

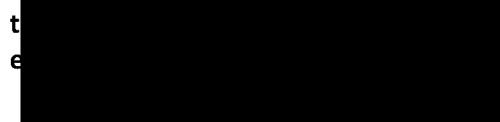
Arboricultural Planning Report For:

Angmering Manor Hotel
Angmering
West Sussex
BN16 4AG



Client : Mike Gray
Date : 20/03/2015
Report Ref. : 15 956
Rev. Nos. : -

Arb Consultancy Ltd
Edward Cottage
13 Leslie Road
Dorking
Surrey
RH4 1PW





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Site address: Angmering Manor Hotel, Angmering, West Sussex, BN16 4AG,	Ref: 15 956
Site visit undertaken by: John Mitchener BSc (Hons), Tech.Cert (Arbor A), M.Arbor A	Revision: -
Report prepared by: John Mitchener BSc (Hons), Tech.Cert (Arbor A), M.Arbor A	Date of site visit: 15/01/2015

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1 Introduction

1.1 Instructions and Terms of Reference

- 1.1.1 Arb Consultancy Ltd was instructed by Mike Gray to survey the subject tree(s) in order to assess their general condition and to provide an arboricultural report relating to the proposed construction of a new building within the rear garden and alterations to the front car park at Angmering Manor Hotel, Angmering, West Sussex, BN16 4AG.
- 1.1.2 The purpose of this arboricultural report is to assess the direct and indirect effects of the proposed design on the surveyed tree(s) and to recommend such measures as are necessary to safeguard them in a sustainable manner.
- 1.1.3 An electronic copy of the existing site layout and proposal was provided and this formed the basis of the tree protection plan.

1.2 Documents Used

Topographical Survey/Existing Layout: 13281014 Site Plan

Proposed Site Layout: Site Plan 1 500 & 1001/13



1.3 Contact Details

Role	Name	Company	Contact Details
Client	Mike Gray	South Eastern Planning Services	
Architect/Agent	-	-	-
Project Arboriculturist	John Mitchener	Arb Consultancy Ltd	
LPA Tree Officer	-	Arun District Council	

1.4 Abbreviations

The following abbreviations will be used throughout this report:

AIA – Arboricultural Implications Assessment	CEZ – Construction Exclusion Zone
AMS – Arboricultural Method Statement	LPA – Local Planning Authority
BS 5837 – British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.	RPA – Root Protection Area
	TPP – Tree Protection Plan

2 The Site

2.1 Site Appraisal

2.1.1 Angmering Manor Hotel (the 'site') is a country house hotel which is located centrally within the West Sussex village of Angmering. The site includes the hotel building, a large rear garden and an established car park to the fore.

2.2 Soils

2.2.1 Reference to the British Geological Survey (www.bgs.co.uk) indicates that the underlying geology of the site forms part of the Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation and Culver Chalk Formation. Superficial deposits are recorded as consisting of River Terrace Deposits (Undifferentiated) formed from sands, silts and clays.

2.2.2 Further reference to the Cranfield Soil and AgriFood Institute Soilscales viewer (www.landis.org.uk) suggests that the soil present within the site is likely to have a loamy texture and a slightly acidic ph. It should be free draining and will exhibit a generally low level of fertility.

2.2.3 The possible presence of a clay element within the soil is significant in terms of both tree protection and foundation design. Clay soils can experience substantial volume changes when vegetation extracts moisture from the ground and they are also prone to compaction when wet.



On this basis it is essential that all recommended tree protection measures are implemented in full and are not relaxed at any point throughout the course of the development. Any foundations should also be designed in accordance with the recommendations contained within NHBC Chapter 4.2 (National House Building Council, 2010) and should account for the possibility of both subsidence and heave.

2.3 The Subject Trees

2.3.1 A total of thirty eight trees were surveyed. These are predominately unremarkable low quality C category trees which have only limited or short-term value within the wider landscape. Two exceptions to this statement include moderate quality B category Yew trees T4 and T28. These are in reasonable physiological and structural condition, are typical of their species and are likely to be of some considerable age. Other exceptions include U category trees T8 and T36. These are in particularly poor condition and should be removed irrespective of any future development.

2.3.2 A schedule of the surveyed trees is included within Appendix 4 of this report. The trees have been categorised in accordance with BS 5837 and a summary is provided in Figure 1 below.

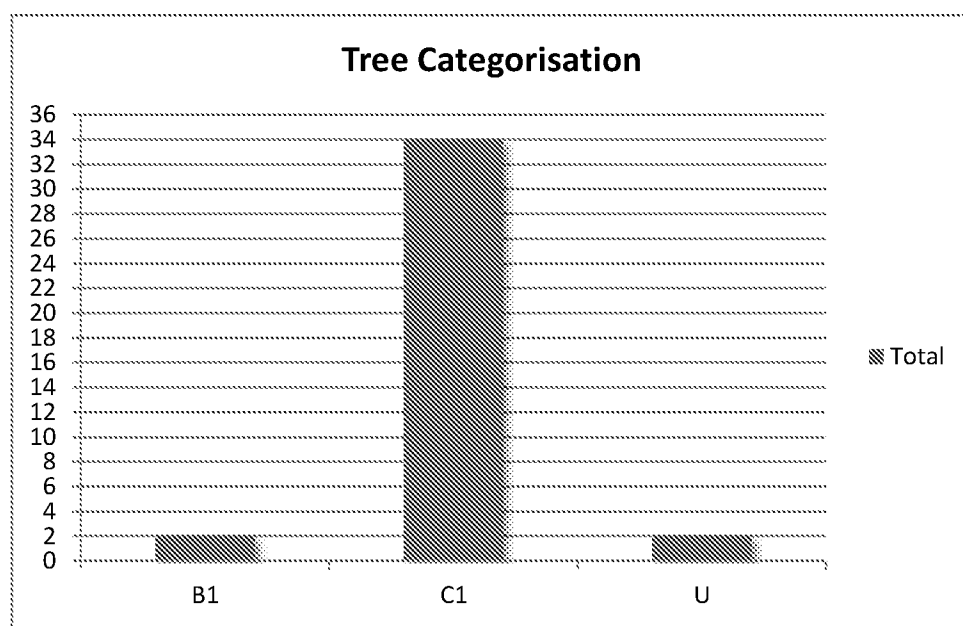


Figure 1:- Summary of Tree categories

3 The Proposal

3.1 Description of Proposed Works

3.1.1 The proposed works include the construction of a new building to the rear of the existing hotel. The building will be located within the rear garden and will run parallel to the western boundary of the site.



- 3.1.2 There will also be some alterations to the car park on the frontage of the site. These changes include the formation of a number of new parking bays the construction of which will necessitate a limited increase in the area of hard standing.
- 3.1.3 A number of low quality trees will need to be removed to facilitate development details of which are provided within the Arboricultural Implications Assessment detailed below.

4 Arboricultural Implications Assessment

- 4.1.1 A summary of the arboricultural implications associated with this development is provided in Table 1 below.

