
YEW TREE AND GARDENS

Client: Mr A Marsh
– Land off Lewth Lane, Catforth, Lancashire.

ARBORICULTURAL IMPACT ASSESSMENT
FOR PROPOSED ACCESS AND BUILDING

Prepared by
Antony Wood Cert Arb RFS
Yew Tree+Gardens

Yew Tree House
Hale, Milnthorpe
Cumbria LA7 7BJ

015395 63527 07813 897631
info@yewtreegardens.co.uk



ARBORICULTURAL IMPACT ASSESSMENT

1. SITE

A. SITE DESCRIPTION

1. The proposed development site is comprised of an area land at Lewth Lane, Catforth, Lancashire
2. The development area is as indicated in Appendix 5: Tree Constraints Plan and tree stock is as detailed within Appendix 1: Tree Schedule, Appendix 2: Tree Location Plan
3. The survey area consists of the surroundings of an existing industrial building and a section of land adjacent to it.
4. Tree stock within the survey boundaries is mainly distributed around the margins of the site. It is comprised of maintained hedges and individual / groups of amenity and landscaping trees.
5. The survey area is bounded by a public highway to the north, dwellings to the west and east and a watercourse to the south.

B. SURVEY DETAILS

1. The site was surveyed on 04/08/2023, tree heights were estimated via use of a clinometer (Suunto PM-5), measurements of DBH taken at 1.5m height and crown spread was taken by ground measurements. The location of individual trees was estimated and added to an OS site plan by ground measurements to physical reference points during our site survey. Note: We are not land surveyors and the accuracy of tree locations is constrained by the available information. Sun positions were estimated on site via Sun Surveyor software. Weather conditions were bright with full sun and no wind. Images were recorded at survey date on a Samsung A32.
2. All surveying of tree stock on the site was carried out visually from the ground only. Where ivy cover was encountered on trees then only limited visual checking of structure and potential defects was possible.
3. At the time of surveying all trees were recorded on standard tree record sheets, see Appendix 1: Tree Schedule. Trees were surveyed throughout the entire site, detailed individual details were recorded for all significant trees within the existing site. Where larger numbers of smaller trees were encountered in the survey area these are included as a Group record which includes the approximate height range and maximum Diameter at Breast Height (DBH) of trees within the group, these groups are referred to by group i.e. Group 2 (G2).
4. The surveyed trees are categorized by the standard retention categories as defined in BS5837:2012. Such retention categories seek to inform the design process of trees which may be worthy of consideration for inclusion within the proposed development. All work recommendations relate to trees within the context of the current site layout and usage.
5. Note: the report and schedule recommendations form components of a development survey and are not intended to be used as a specific tree hazard assessment.
6. Trees requiring removal to facilitate the proposed development, or which are unsuitable for retention are annotated in red on the Tree Constraints Plan and may be further identified in the work recommendation section of the Tree Schedule.

2. PROPOSED DEVELOPMENT

A. PROPOSED DEVELOPMENT

1. The proposed development layout is for the formation of an HGV highway access with associated turning area and an extension to the south of the existing building. The layout proposals form the basis of Appendix 5: Tree Constraints Plan.

3. TREE PRESERVATION ORDERS AND CONSERVATION AREAS

A. SITE DESCRIPTION

1. The site is not located within a Conservation Area.
2. We have conducted a check for the presence of Tree Preservation Orders (TPO) via we have undertaken a check of the online Wyre Borough Council published list for TPO (Tree Preservation Orders). This does not indicate the presence of TPO's within or adjacent to the site, one TPO is listed for Lewth Lane.
3. The status of all trees within and adjacent to the site boundaries should be verified to the undertaking of tree works or removals.
4. It should be noted that trees located outside of maintained grounds and not covered by an active TPO or conservation area are subject to the standard Felling License constraints imposed by the Forestry Commission. These regulations restrict the volume of timber which may be removed in a calendar quarter without a felling licence to 5 cubic metres.
5. Hedgerow regulations cover the protection of certain established field boundary hedges.

4. IMPACT OF DEVELOPMENT ON TREE STOCK

A. CURRENT TREE STOCK

1. The current tree stock within the survey boundaries as defined by those trees within 10 metres of the proposed development is detailed in Appendix 1: Tree Schedule and briefly outlined as follows.
2. Group G1 is located off site adjacent to the site boundary, it is a line of dead, standing *Leylandii* stems.
3. Group G2 and T2 is an area of smaller / younger aged tree cover at the eastern edge of the existing site access. Concrete surfacing extends up to the western and southern edges of the group.
4. Hedge H1 is a maintained hedge mainly composed of Common Beech.
5. Tree references T1, T3, T4 are Silver Birch which are growing within or adjacent to the edge of H1.
6. T5 and T6 are located off-site within the grounds of a dwelling to the west of the site boundary. Hedge H2 forms the western boundary of the site.
7. Group G3 is a linear cluster of trees located on the boundary between the small paddock and the field to the south. The trees within it are in poor condition due to historic 'topping' and extensive grazing damage of the lower stems.
8. Group G4 is tree stock which is located on the northern banking of the watercourse which forms the southern boundary of the site.
9. No other significant trees are located within the sphere of the development.

4. IMPACT OF DEVELOPMENT ON TREE STOCK (CONT.)

B. PROPOSED DEVELOPMENT

1. Trees which are within the zone of potential impacts from the proposed development are detailed as follows.
2. The proposed HGV access would require the removal of T1, T3 and a section of H1. A section of H1 can be retained within the proposed development, the indicated visibility splay may require pruning of the retained section of H1 Beech hedging is capable of being pruned back without impacting upon its long-term health / retention.
3. The existing hard surfaces will allow the retention of G2 and T2 within the proposed development, no changes to the existing layout are required in this section of the site. G2 and T2 will provide continuing screening along the eastern boundary.
4. In order to allow the retention of T4, a section of H1, hedge H2 and off-site trees T5 / T6 the use of 'no dig' geocell paving will be required. A methodology for this is include in Section 5d of this document. The overall size of the proposed turning area will allow a transition of levels from conventional to geocell construction.
5. Group G3 would not be suitable for retention in relation to the proposed car parking areas due to its condition and increasing potential for failures
6. No impact would be placed upon group G4 by the proposed extension to the building. It can be retained and protected via standard protective fencing.
7. No other trees are directly or indirectly affected by the proposed development. The relationship between the existing dwelling and off-site tree T6 is unchanged from the current site.

5. SUGGESTED MITIGATION MEASURES

A. GUIDELINES

1. Outline guidance for the protection and retention of trees within the site.
2. Erection of protective fencing as indicated in Appendix 5: Tree Constraints Plan.
3. No material storage should take place in protected areas.
4. No mixing of cement-based or other building materials should take place within the root protection area, no storage of fuels should take place within this area.
5. The tree protection must remain in place until work is completed and there is no risk to the RPAs
6. Once construction has been completed and the landscaping phase is complete the protective fencing may be removed.
7. Specific construction as per section 5D

B. PROTECTIVE FENCING

1. Once erected all protective fencing will be regarded as sacrosanct and will remain in place until the completion of the construction phase. It shall not be removed, relocated, or breached at any time without consultation with the project arboriculturalist.
2. Protective fencing will be constructed of robust barriers fit for the purpose of excluding construction traffic from root protection areas. Details of appropriate fencing types are included in Appendix 6.
3. Signs will be affixed to every third panel stating, 'Tree Protection Area Keep Out'. See Appendix 6 for example of signage.
4. All fencing will be securely affixed to avoid movement of fencing during the construction phase.
5. For the sections marked in solid orange on Appendix 5 fences will be constructed of site fencing of 'Heras' type which must be securely braced with additional measures to prevent movement of the fence during construction. Where fences are located against an existing hedge with a limited RPA and no opportunity for external bracing then panels may be positioned outside the hedge canopy and secured to driven wooden fence posts.
6. Indicative positions for protective fencing are indicated in orange on Appendix 5: Tree Constraints Plan

5. SUGGESTED MITIGATION MEASURES (CONTINUED)

C. GENERAL PRINCIPLES TO AVOID DAMAGE TO TREES.

1. Protective fencing installed to prevent mechanical damage to trees adjacent to the development.
2. An indicative list of recommended practices during construction phase is listed below:
3. Once installed tree protection must remain in place and be observed at all times.
4. No fires within 10m of the crown of any retained trees.
5. Soil levels in rooting areas to be retained with minimal level changes, no greater increases than 300mm from existing levels.
6. No cement mixing/washout to take place within 15m of any retained trees.
7. No chemicals, bitumen etc. to be stored within 10m of any retained trees.
8. Any spillage of fuel, chemicals or contaminated water occurring within 2m of the root protection areas to be reported to project supervisor.
9. No additional underground services have been indicated to us at this time but they may be safely routed to avoid rooting zones, if additional services require routing through the root zones of trees for retention then appropriate sub surface or hand trenching methods should be used and guidance sought prior to any works being undertaken. See BS3857:2012.

