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Arboricultural and Planning Integration Report: September Hill, Wicken Road, Arkesden, CB11 4EY

7th April 2021

Ref: GHA/DS/144760:21

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Arboricultural Report

Location: September Hill, Wicken Road, Arkesden, CB11 4EY
Ref: GHA/DS/144760:21
Client: Edit Residential
Date: 7th April 2021
Prepared by: Glen Harding MICFor, MSc (Forestry), MArborA
Date of Inspection: 30th March 2021

Instructions

Issued by – Edit Residential

TERMS OF REFERENCE – GHA Trees were instructed to survey the subject trees within and adjacent to September Hill, Wicken Road, Arkesden, in order to assess their general condition and to provide a planning integration statement for the indicative proposed development that safeguards the long term well being of the retained trees in a sustainable manner.

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Executive Summary

The proposal for the site is to construct a new detached dwelling to the north east of the existing house. The new house will be accessed via a new access road on the north western boundary (approved for a new house in the adjacent property). The proposed scheme does not require the removal of any of the trees on site, or of trees within nearby adjacent sites; therefore, the landscape character of the site will be unaffected by the proposal. 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:

1. Topographical survey
2. Existing layout plans
3. 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 Tree works will be required to be in accord with British Standard 3998 – 2010 (Tree Work - Recommendations).
- 1.9 Underground services near to trees will need to be installed in accord with the guidance given in BS5837 together with the National Joint Utilities Group Booklet 4: 2007 Guidelines for the planning, installation and maintenance of utility services in proximity to trees (NJUG4).
- 1.10 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 realistically 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 Wicken Road, a residential through road located in the village of Arkesden.
- 3.2 A good tree cover is present on the site itself as well as adjacent sites, with many semi-mature and mature trees of both native and exotic origin characterising the local area.

The Subject Trees

- 4.1 The details of the subject trees are set out in the Schedule at Appendix B.
- 4.2 Please be aware that ash tree(s) were identified during the survey. Many ash trees in the UK are suffering from 'ash dieback' (*Hymenoscyphus fraxineus*) which can cause the rapid decline of affected trees, often rendering them unsafe. Affected trees have been highlighted in the tree table at appendix B and the severity of the infection noted; however please ensure these trees are inspected regularly.**
- 4.3 Of the twenty nine individual trees, and groups of trees surveyed, nine have been assessed as BS 5837 category B, with the remaining trees being assessed as BS 5837 category C.

Category B	9 trees / groups
Category C	20 trees / groups

The Proposal

- 5.1 The proposal for the site is to construct a new detached dwelling to the north east of the existing house.
- 5.2 The new house will be accessed via a new access road on the north western boundary (approved for a new house in the adjacent property).
- 5.3 The proposed location of the above structures can be seen on the appended plan.

Arboricultural Impact Assessment

PROPOSED TREE REMOVAL / RETENTION:

- 6.1 The proposed site layout and all of its associated structures allows for the healthy retention of all of the trees on the site; therefore, the arboricultural landscape character of the site will be retained.

TREE PRUNING TO ACCOMODATE THE PROPOSAL OR ACCESS TO THE SITE

- 6.2 T9 will be pruned to improve clearances from the proposed new structure. A full specification for the proposed pruning can be seen in the tree table at appendix B.
- 6.3 The implementation of the proposal does not lead to the requirement to prune any of the other retained trees, or shrubs.

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 Following the assessment described in section 6.4, the RPAs have all been drawn as notional circles as there are no existing site structures (visible from the available access) which are assessed to have the potential to significantly affect tree root morphology.

ASSESSED IMPACT ON RPAS BY PROPOSED STRUCTURES

- 6.6 There is a small encroachment into the RPA of T9 as can be seen on the appended plan; this is less than 4% and is therefore deemed to be within acceptable levels.
- 6.7 The proposed new house are situated outside of the assessed RPA's of all of the other trees proposed for retention, therefore these trees pose no below ground constraints on this new structure or vice versa.

PROPOSED ACCESS TO THE NEW DEVELOPMENT

- 6.8 Where sections of the new driveway are within the RPAs of retained trees, 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

- 6.9 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.