Tree No	Impact	Action	Compensatory Rooting Volume Available
T10, T11, T12, T13, T18, T31, T32, T33, T34, T35, T36 and T37	Removal of tree	These are all low quality category C and U specimens. Whilst their removal will not have a significant detrimental impact on the character of the local landscape opportunities for replacement planting do exist should this be desired.	Not applicable
T5, T7 and T9	Pruning of canopies back to edge of new parking bays	Works will not have a detrimental impact on the health or appearance of the trees. All works to be conducted in accordance with BS 3998.	Not applicable
T2, T5, T7, T9, T17 and T28	New parking encroaches into RPA	All new hard surfacing to be constructed using a cellular confinement system. All works to be conducted under the direct supervision of the project arboriculturist.	Yes
T38	Construction access within RPA	Use of robust ground protection to protect underlying soil and roots.	Not applicable

Table 1: Summary of Tree Impacts

4.2 Tree Retention, Removals and Pruning

- 4.2.1 Trees numbered T10, T11, T12, T13, T18, T31, T32, T33, T34, T35, T36 and T37 require removal either to facilitate construction or for reasons of sound arboricultural management. These are all either low quality C or U category trees which are of little merit within the wider landscape. These trees can all be removed without any significant detrimental impact on public amenity or the character of the local area.

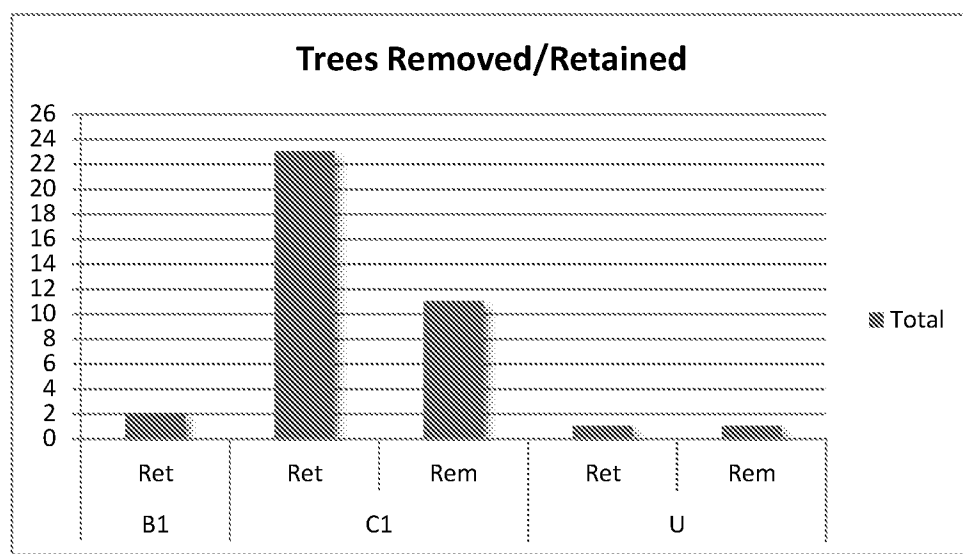


Figure 2:- Summary of tree removals and retention

4.2.2 Trees numbered T5, T7 and T9 require pruning back to the edge of the proposed parking bays in order to facilitate construction and future use. These trees are all of a species which tolerates heavy pruning and will not be adversely affected by the works. Furthermore, all pruning works will be internal to the site and will not be visible from a public place.

4.3 Incursions into RPAs

4.3.1 A number of the new parking bays will partially encroach into the RPAs of trees T2, T5, T7, T9, T17 and T28. None of these encroachments are of any significant size and all fall below the maximum 20% new surfacing recommended within BS 5837.

4.3.2 All new surfacing will be constructed using a cellular confinement system to form the base. This will alleviate the need for an extensive sub-base, will prevent compaction of the underlying soil, will enable air and water to reach the underlying soil and will protect the underlying roots.

4.3.3 In order to avoid the need for significant level changes the cellular confinement system will be set at a depth of 100mm. All excavations necessary to achieve this will be undertaken under the direct supervision of the project arboriculturist. This will enable any underlying roots to be identified, exposed and carefully cut back to the edge of the works. Should important roots > 50mm Ø be found then these will be retained, the cellular confinement system will be placed above that level and the depth of the final wearing course will be adjusted to accommodate any changes in the finished levels.

4.3.4 The principle of permitting temporary construction access within the RPA is established in BS 5837 clause 6.2.3. Where the requirement for access is justified then this may be achieved through the setting back of the protective fencing and the use of ground protection measures to protect the underlying soil.



- 4.3.5 Temporary construction access is required within the RPA of tree T38. This will be achieved through the use of robust ground protection which will be installed prior to any works onsite and will be designed to withstand all anticipated loads. These measures will ensure that access can be provided without any disturbance to the underlying soil or roots.
- 4.3.6 I have not been provided with details of any new underground services. It would however seem reasonable to assume that existing services will be re-used wherever possible. Should new underground services be required then these will be installed in accordance with the details provided on page 17 of this report and without detriment to any retained tree.

4.4 Light and Proximity Issues

- 4.4.1 There are no identified light and proximity issues associated with this development.

4.5 Mitigation

- 4.5.1 Trees numbered T10, T11, T12, T13, T18, T31, T32, T33, T34, T35, T36 and T37 require removal. These are all low quality specimens which are of little value within the wider landscape. However, space does exist for new planting should this be desired details of which could reasonably be secured via a condition attached to a grant of consent.

4.6 Tree Protection Measures

- 4.6.1 All retained trees will be robustly protected in accordance with BS 5837. Full details of the necessary tree protection measures are provided within the AMS which can be found on page 11 of this report. The issues which are dealt with within the AMS include:

- Arboricultural Monitoring and Supervision
- General Precautions
- Tree Surgery
- Tree Protection Fencing
- Ground Protection
- Construction of New Hard Surfacing
- Possible New Underground Services

5 Conclusions

- 5.1.1 Having given full consideration to the arboricultural implications associated with this site I am of the opinion that the proposal is arboriculturally sound. Subject to full compliance with the attached AMS I believe that all retained trees can be adequately protected and will be safeguarded in a sustainable manner.



6 References

Anon., 1981. *Wildlife and Countryside Act (Amended)*. s.l.:HMSO.

Anon., 2000. *Countryside and Rights of Way Act 2000 (Amended)*. s.l.:HMSO.

British Standards Institute, 2010. *Tree work - Recommendations*. London: BSI.

British Standards Institute, 2012. *Trees in relation to design, demolition and construction - Recommendations*. London: BSI Standards Ltd.

National House Building Council, 2010. *NHBC Standards Chapter 4.2*. s.l.:NHBC.

The National Joint Utilities Group, 2007. *Volume 4 - NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*, s.l.: NJUG Publications.



Appendices



7 Arboricultural Method Statement

The Arboricultural Implications Assessment highlights the approaches required to mitigate issues raised by the integration of existing trees into the proposed design. The Arboricultural Method Statement defines the site specific specifications for tree protection and other details required to implement the recommendations in a realistic manner.

