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BS5837:2012 TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT: Lullings Cottage, West Hill, Ardingly, West Sussex RH17 6QY

Dated: 10th November 2025

Our reference: GHA/DS/162320:25a

CONTENTS

Arboricultural Impact Assessment

Location: Lullings Cottage, West Hill, Ardingly, West Sussex RH17 6QY
Our reference: GHA/DS/162320:25a
Client: Tim & Alex Musker
Dated: 10th November 2025
Prepared by: Glen Harding MICFor, MSc (Forestry), MArborA
Date of Inspection: 9th January 2024

Instructions

Issued by – Tim & Alex Musker

TERMS OF REFERENCE – GHA Trees were instructed to survey the subject trees within and adjacent to Lullings Cottage, West Hill, Ardingly, in order to assess their general condition and to provide a planning integration statement for the indicative proposed development that safeguards the long term wellbeing of the retained trees in a sustainable manner.

Executive Summary

The proposal for the site is to construct a new detached house to the north east of Lullings, to replace the existing structure. The proposed scheme requires the removal of one small and relatively insignificant (C category) tree. The retained trees require protection in accordance with industry best practice and BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations, in order to ensure their longevity.

Documents Supplied

The client supplied the following documents:

- Topographical survey
- Existing layout plans
- Proposed layout plans

Scope of Survey

1.1 The survey is concerned with the arboricultural aspects of the site only.

1.2 The planning status of the subject property was not investigated in detail.

1.3 A qualified Arboriculturist undertook the report and site visit and the contents of this report are based on this. Whilst reference may be made to built structure or soils, these are only opinions and confirmation should be obtained from a qualified expert as required.

1.4 Dense vegetation or climbers (such as ivy) also prohibited full inspections for some trees; this is noted where applicable.

1.5 No discussions took place between the surveyor and any other party.

1.6 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breleor (The body language of tree, DoE booklet Research for Amenity Trees No. 4, 1994)

1.7 The survey was undertaken in accord with British Standard 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.

1.8 Underground services near to trees will need to be installed in accord with the guidance given in BS5837.

1.9 The client's attention is drawn to the responsibilities under the Wildlife and Countryside Act (1981).

Survey Method

2.1 The survey was conducted from ground level with the aid of binoculars if needed.

2.2 No tissue samples were taken nor was any internal investigation of the subject trees undertaken.

2.3 No soil samples were taken.

2.4 The height of each subject tree was estimated using a clinometer and recorded to the nearest half metre.

2.5 The stem diameter for each tree was measured in line with the requirements set out in BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.

2.6 The crown spreads were measured with an electronic distometer and recorded to the nearest half metre. Where the crown radius was notably different in any direction this has been noted on the Plan (appendix A) and within the tree table (Appendix B). The crowns of those trees that are proposed for removal, or trees where the crown spread is deemed insignificant in relation to the proposed development are not always shown on the appended plan; however their stem locations are marked for reference.

2.7 The Root Protection Area (RPA) for each tree is included in the tree table, both as an area, and as the radius of a circle.

2.8 The crown clearance was measured using a clinometer and recorded to the nearest half metre. Where it is significantly lower in one direction, this is noted within the tree table at appendix B.

2.9 All of the trees that were inspected during the site visit are detailed on the plan at Appendix A; this plan was produced in colour and **MUST** only be scanned or reproduced in colour. The trees on this plan are categorised and shown in the following format:

COLOUR CODING AND RATING OF TREES:

Category A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. Colour = light green crown outline on plan.

Category B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Colour = mid blue crown outline on plan.

Category C – Trees of low quality with an estimated remaining life expectancy of at least 10 to 20 years, or young trees with a stem diameter below 150mm. Colour = uncoloured crown outline on plan.

Category U – Those in such a condition that they cannot realisitically be retained as living trees in the context of the current land use for longer than 10 years. Colour = red crown outline on plan.

All references to tree rating are made in accordance with BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations', Table 1.

