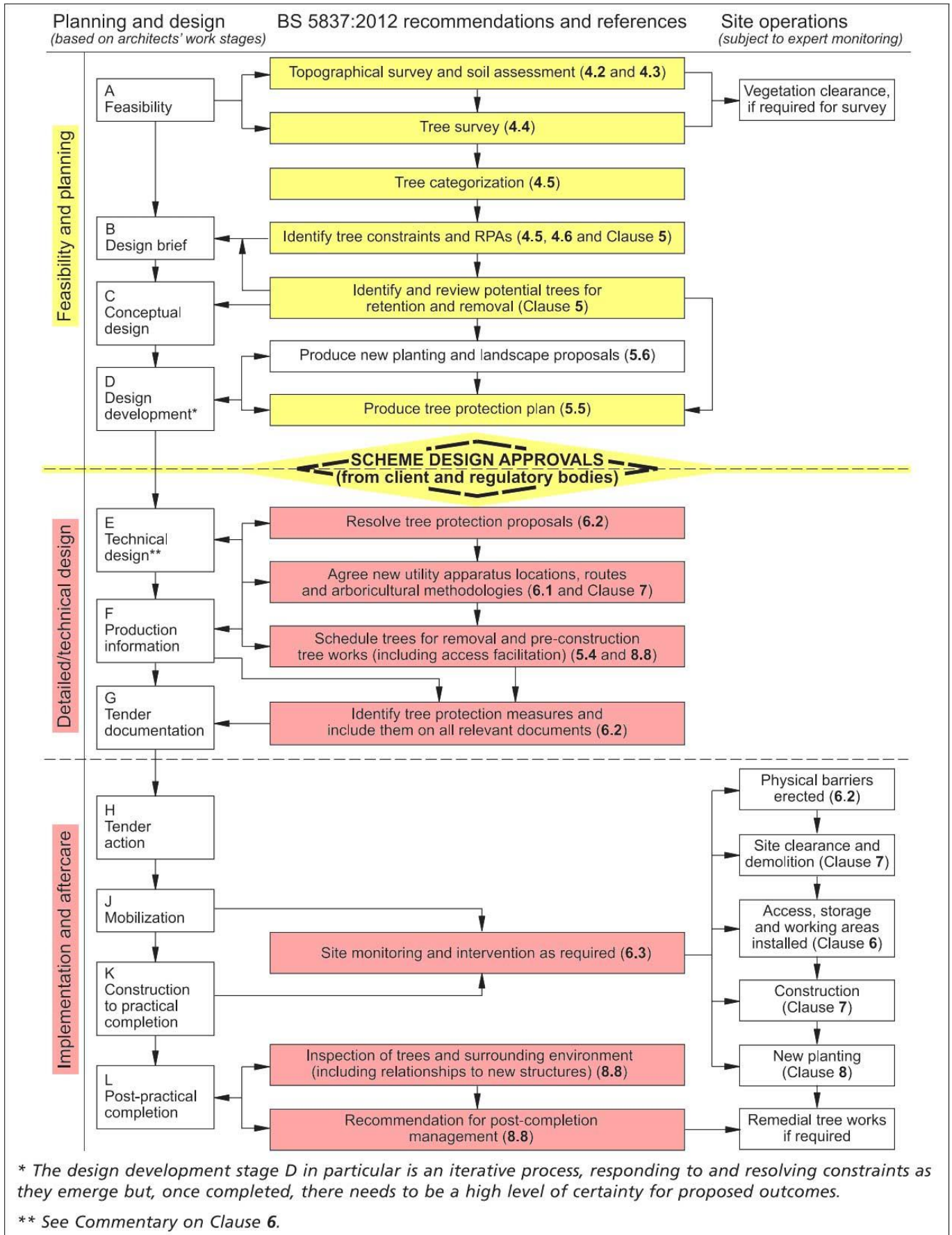
David M Carmichael
Practice Manager



Appendix F

Advisory Information & Sample Specifications

1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care

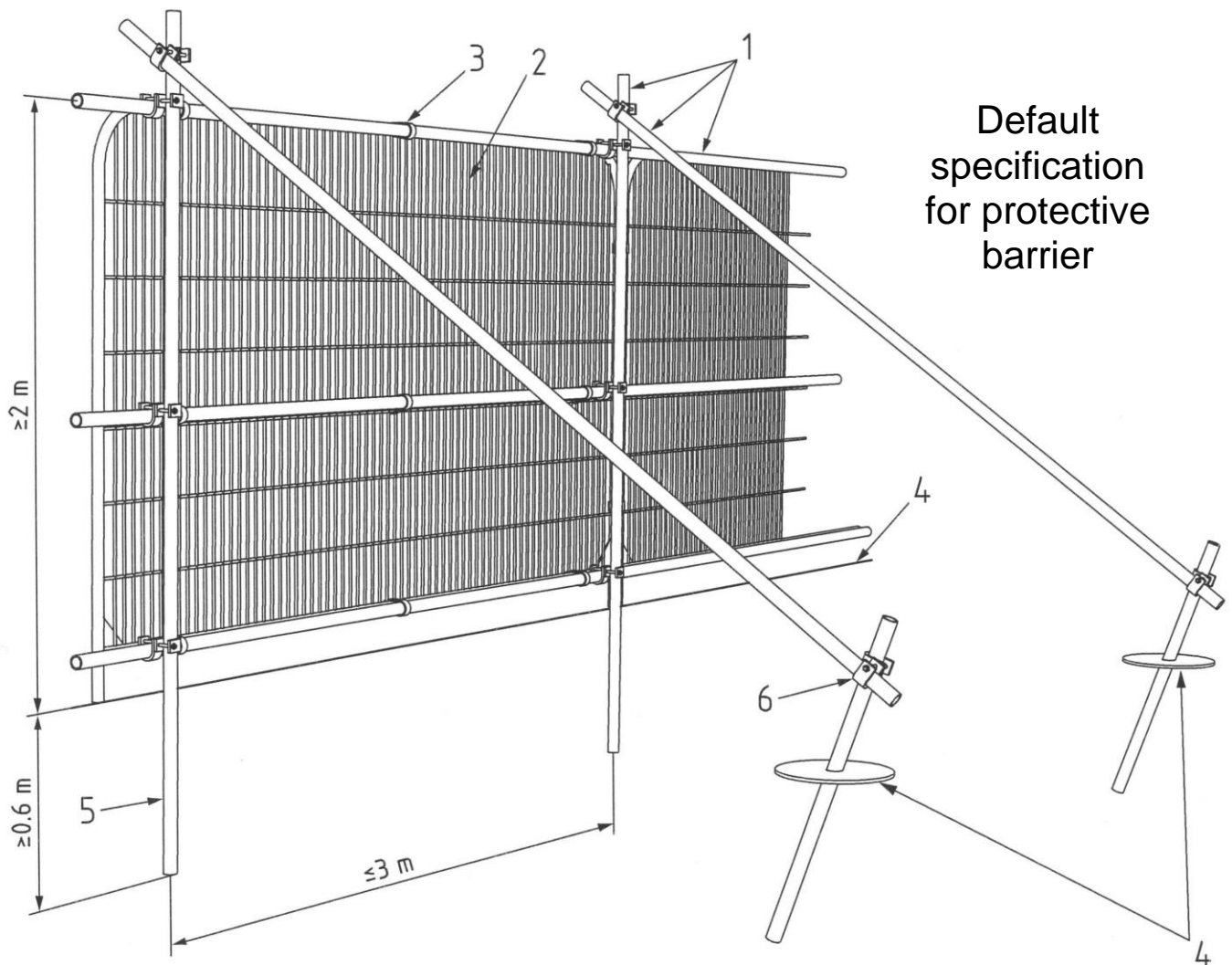


European Protected Species and woodland operations. (V4)