This Arboricultural Method Statement must be read in conjunction with the approved Tree Protection Plan Ref TPP 15/956 001.

Arboricultural Monitoring and Supervision

Effective tree protection can only be achieved by adherence to a logical sequence of works combined with effective arboricultural supervision and monitoring. Prior to the commencement of any works the site owner/manager will appoint a project arboriculturist to supervise and monitor the approved works.

The project arboriculturist's role is to ensure that all tree protection measures are fit for purpose, are implemented in accordance with the approved details and to the satisfaction of Arun District Council. The owner/manager will be responsible for ensuring that all site personnel are made aware of the requirements of this method statement and that any future amendments are known and understood. Copies of the approved AMS will be available onsite the requirements of which will be incorporated into all relevant site management documents and site induction procedures.

A pre-commencement site meeting will be held between the site manager, local authority tree officer and the project arboriculturist. The purpose of this meeting will be to ensure that all aspects of the tree protection measures are clear and understood and that any future sequencing and supervisory arrangements are agreed. The details of this meeting will be recorded and will be circulated to all parties in writing.

Once works commence the project arboriculturist will undertake a programme of monitoring and supervision. This may include phone and email contact with the site manager, regular site visits and direct supervision of sensitive works. The frequency of any monitoring and supervision will be determined by the intensity and proximity of works to trees and will be flexible enough to accommodate changes in the scheduling of tasks as they occur on the site.

The project arboriculturist will maintain a record of all aspects of the arboricultural monitoring and supervision and a copy of will be sent to Arun District Council upon completion of the project or as otherwise agreed. This will provide a record of compliance with any agreed tree protection measures and will assist in the efficient discharge of any relevant planning conditions.



A recommended programme of works detailing the necessary arboricultural inputs is included within Table 2(below).

Prior to any Demolition, Site Preparation or Construction Works Onsite		
Stage	Action / Operation	Arboricultural Input
1.	Pre start meeting between site manager, project arboriculturist and Local Authority Tree Officer. To discuss the precise location and timing of all tree protection measures.	- Review the proposed tree protection measures and agree any changes. - Agree final supervision and monitoring requirements. - Circulate details to all parties.
2.	Completion of approved tree works.	- Review the proposed works with the chosen tree work contractor. - Supervise sensitive works if necessary.
3.	Installation of all protective fencing and ground protection measures.	- Review the proposed works with the contractor. - Document and sign off the completed works. - Prepare documents identifying agreed revisions for approval by the LPA.
During Any Demolition, Site Preparation and Construction Works		
Stage	Action / Operation	Arboricultural Input
4.	Installation of new areas of hard surfacing within the existing car park.	Arboricultural monitoring and supervision.
5.	During all external works which occur within, or immediately adjacent to, the RPA of any retained tree.	As necessary to ensure compliance with any conditions and during any unplanned works within the RPA of any retained tree.
Once All Construction Activities are Complete		
Stage	Action / Operation	Arboricultural Input
6.	Removal of all protective fencing and ground protection measures.	- Authorisation to be given by the project arboriculturist. - Once all construction activities are complete.
7.	Sign off by project arboriculturist.	Once all works have been completed.

Table 2:- Recommended programme of works and the associated requirements for arboricultural monitoring and supervision

General Precautions

All trees which are being retained on site will be protected by protective fencing and/or ground protection as detailed in the following sections. Protective fencing will be erected before any materials or machinery is brought onto the site and before any demolition, development or stripping of soil commences. Once erected fencing will be regarded as sacrosanct and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the local planning authority.

Care will be taken to avoid damage in the following ways:-

- Oil, bitumen, cement or other material likely to be injurious to a tree will not be stored or mixed within 10m of any trunk unless contained within a bunded structure. Concrete mixing will not be



carried out within 10m of a tree unless undertaken within a bunded container. Any spillage shall be immediately reported to the project arboriculturist who will determine what mitigation is required.

- Notice boards, telephone cables or other services will not be attached to any part of the tree. Trees to be retained will not be used as anchors for equipment used to remove stumps, roots, other trees or for any other purposes.
- It is essential that allowance be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Stumps within the RPA will not be dug or pulled out but are to be ground out. Where possible, and with the agreement of all parties involved, standing stumps and debris should be left as a habitat for wildlife if circumstances allow.

Tree Surgery

A schedule of tree works is provided below:

Tree Reference Number	Recommended Works
T10, T11, T12, T13, T18, T31, T32, T33, T34, T35, T36 and T37	Fell to ground level and grind out stumps.
T5, T7 and T9	Prune back to edge of proposed parking bays.

Table 3:- Recommended Tree Works

Tree works shall be carried out in accordance with BS3998:2010 *Recommendations for tree work* (British Standards Institute, 2010), industry best practice and in line with any works already agreed with Arun District Council.

If during the course of these operations the need for other work becomes apparent then the advice of the project arboriculturist will be sought. No works other than those detailed within Table 3 will be carried out without the prior written consent of Arun District Council.

The statutory protection afforded by the Wildlife and Countryside Act 1981 (Amended) (Anon., 1981) and Countryside and Rights of Way Act 2000 (Amended) (Anon., 2000) will also be adhered to. Where there is evidence that bats, nesting birds or other protected species are present then specialist advice will be obtained prior to the commencement of work. Further advice on bats is available from the Bat Conservation Trust (www.bats.org.uk) and on birds from the Royal Society for the Protection of Birds (www.rspb.org.uk).

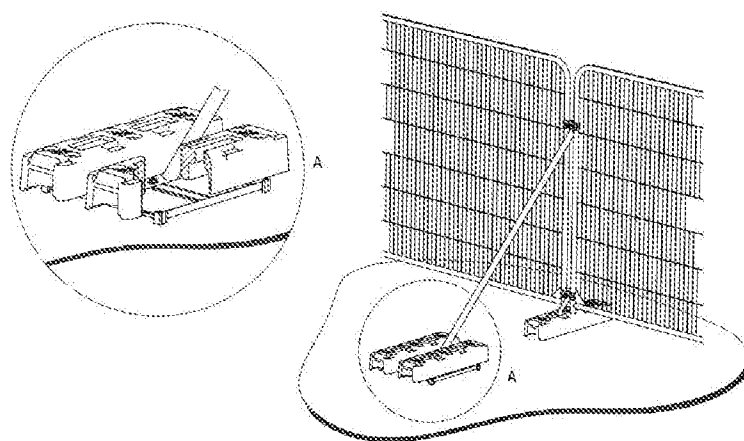
All operations shall be carefully carried out to avoid damage to the trees being treated or neighbouring trees. No trees to be retained shall be used for anchorage or winching purposes.