D. MITIGATION PLANTING.

A specific landscaping plan has not been produced to accompany the proposed development. We have included suggested planting areas on Appendix 5: Tree Constraints Plan, these include:

Hedges: 'Stewardship' mixed hedge – minimum plant size 2+1yr bare rooted age range
Planted in 2 x staggered rows total meterage 150 m,
70% Hawthorn (40-60cm tall, two years old),
20% Blackthorn and a 10% mix of Crab Apple,
Dog Rose, Field Maple, Guelder Rose and Hazel.

Trees along garden boundaries and single tree on highway boundary, selection to be native and upright in form to prevent conflict across boundaries.

Selections: Hornbeam 'Frans Fontaine', Field Maple 'Green Spire', Lime 'Greenspire', Oak 'Kosters'

21 Trees divided between species size 6-8 cm girth bare root or root ball

Trees in internal boundary

Selection: Aspen x 5 size 6-8cm girth bare root or root ball

6. CONCLUSION

1. The proposed development layout will require the removal of a section of maintained Beech hedge and two Silver Birch. A mixed group within the site is unsuitable for long term retention in the development due to its condition.
2. All other tree and hedge references can be retained via standard protective fencing and specific construction methods as detailed in this document.
3. No other trees than those surveyed are located within the proximity of the development area.
4. The nature of the proposed development combined with the size and location of the retained trees will not create any above ground conflicts regards to light reduction or overshadowing.
5. We have included indicative planting within the Tree Constraints Plan. This would mitigate the limited removals required in the development and provide screening of the site.

7. RECOMMENDATIONS

It is recommended that

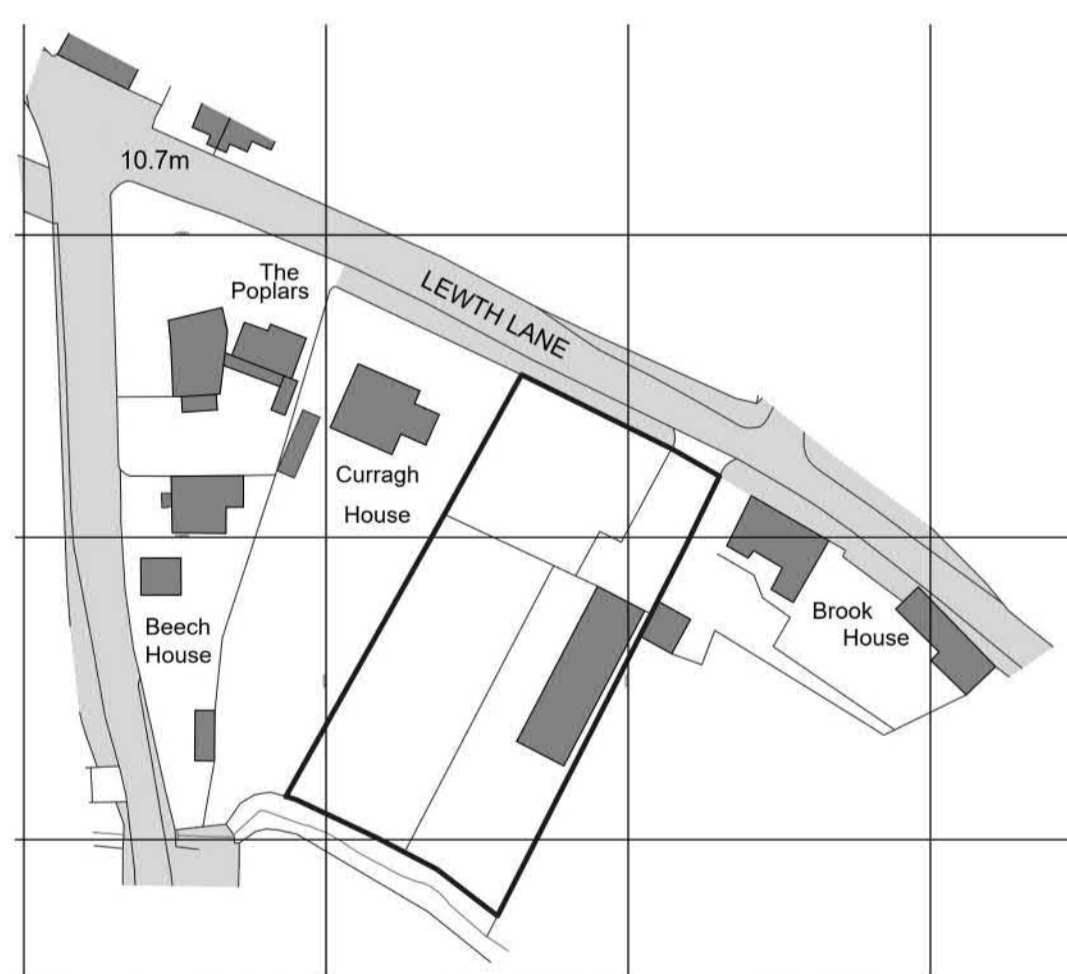
The design and layout of any proposed development reflects the guidance contained within this report both for the management of trees for retention and the protection of same during the proposed development phase and that due consideration is given to the position of any development in relation to retained trees and the removal of trees which are unsuitable for long term retention from the site prior to any development.

Type	Name	Age	DBH	Height	1stB	N	E	S	W	Cond	Life Exp	Comments	Recommendations / development	RPR m	RPA m ²	Category
T1	Betula pendula (Silver Birch)	M	400	15	4	5	5	5	5	Good	20+	Tree set within H1, existing concrete access to E, ivy cover on stem (DBH estimated)	Would require removal in proposed development	4.8	72.39	B2
T2	Aesculus hippocastanum (Horse Chestnut)	EM	230	10	2	5	5	5	2	Fair	10+	Co dominant stems, located at edge of existing access in unpaved area, ivy cover and crown unbalanced due to surrounding trees (T1)	Can be retained in development	3.9	47.79	C2
T3	Betula pendula (Silver Birch)	M	510	15	1	5.5	5.5	5.5	5.5	Good	20+	Tree located in H1 with highway to N, 6m from existing site entrance. Large limb growing from 1m on S side of stem	Would require removal in proposed development	6.12	117.68	B2
T4	Betula pendula (Silver Birch)	M	485	15	4	5	5	5	5	Good	20+	Tree located at S edge of H1, highway to N	Retain and protect via fencing and the use of 'no dig' geocell based construction	5.82	106.43	B2
H1	Fagus sylvatica (Beech), Ilex aquifolium (Holly), Sorbus aucuparia (Rowan)	EM	100	3.5	0	0.5	0.5	0.5	0.5	Good	20+	Maintained hedge, sheep grazing damage on inner face. 1 x stem unmaintained at S edge of H1 200mm DBH and 9m in height	Would require partial removal in proposed development	1.2	4.52	C2
G1	X Cupressocyparis leylandii (Leyland Cyp)	M	350	5	0	0	0	0	0	Dead	<10	5 x standing dead stems, crowns historically removed	Outside of site boundary, unaffected by proposed development	4.2	55.42	U
G2	Alnus glutinosa (Common Alder), Betula pendula (Silver Birch), Crataegus monogyna (Hawthorn)	SM	120	8	1	2	2	2	2	Mix	10+	Cluster of younger trees in unpaved area at E edge of existing access average DBY up to 120mm, 1 x Silver Birch at 140mm DBH	Can be retained in development	1.44	6.52	C2
T5	Betula pendula (Silver Birch)	M	400	14	3.5	5	5	5	5	Good	20+	Off site tree to W of boundary hedge, crown overhangs site	Retain and protect via fencing and the use of 'no dig' geocell based construction	4.8	72.39	B2
T6	Fagus sylvatica (Beech)	EM	400	13	2.5	6	4	6	6	Good	20+	Off site tree to W of boundary hedge, crown overhangs site	Retain and protect via fencing and the use of 'no dig' geocell based construction	4.8	72.39	B2
G3	Quercus rubra (Red Oak), Tilia cordata (Small-leaved Lime), X Cupressocyparis leylandii (Leyland Cyp)	EM	350	14	2	5	5	5	5	Poor	10+	Group to either side of field access, 1 x Red Oak and 2 x Lime to W side of access and 3 x Leylandii to E. All trees are in relatively poor condition through a combination of grazing damage (bark loss on stems) and historic pruning (multi stemmed regrowth from pollarding)	Would require removal in proposed development	4.2	55.42	C2
H2	Crataegus monogyna (Hawthorn)	M	100	2	0.5	0.5	0.5	0.5	0.5	Good	40+	Maintained boundary hedge	Retain and protect via fencing and the use of 'no dig' geocell based construction	1.2	4.52	C2
G4	Prunus avium (Wild Cherry), Salix caprea (Goat Willow)	M	450	13	1	7.5	7.5	7.5	7.5	Mix	10+	Trees in area of land between existing site and small watercourse. 2 x Goat Willow and 1 Cherry, smaller young tree growth < 100 mm DBH	Outside of development area	5.4	91.62	C2