Complete all sections of the Checklist

Checklist		Details								
1	<p>Are you within, or close to, the known mapped range of any of the protected species OTHER THAN BATS which are potentially everywhere? Tick any that apply. See distribution maps in the Good Practice Guidance for each species -</p> <ul style="list-style-type: none"> <input type="checkbox"/> Dormice <input type="checkbox"/> Otters <input type="checkbox"/> Great crested newts <input type="checkbox"/> Sand lizards <input type="checkbox"/> Smooth snakes 	<p>Name of Wood:</p> <hr/> <p>Grid Reference:</p> <table style="width: 100%; border: 1px solid black;"> <tr> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> </tr> </table>								
2	<p>Does your wood contain any of the following habitats? Tick any that apply.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Old trees with holes and crevices which might be used bats <input type="checkbox"/> Species rich scrub/coppice, early growth stage plantations and forest interfaces <input type="checkbox"/> Rivers on which otters might be found <input type="checkbox"/> Ponds which might be occupied by great crested newts <input type="checkbox"/> Open areas on heathy soils 	<p>Area: (ha)</p> <table style="width: 100%; border: 1px solid black;"> <tr> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> </tr> </table> <p>Date of Assessment:</p> <table style="width: 100%; border: 1px solid black;"> <tr> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> <td style="width: 25%; height: 20px;"></td> </tr> </table> <p>Name of Assessor:</p> <hr/>								
3	<p>Have any of the protected species been recorded in this wood or on adjoining sites? Tick any that apply. Indicate which sources of information you have checked:</p> <ul style="list-style-type: none"> <input type="checkbox"/> National Biodiversity Network (www.nbn.org.uk) <input type="checkbox"/> Local Biological Records Centre <input type="checkbox"/> Local Wildlife Trust <input type="checkbox"/> Other <p><i>Specify Other:</i></p>	<p>Name of Assessor:</p> <hr/>								
4	<p>Have your inspections or any expert surveys found any of the following signs or evidence? Tick any that apply.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Signs (e.g. otter spraint, nuts gnawed by dormice, leaves folded by newts) <input type="checkbox"/> Sightings (or echo-location) <input type="checkbox"/> Potential breeding or roosting sites (e.g. veteran trees, old trees with crevices, riverside hollow trees, ponds, timber stacks, large fallen deadwood) <input type="checkbox"/> Confirmed breeding or roosting sites (i.e. evidence of sites actually being used) <p><i>Details:</i></p>	<p>Name of Assessor:</p> <hr/>								
CHECK POINT	<p>If you have answered NO to ALL of the above then only bats need to be considered in your operations.</p> <p>If you have answered YES to any of the above then the species concerned must be considered as well as bats.</p>									
5	<p>Do the operations comply with Good Practice for bats and any other species found (or likely to be found in your wood) or can the operations be modified to do so? <i>Details: Use reverse of form to expand as required:</i></p>	<p>Notes</p> <hr/> <p>A licence is not required but continue to sections 6 and 7 below</p> <hr/> <p>You will need to obtain a licence BEFORE carrying out the work (see EPS Licence Application Forms and Notes)</p>								
6	<p><u>Whether or not a licence is required...</u> Has the information been communicated to operators (including the location of breeding sites and sensitive areas)? Tick any that apply.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Included in documentation (e.g. contract, letter of instruction, site assessment or other management plan) <input type="checkbox"/> Shown to operators and/or their supervisor <input type="checkbox"/> Marked with paint or hazard tape <input type="checkbox"/> Shown on the site plan <p><i>Other means:</i></p>	<p>You may commit an offence if you do not tell your operators about the protected species in your wood.</p>								
7	<p>Have arrangements for supervision been made to ensure Good Practice guidance is complied with during the operations? <i>Details:</i></p>	<p>You may commit an offence if you do not take steps to ensure that your operators comply with the Good Practice guidance.</p>								

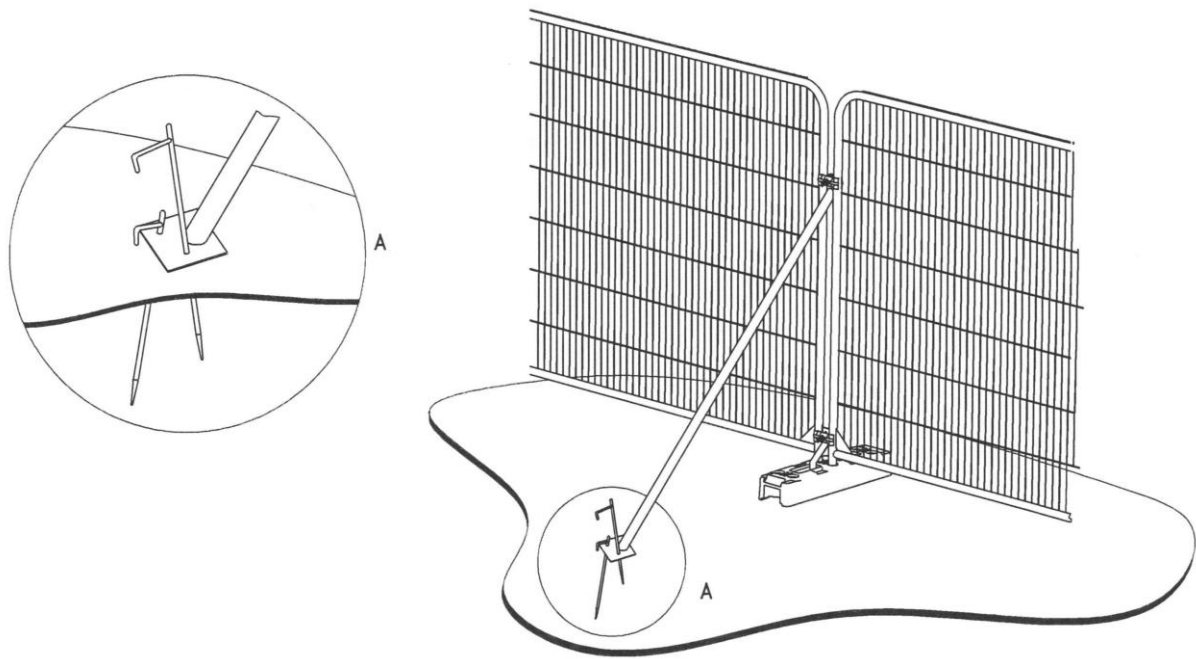
3. BS 5837:2012 Figure 2: Default specification for protective barrier