Tree Protection Fencing

Tree protection fencing will be used to prevent access to the RPAs of retained trees and will be erected within the locations shown on TPP ref. TPP 15/956 001. Unless agreed in writing by the project arboriculturist and/or Arun District Council the following shall apply:

- Protective fencing (shown as a magenta line on the TPP) will be erected prior to any works onsite including demolition, ground work or the importation of plant and materials.
- Once erected protective fencing shall remain in-situ until all construction activities are complete and shall only be varied with the written consent of the project arboriculturist and/or Arun District Council.
- The area to the rear of the protective fencing shall be considered to form a CEZ. No construction activities, storage of materials or pedestrian or vehicular access shall take place within the CEZ without the written consent of Arun District Council.
- Confirmation that the protective fencing has been correctly installed will be sought from the project arboriculturist prior to the start of any demolition works, construction activities or the importation of any plant or materials.
- Protective fencing will comply fully with BS 5837 and will be erected to the standard described in Figure 3 below. All weather notices will be attached to the protective fencing at suitable intervals an example of which is given in Figure 4.
- Regular daily checks will be carried out by the site manager to ensure that the barriers are still in place and functioning and any damage will be rectified without delay.



- 2m high welded mesh panels
- Placed onto concrete or rubber feet (A)
- Joined using a minimum of 2 anti-tamper couplers placed at least 1m apart
- Panels to be supported on the inner side by stabilizer struts secured to a block tray

Figure 3: Example of protective fencing (BS 5837:2012) Figure 3 (b)

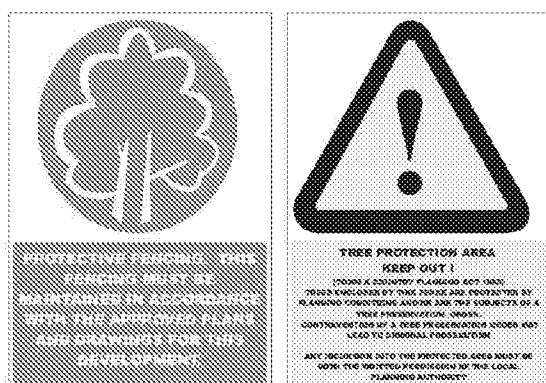


Figure 4: Example signage to be securely attached to fencing.

Ground Protection

Ground protection will be used to protect the RPAs of retained trees and will be erected within the locations shown on TPP ref. TPP 15/956 001. Unless agreed in writing by the project arboriculturist and/or Arun District Council the following shall apply:

- Ground protection will be installed prior to any works onsite including demolition, ground work or the importation of plant and materials. Areas of ground protection are highlighted in orange on the TPP.
- Ground protection will be sufficiently robust to prevent damage occurring to the structure of the underlying soil. In order to accord with BS 5837 temporary ground protection will be installed in accordance with the following specification:
 - For pedestrian only access ground protection measures shall include a single thickness of scaffold boards placed on top of 100mm depth of compression resistant material (e.g. woodchip) laid onto a geotextile membrane.
 - For pedestrian activities and plant up to 2 tons in weight proprietary interlinked ground protection boards will be used and placed on top of 150mm depth of compression resistant material (e.g. woodchip) laid onto a geotextile membrane.
 - For wheeled or tracked equipment exceeding 2 tons in weight a structural engineer will design an alternative system. This may include the use of temporary cellular confinement systems, reinforced concrete slabs or track board systems details of which are to be approved before construction commences.
- Once installed ground protection shall remain in-situ until all construction activities are complete and shall only be varied with the written consent of the project arboriculturist and/or Arun District Council.

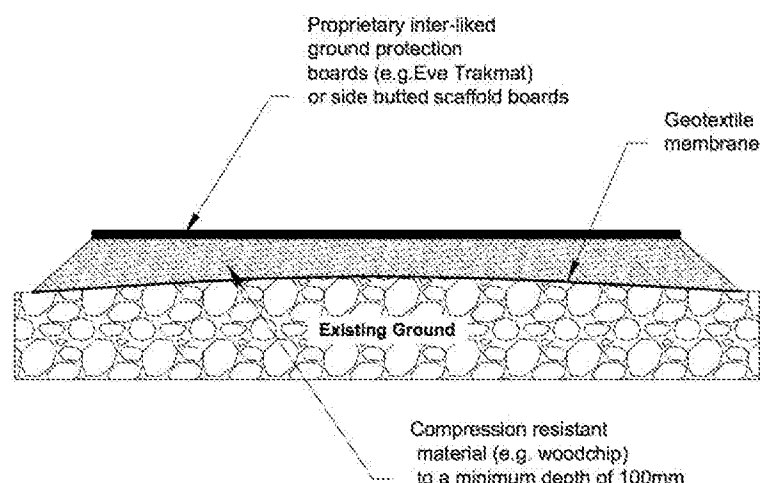


Figure 5: Example of ground protection (pedestrian use only)

Construction of New Hard Surfacing

The construction of a traditional hard surface generally requires excavation and the creation of a compacted sub-base. Excavation and the compaction of underlying soil can be very damaging to tree roots and can have a significant detrimental impact on the health and stability of trees. When constructing hard surfacing within the RPA of any tree it is essential that this is achieved without either excavation or compaction. This can be accomplished through the use of a geotextile membrane and a Cellular Confinement System [CCS] which is laid directly onto the soil within the RPA.

In order to ensure that the CCS is installed without detriment to trees, and to ensure that any associated conditions can be signed off on completion of the project, installation will adhere to the following guidelines:

Pre-Installation

The RPAs of all nearby trees are to be marked out using water-soluble marker paint.

All staff involved will be made aware of this working methodology.

- Non-woody vegetation shall be removed through the use of a translocated herbicide such as glyphosate. This will be applied according to the manufacturer's instructions and drift onto non-target plants shall be avoided. Woody vegetation will be removed using hand tools and turf may be removed using a mechanical turf stripper where necessary.
- Access facilitation pruning (such as crown lifting) will be carried out in accordance with the details provided of page 13 of this report.

Installation

- The area of ground to be covered by the new surfacing will be carefully excavated to a depth of 100mm. Excavatory works will be undertaken using hand tools only and under the direct supervision of the project arboriculturist.



- Roots < 25mm Ø will be cut back to the edge of the excavation using a sharp saw or secateurs whilst roots > 25mm Ø will only be severed on the advice of the project arboriculturist. Roots > 50mm Ø shall not be severed and the new surfacing shall be laid at, or above, that level.
- Install a permeable geotextile membrane (e.g. Treetex) directly on top of the finished soil grade level.
- Lay out the Cellular Confinement System (CCS) and ensure edges are anchored open during the infill process.
- Install wooden peg and board edgings directly on top of existing soil grade level.
- Fill the CCS ensuring machinery works only on already filled areas and not the sub grade. Typical infill consists of no fines angular granular material 20-40mm with a neutral ph.
- Install a second layer of geotextile separator over the top of the filled CCS.
- Install final permeable and gas-porous finished surface. This may consist of permeable block paving; porous tarmac or resin bonded gravel as agreed in any associated condition or approved documentation.