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</p>	See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities
		3 Mainly cultural values, including conservation
Trees to be considered for retention		
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees with no material conservation or other cultural value
		See Table 2





©Crown Copyright and database rights 2023 OS Licence no. 100041041
LOCATION PLAN
 Scale 1:1250



©Crown Copyright and database rights 2023 OS Licence no. 100041041
BLOCK PLAN
 Scale 1:500

Tree Location Plan



Tree Location by retention category	<ul style="list-style-type: none"> Green circle: RPA Category A Blue circle: RPA Category B Red circle: RPA Category C Red circle with slash: Category U tree unsuitable for retention
Restricted Root Protection Area (polygons)	[Red outline symbol]
Survival Canopy Extents	[Green circle symbol]

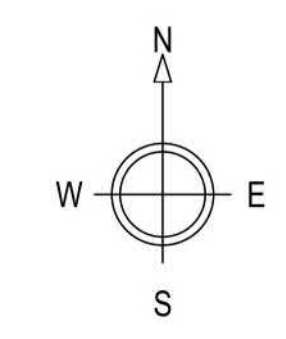
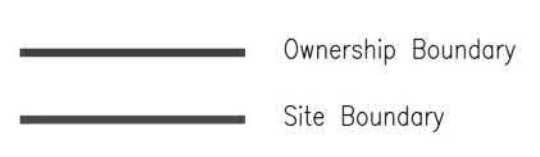
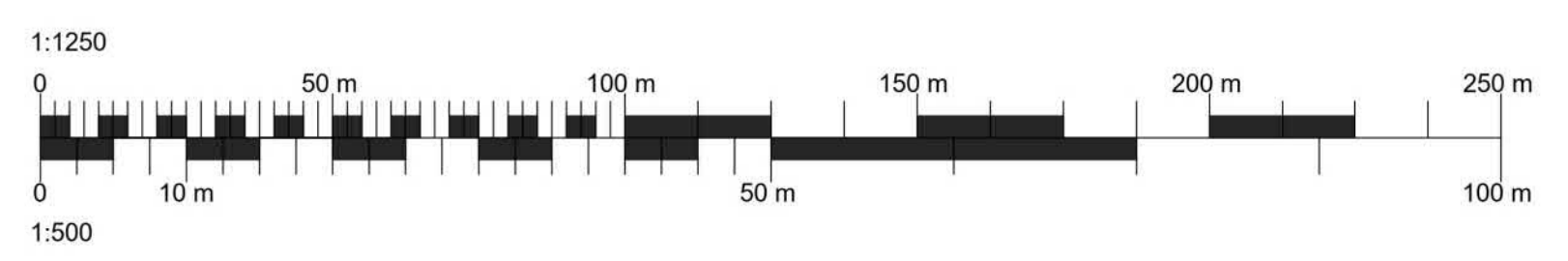
Project Title: Hoof Count, Catforth
Date of Survey: 04/08/2023
Surveyor: A. Wood
Date File Created: 16/10/2023
1:500

Yew Tree & Garden
 Yew Tree House
 Hale Milnthorpe
 Cumbria LA7 7BJ
 015395 63527 07813897631
 info@yewtreegardens.co.uk
 www.yewtreegardens.co.uk

Note: RPA only indicated for significant trees. Small garden trees and juvenile specimens may not be indicated. Retention Categories: As defined in BS5837:2012. RPA: Profited from individual RPA sheets. Where restricted rooting conditions are present RPA is also profiled as an area polygon.

EXISTING

- NOTES:**
1. Use written dimensions only. All dimensions to be checked on site and any discrepancies reported to ACORUS immediately. If in doubt ask.
 2. Where relevant, significant hazards have been identified on the drawing. Hazards which should be obvious to a competent contractor or unforeseeable have not been identified.
 3. This drawing is confidential and remains the exclusive property of ACORUS.
 4. Ordnance Survey Paper Map Copying Licence Number: 100039456.
- © ACORUS Rural Property Services Ltd.



Rev	Date	Description	Drawn	Chk

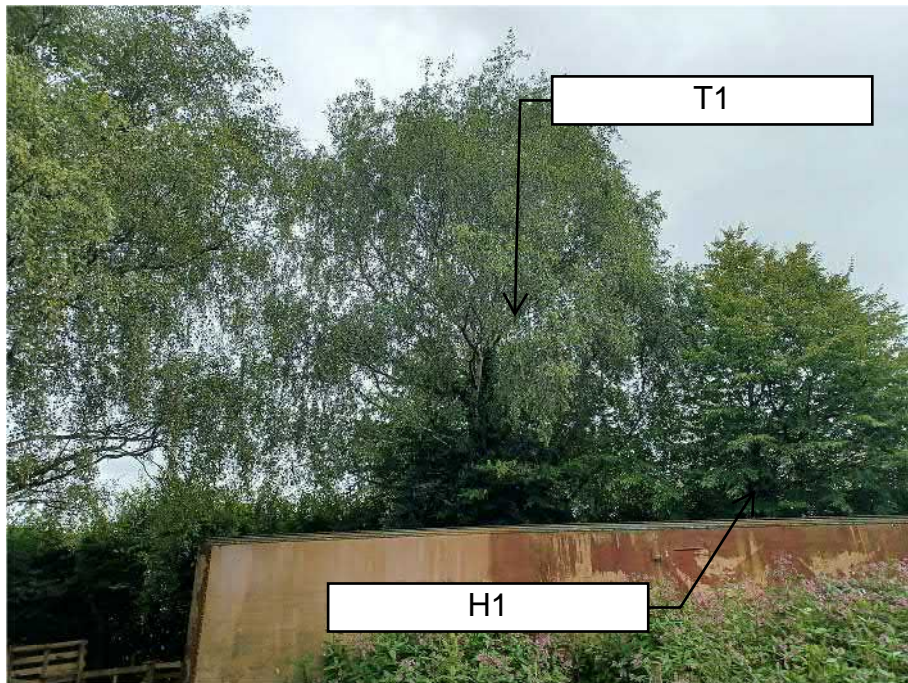
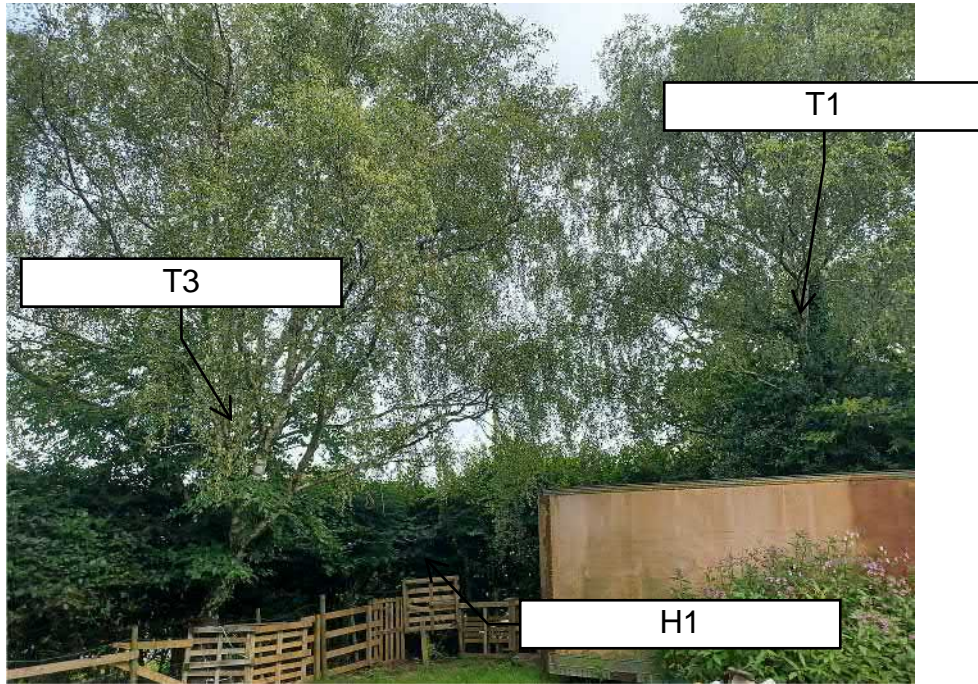
PROJECT: MR A MARSH LAND OFF LEWTH LANE CATFORTH