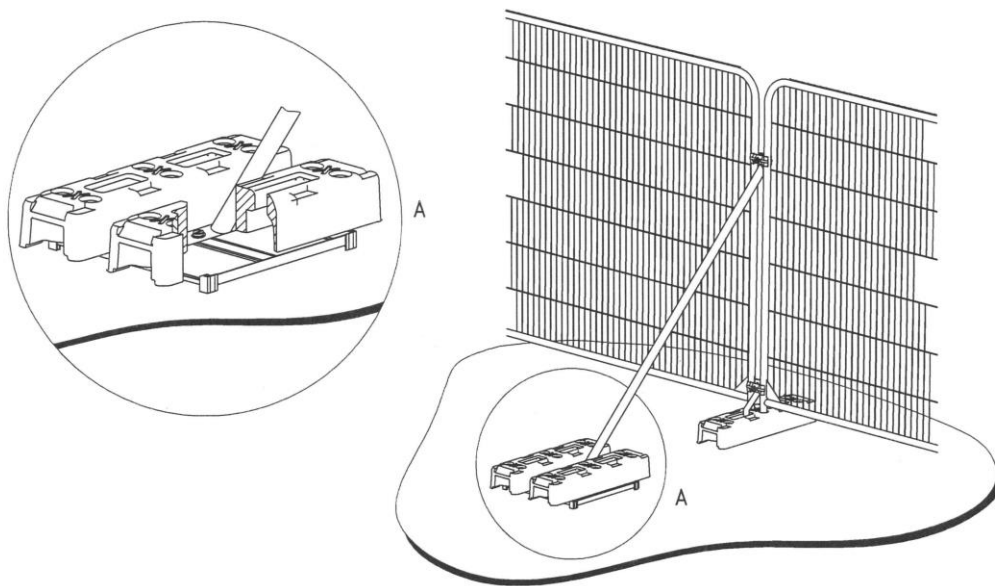
Key

- 1 Standard scaffold pole
- 2 Heavy gauge 2m tall galvanised tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6m)
- 6 Standard scaffold clamps