Example of Cellweb Section c/w Tarmac Surface (Light Vehicular Use)

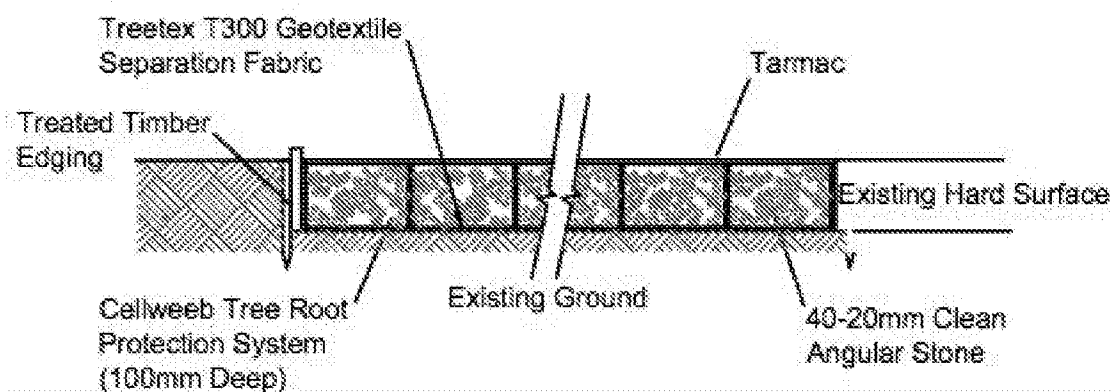


Figure 6: Illustrative example of the final surface with a block paved wearing course (Image used with the kind permission of Geosynthetics Ltd 01455 617139, www.geosyn.co.uk)

Possible New Underground Services

Wherever possible any underground services shall be located outside the RPA of any retained tree. Underground services shall only be routed through the RPA of a retained tree with the written consent of the project arboriculturist and/or Arun District Council.

Wherever possible services will be grouped together, will utilise common ducts and have all inspection chambers located outside of the RPA.

In situations where services must pass through the RPA of a retained tree then trenchless techniques will be used wherever possible. Receptor pits will be located outside the RPA and potentially toxic external lubricants will not be used.

In situations where trenchless techniques are impractical then the use of open trenches will only be considered if they can be excavated without the need for shoring of the sides. The method of excavation



will be through the use of an 'air-spade' or similar to ensure that soil can be removed from around the tree roots whilst causing only minimal damage.

Any new services installed within the zone of influence (not just the RPA) of any proposed, or retained, tree will incorporate sealed and flexible joints and be sufficiently robust to avoid damage due to differential soil movement.

Both the installation of new services and the renovation of existing services must be carried out in accordance with NJUG Volume 4 (The National Joint Utilities Group, 2007), BS 5837:2012 Clause 7.7 and any other relevant best practice guidance relating to trees.



Appendices



Appendix 1 Site Photographs



Photograph 1:- The site of the proposed building within the rear garden



Photograph 2:- Trees T10, T11, T12 and T18 which will need to be removed to facilitate development



Photograph 3:- Trees T5, T7 and T9 which will need to be pruned back slightly to provide access for the additional parking



Appendix 2 Glossary of Terms and Abbreviations

Tree Officer	Representative officer of the LPA for tree related matters within the area of the authority.
LPA (Local Planning Authority)	The local government body that deals with all planning related issues within the authority's area.
RPA (Root Protection Area)	Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m ² .
TCP (Tree Constraints Plan)	Plan prepared by an arboriculturist for the purposes of layout design showing the RPA and representing the effect that the mature height and spread of retained trees will have on layouts through shade where necessary.
TPP (Tree Protection Plan)	Scale drawing prepared by an arboriculturist showing the finalised layout proposals, tree retention and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically
CEZ (Construction Exclusion Zone)	Area based on the RPA (in m ²), identified by an arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.
AIA (Arboricultural Implications/Impacts Assessment)	Study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.
AMS (Arboricultural Method Statement)	Methodology for the implementation of any aspect of development that has the potential to result in loss of or damage to a tree.
TPO (Tree Preservation Order)	A tree preservation order (referred to in this guide as a 'TPO') is an order made by a local planning authority ('LPA') in respect of trees or woodlands. The principal effect of a TPO is to prohibit the: 1) cutting down, 2) uprooting, 3) topping, 4) lopping, 5) wilful damage, or 6) wilful destruction of trees without the LPA's consent. The cutting of roots, although not expressly covered in (1)–(4) above, is potentially damaging and so, in the Secretary of State's view, requires the LPA's consent.
CA (Conservation Area)	The law relating to conservation areas is in Part II of the Planning (Listed Buildings and Conservation Areas) Act 1990. Conservation areas are areas of special architectural or historical interest the character or appearance of which it is desirable to preserve or enhance. They are designated by LPAs and are centred on listed buildings. Other buildings and landscape features, including trees, may also contribute to the special character of a conservation area.
NJUG (Nation Joint Utilities Group)	Trade Association for street works issues. Promotes best practice, self-regulation and a two-way relationship with Government and other relevant stake holders.



Appendix 3 Tree Survey

Scope and Method of Survey

The report is concerned with the arboricultural aspects of the site only.

The survey has been carried out in accordance with BS 5837: 2012 *Trees in Relation to design, demolition and construction*.

The reference numbers of surveyed trees and groups of trees are shown on the Tree Survey Plan, which is based on the scale drawings supplied.

The tree survey was carried out from ground level only.

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

Tree heights were estimated to the nearest 1m.

Trunk diameters have been measured in accordance with Annex C of BS 5837: 2012. Diameters of single stem trees on level ground have been measured at 1.5m above ground level. The diameters of other commonly encountered stems have been measured where most appropriate and this is recorded within the schedule.

The combined stem diameters for multi-stemmed trees have been calculated in accordance with BS 5837: 2012 paragraph 4.6.1. RPAs are calculated as an area equivalent to a circle with a radius 12 times the stem diameter.

Tree canopies have been measured either by use of a laser range finder, tape measure or estimated where access has not been possible.

No access was made onto third party property. Dimensions for trees on adjacent property, and those that at the time of the survey were inaccessible due to dense vegetation or adverse topography, have been estimated.

The positions of trees not included on a topographical survey have been measured as accurately as possible. These positions must be considered approximate only. If the position of these trees is of critical importance then a surveyor should be engaged to accurately record their location.

This report in no way constitutes a health and safety survey. Where concerns for tree health and safety exist the necessary and appropriate tree inspections should be carried out.



Summary of Categories BS 5837:2012

Trees unsuitable for retention	
U	Trees 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 Identified by ~~dark red~~ coloration on the tree constraints plan. These trees should not be a consideration in the planning process.
Trees to be considered for retention	
A	Trees of high quality with an estimated remaining life expectancy of at least 40 years. Identified by ~~light green~~ coloration on the tree survey plan.
B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Identified by ~~mid blue~~ coloration on the tree survey plan.
C	Trees of low quality with an estimated remaining life expectancy of at least 40 years, or young trees with a stem diameter below 150mm. Identified by ~~grey~~ coloration on the tree survey plan. The following subcategories are applied. Trees may be allocated more than one subcategory, but this will not increase their overall value.
1: Mainly arboricultural values	
A1	Trees that are of particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principle trees within an avenue).
B1	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. the presence of significant though remediable defects including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention beyond 40 years; or trees lacking the special quality necessary to merit category A designation.
C1	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
2: Mainly landscape values	
A2	Trees, groups, or woodlands of particular visual importance as arboricultural and/or landscape features.
B2	Trees present in numbers, usually 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.
C2	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.
3: Mainly cultural values, including conservation	
A3	Trees, groups or woods of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).
B3	Trees with material conservation or other cultural value.
C3	Trees with no material conservation or other cultural value.