- 6.10 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 building, and highly unlikely to give rise to any inconvenience.
- 7.2 Some minor lateral pruning of the retained trees and shrubs may be required in the medium term, however any such work would not have a significant impact on the health or amenity value of these trees.
- 7.3 The BS3998: 2010 – Recommendations for Tree Work discusses and endorses various methods of pruning that can alleviate the minor inconveniences trees can cause, whilst retaining them in a healthy condition. Methods such as crown reductions (section 13.4) partial or whole, crown lifting (section 13.5) and crown thinning (section 13.6) can be used to both increase light to properties, as well as improve clearances from buildings. Trees in towns are often sited in close proximity to buildings; however residents concerns can be readily appeased with the implementation of regular, well-planned, sensitive pruning.
- 7.4 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

This is a preliminary statement outlining tree protection measures that will be necessary to implement the scheme without adverse harm to trees to be retained. A full site-specific method statement will be required once the scheme is finalised and approved; this will be devised by GHA Trees, in conjunction with the appointed contractor and project engineer.

8.1 TREE PRUNING / REMOVAL

A list of all tree works that are required (including trees to be removed) is included in the tree table at Appendix B. Where any tree work is needed, this work **MUST** be in accordance with British Standard 3998 – 2010 (Tree Work - Recommendations).

8.2 TREE PROTECTION BARRIERS

It is essential for the future health of the trees to be retained on site, that all development activity is undertaken outside the root protection zone of these trees. The position of the proposed protective fencing for the site is shown on the plan at Appendix A by a pink line. 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”

8.3 GROUND PROTECTION – LIGHTWEIGHT ACCESS ONLY

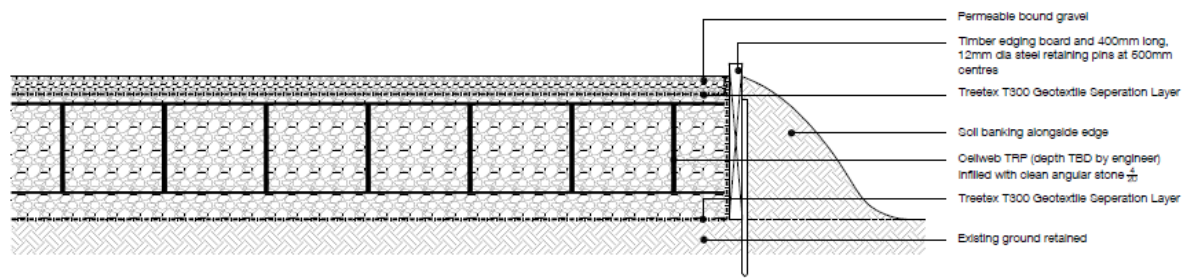
An area of the site will require ground protection to ensure that soil erosion or excessive compaction does not occur. The areas where this protection is required are outlined in orange hatching on the appended plan. This area **MUST** be covered with a permeable membrane, with 150mm layer of compressible woodchip overlaying it; an 18mm marine ply boards will then be secured on top of the woodchip to allow a 1.5tonne mini-digger to access the area without causing major compaction or soil erosion.

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

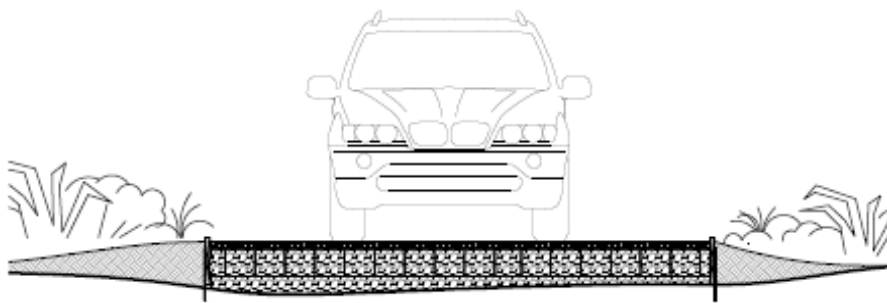
The sections of the new driveway that are within the RPA’s of the retained trees should be constructed as follows (see blue hatching on appended plan for locations). This construction should be implemented prior to the commencement of any development, for use by construction traffic. The final “top-dressing” of the drive will be completed when all construction vehicles have permanently left the site.

Below is a diagram detailing the makeup of the new drive and also a typical cross the installation methodology is included below this diagram.

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 should be filled with sharp sand.
- Lay a geotextile membrane over the entire area(s) to be protected, ensuring a one 1m overlap where necessary.
- 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.

More information on a suitable product for such driveways can be seen at appendix D.

8.5 BOUNDARY TREATMENTS

Boundary fencing installation / upgrades **MUST** be undertaken as part of the soft landscaping phase and **MUST** be installed ONLY when all machinery that is on site for the main build has permanently left the site (NB. If needed, boundary fencing can also be installed prior to the commencement of site works, i.e.. before any machinery has been brought onto the site). Where sections of new / upgraded fencing are located within the RPA of ANY tree that is to be retained, this work **MUST** be undertaken by hand using hand tools only. The locations of the new fence upright posts will be finalised following trial digs to confirm there are no major (over 25mm) roots present; if any such roots are found, the location must be altered. If any smaller roots are found, these can be cut using sharp hand sharp tools to leave a 'clean' cut, in order to minimise the risk of infection by decay pathogens. The post holes within the RPAs should then be lined with plastic sheeting before any concrete or cement is placed into the hole, in order that there is no risk of leaching into the nearby soil as the mixture dries.