4. BS 5837:2012 Figure 3: Examples of above-ground stabilizing systems

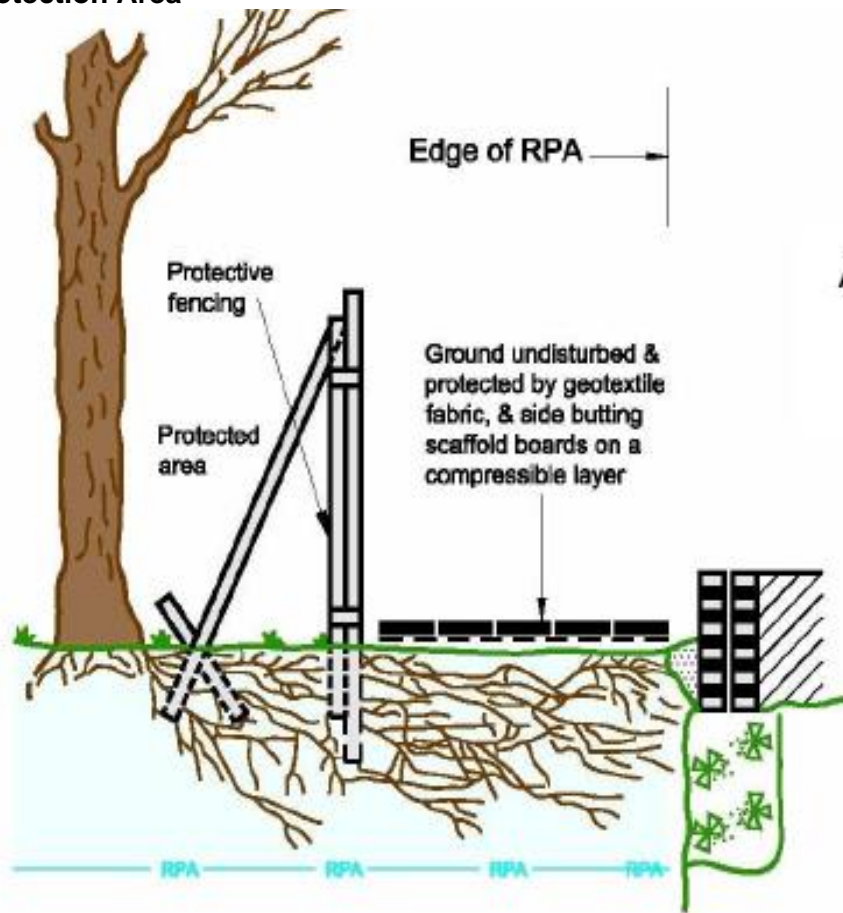


a) Stabilizer strut with base plate secured with ground pins



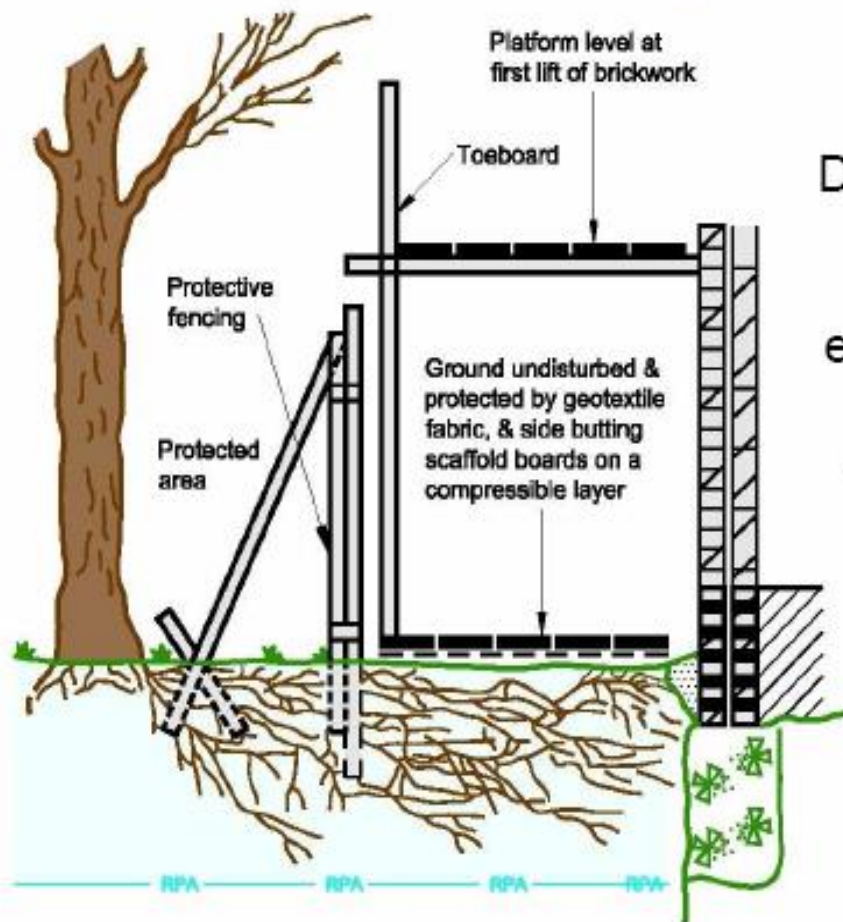
b) Stabilizer strut mounted on block tray

5. Figure 4 Detail of protective barrier where construction encroaches within BS5837:2012 Root Protection Area



Appendix No 2.1

Figure 4 –



Detail of protective barrier where construction encroaches within BS 5837:2012 Root Protection Area (RPA)



MultiTrack

THE UNBREAKABLE ORIGINAL



RAPID INSTALLATION

Lay approximately 50 mats per hour.*

TOUGH

Virtually indestructible HDPE polymer supports all vehicle types.

EASY TO HANDLE

Lightweight 39kg mats easily handleable with two workers.

MULTI-TREAD

Roadway, Walkway and Smooth tread options cater for various vehicular and pedestrian needs.

ENVIRONMENTALLY FRIENDLY

Made from 100% recycled plastic and fully recyclable.

GUARANTEED UNBREAKABLE

Lifetime guarantee against breakage by vehicles up to 120 tonnes (T&Cs apply).

**NO CRANES OR
SPECIALIST
LIFTING
EQUIPMENT
NEEDED!**

****FAST, EASY, ECONOMICAL***
Install approximately 50 mats
per hour with a team of
3 plus forklift driver.

www.ground-guards.co.uk

+44 (0) 113 267 6000

