ADDITIONAL INFO.

HAVANT BOROUGH COUNCIL
DEVELOPMENT CONTROL
13 FEB 2011
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INTRODUCTION

I have already prepared an Arboricultural Report and Implications Assessment which I understand has been forwarded to Havant Borough Council in support of my client's planning application. **(Hi – APP/10/1027)**
As a consequence several comments and requirements have been forwarded from the Havant Borough Council for further information in respect of the proposed protection for retained trees on and near to the application site. (16 Victoria Avenue, Hayling Island).

1. It is noted that there is no objection to the proposals to remove the remnant Beech hedge along the northern frontage of the site.

2. It will be noted from my Arboricultural report that I consider that the Lime tree in the front of the two adjacent properties to be at risk and a real potential danger. *"The Lime is a multi-stemmed specimen at ground level and already there is included bark between each of the stems. This will increasingly push the stems apart until they fracture at ground level."* Para 4.1 of report.

3. My assessed opinion on this tree has not changed. I however note that my client wishes to consider saving the tree by undertaking remedial tree surgery to reduce the mechanical leverage of the stems particularly at time of high wind conditions. Such action however cannot stop the action of the increase in annual incremental growth around each of the stems, to the point that they will be forced apart and fracture.

4. It is further noted that Havant BC would, given that the tree is not worthy of protection under a Tree Preservation Order, *" ....possibly raise no objection to a lack of tree protection detailing for the lime ...."*.

5. The LPA Havant BC raise some concern over protection for Horse Chestnut Tree on Highway verge.

6. I address these points by reference back to my earlier Arboricultural Report. The following is a modification in particular of Sections 7 and 8 of that Report.

7.0 PRE-DEVELOPMENT TREE WORKS

7.1 All tree works such as felling of the remnant beech hedge and pruning of the lime tree, will be undertaken prior to the commencement of site preparation and construction works.

7.2 **All permitted or approved tree work** should be carried out in accordance with the British Standard *"Recommendations for Tree Work"* BS3998:1989, by suitably qualified and experienced professional arborists. Under no circumstances shall site personnel undertake any tree pruning operations. All tree surgery works should be carried out prior to the development of the site, and erection of protective fencing.

7.3 Consideration should be given to the timing of the proposed tree works to avoid the active growing period of trees. Therefore, all tree work should ideally be carried out during the dormant period from November through to February and then again from June to August. Consideration should also be given to nesting birds, and tree works should not normally be undertaken between March and May; however, care should be taken to inspect trees during the summer months for evidence of nesting birds.

8.0 TREE PROTECTION MEASURES

8.1 Tree Protective Fencing and Tree Protection Plan

8.1.1 Root Protection Areas and Construction Exclusion zones

Root Protection Areas

British Standard 5837:2005 section 5.2 provides the method for calculating the root protection area necessary to ensure that retained trees survive the development process. Table 1 below provides the formula for the calculations.

Table 1

Stems	Calculation
Single Stemmed Trees	$RPA(m2) = \left(\frac{Stem\ diameter(mm)\ @\ 1.5m \times 12}{1000} \right)^{2} x3.142$
Trees with more than one stem arising below 1.5 m above Ground level	$RPAm^2 = \left(\frac{Basal\ diameter(measured\ immediately\ above\ basal\ flare\ (mm) \times 10)}{1000} \right)^{2}$ x 3.142
NOTE The 12x multiplier is based on NUJUG 10 and published work by Matheny and Clarke	

From this calculation the initial root protection area is shown on the tree constraints plan as a red circle is centred on the tree stem. All trees in category's A-C are shown. The maximum size of an RPA is capped at 707 m^2, the equivalent of a circle with a 15 metre radius.

The crown of retained trees may extend beyond the RPA. To prevent damage to the aerial parts of the tree the above ground constraints are considered and incorporated into the Construction Exclusion Zone, however other solutions, such as pruning may be considered where appropriate to prevent damage occurring.

Note: In this case if the lime tree is to be retained then the proposed remedial pruning will account for this factor

The arboriculturalist will then consider physical site conditions, such as existing structures and hard surfaces to identify the most likely position for root development. The shape of the

RPA is then adjusted but not reduced in size to allow for a distorted rooting pattern and provides the initial Construction Exclusion Zone. CEZ

Note: In this respect the lime tree which sited along the joint side boundary between two properties has already sufficient hard surface areas to protect its root plate. To the North is the Public Highway and associated public footpath/pavement and to the East the root plate is protected by the hard surfaced entrance drive to No 18. It will therefore be unnecessary to provide root protection in these areas and of course similarly there can be no need for protective fencing in these areas.

The remaining quadrant of the trees general root plate area, that on land that is 16 Victoria Avenue is also currently protected by a hard surfaced footpath. I therefore consider that most of the rootplate already has sufficient and adequate ground protection. Nevertheless I have recommended that additional ground protection is to be provided as shown on drawing CGB 2 attached to my earlier report.

