



ANDERSON

TREE CARE

Arboricultural Contractors and Consultants

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Tree Survey: Site at Greenbottom Farm,
Hoylandswaine, Barnsley.

Client: David Poisson Esq.

Date of Survey: April 17th 2019.

Weather at time of Survey: Fine and bright; unseasonably so.

File reference: Greenbottom 01

Appendices: 1. Tree location plan.
2.

Report author: W L Anderson. Dip Arb.(RFS) M.Arbor.A.

Checked by: R H Anderson. Dip Arb.(RFS)

Introduction.

This site is a vacant field. It is currently grazed by sheep although there are signs of previous usages. There are no trees within the site although there are trees in the adjacent roadside verge, and there is a large and elderly Ash tree in an adjacent field. There is a hedgerow on the western boundary.

Tree Preservation Orders.

I am not aware of any Tree Preservation Orders on the site. I understand that part of the site may eventually fall in the extended Hoylandswaine Conservation Area.

British Standard 5837 2012 Trees in relation to design demolition and construction – Recommendations.

I have taken the above document as the basis for this report. The Local Planning Authority will almost certainly consider this Standard in its deliberations about this site. The Standard states its objectives as achieving a harmonious and sustainable relationship between trees and structures.

The preoccupation of this standard is the categorisation method and the Root Protection Area (RPA). The logic for this is that resources should not be wasted attempting to retain trees that do not justify retention, nor should a project set out to retain a tree only to ensure its rapid demise by failing to take account of its growing conditions.

While the Standard covers much more than these matters, at this stage in this project these are the major concerns. This survey is intended to supply the information necessary to ascertain which trees are suitable for inclusion in the project and how their retention will affect the manner in which the site is developed. BS5837 anticipates that an Arboricultural Impact Assessment (AIA) will be undertaken once the layout is finalised and that the planning application will be accompanied by a Tree Protection Plan (TPP).

The TPP is a drawing that shows which trees are to be retained and where the protection measures are to be installed. This should be accompanied by a “Method Statement” detailing the measures to protect the trees and when they can be removed. The AIA will contain details of tree work to be undertaken to facilitate the development and a summary of any tree planting.

BS5837; Tree Categorisation Method.

The categorisation method is summarised in BS5837 at section 4.5 where it emphasises the need for it to be undertaken by an Arboriculturist. Elsewhere the Standard tells us that an Arboriculturist should be a “person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.”

There are 4 retention categories; U, A, B & C. The criteria for inclusion in each category and subcategory are summarised in Table 1 “Cascade chart for tree quality assessment,” an interpretation of which follows:

Trees unsuitable for retention.			
Category and definition			
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.	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees. Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i>		
Trees to be considered for retention.			
Category and definition		Subcategories	
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural qualities
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal Arboricultural features (e.g. the dominant or principal trees within an avenue).	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing 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.	Trees with material conservation or other cultural value.
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	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.	Trees with no material conservation or other cultural value.

NB. This is an interpretation of table 1, not a copy, although much of the text is verbatim.

BS5837 contains details about what colours should be used to indicate their categories on any drawings; these are U = dark red, A = light green, B = mid blue, and C = grey.

BS5837 goes into greater detail (at 4.5.10) about the appraisal of small trees; those of less than 150mm diameter, as these are easily replaced with similar sized new trees. It notes that they might even be transplanted.

It includes further detail (at 4.5.11) about the importance of veteran trees and the measures that are likely to be needed to avoid damaging them and to ensure they are not an imposition upon a development.

BS 5837; Root Protection Area.

The Root Protection Area (RPA) is defined as a circular area of radius 12 times the trunk (stem) diameter (TD). BS5837 contains details as to where and how it should be measured, and also as to how to treat trees with more than one stem; an equivalent diameter is calculated. I use a diameter tape to measure this and use common sense to adjust this measurement where Ivy or other factors affect the measurement. Despite the Standard's attempts to standardise the measurement conventions there will be times when there is little choice but to estimate the measurement.