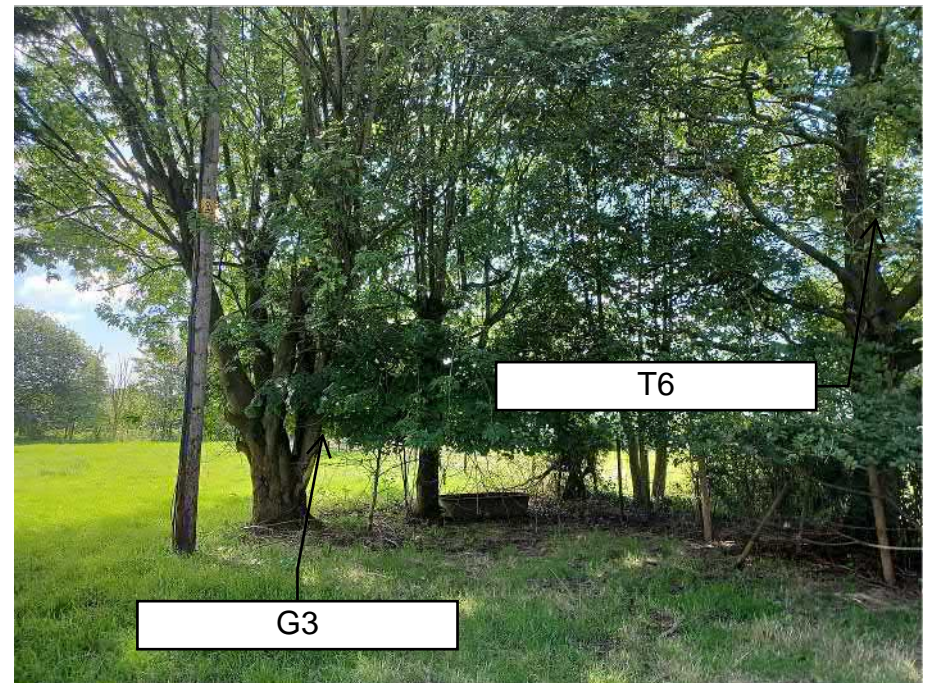
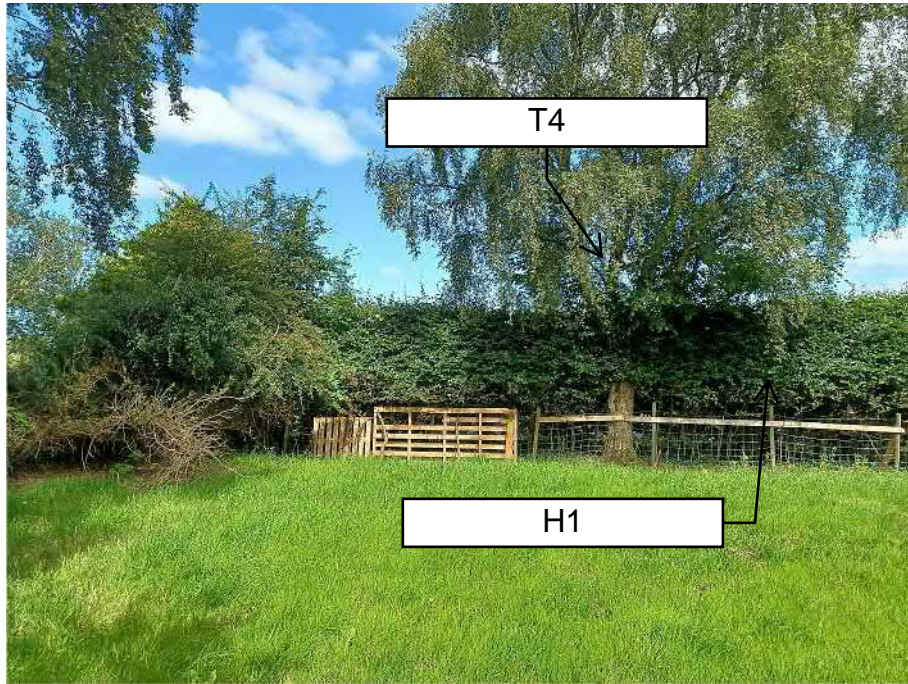
TITLE: EXISTING SITE PLAN

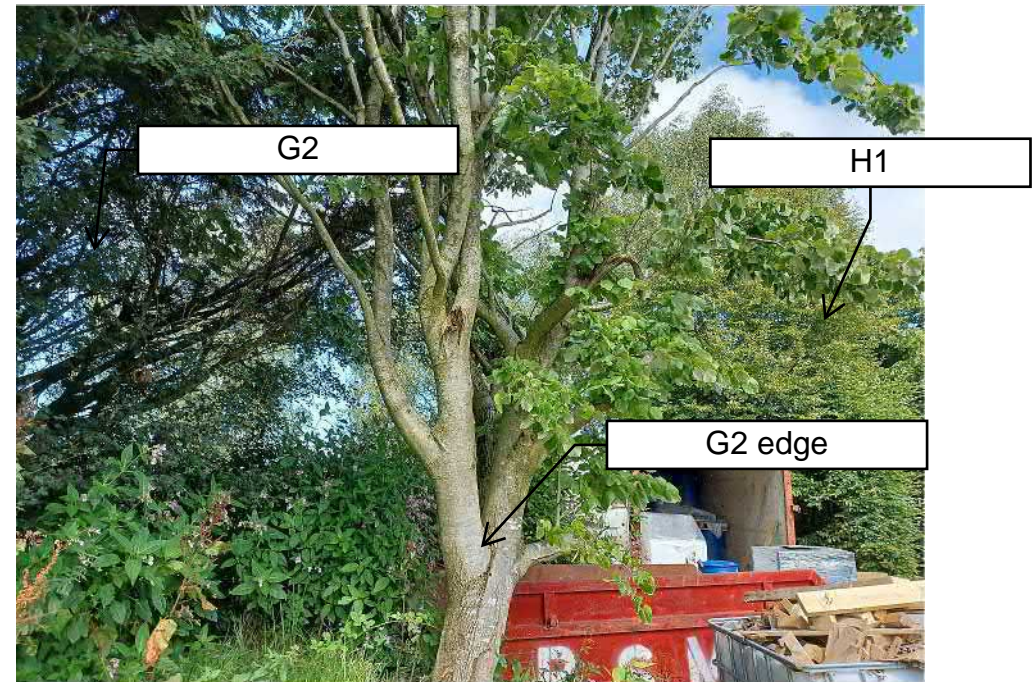
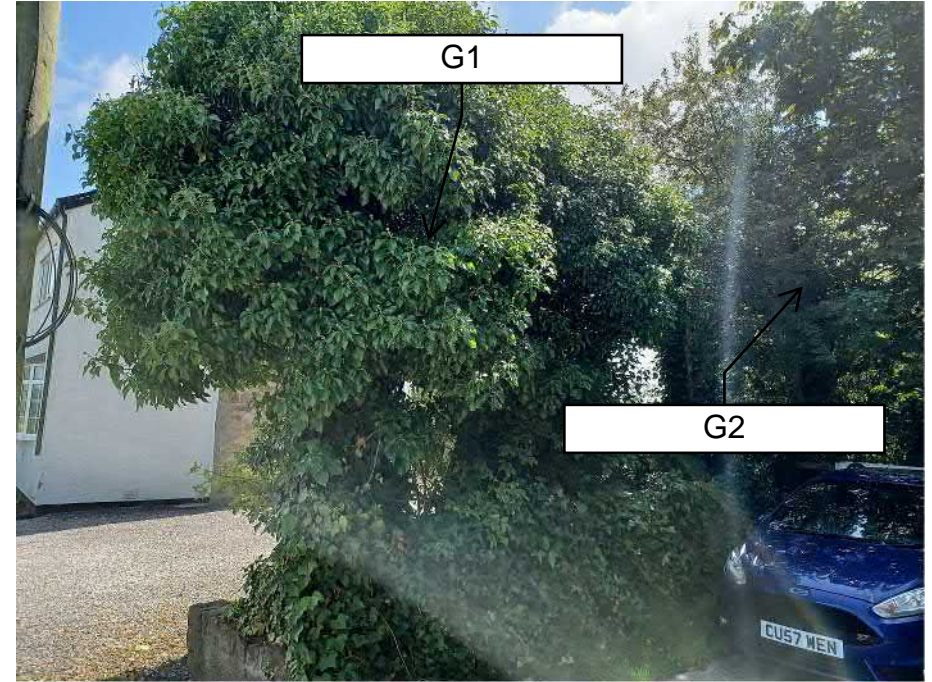
SCALE	DATE	DRAWN BY	CHECKED BY
AS SHOWN @A1	3/23	CARA	SID