info@ground-guards.co.uk

Ground-Guards®



MultiTrack

THE UNBREAKABLE ORIGINAL



Watch this short video to see MultiTrack in action.



MultiTrack mats are the strongest in their category



Mats are easily moved using a HandiHook



Standard no-tools joiners quickly clip the mats together



Low profile joiners for walkways plus bolted joiners



SafeStore stillages hold 25 mats

Material: Special blend of HDPE recycled plastic, fully recyclable

Overall Size: 2435 x 1215 x 13mm (plus treads)

Surface Area: 2.95m²

Weight: 39kg

Tread Options: Roadway, Walkway and Smooth, or a combination

Connectors: 10 joining points. A choice of standard clip joiners, low profile joiners or bolted joiners, plus anchor pins

Packed in: Stillage of 25 mats

Stillage Pack: **Weight:** 1105kg
Dimensions: 2550 x 1260 x 900mm

Fire Rating: UL94 HB

Slip Testing: BS7976 part 2

Deflection: Tested on varying CBR ground conditions using a 300mm diameter steel platen with 6 tonnes load to simulate the pressure of an HGV wheel

- Ground CBR 11.35% :** Deflection 17.68mm
- Ground CBR 8.58% :** Deflection 20.41mm
- Ground CBR 4% :** Deflection 22.00mm



Guarantee: MultiTrack temporary roadway mats are guaranteed for life against breakage up to 120 Tonnes UDL (Uniformly Distributed Load).