The Site

3.1 The site is located on West Hill to the east of Balcombe.

3.2 Access to the property is currently gained via a driveway to the front of the site.

The Subject Trees

4.1 The details of the subject trees are set out in the Schedule at Appendix B.

4.2 Of the thirty-three individual trees, and groups of trees surveyed, one group has been assessed as BS 5837 category A, six trees / groups have been assessed as BS category B, twenty-one have been assessed as BS category C with the remaining trees being assessed as BS 5837 category U.

Category A	1 group
Category B	6 trees / groups
Category C	23 trees / groups
Category U	3 trees

The Proposal

5.1 The proposal for the site is to construct a new detached house to the north east of Lullings, to replace the existing structure.

5.2 The proposed location of the above structures can be seen on the appended plan.

Arboricultural Impact Assessment

PROPOSED TREE REMOVAL / RETENTION:

6.1 T30 is proposed for removal as part of the new development, as this tree could not be effectively retained as it is located within the outline of the new structures, or located too close to make its retention feasible / sustainable. This tree has been given a C category grading in accordance with BS 5837 and therefore should not act as a limitation on the effective use of the site, or impose any significant constraints on the layout (see table 1 BS5837).

TREE PRUNING TO ACCOMODATE THE PROPOSAL OR ACCESS TO THE SITE

6.2 T32 will be pruned to improve clearance over the new parking bay. The proposed tree work is assessed to be minor and will not adversely impact the health or amenity value of this tree.

6.3 The implementation of the proposal does not lead to the requirement to prune any of the other retained trees.

ASSESSMENT OF RETAINED TREES ROOT PROTECTION AREAS

6.4 Section 4.6.3 of BS 5837: 2012 states that the Root Protection Area (RPA) of each tree should be assessed by an arboriculturalist considering the likely morphology and disposition of the roots, when known to be influenced by past or existing site conditions.

6.5 The assessed RPAs (excluding the RPAs of U category trees and those trees which are proposed for removal) can be seen on the appended plan.

ASSESSED IMPACT ON RPAS BY PROPOSED STRUCTURES

6.6 There is a small encroachment into the RPA of G29; this encroachment equates to 0.8% and is therefore assessed to be within acceptable levels. These trees have been graded as a C category tree in accordance with BS 5837: 2012 – Table 1, and should therefore not act as a limitation on the effective use of the site, or impose any constraints on the layout.

6.7 The proposed new house is situated outside of the assessed RPAs of all of the other trees proposed for retention; therefore, these trees pose no below ground constraints on the new structure or vice versa.

6.8 The new bin / bike store is within the RPA of G29; this will however be a lightweight structure which will be installed on localised above ground pads to minimise excavations in this area.

PROPOSED ACCESS TO THE NEW DEVELOPMENT

6.9 Where sections of the new parking are within the RPA of G29 and T32, an "up and over" style construction will be necessary, to ensure that all existing ground levels are retained in their current form, as well as ensuring that satisfactory moisture and oxygen can be obtained from the underlying soil by any tree roots in this area. A design for this proposed access route must be drawn up by a structural engineer, in close co-ordination with the retained arboriculturalist. A preliminary method statement has been included at section 8 of this document.

INSTALLATION OF SERVICES

6.10 The installation of underground apparatus and drainage systems with the use of mechanical excavators will undoubtedly sever any roots that may be present and can change the hydrology and structure of the nearby soil in a way that will adversely affect the health of any nearby trees. Particular care should therefore be taken when assessing the layout of new services and consideration **MUST** be given to the methods of installation of **ALL** underground apparatus.

6.11 New services should be routed to avoid all RPAs of retained trees on site and within nearby sites. From an assessment of the subject site, undertaken in conjunction with the project architect, there is no reason to assume this isn't

possible. Inspection chambers must also be sited outside the RPAs of any nearby trees.

Post Development Pressure

FUTURE TREE AND STRUCTURE RELATIONSHIPS

7.1 The retained trees are at a satisfactory distance from the proposed new buildings and highly unlikely to give rise to any inconvenience.