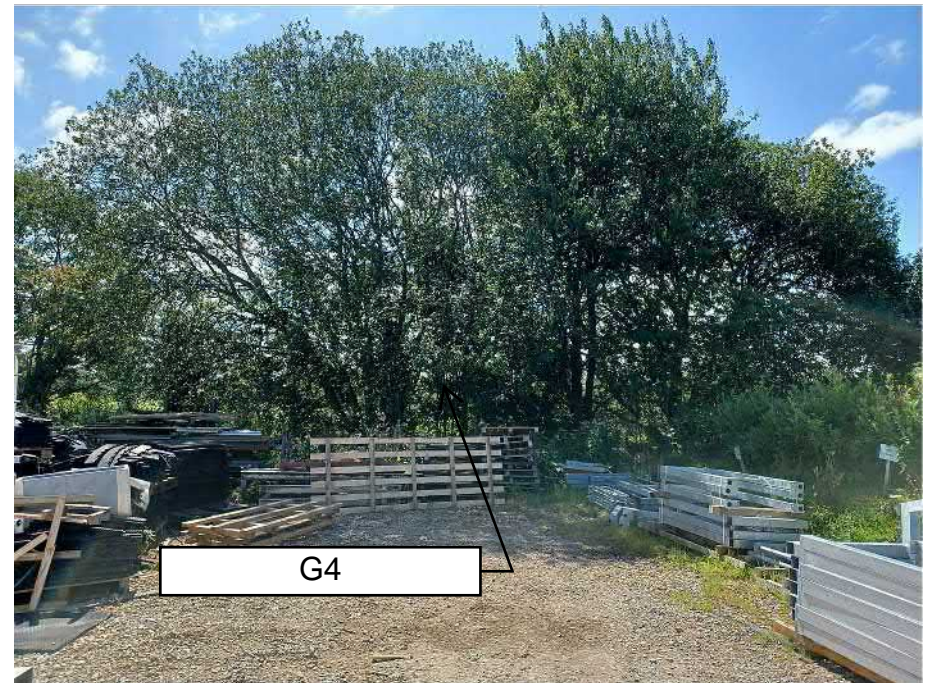
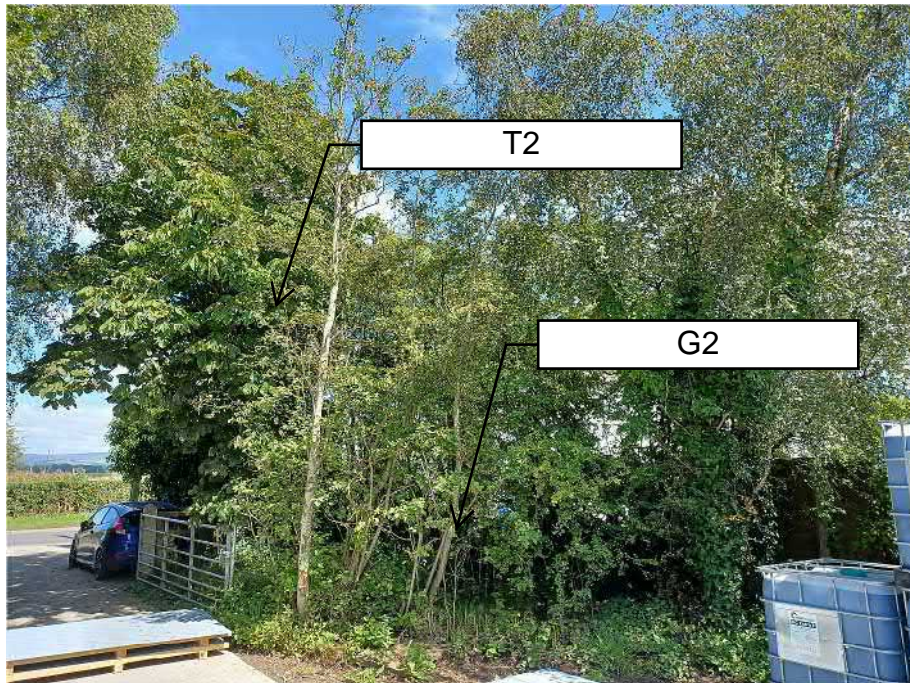
JOB NO.	DRAWING NO.	REVISION
MLL/AA22/01	100_01	

acorus acorus.co.uk
 Planning. Design. Property.