Table 4:- Categories and descriptions as described in BS 5837:2012 Table 1



Explanation of Tree Survey Schedule

TREE NO:	Allocated tree number, this may or may not be tagged on site.
HEIGHT:	Height of tree in meters.
DBH:	Diameter of the tree at 1.5m from ground level or as otherwise described within Annex C of BS 5837:2012.
CROWN SPREAD:	Shown as compass points N, E, S, W.
CROWN HEIGHT:	Height of lowest branch foliage.
FIRST SIGNIFICANT BRANCH	Height above ground level of lowest significantly sized branch.
AGE CLASS:	Y Young (less than 1/3 through life expectancy). MA Middle aged (from 1/3 to 2/3 through life expectancy). M Mature (over 2/3 through life expectancy). OM Over mature (beyond average life expectancy). V Veteran (of biological, cultural or aesthetic value, usually beyond typical age range).
ESTIMATED REMAINING CONTRIBUTION:	The estimated numbers of years the tree will continue to make a safe and useful contribution to its surroundings, taking into account its current age and physiological and structural condition. (NB. This assumes that there will be no physical changes to its immediate environment.).
BS CATEGORY:	(Please refer to Table 4 of this report or BS 5837:2012 Table 1 for detailed descriptions.). U: Trees unsuitable for retention – 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. A: Trees of high quality – with an estimated remaining life expectancy of at least 40 years. B: Trees of moderate quality – with an estimated remaining life expectancy of at least 20 years. C: Trees of low quality – with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.
PHYSIOLOGY, STRUCTURE, WORKS REQUIRED:	Description of general form, including presence of physical defects, disease or decay and other appropriate details based on health, vitality and overall structural integrity.
E:	Estimated stem dimension.



Appendix 4 Tree Schedule

Site: Angmering Manor Hotel

Surveyor: JM

Date of Survey: 15/01/2015

TREE NO	TYPE	SPECIES	HEIGHT	DIAMETER AT 1.5m or arb (mm)	ESTIMATED?	NO. OF STEMS	N	E	S	W	LOWEST CROWN HEIGHT	LCH ORIENTATION	LOWEST BRANCH HEIGHT	LOWEST BRANCH ORIENTATION	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	PRELIMINARY MANAGEMENT RECOMMENDATIONS	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	NOTES
1	T	Bay	4.5	361	N	13	3	3	3	3	1.5	N	1.5	N	Mature	Fair	Fair		10+	C1	A small tree of limited landscape value; within small circular planting bed; regularly trimmed
2	T	Yew	14	700	N	3	6.5	5	5	4	3	S	2	S	Mature	Fair	Fair		40+	B1	
3	T	Lawson Cypress	8.5	160	N	1	2	1	1	1.5	1.5	N	1.5	W	Semi-Mature	Fair	Fair		10+	C1	Suppressed crown
4	T	Evergreen Oak	9.5	370	N	2	5	4	2	4	4.5	N	2.5	W	Mature	Good	Fair		20+	C1	Main stem pushing against brick boundary wall
5	T	Bay	6	570	N	8	5	5	5	5	2.5	S	3	S	Mature	Fair	Fair		10+	C1	Sparse canopy over car park; some low level screening value
6	T	Holly	6	170	N	2	2	1.5	2	1.5	1.5	N	1	N	Semi-Mature	Good	Fair		20+	C1	A small tree of limited landscape value; Multi-stemmed tree
7	T	Bay	6	237	N	10	3	1.5	3	1.5	0	S	2.5	N	Semi-Mature	Good	Fair		20+	C1	Multi-stemmed tree
8	T	Holly	6	240	N	3	2.5	2	1	1.5	1.5	N	1.5	N	Dead	Poor	Poor	Fell to ground level	<10	U	Declining tree

Appendices



TREE NO	TYPE	SPECIES	HEIGHT	DIAMETER AT 1.5m or arb (mm)	ESTIMATED?	NO. OF STEMS	N	E	S	W	LOWEST CROWN HEIGHT	LCH ORIENTATION	LOWEST BRANCH HEIGHT	LOWEST BRANCH ORIENTATION	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	PRELIMINARY MANAGEMENT RECOMMENDATIONS	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	NOTES
9	T	Bay	5.5	200	N	4	2	2	2	2	0	S	1.5	S	Semi-Mature	Good	Fair		20+	C1	Limited screening value; Multi-stemmed tree
10	T	Ash	8	180	N	1	2	1	2.5	2.5	3	S	3	S	Semi-Mature	Fair	Fair		20+	C1	Major stem division at 4m
11	T	Sycamore	8	200	N	1	0.5	2	2.5	2	2.5	S	2.5	S	Semi-Mature	Fair	Fair		20+	C1	Suppressed crown
12	T	Sycamore	9.5	280	N	2	4	2	3	2.5	4	S	3	S	Semi-Mature	Fair	Fair		20+	C1	Major stem division at ground level
13	T	Sycamore	9.5	270	N	1	2	3	4	2	3	S	3	S	Semi-Mature	Fair	Fair		20+	C1	Leaning stem; Minor stem wounds
14	T	Holly	5	150	N	3	1.5	1.5	1.5	1.5	1	S	1	N	Semi-Mature	Fair	Fair		10+	C1	Some low level screening value
15	T	Holly	5	120	N	2	1.5	1.5	1	1	2	N	2	N	Semi-Mature	Poor	Fair		10+	C1	Some low level screening value; sparse crown
16	T	Holly	5	100	N	1	2.5	1.5	0.5	1	1.5	N	1.5	N	Semi-Mature	Fair	Fair		20+	C1	Some low level screening value
17	T	Norway Maple	10	325	N	1	5	5	3	4	2.5	E	3.5	N	Semi-Mature	Good	Fair		20+	C1	
18	T	Sycamore	10	280	N	1	3	3	3.5	1.5	3	E	2	E	Semi-Mature	Fair	Fair		20+	C1	Major stem division at 3.5m
19	T	Bay	7.5	400	N	4	6	3.5	3	4	1	E	4	N	Mature	Good	Fair		20+	C1	Some low level screening value