While the RPA is defined as a circle the Standard accepts the impracticality of erecting circular fences and it implies that other shapes are acceptable as long as the impact of the alteration is properly appraised. As a general rule, the 12 times the TD sum can be interpreted as a "tree to building distance" that is easy to calculate. It would usually be acceptable to plot the RPA on any drawing as a square with sides of twice the tree to building distance, notwithstanding the fact that this would have a greater area than the circular area.

The two previous versions of BS 5837 have contained advice about offsetting the RPA. The 2012 version does not but allows (at 4.6.2) deviation based upon "a soundly based Arboricultural assessment of likely root distribution."

The 12 times the TD rule is often seen as a mathematical method of calculating where a tree might have grown roots, plainly it is not. It might be helpful to consider it as a system of calculating the size of pot that might be needed were it possible to transplant a mature tree into a pot. The calculation is actually for a volume of soil, although as the pot is predetermined to be 600mm deep (most tree root action is in the upper 600mm of a soil profile), it is only necessary to calculate an area.

Clearly if a tree has grown on very shallow soils it might be necessary to have a larger RPA. I anticipate that a tree grown in such conditions would be of relatively poor quality, although making firm predictions about such things should be avoided.

At Annex D, BS5837 contains a table of RPA areas for single stem diameters, and at Annex C the measuring conventions are illustrated. Annex D rounds the TD to multiples of 25mm and the RPA to the nearest whole square metre.

While damage to tree roots is paramount, other factors need to be taken into consideration; factors such as shade from nearby trees, future growth and even access for machinery in order to undertake future tree management. These factors may affect the categorisation.

The Survey Schedule.

While BS5837 suggests numerous factors that should be recorded on the schedule the information presented in this survey is as follows:

1. **Tree no & species.** I hope this is self-explanatory. I routinely use common names but will use scientific names to clarify the identification where necessary. Some trees are dealt with as groups. Hedges are dealt with similarly.
2. **Height.** (Ht) measured in metres. This is estimated from ground level. I use a clinometer and laser range finder to assist. While these are reasonably accurate, actually seeing the top of a tree from ground level can be difficult so the height should always be regarded as an estimate.
3. **Trunk Diameter.** (TD) measured in millimetres using a tape. This is rounded up to the nearest 10, greater accuracy is unnecessary. Where I have been forced to estimate the measurement due to basal growths or some-such, the figure is appended with an "E."
4. **Age class.** BS 5837 uses the term "life stage." I consider this to mean the same as age class. The categories are Young (Y), Middle-aged (EM for early-mature), Mature (M), Over-mature (OM) and Veteran (V). BS5837 uses the class "semi-mature" but this appears too similar to early-mature for me to make a meaningful distinction. A veteran tree is one that has probably exceeded its 'normal' life span and has developed attributes such as wildlife habitat, biodiversity benefits, historic association or such-like. To quote from the Standard: *It is a tree that by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.*
5. **Category.** The retention category as detailed above.
6. **Comments.** This column is simply to impart additional information and may cover reasons for the trees' categorisation or anything else that I feel is worthy of mention. Peculiar crown formation might be mentioned, or an unusual branch configuration. BS5837 recommends we measure the "*radius of branch spread at the four cardinal points.*" This section will contain that information if I feel it necessary to measure unusual crown formation. Otherwise the presumption is that the trees are fairly typical for the species. The Standard also suggests that we record the height of crown-clearance; that is how far from the ground the branches grow. I shall not mention this unless it is unusual or particularly relevant. I shall broadly confine my assessment of the trees physiological condition to poor, fair, good, or dead and mention it here. All trees are assumed to be in good condition unless mentioned otherwise. The Standard asks us to include the "*estimated remaining contribution in years.*" This is rather a "how long is a piece of string" question. I shall include a rough assessment of remaining life where I deem it necessary. By and large this will have been included as part of the 'category' assessment. If necessary I shall comment here.
7. **Root Protection Area.** As detailed above. Taken from Annex D. (NB. The RPA is 'capped' at 707m², i.e. a circle with 15m radius or a square with 26m sides.)