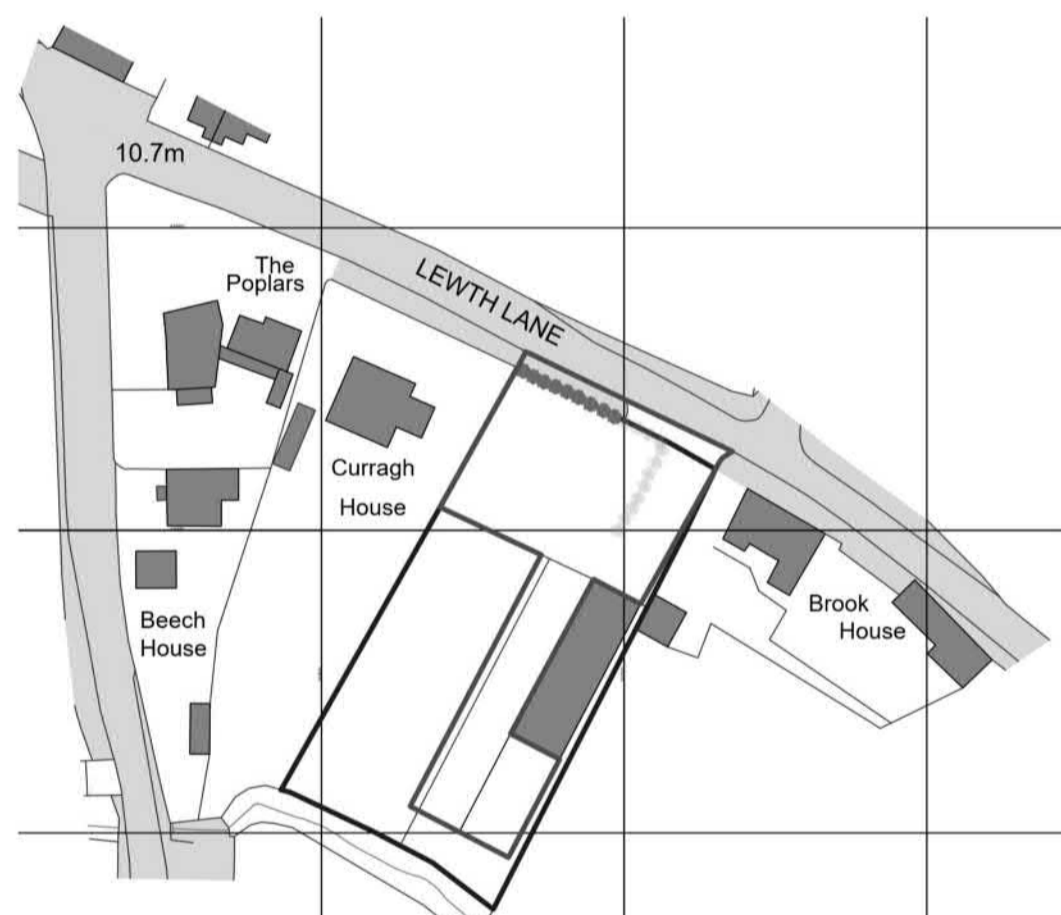




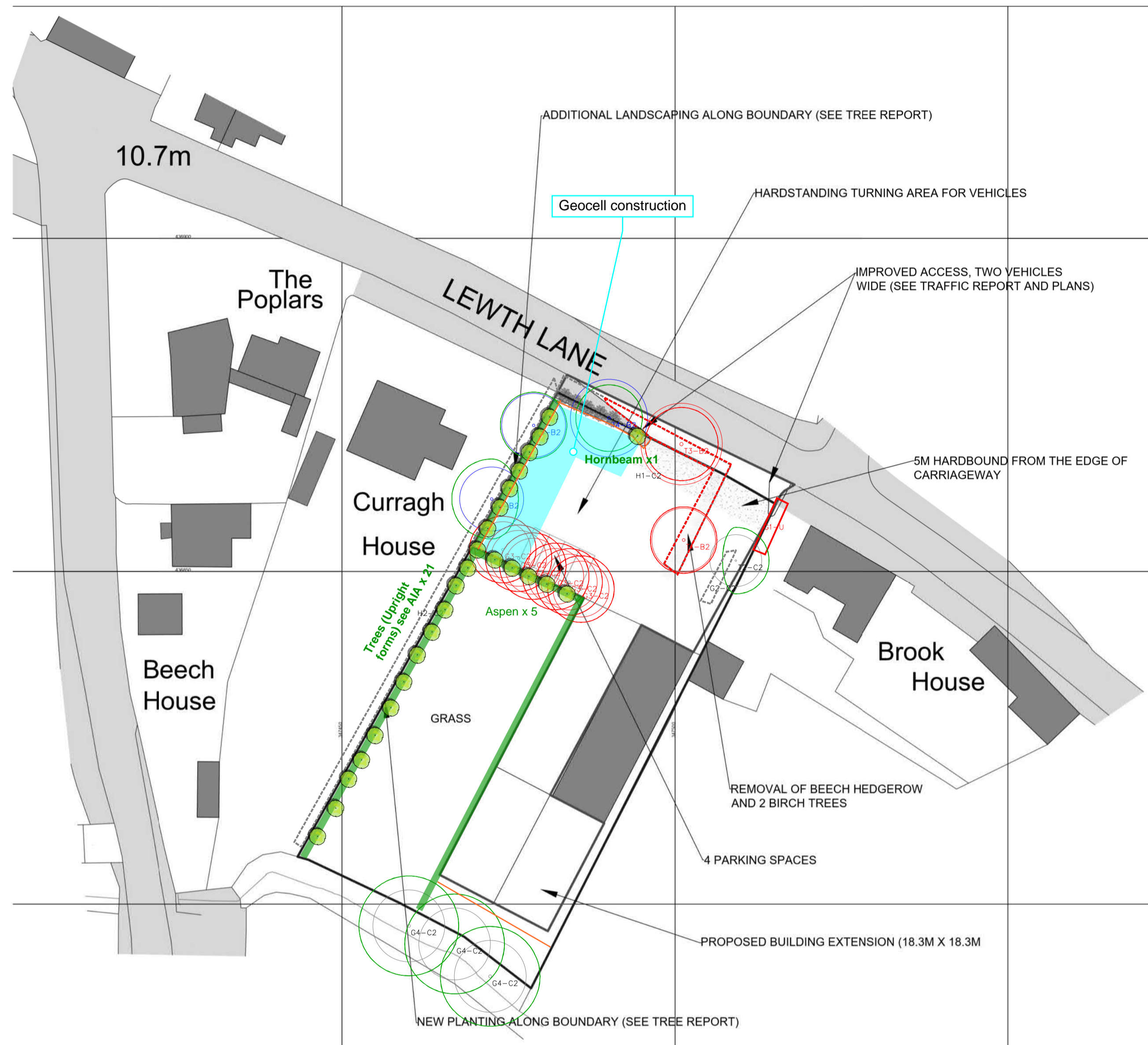
APPENDIX 4

Selected Reference List

The Body Language of Trees by Claus Mattheck & Helge Breloer (1994) London:HMSO.
Diagnosis of ill-health in trees by R.G. Strouts and T.G. Winter. (2000) London:HMSO
Principles of Tree Hazard Assessment and Management by David Lonsdale.(1999) HMSO
BS5837:2012 British Standards Institute
BS3998:2010 British Standards Institute
Trees Their Use, Management, Cultivation and Biology Robert Watson 2006
Tree roots in the built environment (Research for Amenity Trees) (2013) Arboricultural Association
Law of Trees, Forests and Hedges
by Dr. Charles Mynors (Author) Sweet & Maxwell; 2nd Revised edition (14 Dec. 2011)
Assessment of Tree Forks, Assessment of Junctions For Risk Management by Dr. Duncan Slater : Arboricultural Association (Nov 2016)
Collins Tree Guide by Owen Johnson (2006): Harper Collins, London



©Crown Copyright and database rights 2023 OS Licence no. 100041041
LOCATION PLAN
 Scale 1:1250



©Crown Copyright and database rights 2023 OS Licence no. 100041041
BLOCK PLAN
 Scale 1:500

Indicative Planting

- Tree - see AIA
- Hedge - see AIA

Tree Constraints Plan

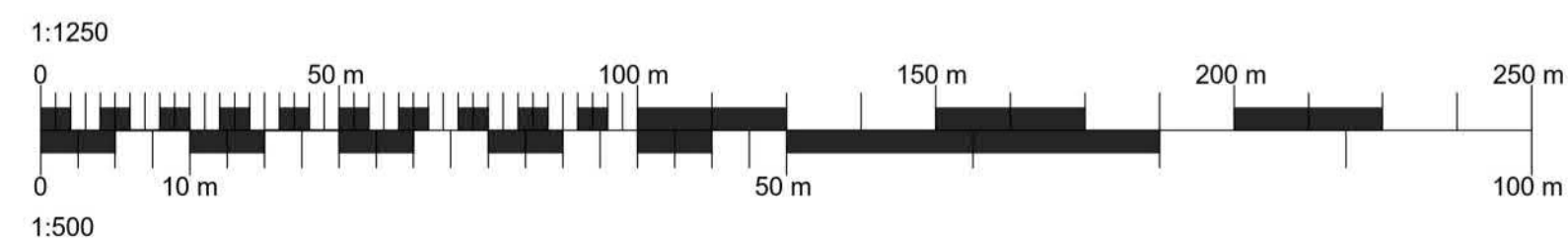
Project Title: Hoof Count, Catforth
Date of Survey: 04/08/2023
Surveyor: A. Wood
Date File Created: 16/10/2023
1:500

Yew Tree & Garden
 Yew Tree House
 Hale Minthorpe
 Cumbria LA7 7BJ
 015395 63527 07813897631
 info@yewtreegardens.co.uk
 www.yewtreegardens.co.uk

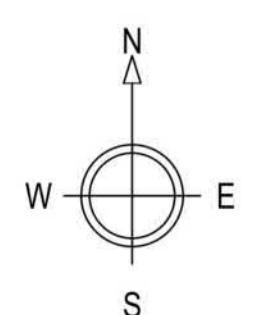
Note: RPA only indicated for significant trees. Small garden trees and juvenile specimens may not be indicated.
 Retention Categories: As defined in BS5837:2012
 RPA: Plotted from individual RPA sheets. Where restricted rooting conditions are present RPA is also plotted as an area polygon.

PROPOSED

- NOTES:**
- Use written dimensions only. All dimensions to be checked on site and any discrepancies reported to ACORUS immediately. If in doubt ask.
 - Where relevant, significant hazards have been identified on the drawing. Hazards which should be obvious to a competent contractor or unforeseeable have not been identified.
 - This drawing is confidential and remains the exclusive property of ACORUS.
 - Ordnance Survey Paper Map Copying Licence Number: 100039456.
- © ACORUS Rural Property Services Ltd.