It is the user's responsibility to assess the load-bearing capacity of the ground, and to only operate vehicles within the weight that the ground is capable of safely supporting. Ground-Guards Ltd accepts no liability whatsoever for any damage, loss or injury arising from the ground conditions on which these products are used.

MultiTrack mats are not suitable to use for bridging purposes. Damage caused by mechanical equipment (e.g. cuts by digger buckets) or sharp protrusions beneath the mats is not covered by this guarantee.



Ground-Guards®

www.ground-guards.co.uk
+44 (0) 113 267 6000
info@ground-guards.co.uk

7. Air Spade/Air Excavation Specification

The largest specialist Arboricultural suppliers in the North of England.

UK Distributors to the Tree Care Industry of the

AIR-SPADE®

AIR EXCAVATION TOOL

Industrial / Construction Applications

Industrial / Construction Applications

AIR-SPADE® is the ideal tool for contractors, utility companies and everyone practicing safe excavation. Common uses include:

Pot holing
Utility line Locating
Crack Cleaning
Valve box cleaning
Utility Installation
Line spotting for backhoe
Vacuum excavation
Trench rescue
Meter locating

Full Range of Parts Available

AIR-SPADE® Series 2000 tool *

2 ft. 3 ft, 4 ft or 5 ft. extensions

Custom length barrel
Extra 15, 25, or 60 scfm nozzle
Extra 105 or 150 scfm nozzle
Extra 225 scfm nozzle
45o Angled Adapter
Arboricultural Applications Benefits
AIR-SPADE® Handle

10 Ft. Lightweight Hose
25 Ft. Lightweight Hose
50 Ft. Lightweight Hose

Scratch Proof Face Shield

Spare Parts Kit
Storage Case with lock
* includes handle, 150 cfm / 90 psi nozzle, and 4 foot barrel.

Why does the AIR-SPADE® out perform other air tools?

In head to head tests, the AIR-SPADE® dislodged harder clay soil and dug faster than other air digging tools. Soil fractures from compressive stress, tons per square foot (tsf), exerted on its surface. As shown above for the same pressure and flow, compressed air exiting from a pipe nipple, orifice, or improperly designed nozzle expands outward rapidly to 3 to 4 times the area versus the jet from the patented supersonic nozzle in the AIR-SPADE®. The flow from these competitors can even go sub-sonic as indicated by the presence of a "Mach Disk" which can be seen in the flow if the light is right



Arboricultural Applications

Benefits

AIR-SPADE® is used by arborists and landscape professionals worldwide for:

Root Collar Excavation

Plant Aeration

Vertical Mulching

Soil Compaction Relief

Disease diagnosis and treatment

Transplanting

Bare rooting

Damage analysis

Locating Roots in New Construction

Root Pruning and Structure Analysis

Running utilities through the root zone

Radial trenching

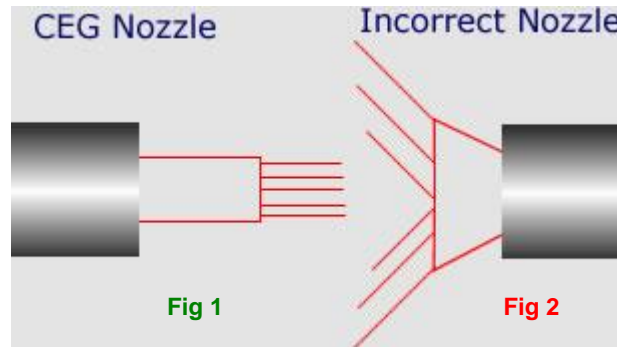
- Digs faster and harder soils than competitive or home made wands
- Less worker fatigue/injuries than a pick or shovel
- Faster and safer than hand digging
- Saves expensive hourly labour costs
- Non-damaging to all kinds of buried utilities or plant roots
- Digs without making mud and does not create "contaminated" spoil like water
- Excavated soil is ideal for recompaction
- Modular design with parts that screw together without tools
- Interchangeable nozzles sized to match air compressors from 15 to 250 scfm
- Interchangeable extensions to 8ft and reducers to 2 ft
- Ergonomic handle with thermal shield and pressure gauge
- Safety "dead Man" trigger with guard
- Electrically insulating barrel
- Hardened wear resistant stainless steel nozzle
- 45 deg adaptor

Will higher pressure make the AIR-SPADE® work Better?

How Does it Work?

Increasing the air pressure above 90 psi on a properly designed supersonic nozzle does not lead to a proportional gain in excavation capability. For example, doubling the nozzle pressure to 180 psi increases the air jet force by only 10% and the exit momentum flux (stress seen by the soil) by only 45%. Supplying higher pressure to a nozzle designed to work at 90 psi actually un-focuses the air jet degrading performance and consuming more air.

Patented CEG Supersonic nozzle turns 90 psig compressed air into laser-like Mach 2 jet. Jet penetrates and fractures friable materials like soil but harmlessly goes around buried pipes, cables, fibre optic lines and tree roots.