This leaves the determination of the extent of any protective fencing to be provided. It is my firm assessment that a short line of protective fencing should be erected in accord with BS 5837 – 2005across the North east corner of the site to protect the trunk of the lime tree. This fence line should be erected at least 1m from the line of the proposed new extension to enable pedestrian acces to facilitate the construction of the development. See CGB 2A.

The protective fencing shall be erected in accordance with the location set out on the Tree Protection which is appended at CGB2A, and will be erected prior to any site works. A copy of the Tree Protection Plan shall be made available for all site staff to see.

8.1.2 The barrier is to comprise of a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this, weldmesh panels will be fixed securely with wire or scaffold clamps (Figure 1 below and figure 2 of BS5837:2005). Weldmesh panels on rubber or concrete feet are not resistant to impact, and should not be used in close proximity to the development.

Figure 1: Tree Protective fencing specification

8.1.3 I note the request for protection of the adjacent street tree. Whilst I consider it is most unlikely to be affected by any phase of the development including for deliveries of materials and small equipment, I am content that a scaffolding barrier might be erected to indicate the edge of the existing crossover onto the property that is 16 Victoriia Avenue as indicated on my drawing CGB 2A.

8.1.4 Once the fencing is in place it must remain *in-situ* throughout the following phases of the development/construction:

- Contractor occupancy
- Plant and Materials delivery
- Construction works
- Installation of porus surfacing
- Utility installation
- Completion of development
- Landscaping

8.1.4 The area within the Construction Exclusion Zone (CEZ) will be regarded as **sacrosanct**, and the tree protective fencing shall not be taken down or relocated at any time without the written approval of Havant BC.

8.2 Additional Arboricultural Advice for Site Personnel

8.2.1 To provide site personnel with additional information regarding the requirements of Tree Protection, a leaflet, appended at CB5 shall be issued to all staff at the time of their site induction. Spare copies of this leaflet shall be available in the site office as replacements.

8.2.2 In order to inform site personnel of the purpose of the fencing, information notices shall be fixed to the fencing at 5m intervals. These notices shall be of all-weather construction and shall be substantially in the form of the specimen provided at appendix CB5, and shall be replaced as and when necessary.

8.3 Ground Protection and Scaffolding Specification

8.3.1 In addition, ground protection will be implemented, similar to that shown in Figure 3 of BS5837:2005, and illustrated as figure 2 below, for the area within the Root Protection Area, to allow for construction and working space. This is necessary to provide working space for construction activities, which may include implementation of foundations, and for the erection of scaffolding to aid in building. This will also be required when footpaths are installed within the root protection zone.

8.3.2 Additional heavy-duty ground protection may, in some circumstances, be required. This is feasible through the use of concrete slabs or heavy duty boarding (e.g. Eve Trakway) to enable a higher level of ground protection of the tree's rooting area, and to reduce the potential for damage and compaction.

Figure 2: BS5837:2005 Ground protection and Scaffolding



Pedestrian Movements

Section 9.3.2 *"For pedestrian movements within the RPA, the installation of ground protection in the form of a single thickness of scaffold boards, on top of a compressible layer laid onto a geotextile, or supported by scaffold may be acceptable".*

9.0 GENERAL CONSIDERATIONS WITHIN AND OUTSIDE THE CONSTRUCTION EXCLUSION ZONE

9.1 Construction Exclusion Zone (CEZ)

9.1.1 Inside the Construction Exclusion Zone (CEZ) formed by the protective fencing and ground protection measures, the following prohibitions shall apply:

- **No construction activity will occur within the CEZ unless otherwise stated in this report or agreed in writing with (local authority) prior to the specific activity taking place.**

9.1.2 In addition to the above, further precautions are necessary adjacent to trees outside the CEZ:

- Materials, which will contaminate the soil e.g. concrete mixing, diesel oil and vehicle washings, shall not be discharged within 10 metres of the tree stem. This should take into consideration the topography of the site and slopes, to avoid materials such as concrete washings running towards trees.

- Fires shall not be lit in a position where their flames can extend to within 5 metres of foliage, branches or trunk. This will depend on the size of the fire and the wind direction.

- Notice boards, telephone cables or other services shall not be attached to any part of the tree. (See appendix CB5 Common Causes of Damage During Construction Works)

10.0 REMOVAL OF HARD SURFACES/BUILT FORM IN CLOSE PROXIMITY TO RETAINED TREES

10.1 Removal of existing surfacing, built forms or other excavations within the Construction Exclusion Zone of retained trees, must be undertaken by hand (where feasible and in line with Health and Safety polices) to avoid any surface root damage, and shall be supervised on-site by the Retained Arboricultural Consultant.