7.2 Regular inspections of the retained trees by a suitably qualified Arboriculturalist and subsequent remedial works will ensure that the trees are maintained in a suitable manner, to exist in harmony with the new structures and its occupants for many years to come.

Tree Protection Measures and Preliminary Method Statement for Development Works

8.1 TREE PROTECTION BARRIERS

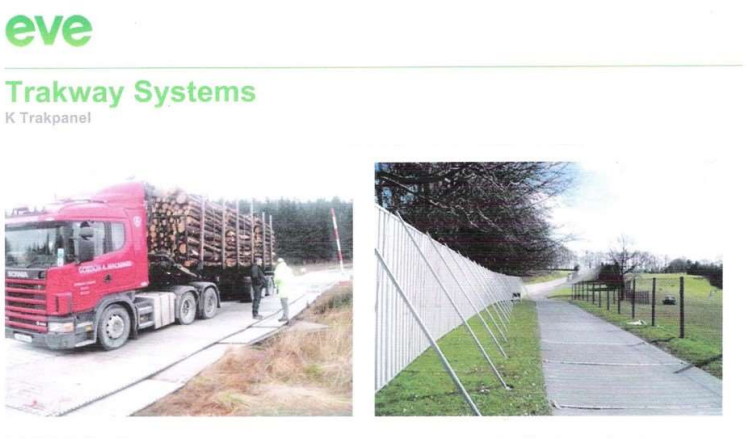
The position of the fence **MUST** be marked out with biodegradable marker paint on site and agreed with appropriate representatives from the LPA and contractor. The fencing **MUST** be erected **prior** to any works in the vicinity of the trees and removed only when all development activity is complete. The protective fencing **MUST** be as that shown in BS 5837 (see Appendix C). The herras panels **MUST** be joined together using a minimum of two anti-tamper couplers which **MUST** be installed so they can only be removed from the inside of the fence. The panels **MUST** supported by stabilizer struts, which **MUST** be installed on the inside and secured to the ground using pins or appropriate weights.

The Fence must be marked with a clear sign reading:

"Construction Exclusion Zone – No Access"

8.2 GROUND PROTECTION - VEHICULAR ACCESS WITHIN THE RPA

Where heavier vehicular access is required within the RPA, these areas **MUST** be covered using the Eve Trakway system (or a similar product) as shown in the photo below.



8.3 REMOVAL / DEMOLITION OF THE EXISTING STRUCTURES

Some existing structures located within the RPAs of retained trees will need to be removed.

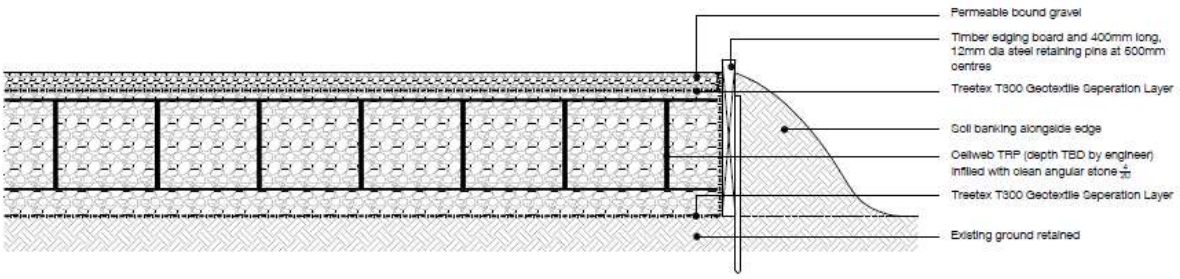
METHODOLOGY:

- If the fencing detailed in section 8.2 requires relocation, this **MUST** be moved to the edge of the structures which are to be removed, in order to protect the adjacent trees and their surrounding soil. This must be consulted with the retained arboriculturalist.
- The above ground parts of the structures **MUST** be removed by hand, using hand tools only (to include hand held pneumatic drill assuming compressor is positioned outside RPAs).
- The removed material **MUST** be moved to and stored outside of the RPA of all of the retained trees. This can either be done by transporting small pieces by hand or using a machine to lift this material; any such machine **MUST** be parked outside the RPA of on appropriate ground protection.
- The sub-bases can be removed using a 360 excavator**.** The machine **MUST** work from outside the RPA. The machine **MUST** start work at the points nearest to any retained trees, working backward away from each tree so that the remaining hard surfacing can be used to support the load of the machine and protect the ground. **(NOTE: the size of any such machine should be checked before starting works, to ensure a) the existing surface will support the machines load and b) that there is sufficient crown clearances to avoid any potential for crown damage**). This work **MUST** be undertaken utilising a banksman.
- If during the work, any roots from the retained trees are discovered in excess of 25mm, the retained arboriculturalist **MUST** be contacted immediately to assess the roots and arrange subsequent working methods that will cause no damage to the tree(s).
- Care **MUST** be taken to avoid damage to the soil beneath these structures. If any roots are exposed, these should be covered immediately and the retained arboriculturalist **MUST** be contacted immediately to assess the roots and arrange subsequent working methods that will cause no damage to the tree(s).

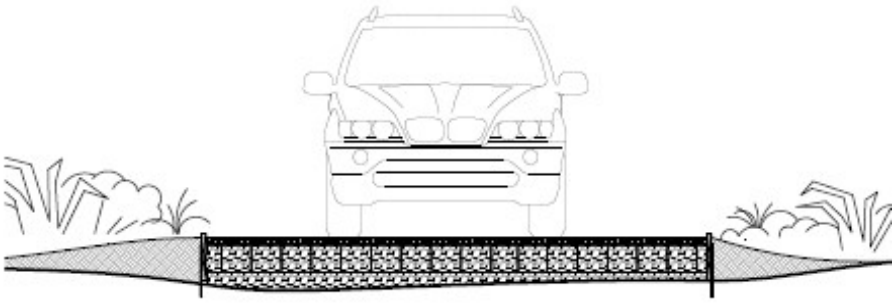
8.4 NO DIG SURFACING CONSTRUCTION METHOD IN ACCORDANCE ARBORICULTURAL PRACTICE NOTE 12 AND BS: 5837

The sections of the new driveway that are within the RPA's of the retained trees **MUST** be constructed as follows.

No dig drive makeup



Typical section:



METHODOLOGY:

- Eradication of all existing ground vegetation **MUST** be undertaken using a translocated herbicide. Any product used for this purpose **MUST** be selected to ensure that it will not have an adverse affect on the health of the retained trees, and carried out by a suitably trained operative.

- Any major protrusions within the soil **MUST** be removed, such as large rocks or existing tree stumps. Any holes **MUST** be filled with sharp sand.

- Lay a geotextile membrane over the entire area(s) to be protected, ensuring a one 1m overlap where necessary. All new surfacing **MUST** be positioned at least 500mm from tree stems or buttress roots.

- Construction of the edging of the area is to be implemented with the use of vertical steel pegs driven into the ground at intervals of 500mm with side supports firmly attached. **CHECK FOR UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF SUCH WORK.**

- The three dimensional cellular confinement system (e.g cellweb or similar) must be cut to size and placed within the pre-prepared area. This area **MUST** now be filled with a no-fines aggregate infill. This **MUST** then be compacted to avoid the possibility of future "rutting".

- Lay a final layer of the geotextile membrane on top of this surface.

- A porous material can now be placed on top to complete the construction.

- Graded top soil will be used to bring the adjacent grassed areas to the same level as the new driveway.

8.5 SITE HUTS, WELFARE FACILITIES AND STORAGE OF EQUIPMENT, MATERIALS AND CHEMICALS
All site huts **MUST** be positioned outside of the retained trees RPA's.

8.6 MIXING OF CONCRETE
All mixing of cement / concrete **MUST** be undertaken outside of the RPA of all of the retained trees.

8.7 USE CRANES, RIGS AND BOOMS
Precautionary measures **MUST** be observed to avoid contact of any retained trees when manoeuvring cranes rigs or booms into position.