Jet from CEG nozzle focuses all of its energy and momentum onto concentrated spot on the soil. **Fig 1**

Air from pipe nipple, orifice, or improperly designed nozzle, expands greatly reducing its effectiveness. **Fig 2**

In what types of soil will an AIR-SPADE® work?

Because of its unique, focused air-jet, the **AIR-SPADE®** works in most soils, even hard clays. Cohesive soils can be classified and described by unconfined compressive strength as shown below. Tests have shown the **AIR-SPADE®** to be effective in compacted soils with unconfined compressive strengths well above the values listed to the right for hard clay.

Watering the work area ahead of time can be helpful sometimes. Watering reduces airborne dust if the soil is extremely dry. It also reduces the soil's strength making the digging easier. Combined use of the **AIR-SPADE®** with a low pressure water jet is effective even with extreme cases of highly compacted or sun-baked soils.

The **AIR-SPADE®** in general will not cut through rock, since its unconfined compressive strength is much greater than for soil. In fact, soil results from the physical and chemical breakup of weathered rock. Shales, however, may be broken apart by the **AIR-SPADE®** if the jet is directed between the laminations of the rock. Similarly, the **AIR-SPADE®** will not dislodge hard frozen soil which may behave like pavement or concrete.

Type	Unconfined Compressive Strength tsf	Description Cohesive soils including:
A	>= 1.5 stiff	Clay, silty clay, sandy clay, clay loam, caliche, hardpan, and sometimes silty clay loam and sandy clay loam.
B	<1.5 and >0.5 med	Granular cohesive soils like angular gravel, silt, silt loam, sandy loam, and sometimes silty clay loam and sandy clay loam.
C	<= 0.5 soft /v.soft	Granular soils such as gravel, sand, loamy sand, submerged soil, or soil from which water is freely seeping.

What size nozzle should I use?

Nozzles are available that use from 15 to 225 cfm of compressed air. The amount of soil that can be dislodged in a given amount of time is roughly proportional to the amount of air used. The 150 cfm nozzle is the most commonly used size for arboricultural and industrial applications. It has good productivity and is designed to run from the most common size of portable air compressor, a 175 to 185 cfm unit

Hose ID	Pressure Loss (psi) for 50 feet of common air hose					Excavation Rates (cu ft / min)			Recommended Compressor Size	
	25	60	105	150	225	Nozzle Air Flow (CFM)	Soil Type A	Soil Type C	Nozzle (cfm)	Flow Rating (cfm) at 100 psi
	FLOW 9CFM									
3/4"	0.3	1.6	5.6	12.3	25.0	15	0.5	0.2	15	15
1"	0.1	0.4	1.3	2.8	5.5	25	0.9	0.4	25	25 - 30
1 1/4"	0.0	0.1	0.4	0.8	2.0	60	1.1	0.7	60	60 - 70
						105	1.5	0.9	105	125
						150	1.8	1.2	150	175 - 185
						225	2.3		225	250

How should I dig with the AIR-SPADE® ?

The **AIR-SPADE®** will dislodge up to several inches deep in a medium to stiff soil. High-speed movies show that an air-jet penetrates and dislodges the soil in a fraction of a second. Unless the soil is highly compacted, dwelling on the same spot is unnecessary and tends to increase spray. The **AIR-SPADE®** can be moved over the soil surface at a rate of about 1 to 2 feet per second. When several inches of soil have been loosened, the soil should be removed to expose a fresh working face for the air jet. Vacuum suction, as provided by our AIR-VAC and SAFEX® units, is an excellent companion to the **AIR-SPADE®** since it is likewise non-damaging.

What size of air hose do I need to use the AIR-SPADE® properly?

Compressed air flowing through a hose experiences a drop in pressure from friction and constrictions. Friction loss is proportional to the length of the hose. The amount of air, its pressure, the hose inner diameter and its smoothness also determine the loss. The table below shows the pressure loss for 50 feet of common air hose with couplings as a function of size and nozzle flow, cfm, for air at a pressure of 90 psi. Generally, a 1-inch air hose is recommended for use with the AIR-SPADE®.

How much will it Cost?

Arbor Kit complete includes:

AIR-SPADE® Series 2000 tool



AIR-SPADE® Series 2000

45deg Angled Adapter
10 Ft. Lightweight Hose
Storage Case with lock
Shipping/Carriage to Mainland UK
Excluding vat
£995.00 *

Shipping/Carriage to Mainland UK
Excluding vat
£775.00

*Prices are subject to exchange rate fluctuations

Who can supply me with it – and How long will it take to arrive?

You can be using this tool within 6 days of ordering it, it will be delivered to your door, carriage paid (Mainland UK).



The largest specialist Arboricultural suppliers in the North of England
Import the

AIR-SPADE®

Air Excavation Tool
&
Arbor Kit

CONTACT US NOW TO DISCUSS THIS INVALUABLE ADDITION TO YOUR WORKING TOOLS DO THE WORK FASTER - GET BETTER RESULTS !

