BOB WIDD
ASSOCIATES

ARBORICULTURAL IMPACT ASSESSMENT

AND

METHOD STATEMENT

TO DISCHARGE CONDITIONS 4 & 5

15 DULOE ROAD

EATON SOCON

St NEOTS

CAMBRIDGESHIRE

PE19 8FQ

APRIL 2014

•BOB WIDD ASSOCIATES LIMITED•6, HIGH HADEN ROAD•GLATTON•
•HUNTINGDON•CAMBRIDGESHIRE•

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SUMMARY

Huntingdonshire District Council has granted Planning permission for the replacement of a bungalow and the erection of a two bay garage at 15 Duloe Road, Eaton Socon. [Application Number 1400163FUL]. Various conditions have been imposed by the District Council.

This Impact Assessment and Method Statement have been compiled to discharge Conditions 4 and 5.

An Arboricultural Impact (or Implications) Assessment (AIA), is defined as '*a study designed to identify, evaluate and mitigate the extent of impacts on existing trees that may arise as a result of a site layout proposal*' – (British Standards 5837: Trees in relation to construction-recommendations)

The following glossary of terms defines the use of certain terminology within the context of this assessment

Compensation –	Measures taken to make up for negative impacts.
Extent –	The geographic range at which impact will be significant
Magnitude –	The severity of an impact.
Mitigation -	Measures taken to reduce the negative impact.
Nature -	In terms of impact; positive, neutral or negative.
Probability -	An assessment of the likelihood that an impact will occur.
Timing -	Stage of development when impact is likely to occur.
Transfrontier -	Beyond national boundaries.

These guidance measures are based upon other forms of impact assessments which exist and are closely linked to the planning system, namely the Environmental Impact Assessment (EIA) and the Ecological Impact Assessment (EcIA).

Defining Parameters

Timing - The stage of a development when the impacts upon trees might occur.
This can be sub-divided into 3 stages;

- Pre-development impacts
- Development stage impacts
- Post-development impacts

Examples of timing of impacts are relatively self-explanatory. Pre-development impacts are generally going to result from tree removal or pruning to facilitate access, or to clear the required working area. Development stage impacts may arise from all activities on the site during the development stage. Post-development impacts constitute a number of issues such as shading, problems with falling leaves, encroachment, etc, which can results in tree/resident conflicts in the years after development.

Nature and Magnitude

These can be categorized in their simplest forms as positive and negative, with neutral sitting at the midpoint. There may also be impacts that are barely measurable and this term sits alongside neutral. To quantify the significance, a scale of severity is used (magnitude), with minor to

major being a simple expression of this, and which is easily understood. The following scale is used to demonstrate the nature (positive-negative) and magnitude (major-minor) of impacts:

- Major negative
- Moderate Negative
- Minor Negative
- Neutral/Negligible
- Minor Positive
- Positive
- Major Positive

Examples of how these classifications are used can be demonstrated by understanding the following. The removal of a healthy tree with a significant amenity value would almost certainly result in a negative impact, where as a healthy tree from a stand of 30+ trees might only be a minor negative. Working in proximity to trees, without any protective fencing, is also likely to result in a negative impact upon the trees, in the vast majority of cases. Again the size, number, species and location of the trees will define the magnitude. Also the BS5837 tree category grading will influence magnitude. With the removal of A grade trees having a greater significance then the removal of B and C grade trees.

Figure 1 – Impact Assessment Parameters

Assessment parameters	Timing	Nature and Magnitude	Extent	Probability
Measure of Impacts	Pre-development Development stage Post-development	Major negative Negative Minor Negative Neutral/Negligible Minor positive Positive Major positive	Site level Street level Local level District level County level National level	Certain/Highly Likely Likely Unlikely Extremely Unlikely

Extent

The extent of the impact is the level of visual impact it has on the local or national environment. If a tree with low value can only be seen by a few properties within the site then the extent is site level, whereas if the tree is of national importance and is a tree of veteran age or has historical values attached, such as the Robin Hood Oak, the extent is at national level. The intermediary categories are self explanatory.

- Site level
- Street level
- Local level (includes: Estate, Neighbourhood, Parish, Village)
- District level includes: Metropolitan borough, Town, City
- County level
- National level

Probability of occurrence

Following on from the timing, nature, magnitude and extent of the impact, the final category covers the likely occurrence of the impact taking place.

If tree removal is involved then the probability of occurrence is certain, however for general site works near to trees this is not necessarily the case.