Ownership Boundary
 Site Boundary



Rev	Date	Description	Dwn	Chk

PROJECT: MR A MARSH
 LAND OFF LEWTH LANE
 CATFORTH

TITLE: PROPOSED SITE PLAN

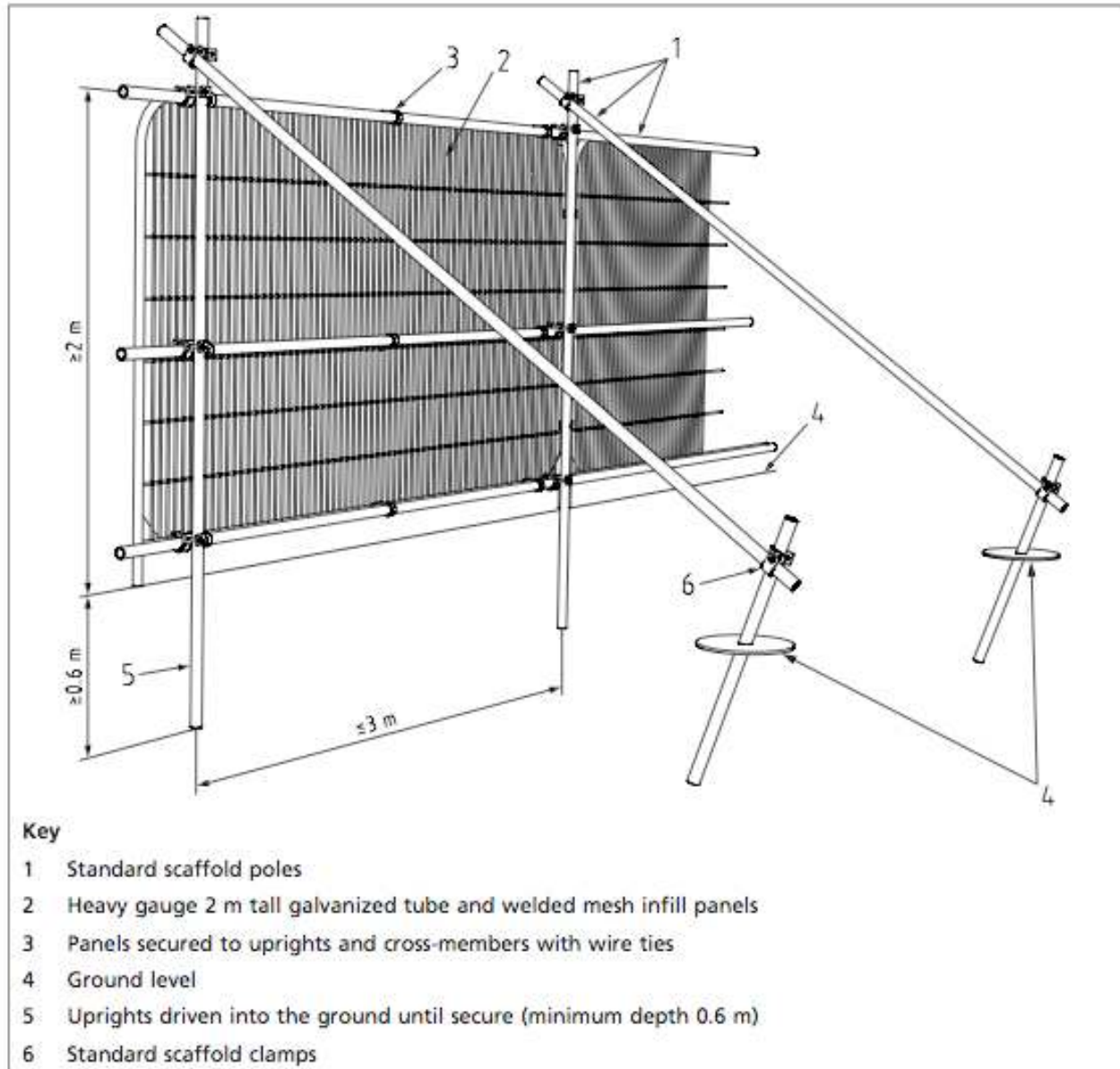
SCALE: AS SHOWN @A1
 DATE: 10/23
 DRAWN BY: CARA
 CHECKED BY: AA

JOB NO: MLL/AA22/01
 DRAWING NO: 100_01
 REVISION:

acorus acorus.co.uk
 Planning. Design. Property.