TELEPHONE 0113 2296006:

EMAIL info@treesunlimited.co.uk

FAX 0113 2295171

Barksavers Specification

Please note that while the methodology is sound, this specific product is out of production



BarkSavers™

Armored blankets for trees

BENEFITS

- **Protection when a fence installation is not possible**
 - Construction along roadways where there are street trees nearby



- **A feasible protection alternative**
 - Especially when combined with aeration and vertical mulching to alleviate soil compaction
- **Trunk injury prevention**
 - Avoids wounds that can impede the transport of food and water and cause irreparable harm to tree health.
- **Breathable inner cushioning layer**
 - Inner layer breathes to allow air flow while protecting the bark from injury.
- **Unique two-layer design**
 - Consists of a flexible cushioning wrapped around the trunk, and a rigid outer shell strong enough to withstand the toughest blow
- **Available in all sizes to fit your diameter needs**

P. O. Box 441 • South Hadley, MA 01075
866.777.8733 (Toll free) • 413.467.7313 (Fax)
www.treesnewengland.com



BarkSavers™

Armored blankets for trees

PRODUCT SIZING

Size Description	Inside Diameters (mm)	Overall Height (m)	No. of Straps	Approx. Cost *
Small BS™	300	1.2	2	£11.85
Medium BS™	400	1.5	2	£21.50
Large BS™	500	1.8	2	£30.30
Extra Large BS™	600	1.8	3	£46.75

(*Based on retail, non-bulk product pricing- + deliver & vat per metre.)

DESIGN & CONSTRUCTION

Trees New England LLC no longer manufactures **BarkSavers™**. Our goal is to provide a re-usable tree protection alternative for architects, builders, contractors, and planners when protective fencing is not an option. Trunk protection at minimal is best especially where other remediation alleviations will be carried out after the completion of the project. We only ask that you credit our Company with the design of the product when **BarkSavers™** is used in specification or when in use.

● **OUTSIDE: Rigid HDPE corrugated pipe**

- **Protects the bark against injuries from the outside**
- Can be purchased from
- **metro-flow limited**
The Barn, Church Farm, Church Lane,
Stockbury, Kent, ME9 7RD

Tel: 01795 843866

Fax: 01795 841701

www.metro-flowltd.co.uk/metro_twin.htm



● **INSIDE: Flexible, cushioning protection of fibre/felt carpet padding**

- **Protects the bark against injuries from inside the pipe**

● **FASTENER: Strap-on construction made of Tree Chain Lock Ties and Lock/Bolt**

- **Fastens the BarkSavers™ firmly to the tree**

BarkSavers™

Armored blankets for trees

MATERIALS NEEDED TO CREATE A BARSAVERS™

Drainage Pipe Inside Diameter x Height	Carpet Padding (sq metres)	Chain Lock Ties	No. of Ties	No. of Locks/ Bolts
300mm x 1.2m	1.25	1.00m	2	3
400mm x 1.5	1.75	1.25m	2	3
500mm x 1.8m	2.70	1.75m	2	3
600mm x 1.8m	3.60	2.25	3	3

● CONSTRUCTION

1. Cut drainage pipe with a saws all, a circular saw or with a hack saw
 - a. Each section of pipe will be cut twice to form 2 halves



Whole Pipe



Cut Pipe

- b. Label on one end of the pipe TOP. This will make the ease of refitting pieces together more easily. If making a quantity, label with a number and then top. For eg: TOP – 1 Store same numbers together.

2. Cut Chain Lock Ties to specified length, set aside quantity of Locks needed per tie.
3. Cut fibre/felt carpet padding to specified length





BarkSavers™

Armored blankets for trees

● INSTALLATION

1. Wrap trunk with carpet padding
2. Wrap carpet padding with both halves of split BarkSavers™
 - Protects the bark against injuries from inside the pipe
3. Wrap Chain Lock Ties around at the top, another piece in the middle, and a third piece at the bottom
4. Connect the Chain Lock Ties with the Locks/Bolts
 - Acts as security measure



BarkSavers™ doing their job!

**They're not just BS1
BarkSavers™ really do work**

P. O. Box 441 • South Hadley, MA 01075
866.777.8733 (Toll free) • 413.467.7313 (Fax)
www.treesnewengland.com

Appendix G

Haydens Drawing

- Arboricultural Impact Assessments ●
- Arboricultural Method Statements ●
- Tree Constraints Plans ●
- Arboricultural Feasibility Studies ●
- Shade Analysis ●
- Picus Tomography ●
- Arboricultural Consultancy for Local Planning Authority ●
- Quantified Tree Risk Assessment ●
- Health & Safety Audits for Tree Stocks ●
- Tree Stock Survey and Management ●
- Mortgage and Insurance Reports ●
- Subsidence Reports ●
- Woodland Management Plans ●
- Project Management ●
- Ecological Surveys ●



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