Following on from, and in line with the IEEM assessments procedures for Ecological Impact Assessments (EIA) in the UK, a set of thresholds for predicting the likelihood of impacts can be similarly applied to an AIA. Justification for this is given in the fact that the 5% threshold is conventionally chosen as the lowest limit for statistical significance.

- Certain / Highly likely (>95% chance of occurring)
- Likely (50-95%)
- Unlikely (5-50%)
- Extremely unlikely (<5%)

A summary of the parameters is given in Figure 1. Typical examples of unmitigated impacts are provided in Figure 2. Impacts at this stage are usually negative, as they have to be considered in absence of any mitigation. Some positive impacts may occur in certain situations.

Figure 2. Examples of unmitigated impacts which commonly result from development works.

Typical situation	Timing	Extent	Nature & Magnitude	Probability of occurrence
Tree removal – small trees with low landscape value located on site with no significant amenity	Pre development	Site Level	Negligible	Certain
Tree removal – Mature trees with high visual amenity	Pre development	Local level District level (TPO/Con Area?)	Major negative Negative	Certain
General site works in proximity to trees being retained. Trees are semi-mature and in a housing estate.	Development stage	Site Level Street Level	Major negative Negative	Highly likely
Encroachment/shading of new properties from trees. Trees are within a conservation area and have a high level of visual amenity	Post development	Local level District level	Major negative Negative	Likely

Mitigation and Compensation

To mitigate a negative impact is to make it less severe. Mitigation can be undertaken by erecting protective fencing, creating exclusion zones and providing ground protection measures.

To compensate is to take steps to make up for a negative impact, such as replanting trees within a landscaping plan. Examples of mitigation and compensation measures for some commonly predicted impacts are provided in Figure 3.

Figure 3 – Examples of mitigation for commonly predicted impacts

Activity likely to cause impact	Predicted impact	Possible mitigation/compensation
Site Clearance	Loss of trees from site	New planting within landscaping scheme
General site works in proximity to tree being retained	Damage to stems, branches and roots of retained trees. Tree declines and dies some years after development	Protective fencing to be erected.

Construction of footpath within RPA	Root severance and /or soil compaction in the years following completion of development	Sympathetic construction using a 'no-dig' methodology. Final surface to be permeable.

ARBORICULTURAL IMPACT ASSESSMENT FOR 15 DULOE ROAD, EATON SOCON.

Development site

The proposed development of a replacement bungalow and a two bay garage requires the removal of two small trees which are not visible from the adjacent street. The loss of these is negligible to the site; however their loss should be compensated by incorporating new vegetation into the landscaping plan.

It is accepted that there will be a loss of two tree from site to allow this development to proceed, but it is important that the trees that are to be retained are protected from possible damage by erecting strong sturdy fence in the position shown on the Tree Protection Plan at Appendix A of the main Arboricultural Report and also found in the following Method Statement.

This should be of a design recommended within the British Standards BS5837:2012 and erected on site following the tree removal works but prior to any construction works commencing. Figure 4 shows the default design specified within the British Standards. See Method Statement for more details.

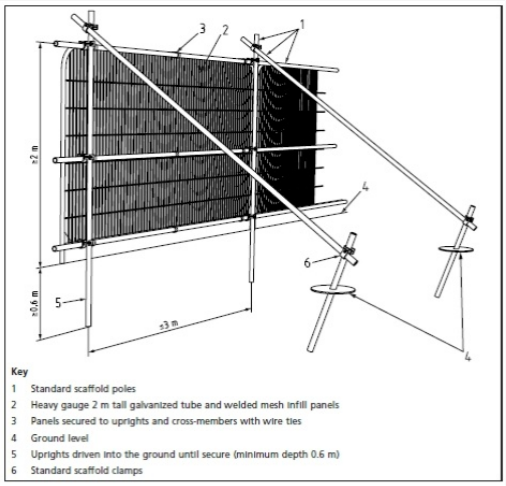


Figure 4 – BS5837 default design for heavy duty protective fencing

It is paramount that the fence is constructed in a robust manor and warning signs are placed on the fence panels indicating what the fence is for and that no unauthorised access is allowed beyond the fence. See Figure 5



Figure 5 – Tree Protection Area warning sign.

Impact of Development upon Existing Tree Stock

The development will have a minor negative overall impact upon the current tree stock within the site. It is accepted that the removal of 2 trees will be required to facilitate the new development works. The visual impact of the removal of these trees has been assessed and is categorised as low due to their physical structure and condition plus the existence of several other mature trees within close vicinity. The number of trees to be retained will mask the removal of the trees being removed.

Table 1 indicates the quality of each tree to be removed, the justification for its removal and the overall impact of the removal, both visually and ecologically. It can be seen that there are no high quality trees, with a high visual impact, being considered for removal.