8.6 SITE HUTS, WELFARE FACILITIES AND STORAGE OF EQUIPMENT, MATERIALS AND CHEMICALS

All site huts **MUST** be positioned outside of the retained trees RPA's.

8.7 MIXING OF CONCRETE

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

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.

Conclusion

- 9.1 In conclusion, the principal arboricultural features within the site can be retained and adequately protected during development activities.
- 9.2 Subject to precautionary measures as detailed above, the proposal will not be injurious to trees to be retained.

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.

7th April 2021

Signed:



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

Appendix A

Appendix B

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
G1	Mixed scrub	4 to 6	100	1	1.20	2.5	2.5	2.5	2.5	M	2	10-20	C2	Small trees of limited value in the wider landscape.
T2	Yew	6	397	7	4.76	3	3	3	3	M	2	20-40	B1	Future potential as good tree.
T3	Cherry	8	380	1	4.56	4.5	4.5	4.5	4.5	M	2	20-40	B1	Future potential as good tree.
T4	Horse chestnut	6	350	1	4.20	3	3	3	3	M	2	10-20	C1	Topped in past.
T5	Sorbus ssp	6	100	1	1.20	2	2	2	2	M	2	10-20	C1	Small tree of limited value in the wider landscape.
G6	Field maple	12	520	3	6.24	3	5	5	5	M	2 north	10-20	C2	Lapsed hedgerow tree on field edge of poor overall form.
G7	Ash	13	433	3	5.20	6	6	4	4	M	5 north	10-20	C1	Early signs of Ash dieback noted.
T8	Field maple	6	180	1	2.16	1	3	2	1	M	3	10-20	C1	Lapsed hedgerow tree on field edge of poor overall form.
T9	Field maple	13	444	4	5.33	5	5	5	5	M	3 north	10-20	C1	Lapsed hedgerow tree on field edge of poor overall form. Prune laterally by 2m on site side.
T10	Field maple	7	466	2	5.60	3	4	5	2	M	5 north	10-20	C1	Lapsed hedgerow tree on field edge of poor overall form.
T11	Ash	13	350	1	4.20	3	5	4	3	M	5 north	10-20	C1	Early signs of Ash dieback noted.

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
T12	Field maple	7	212	2	2.55	0	5	4	2	M	3	10-20	C1	Lapsed hedgerow tree on field edge of poor overall form.
T13	Field maple	13	310	1	3.72	3	2	2	4	M	5 north	20-40	B1	No notable defects recorded during inspection.
G14	Field maple	12	242	3	2.91	3	2	5	3	M	5 north	10-20	C2	Lapsed hedgerow trees on field edge of poor overall form.
T15	Field maple	12	450	1	5.40	5	5	5	5	M	4 north	10-20	C1	Lapsed hedgerow tree on field edge of poor overall form.
T16	Field maple	11	352	2	4.23	4	4	4	2	M	5 north	10-20	C1	Lapsed hedgerow tree on field edge of poor overall form.
G17	Elder and plum	6	80	1	0.96	2	2	2	2	M	0	10-20	C2	Scrub growth.
G18	Field maple	13 to 16	300	1	3.60	3	3	3	3	M	4	10-20	C2	Lapsed hedgerow trees on field edge of poor overall form.
G19	Hornbeam	14	280	1	3.36	5	5	5	5	M	2	20-40	B2	No notable defects recorded during inspection.
G20	Field maple	10 to 14	350	1	4.20	5	5	5	5	M	4 south	20-40	B2	No notable defects recorded during inspection.
T21	Field maple	13	340	1	4.08	4	4	4	4	M	4 south	20-40	B1	No notable defects recorded during inspection.
T22	Field maple	10	320	1	3.84	3	3	3	3	M	4 south	20-40	B1	No notable defects recorded during inspection.