Appendices



TREE NO	TYPE	SPECIES	HEIGHT	DIAMETER AT 1.5m or arb (mm)	ESTIMATED?	NO. OF STEMS	N	E	S	W	LOWEST CROWN HEIGHT	LCH ORIENTATION	LOWEST BRANCH HEIGHT	LOWEST BRANCH ORIENTATION	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	PRELIMINARY MANAGEMENT RECOMMENDATIONS	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	NOTES
20	T	Evergreen Oak	9	280	N	5	4	2	1	3	0.5	E	2.5	N	Semi-Mature	Fair	Fair		10+	C1	Major stem division at ground level; Multi-stemmed tree
21	T	Monterey Cypress	16	470	N	1	4	5	1.5	2.5	4	N	4.5	N	Mature	Fair	Poor		10+	C1	Tree has been previously topped
22	T	Monterey Cypress	16	430	N	1	1.5	5	1.5	1.5	4.5	E	2	E	Mature	Fair	Fair		10+	C1	Tree has been previously topped
23	T	Monterey Cypress	16	500	N	1	1.5	5	4	1.5	4.5	E	0.5	E	Mature	Fair	Fair		10+	C1	Tree has been previously topped
24	T	Bay	12	380	N	2	4	2	6	1	2.5	N	1.5	S	Mature	Fair	Fair		<10	C1	Major stem division at ground level; cable through crown
25	T	Horse Chestnut	12	560	N	1	5	3	6	4.5	2	S	3.5	N	Mature	Fair	Fair		20+	C1	Major stem division at 1.5m
26	T	Evergreen Oak	14	480	N	3	2	4	4	7	2	W	2.5	W	Mature	Good	Fair		20+	C1	Major stem division at ground level; stems are leaning
27	T	Evergreen Oak	4	120	N	1	0.5	2	2	2	0.5	S	1	S	Young	Good	Fair		10+	C1	Suppressed crown
28	T	Yew	12	600	N	1	6	6	5	3	0.5	E	3	W	Mature	Good	Fair		40+	B1	A tree with insignificant defects
29	T	Eucalyptus	7.5	140	N	2	4.5	2	2	2	2.5	N	2.5	N	Semi-Mature	Fair	Poor		<10	C1	A tree with little future potential; Multi-stemmed tree

Appendices



TREE NO	TYPE	SPECIES	HEIGHT	DIAMETER AT 1.5m or arb (mm)	ESTIMATED?	NO. OF STEMS	N	E	S	W	LOWEST CROWN HEIGHT	LCH ORIENTATION	LOWEST BRANCH HEIGHT	LOWEST BRANCH ORIENTATION	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	PRELIMINARY MANAGEMENT RECOMMENDATIONS	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	NOTES
30	T	Eucalyptus	9.5	260	N	2	5	3	3	3	2.5	N	4.5	S	Semi-Mature	Fair	Poor		<10	C1	A tree with little future potential; Multi-stemmed tree
31	T	Eucalyptus	15	490	N	2	3	3	3	4	4.5	S	2.5	W	Mature	Fair	Fair		20+	C1	Dense ivy prevented full inspection; Dense ivy to stem; Major stem division at ground level
32	T	Pine	5.5	130	N	1	1.5	1.5	1.5	1.5	2.5	N	2.5	N	Young	Fair	Fair		10+	C1	A small tree of limited landscape value; Dense ivy prevented full inspection; Dense ivy to stem; Dense ivy within crown
33	T	Bay	7.5	390	N	5	1	4	5	3	2	S	2.5	S	Mature	Good	Fair		20+	C1	Some low level screening value
34	T	Holly	8	280	N	2	2	2.5	0.5	2.5	2.5	E	2.5	E	Mature	Fair	Fair		20+	C1	Major stem division at ground level
35	T	Bay	8	450	N	4	2	4	4	4	2	E	3.5	S	Mature	Good	Fair		20+	C1	Some low level screening value; Multi-stemmed tree
36	T	Plum	6	350	N	1	1.5	4.5	2	2	2	E	3.5	E	Mature	Poor	Poor		<10	U	Major stem division at 1m; weak stem union; dense ivy in crown

Appendices

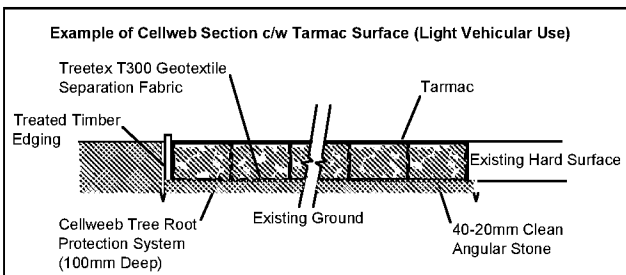
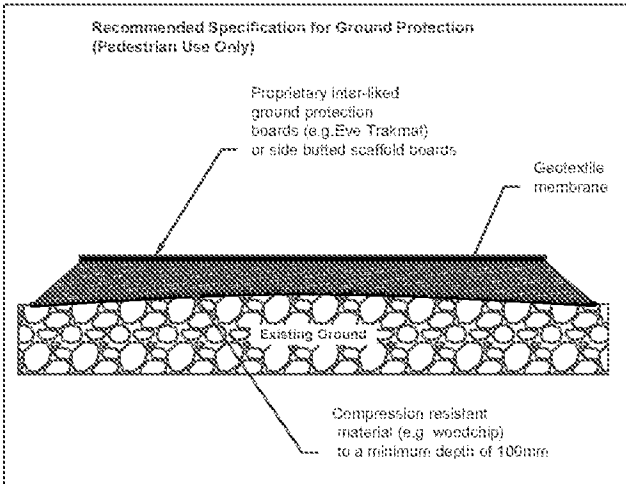
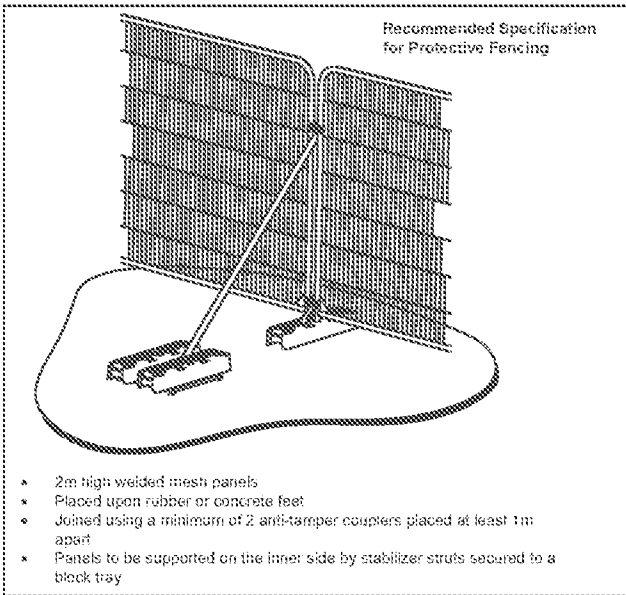