Table 1: Impact of proposed tree removal works

Tree Nos	Species	Cat	Quality	Comments	Justification for removal	Visual Impact of removal	Ecological Impact of removal
3	Laburnum	B	Medium	*Ornamental garden tree.*	Located within footprint of the garage	Low. Relatively small specimen with no major contributory landscape or aesthetic values.	Low
4	Jap maple	B	Medium	*Ornamental garden tree.*	Located within footprint of the garage	Low. Relatively small specimen with no major contributory landscape or aesthetic values.	Low

Table 2 Summary Table of development impacts and mitigation for 15 Duloe Road, Eaton Socon.

Timing	Proposed activity or conflict	Characteristic of impact without mitigation	Nature, Magnitude, Extent and Probability of impact without mitigation	Proposed mitigation and/or compensation	Nature, Magnitude, Extent and Probability of impact with mitigation
Pre-development	Tree removal	Loss of small trees with low landscape value	Negligible impact at Site level – **Certain**	Re-plant vegetation as shown in the method statement.	Neutral impact at site level - **Highly likely**
Development stage	General site works in proximity to trees being retained	Damage to trees possibly leading to decline and death	Major negative impact at Local level – **Highly Likely**	Erection of protective fence as specified in BS5837:2012. Complying with detailed Method Statement procedures	Neutral at local level – **Likely**

Post-development	Creation of new drive & garage in close proximity to retained trees on development site.	Encroachment/shading of development from tall mature trees. Creation of slippy surface in autumn due to leaf fall into the drive.	Negligible impact at Local level –**Likely**	Facilitation pruning on completion of works and new planting to be undertaken.	Neutral impact at Local level – **Likely**

ARBORICULTURAL METHOD STATEMENT FOR 15 DULOE ROAD

To ensure no damage occurs to the existing tree stock during the construction operations this Arboricultural Method Statement is to be adhered to at all times.

It is written in chronological order, in a manner that is easy to understand by all parties concerned, and should be constantly referred to by the contractors on site who are carrying out the development works.

If any part of this Method Statement is unclear then contact should be made to the Project Arboriculturist for clarification and confirmation of the correct procedure to be used.

Table 3. Root Protection Area Radius Measurements of Retained Trees

Tree	Species	Height	Trunk Diameter (mm)	RPA Radius (m)	RPA Area (m^2)
1	*Horse chestnut*	*22*	*1075*	*12.90*	*523*
2	*Horse chestnut*	*18*	*775*	*9.30*	*272*