Tree protective fencing

Figure 2 Default specification for protective barrier

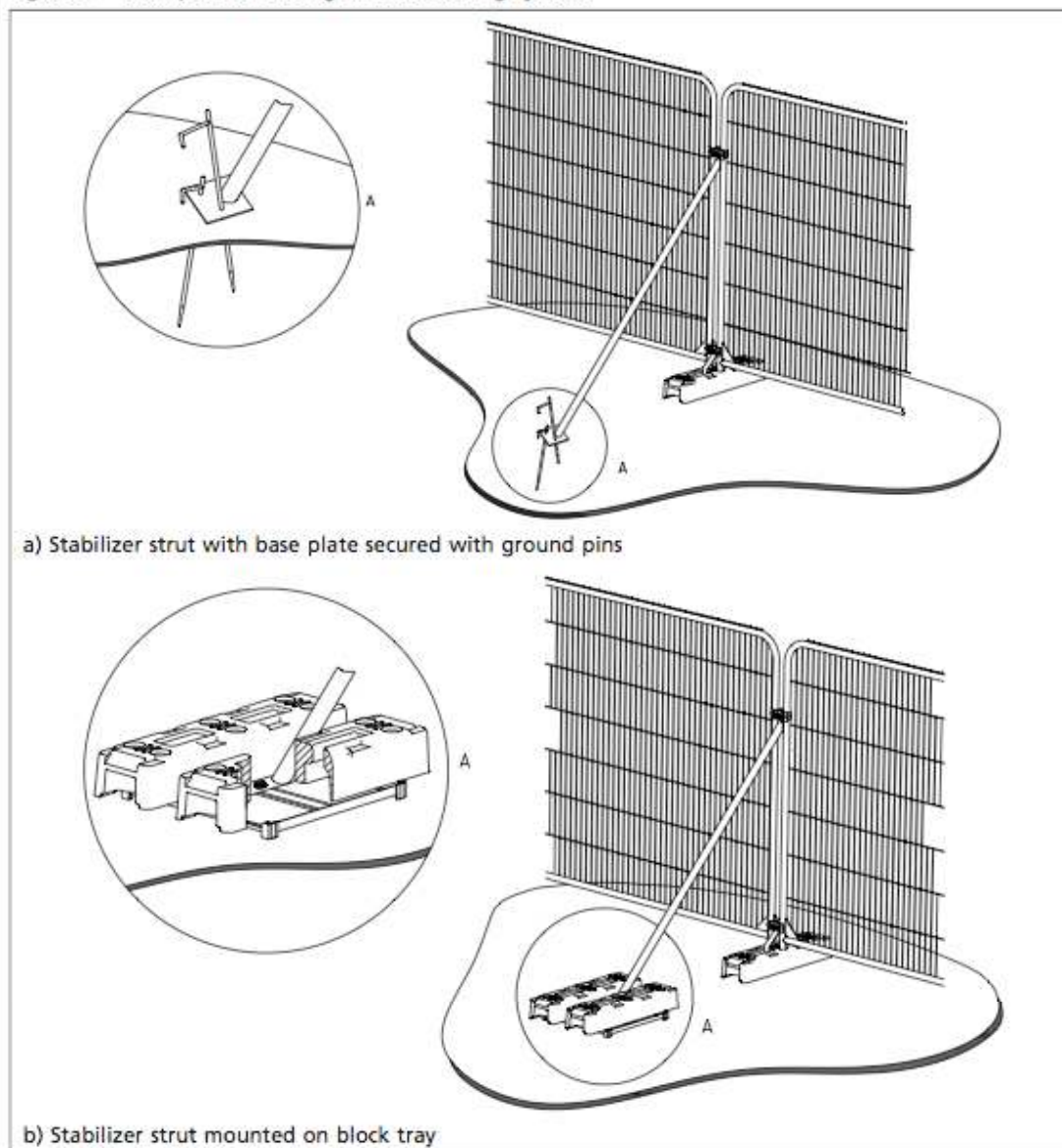


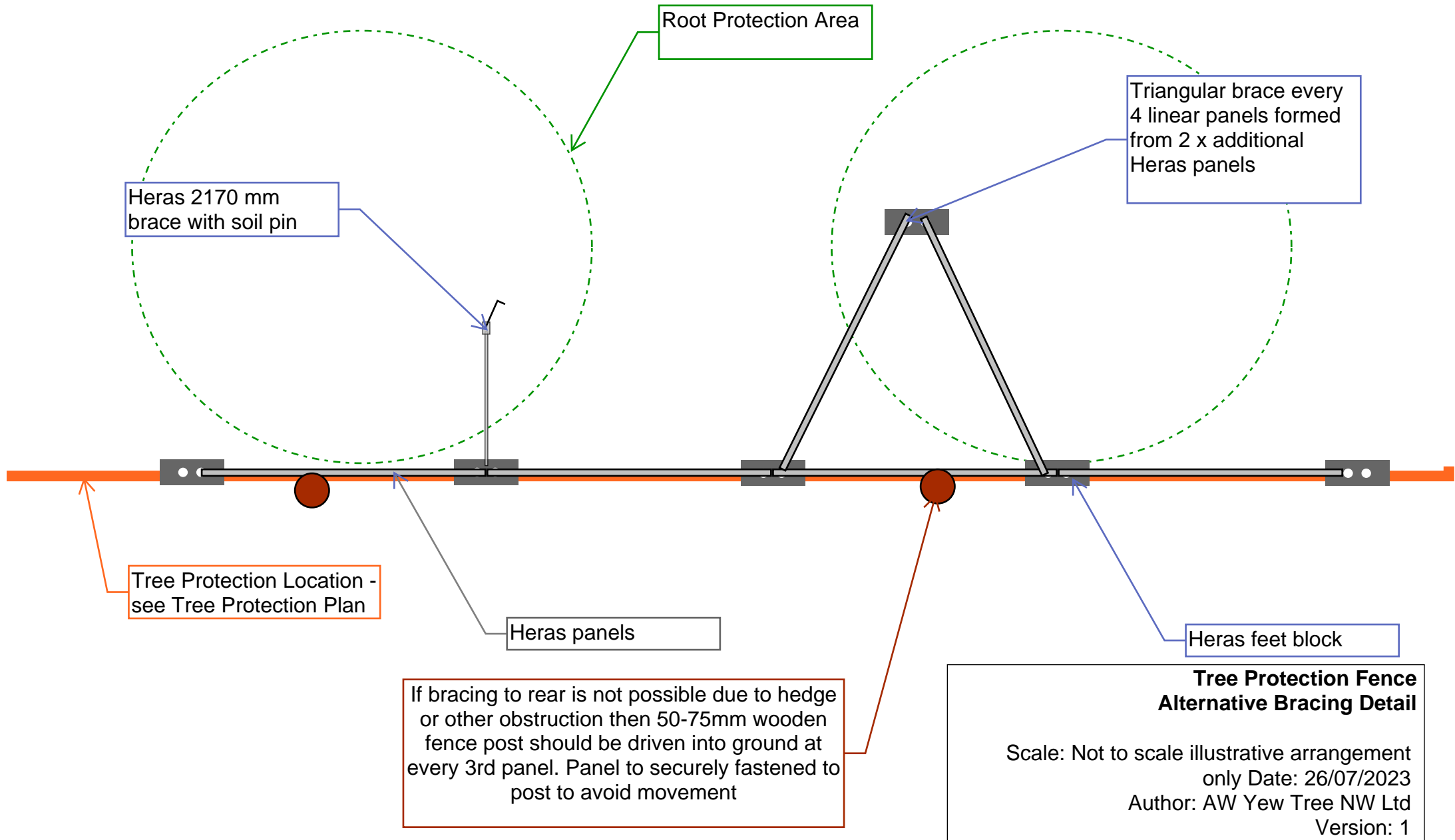
Tree protective fencing

BRITISH STANDARD

BS 5837:2012

Figure 3 Examples of above-ground stabilizing systems







**TREE PROTECTION
AREA**

KEEP OUT!

**ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE
AGREEMENT OF THE LOCAL AUTHORITY OR ARBORICULTURAL
CONSULTANT**

Cellweb® TRP Installation Guide



Step 1: Prepare Surface



Step 2: Lay out Treetex™



Step 3: Lay out Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
 - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
 - Arboricultural Advisory and Information Service: Practice note 12 – 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

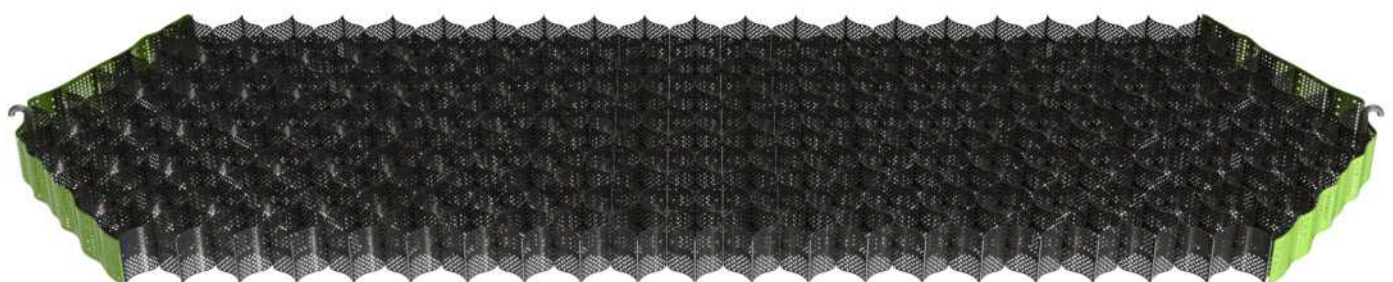
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

2. Lay out the Treetex™ Non-Woven Geotextile

- Lay out the Treetex™ over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).

3. Lay out the Cellweb® TRP Cellular Confinement System

- Lay out the collapsed Cellweb® TRP on-top of the Treetex™.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.



Cellweb® TRP - Installation Guide

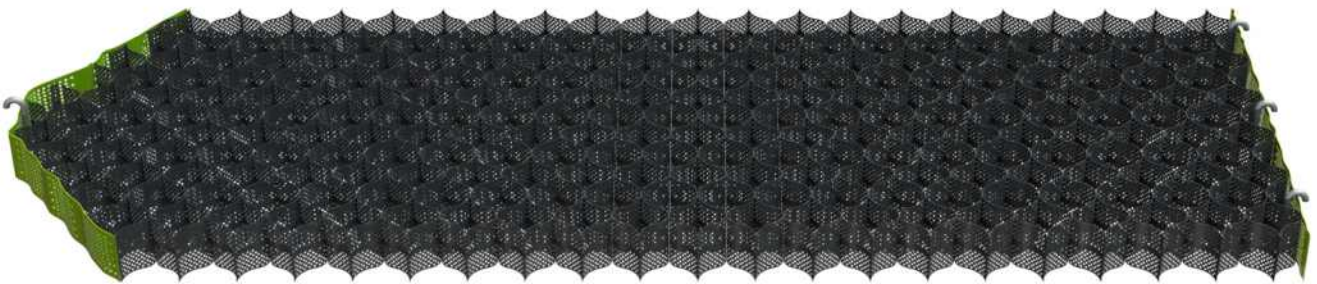


Step 3: Pinning Cellweb® TRP

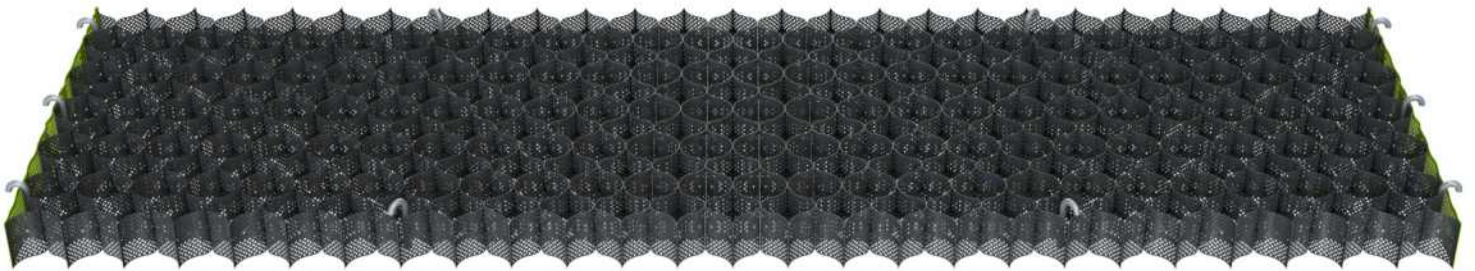


Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.



- Now measure its width to 2.56m and secure in each of the corners with the J pins.
- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.



- This will produce a cell size of 259mm x 224mm which is the required cell diameter. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- When cutting Cellweb® TRP, please bear in mind that you will lose two internal cells per cut. Across a 8.1m long panel, this equates to a loss of 0.224m x 2 along the length or 0.259m x 2 across the width.

Cellweb® TRP - Installation Guide



Step 4: Clean Angular Stone



Step 5: Edge Restraints



Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- Minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.
- Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.
- If the clean angular stone is being used as the final surface; regular maintenance will be required to ensure a minimum overfill of 50mm.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- All surfaces in Root Protection Areas must be porous. Surfaces can include porous block paving, porous asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel, concrete and astro turf.

NOTES

- 1. Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
- 2. Geotextile:** We recommend the installation of a Treetex™ under the Cellweb® TRP, or under the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
- 3. Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
- 4. Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.