8.8 INCOMING SERVICES, DRAINAGE AND SOAKAWAYS
New services **MUST** be routed to avoid all RPAs of retained trees on site and within nearby sites. From an assessment of the subject site, undertaken in conjunction with the project architect, there is no reason to assume this isn't possible. Inspection chambers **MUST** be sited outside the RPA.

8.9 ON SITE SUPERVISION
Regular site supervision is essential to ensure all potentially damaging activities near to trees are correctly supervised. A pre start meeting will occur to ensure all parties are aware of their responsibilities relating to tree protection on site; this will include a site induction for key personnel.

8.10 OTHER TREE PROTECTION PRECAUTIONS
- **NO** fires lit on site within 20 metres of any tree to be retained.
- **NO** fuels, oils or substances with will be damaging to the tree shall be spilled or poured on site.
- **NO** storage of any materials within the root protections zone.

8.11 HARD / SOFT LANDSCAPING NEAR RETAINED TREES
All new pathways and hard landscaping areas within the Root Protection Areas (RPA's) of the retained trees **MUST** be designed using no-dig, up and over construction techniques, and be specified in close co-ordination with the retained Arboriculturalist. Porous materials **MUST** also be used when surfacing near the trees. No machinery will be used for this work, which **MUST** all be done by hand.

8.12 DISMANTLING PROTECTIVE BARRIERS
Protective barriers must only be completely removed when all machinery, and equipment has left site.

Conclusion

9.1 In conclusion, the principal arboricultural features within the site can be retained and adequately protected during development activities.

9.2 No significant or important trees will be lost to facilitate the proposed scheme.

9.3 Subject to precautionary measures as detailed above, the proposal will not be injurious to trees to be retained.

9.4 There will be no appreciable post development pressure, and certainly none that would oblige the council to give consent to inappropriate tree works.

Recommendations

10.1 Site supervision – An individual e.g. the Site Agent, must be nominated to be responsible for all arboricultural matters on site. This person must:

a. Be present on the site the majority of the time.
b. Be aware of the arboricultural responsibilities.
c. Have the authority to stop any work that is, or has the potential to cause harm to any tree.
d. Be responsible for ensuring that all site personnel are aware of their responsibilities towards trees on site and the consequences of the failure to observe those responsibilities.
e. Make immediate contact with the local authority and / or retained arboriculturalist in the event of any related tree problems occurring whether actual or potential.

10.2 It is recommended, that to ensure a commitment from all parties to the healthy retention of the trees, that details are passed by the architect or agent to any contractors working on site, so that the practical aspects of the above precautions are included in their method statements, and financial provision made for these.

10th November 2025
Signed:

Glen Harding MICFor, MSc (Forestry), MArborA
For and on behalf of GHA Trees

Appendix A
TREE PLAN
(see separate PDF)

Appendix B
TREE TABLE

Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
T1	Apple	5	242	3	2.91	4.5	2.5	2	4	M	0	10-20	C1	Small tree of limited value in the wider landscape.
G2	Cypress	5	113	2	1.36	1	1	1	1	M	1	10-20	C2	Small trees of limited value in the wider landscape.
T3	Prunus	5	156	2	1.87	2.5	2.5	2.5	1	M	2	10-20	C1	Small tree of limited value in the wider landscape.
T4	Eucalyptus	11	1000	1	12.00	7	8	5	6	M	2	Less than 10	U	Major decay north side from 0 to 1m on main stem. Vegetation near base of tree prevented full and detailed inspection. Recommend: fell or prune heavily.
T5	Norway maple	11	320	1	3.84	6	4	4	2	M	4 over site	Less than 10	U	Declining crown with major bark delamination.
G6	Poplar and ash	20	640	2	7.68	7	7	7	7	M	5 over site	20-40	B2	Vegetation near base of tree prevented full and detailed inspection.
T7	Pine	24	870	1	10.44	8	9.5	9	4	M	4	40+	A2	No notable defects recorded during inspection.
T8	Lawson cypress	10	240	1	2.88	1.5	1.5	1.5	1.5	M	0.5	10-20	C1	Small tree of limited value in the wider landscape.
T9	Cypress	8	311	2	3.73	2	2	2	2	M	3	10-20	C1	Small tree of limited value in the wider landscape.
T10	Apple	6	190	1	2.28	3	3	3	3	M	2	10-20	C1	Small tree of limited value in the wider landscape.

Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
G11	Laburnum, sorbus and other scrub	4 to 8	150	1	1.80	2	2	2	2	M	3	10-20	C2	Small trees of limited value in the wider landscape.
T12	Magnolia	4	170	2	2.04	2.8	2.8	2.8	2.8	M	2	10-20	C1	Small tree of limited value in the wider landscape.
G13	Cherry	6	130	1	1.56	2	2	2	2	M	1.5	10-20	C2	Small trees of limited value in the wider landscape.
G14	Fig	3	196	6	2.35	3	3	3	3	M	1.5	10-20	C2	Small trees of limited value in the wider landscape.
T15	Grandiflora magnolia	8	529	7	6.35	4.5	3.5	4	5	M	2	10-20	C1	No notable defects recorded during inspection.
G16	Yew	12	650	1	7.80	6.5	6.5	6.5	6.5	M	2	20-40	B2	No notable defects recorded during inspection.
T17	Magnolia	6	269	2	3.22	4	4.5	5	4	M	1	10-20	C1	No notable defects recorded during inspection.
T18	Prunus	6	300	9	3.60	2.5	2.5	2.5	2.5	M	2	10-20	C1	No notable defects recorded during inspection.
T19	Magnolia	7	340	1	4.08	3	5	5	5	M	2	10-20	C1	No notable defects recorded during inspection.
T20	Acer ssp	5	150	1	1.80	3	3	3	3	M	1.5	10-20	C1	No notable defects recorded during inspection.
T21	Olive	6	280	1	3.36	2	2	3	3	M	2	10-20	C1	Small tree of limited value in the wider landscape.

Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
T22	Mulberry	10	540	1	6.48	2.5	5	7	6.5	M	2	20-40	B3	Heavy lean to south. Decay / cavity north side 1 to 2m from previous stem failure.
T23	Mulberry	8	610	1	7.32	3	2	5	4	M	2	20-40	B3	Decay / cavity north east side 1 to 2m from previous stem failure.
T24	Leyland cypress	23	653	2	7.84	4	4	4	4	M	1 west	10-20	C1	No notable defects recorded during inspection.
T25	Larch	21	800	1	9.60	10	7	4	7	M	4 north	20-40	B3	Evidence of past storm damage in several parts of crown.
G26	Birch and sweet chestnut	18	450	1	5.40	5	5	5	5	M	4	20-40	B2	No notable defects recorded during inspection.
T27	Larch	20	500	1	6.00	2	7	4	3	OM	6	Less than 10	U	50% dead.
G28	Scots pine	18 to 22	560	1	6.72	4	4	4	4	M	2 TO 6	20-40	B2	No notable defects recorded during inspection.
G29	Cypress	18	900	1	10.80	4	4	4	4	OM	4	10-20	C2	Scruffy trees. Past storm damage noted.
T30	Spruce	9	220	1	2.64	2	2	2	2	M	2	10-20	C1	Recommend: to be removed.
G31	Eucalyptus	24	680	1	8.16	7	9	9	9	OM	9 north	10-20	C2	Scruffy trees. Past storm damage noted. Several limb and individual tree failures.
T32	Hawthorn	8	438	4	5.26	4	4	4	4	M	1	10-20	C2	Scrub / lapsed hedge. Recommend: prune clear of parking bay.

Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
G33	Holly	9	200	1	2.40	3	3	3	3	M	1	10-20	C2	Scrub / lapsed hedge

KEY :

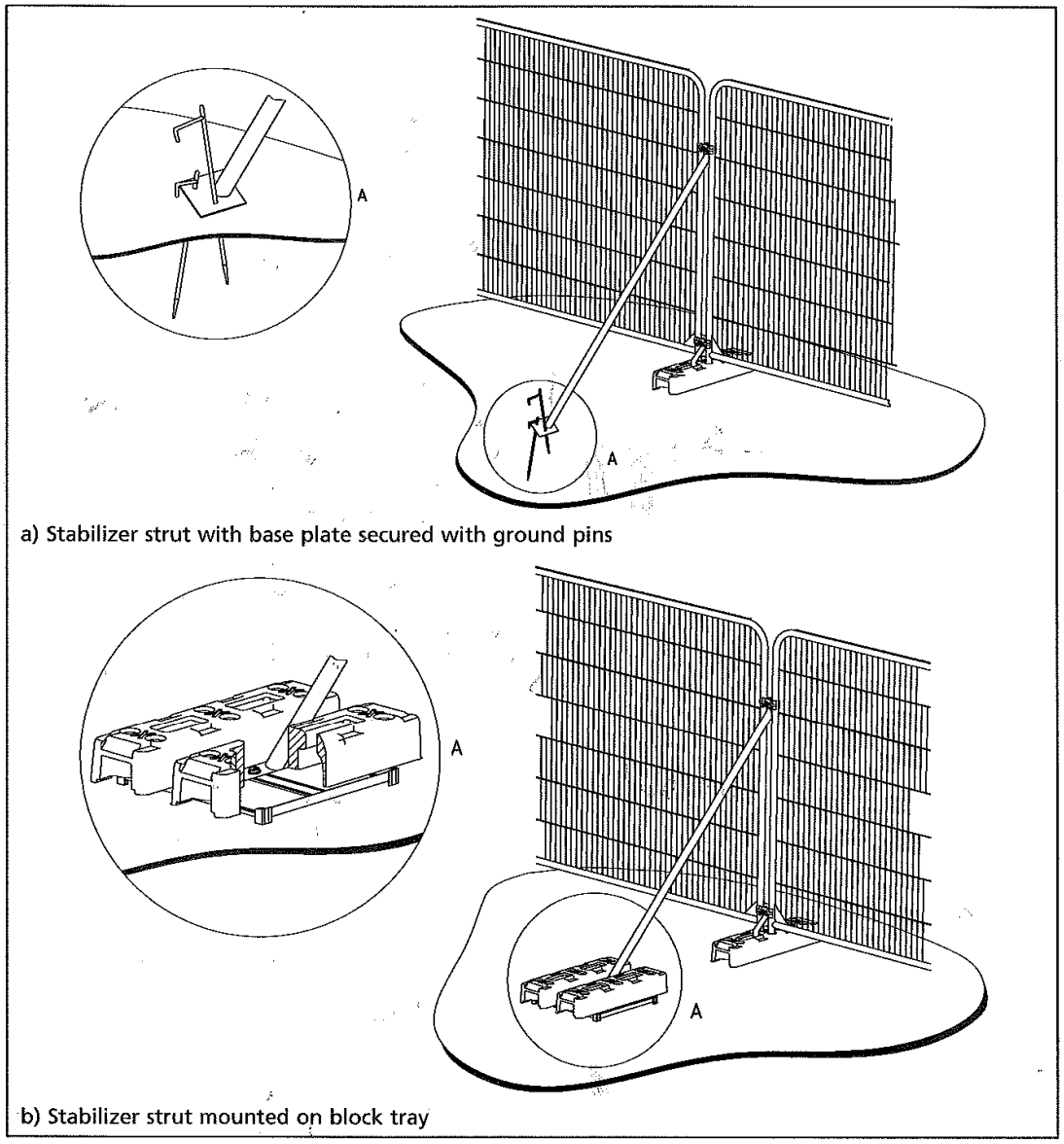
Tree No: (T= individual tree, G= group of trees, W= woodland)

Age class: Young (Y), Middle aged (MA), Mature (M), Over mature (OM), Veteran (V)

Height (Ht): Measured in metres +/- 1m

Appendix C
TREE FENCING DETAIL

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