Chronological Procedure for Implementing Methodology

1. Reference should be made to Table 3 above for measuring out the Root Protection Area around each tree.

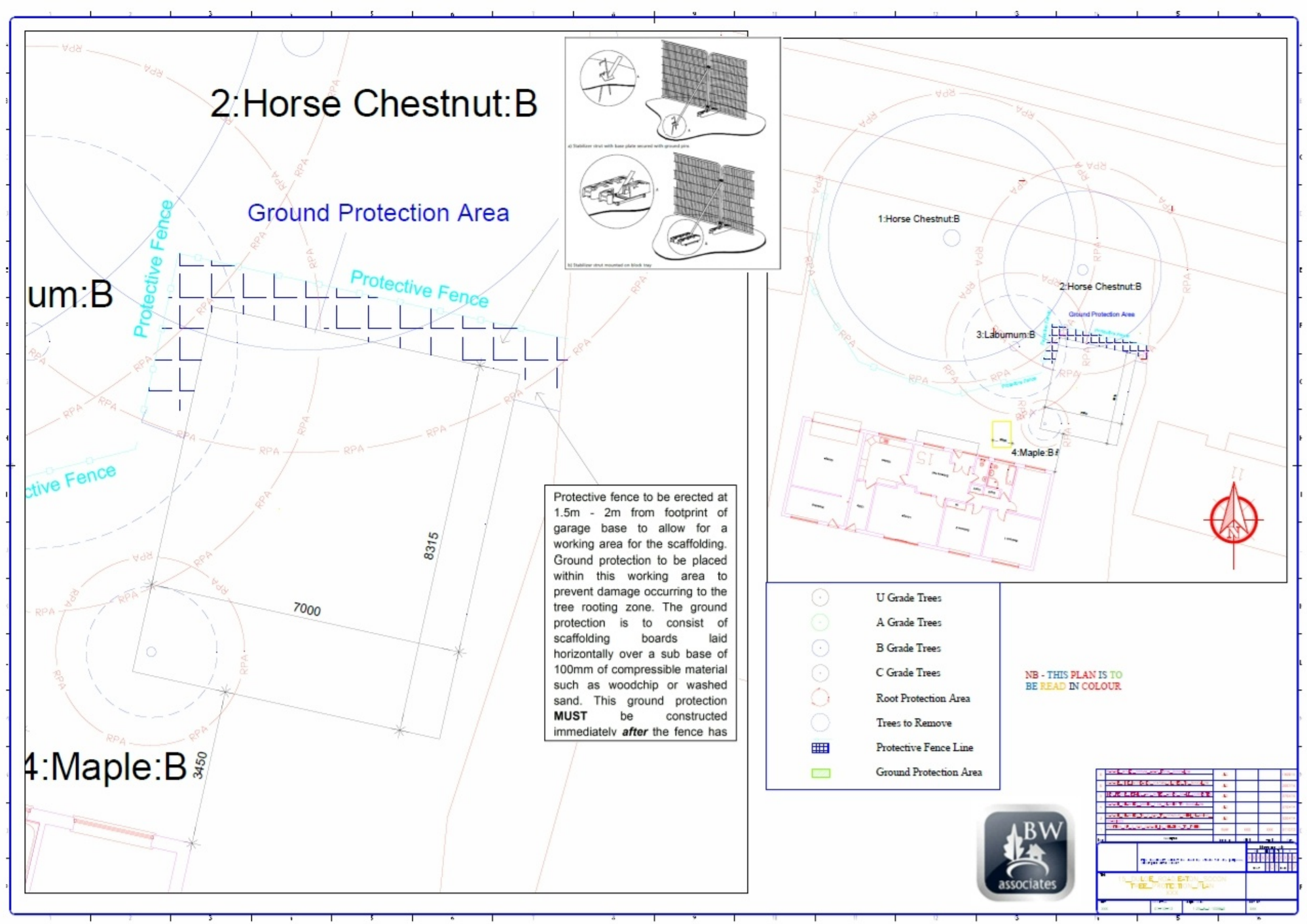
The distances quoted are to be measured from the centre of each tree and the outer perimeter of the RPA is to be painted on the floor as an arc radiating out from the trees

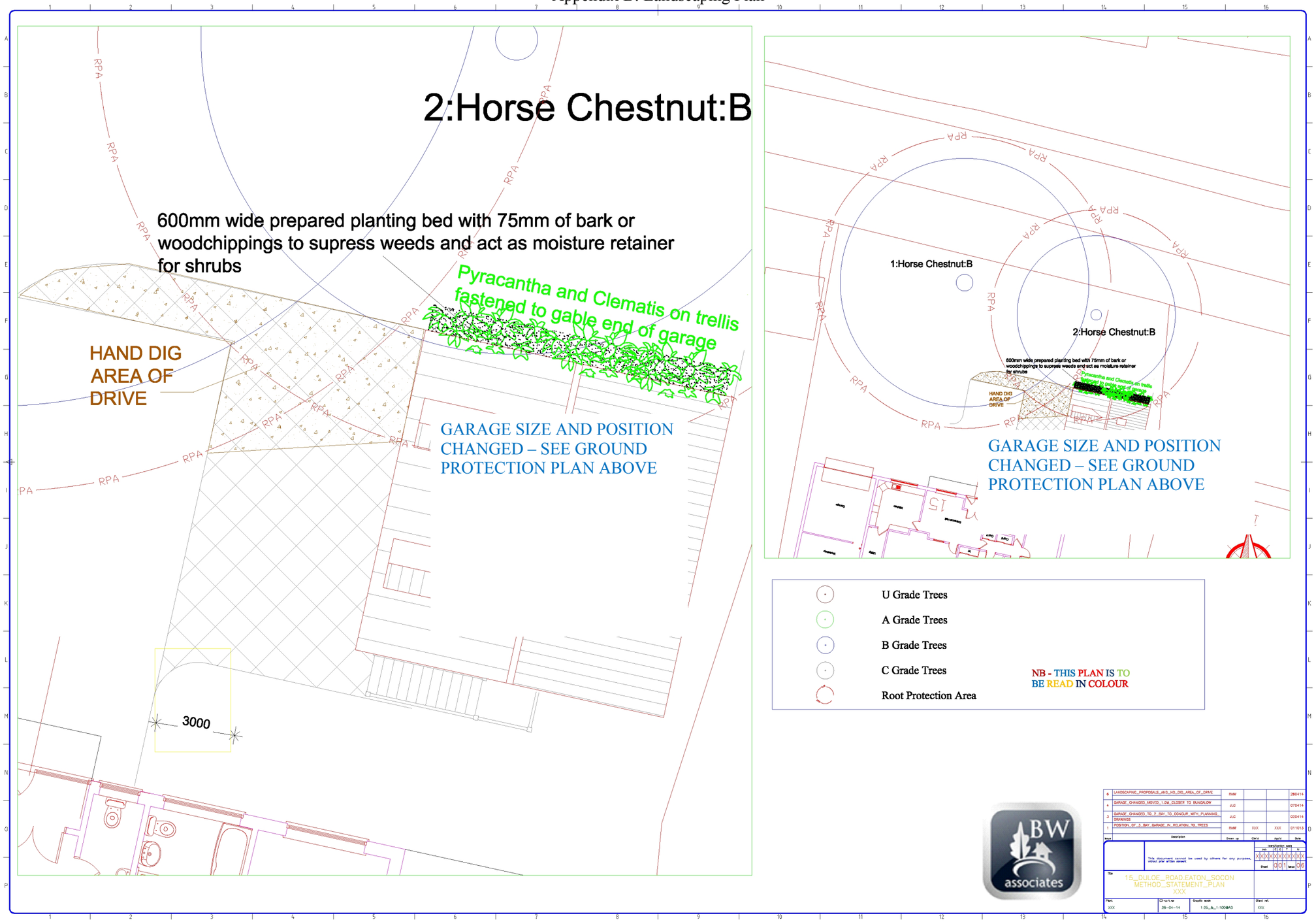
Once the protected area has been calculated, a temporary protective fence is to be erected along the line of the painted arcs and this is to remain in place during the initial construction works. This fence should be constructed using Heras type 151 with plastic blocks as support feet.