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
T23	Hawthorn	6	240	1	2.88	2	2	2	2	M	2	10-20	C1	Small tree of limited value in the wider landscape.
T24	Plum	6	280	1	3.36	3	2	4	4	M	2	10-20	C1	Small tree of limited value in the wider landscape.
T25	Plum	6	290	1	3.48	3	4	4	2	M	4 south	10-20	C1	Small tree of limited value in the wider landscape.
T26	Field maple	14	481	2	5.77	4	2	4	4	M	3 south	20-40	B1	No notable defects recorded during inspection.
G27	Field maple and hawthorn	12	240	1	2.88	3	3	3	3	M	3	20-40	B2	No notable defects recorded during inspection.
T28	Ash	13	340	1	4.08	3	4	5	4	M	6 north, 2 south	10-20	C1	Early signs of Ash dieback noted.
G29	Yew	3	100	1	1.20	1	1	1	1	M	0	10-20	C2	Small trees of limited value in the wider landscape.

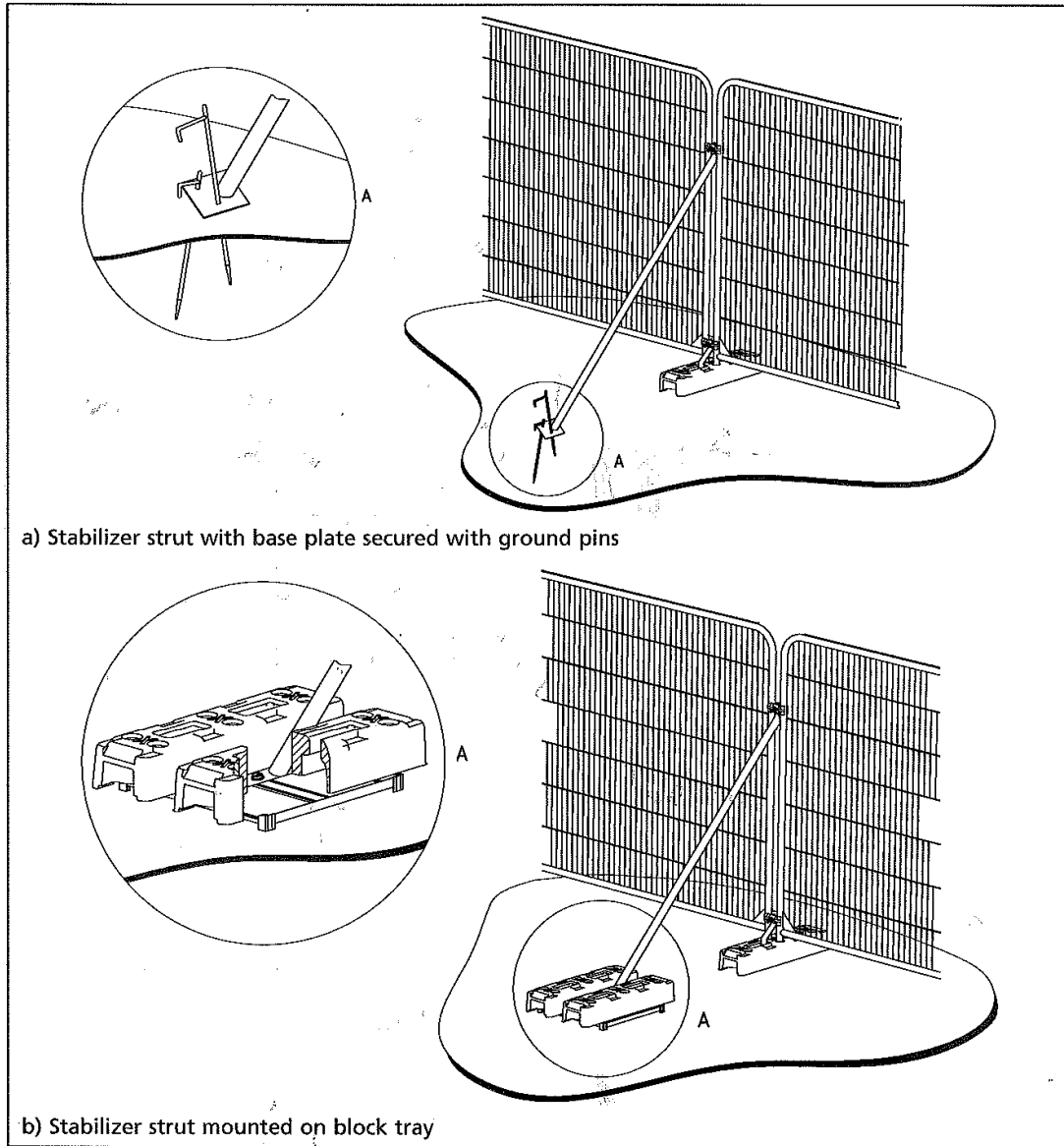
KEY :

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

Figure 3 Examples of above-ground stabilizing systems



Appendix D