TREE NO	TYPE	SPECIES	HEIGHT	DIAMETER AT 1.5m or arb (mm)	ESTIMATED?	NO. OF STEMS	N	E	S	W	LOWEST CROWN HEIGHT	LCH ORIENTATION	LOWEST BRANCH HEIGHT	LOWEST BRANCH ORIENTATION	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	PRELIMINARY MANAGEMENT RECOMMENDATIONS	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	NOTES
37	T	Yew	6	260	N	3	4	3	1.5	0.5	0.5	E	1	E	Semi-Mature	Fair	Fair		40+	C1	A small tree of limited landscape value; Suppressed crown
38	T	Monterey Cypress	17	350	N	1	4	4	4	4	3	N	3	N	Mature	Fair	Fair		20+	C1	Offsite tree

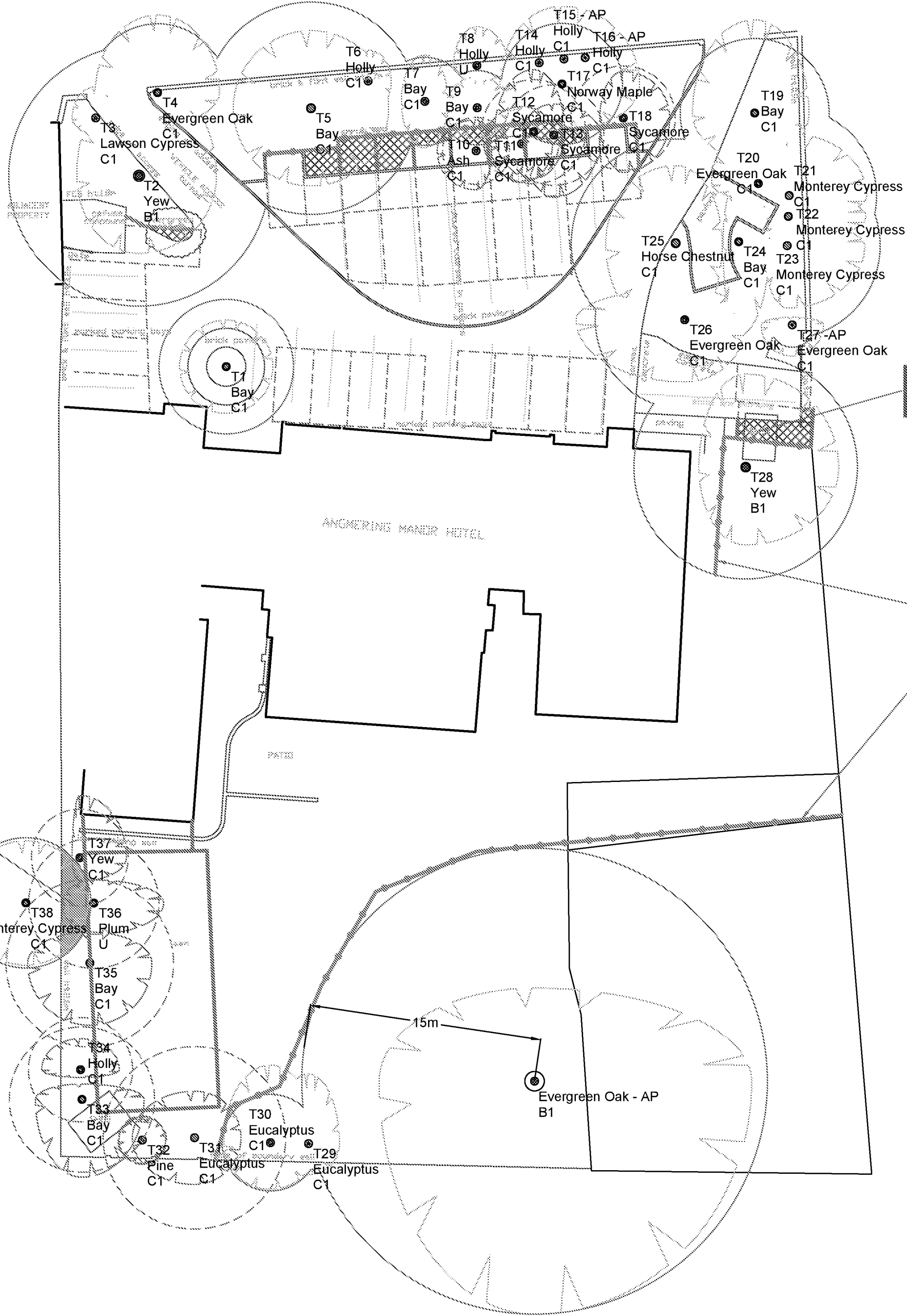


Appendices

Appendix 5 Tree Protection Plan



AREA OF GROUND PROTECTION

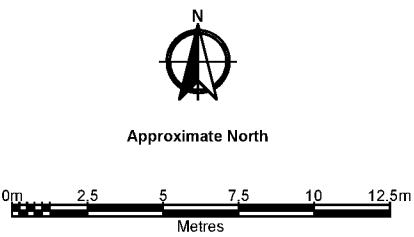


EXISTING SHED AND BASE - TO BE DEMOLISHED AND REMOVED BY HAND

PRECISE EXTENT AND LOCATION OF TREE PROTECTION FENCING TO BE AGREED WITH TREE OFFICER DURING THE PRE-START MEETING

LEGEND

- CATEGORY 'A' TREE
- CATEGORY 'B' TREE
- CATEGORY 'C' TREE
- CATEGORY 'U' TREE
- TREE CANOPY
- THEORETICAL CIRCULAR FOOT PROTECTION AREA TO DETERMINE APPROPRIATE AREA SIZE PROPORTION FOR ROOTS
- TREE FOR REMOVAL
- EXISTING BUILDINGS/STRUCTURE
- OUTLINE OF NEW STRUCTURE / AREA OF HARD SURFACING
- NEW PARKING BAY - WITHIN AREA OF EXISTING HARD SURFACING
- TREE PROTECTION FENCING
- FROM HARD SURFACING - CELLULAR CONCRETE SYSTEM
- GROUND PROTECTION



Notes:

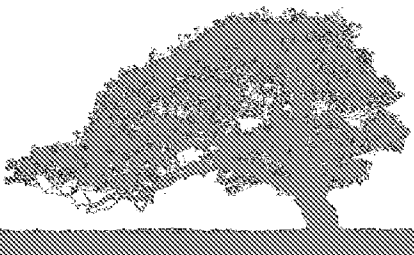
Drawing is based upon 13281014 Site Plan

Proposed drawing details taken from Site Plan 1550 & 1001/13

This drawing must be read in conjunction with Arboricultural Report Ref. 15 956

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All measurements in millimeters

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Arb Consultancy Limited

Edward Cottage
Leslie Road
Dorking
Surrey
RH4 1PW

T 01306 500382
M 07971 121948
E info@arbconsultancy.co.uk

Client

Mike Gray

Site

Angmering Manor Hotel, Angmering, West Sussex BN16 4AG

Drawing Title

Tree Protection Plan

Rev. Details Date

- - -

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Project No 15 956 Surveyed by JM

Drawn by JM Checked by SB

Date 20/03/2015 Scale 1:250@A2

Drawing Number TPP 15/956 001 Rev -