2. The position of the garage is to be marked out on site. Where the garage encroaches within the RPA of the retained trees, the protected fence is to be moved back to a distance circa 1.5-2m back from the footprint of the garage, so as to give a working area for scaffolding etc. [Appendix A]

3. A ground protection system is to be placed in the working area. This should consist of a compressible material such as 100mm deep layer of washed sand or woodchip, overlaid with scaffolding boards to provide a stable surface to work off.
4. During construction of the garage it is paramount that no plant or machinery encroaches within the RPA of the trees, nor should any materials be stacked in the protected area.
5. No washing of cement mixers is to take place close to the RPA and no 'run-off' is to be allowed to enter the RPA.
6. On completion of the garage, the ground protection is to be carefully removed by hand, and the ground to the north of the new construction be dug over and prepared for planting.
7. This planting bed is to be dug to a depth of 2 spades deep and an organic fertilizer added to the soil.
8. A sturdy trellis is to be attached to the northern gable end of the garage and treated with wood preservative.
9. We recommend planting 3 nos Clematis 'Montana' at circa 2m spacing with 2 nos Pyracantha 'Navaho' (in 3 litre pots), planted as a lower shrub layer at 1m spacing. On completion of the planting the bed is to be covered with a 75-100mm deep layer of either woodchip or bark mulch.
10. The protective fence can now be adjusted to allow access for the construction of the driveway and care should be taken to avoid any damage to roots.
11. The area of driveway that encroaches within the RPA, [appendix B], is to be constructed using hand tools only.
12. The surface soil is then to be carefully removed using hand tools only, down to a depth of 185mm below the finished surface level, to construct the sub-base. (Roots of less than 25mm ∅ can be cut cleanly with a sharp tool to encourage root growth.
13. A 75mm deep three dimensional cellular structure such as CellWeb is to be used to provide a non-compressible sub base and filled with a no fines material such as MOT type 3. The CellWeb is to be placed only in the area where the new drive encroaches into the RPA of the retained trees.
14. The finished surface of 50mm of sand and 60mm deep 'Marshalls Driveline 50' block paving, in brindle to match the existing paviers, is then to be laid on this sub base.
15. On completion of all construction works the fencing is to be dismantled and removed from site.

Appendix A: Ground Protection Plan




2:Horse Chestnut:B
600mm wide prepared planting bed with 75mm of bark or woodchippings to supress weeds and act as moisture retainer for shrubs
Pyracantha and Clematis on trellis fastened to gable end of garage
HAND DIG AREA OF DRIVE
GARAGE SIZE AND POSITION CHANGED – SEE GROUND PROTECTION PLAN ABOVE
RPA
3000
1:Horse Chestnut:B
2:Horse Chestnut:B
U Grade Trees
A Grade Trees
B Grade Trees
C Grade Trees
Root Protection Area
NB - THIS PLAN IS TO BE READ IN COLOUR
BW associates
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