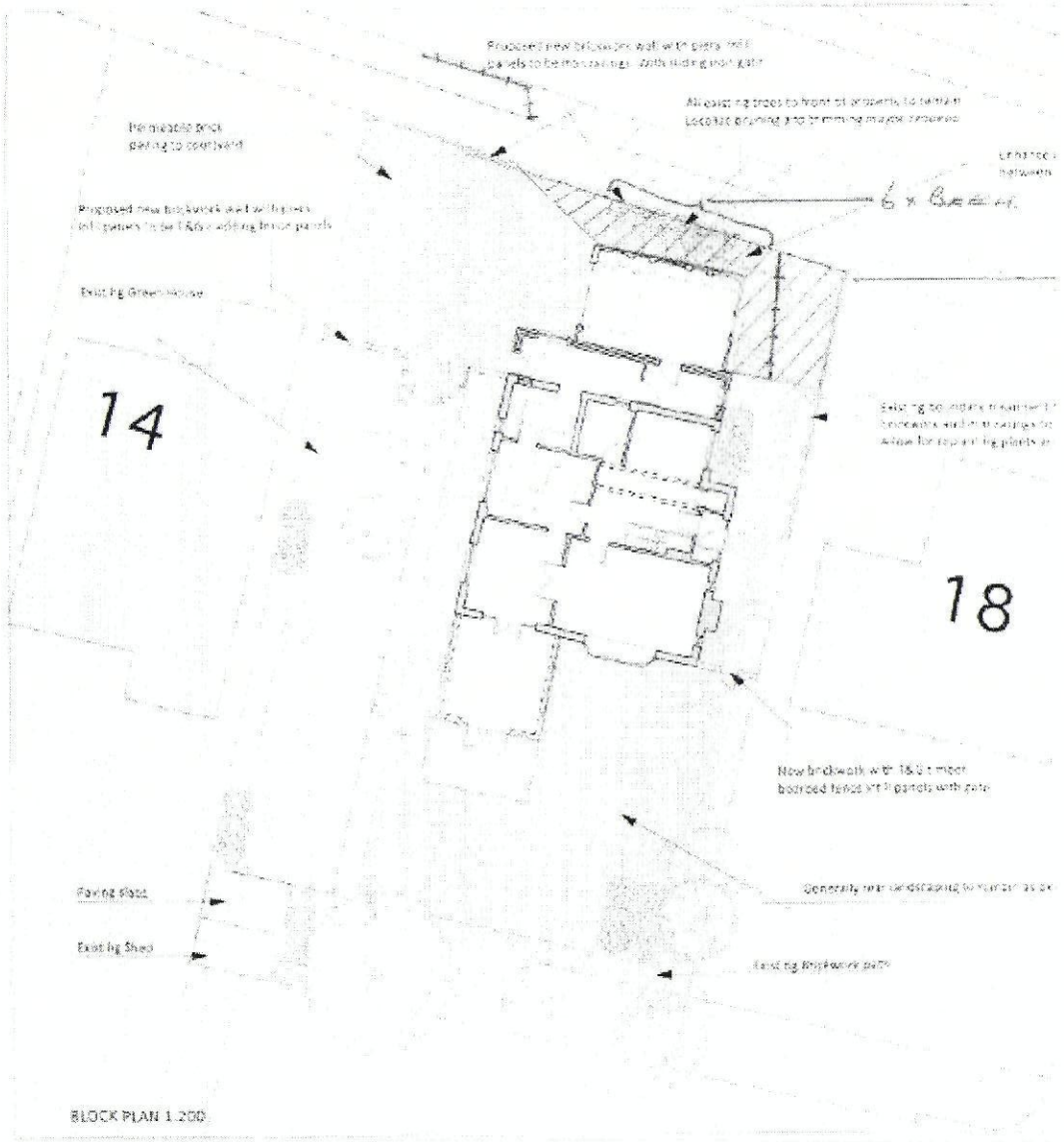
10.2 Any removal of hard surfacing, built form or other excavations in close proximity to trees will be undertaken by working only from the existing hard surface or protected ground area. The required work should then be completed with hand operated tools or appropriate machinery, but under the supervision of an arboriculturist. Any machinery or equipment to be used will need to be lightweight and run on additional ground protection, or working from the existing hard standing only.

10.3 If the area of the zone of protection around the retained trees is to be left following the removal of the existing hard surface, and before a new hard surface is laid, or the area receives soft landscaping treatment, then ground/tree protection MUST be correctly re-established immediately the hard surface removal work has been completed.

10.4 If there is a delay, for whatever reason, and the area that was previously protected by hard surfacing is left exposed awaiting a new surface, a temporary surface must be implemented, and/or Hessian sacking must be placed over any exposed roots.

I trust that these details meet the requirements of Havant BC, but remain available to discuss as necessary.

Colin G Bashford MBE.



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Key

Root Ground Protection Area

CGB2/REV A

RMW Associa