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**BS5837:2012 TREE SURVEY AND  
ARBORICULTURAL IMPACT ASSESSMENT:  
12 Winkfield Road, Windsor, SL4 4BG**

Dated: 9<sup>th</sup> May 2023

Our reference: GHA/DS/162230:23

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# Arboricultural Impact Assessment

Location: 12 Wnkfield Road, Windsor, SL4 4BG  
Our reference: GHA/DS/162230:23  
Client: Mr and Mrs Grewal  
Dated: 9<sup>th</sup> May 2023  
Prepared by: Glen Harding MICFor, MSc (Forestry), MArborA  
Date of Inspection: 5<sup>th</sup> May 2023

## Instructions

Issued by –Mr and Mrs Grewal

TERMS OF REFERENCE –GHA Trees were instructed to survey the subject trees within and adjacent to 12 Winkfield Road, 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.

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## Executive Summary

The proposal for the site is to demolish the existing house and then construct a new detached dwelling on a similar footprint. The existing access from Winkfield Road will remain unaltered and used by the new house. The proposed scheme does not require the removal 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:

- ♣ 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 Trees in third party ownership were surveyed from within the subject property, therefore a detailed assessment was not possible and some (if not all) measurements were estimated. Where the stem location of a third party tree has been estimated, this is noted on the plan.
- 1.5 Dense vegetation or climbers (such as ivy) also prohibited full inspections for some trees; this is noted where applicable.
- 1.6 No discussions took place between the surveyor and any other party.
- 1.7 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)
- 1.8 The survey was undertaken in accord with British Standard 5837: 2012 –Trees in relation to design, demolition and construction –recommendations.
- 1.9 Tree works will be required to be in accord with British Standard 3998 –2010 (Tree Work - Recommendations).
- 1.10 Underground services near to trees will need to be installed in accord with the guidance given in BS5837.
- 1.11 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 Winkfield Road, a residential through road located to the south of Windsor.
- 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 Please be aware that ash tree(s) were identified during the survey. Many ash trees in the UK are suffering from 'ash dieback' (*Hymenoscaphus 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 nine individual trees, and groups of trees surveyed, one has been assessed as BS 5837 category A, two have been assessed as BS category B, five have been assessed as BS category C with the remaining tree being assessed as BS 5837 category U.

Category A	1 tree
Category B	2 trees
Category C	5 trees / group
Category U	1 tree

## The Proposal

- 5.1 The proposal for the site is to demolish the existing house and then construct a new detached dwelling on a similar footprint.
- 5.2 The existing access from Winkfield Road will remain unaltered and used by the new house.
- 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 itself, and within nearby adjacent sites; therefore, the arboricultural landscape character of the site will be retained.

## TREE PRUNING TO ACCOMODATE THE PROPOSAL OR ACCESS TO THE SITE

- 6.2 The implementation of the proposal does not lead to the requirement to prune any of the retained trees, or shrubs.
- 6.3 There is no part of the new structure which will have tree canopies (from trees to be retained) overhanging it and the building works can progress safely without the need for any facilitation pruning.
- 6.4 There is a slight overhang of the parking bay from the crown of T3. The defining branch structure of T3 is however 2m and thus satisfactory for a standard car.

## ASSESSMENT OF RETAINED TREES ROOT PROTECTION AREAS

- 6.5 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.
- 6.6 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.
- 6.7 The RPA of T1 has been amended to take account of the existing house and road; these adjustments can be seen on the appended plan.
- 6.8 The other RPAs have been drawn as notional circles, as there are no structures within their RPAs that have been assessed to significantly impact the root layout.

## ASSESSED IMPACT ON RPAS BY PROPOSED STRUCTURES

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

## PROPOSED ACCESS TO THE NEW DEVELOPMENT

- 6.10 Where sections of the new parking are within the RPAs of T1, T2 and T3, a no-dig 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

- 6.11 The full details of existing and proposed new services have not been made available at the time of writing.
- 6.12 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 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 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 the principal 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 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:



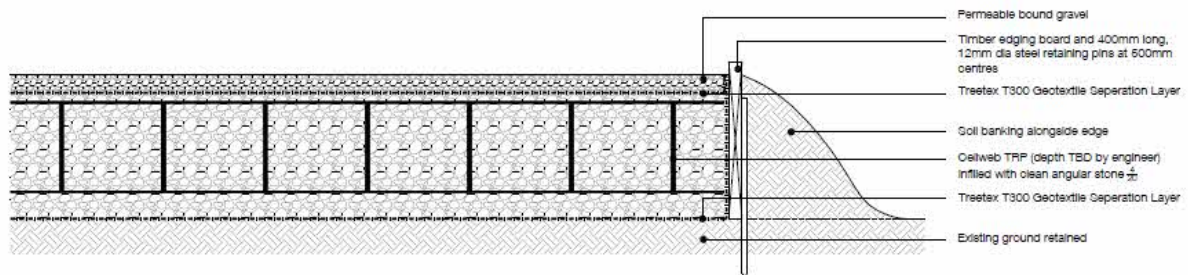
## “Construction Exclusion Zone –No Access”

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

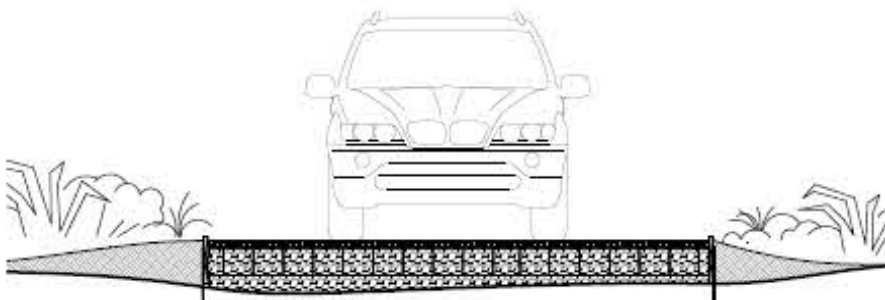
The sections of the new driveway that are within the RPA’s of the retained trees **MUST** be constructed as follows (see blue hatching on appended plan for locations).

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 **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.

N.B. An engineer will prepare the exact specification in agreement with the retained Arboriculturalist.

### 8.3 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 bought 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.

### 8.4 SITE HUTS, WELFARE FACILITIES AND STORAGE OF EQUIPMENT, MATERIALS AND CHEMICALS

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

### 8.5 MIXING OF CONCRETE

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

### 8.6 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.

### 8.7 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.

### 8.8 ON SITE SUPERVISION

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

At this pre start meeting, a supervision programme MUST be devised by the site manager and retained Arboriculturalist, ensuring that Arboricultural supervision is present at the appropriate periods during construction. After this pre start meeting, day-to-day responsibility for tree protection will be devolved to the site manager who will make contact with the retained arboriculturalist as needed.

#### 8.9 OTHER TREE PROTECTION PRECAUTIONS

NO fires lit on site within 20 metres of any tree to be retained.

NO fuels, oils or substances which will be damaging to the tree shall be spilled or poured on site.

NO storage of any materials within the root protection zone.

#### 8.10 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.

#### 8.11 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 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.

9<sup>th</sup> May 2023

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	Oak	18	800	1	9.60	7	7	7	7	M	6	40+	A1	Off site - full inspection not possible. Some measurements estimated.
T2	Ash	14	280	1	3.36	3	2	3	1	M	9	10-20	C1	Self set tree of little value. Early signs of Ash dieback noted.
T3	Yew	4	180	1	2.16	2	2	2	2	M	2 north	20-40	B1	No notable defects recorded during inspection.
T4	Sycamore	10	200	1	2.40	2.5	2.5	3	2.5	M	4.5 east	10-20	C1	Off site - full inspection not possible. Some measurements estimated.
T5	Laburnum	7	250	1	3.00	0	2.5	4	4	M	4 over site	10-20	C1	Suppressed tree of poor form.
T6	Bay (ivy clad)	6	283	8	3.39	2.5	1	2	2	OM	5 east	Less than 10	U	90% dead. Ivy clad.
G7	Horse chestnut and ash	11	250	1	3.00	4.5	4.5	4.5	4.5	M	2 east	10-20	C2	Off site - full inspection not possible. Some measurements estimated.
T8	Horse chestnut	8	900	1	10.80	2	2	2	2	OM	6	10-20	C1	Topped at 8m in past.
T9	Lime	17	700	1	8.40	5	2	2	5	M	6 plus epicormic	20-40	B1	Eastern limb removed at 4m in past - large wound exists.

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