BS5837 contains a suggestion of information that might be gathered for a tree survey. This includes information such as the height of a tree's first branch, and the

crown spread to the four cardinal points. I note that the Government's guidance on Tree Preservation Orders contains the very useful advice that local planning authorities should not ask for any more information than is necessary to decide an application (to work on a protected tree). This is a sensible approach and one that I apply to all matters related to planning and trees. I note that the recently revised National Planning Policy Framework (NPPF) contains similar advice (at paragraph 44).

If something is particularly notable about a tree, say the crown spread is particularly broad or lop-sided, I shall mention it and expand upon the characteristic and its relevance in the discussion section of the report.

The previous version of BS5837 contained the instructions for preparing a "Tree Constraints Plan." While this was a sensible idea it was probably over complicated. It was intended to be a tool to inform the designer of a site layout more than an essential component of a planning application. It was meant to show the various retention categories of each tree or group, the tree positions and the heights and accurate spreads of each tree. It was also supposed to show the areas likely to be affected by shade. Shade would clearly differ from June to December and on slopes of different orientations, so this would be a complicated drawing. In fact I think it would be likely to be so convoluted as to be unusable.

Experienced designers are fully capable of working with different levels, neighbouring buildings, slopes of differing orientation, and interpreting where shade might be a problem, so the tree constraints plan could be seen as unnecessary. It is our intention that the tree schedule should provide sufficient information for a suitably experienced and skilled designer to prepare some sort of Tree Constraints Plan should he or she consider it necessary.

"An iterative process."

BS5837's Figure 1 is a flow chart illustrating the processes in developing a site. It emphasises that a development project should be an "iterative" process, meaning that advice from the Arboriculturist should be ongoing. This might mean that a sketch of a proposal should be discussed with the Arboriculturist, and the impact on trees appraised before preparing more detailed plans.

On large spacious sites it might be feasible to simply position structures and services outside of the RPAs, but on more typical sites it might be necessary to sacrifice a poor quality tree in order to give a better quality tree more space.

If these matters are addressed before a planning application is submitted it ought to speed up the decision-making process for the local planning authority. Figure 1 anticipates that the planning application will be accompanied by a Tree Protection Plan, which shows the positions of RPA protection fencing, and an Impact Assessment. This should be a summary of tree work that the project will require. This will include trees that are to be removed as well as those that might need pruning. It will also include an appraisal of the benefits of any tree planting and the likelihood of improved tree management upon the project's completion. By definition the impact assessment will take into account the surrounding area's tree population and the condition and management (or lack of) currently in operation.

The Trees.

A tree location plan is appended to the rear of this report.

Tree No.	Species.	Ht	TD	Age class	Category	Comments.	RPA
1.	Ash	16	1000 E	M	B3	Does not grow within the site. Has a 20 metre crown spread, reaches into the site. Owl nest box in the main fork. Numerous veteran characteristics although not actually "veteran." A fine tree but not necessarily with a long future life. See discussion below.	452
2.	Ash	7	310	M	C1	In the highway verge, 2 stems heavily infected with Ash canker (Bacterial Knot). One sided crown due to competing with tree 3.	41
3.	Ash	8	350	M	C1	OK A fairly typical tree for a highway verge. Slightly one-sided.	55
4.	Norway Maple	8	320	M	C1	OK, has a secondary stem at 1 metre with a weak union.	48
5.	Ash	8	360	M	C1	OK, as tree 3, some poor pruning of lower branches.	64
6.	Ash	8	400	M	C1	OK, 2 stems, as tree 3.	72
7.	Ash	8	350	M	C1	OK, 3 stems, almost certainly coppice growth. A strange surface root has produces some growth which has been cut.	55
8.	Ash	8	350E	M	C1	OK more coppice growth.	55
9.	Group	8 max	300E max	EM	C2	Norway Maple, Ash, Sycamore, Hawthorn and Blackthorn/Cherry Plum-undergrowth. A considerable distance from the project; only mentioned in passing.	41
10.	Hedgerow.	8 max	350E max	M	C2	Rather unkempt. Hawthorn, Hazel, Elderberry, Cherry, Ash, Horse Chestnut, and appears to have been reinforced with some invasive species such as False Box. Ownership of the hedgerow is not clear. It is not at all stock-proof, and does not appear to meet the criteria that would render it "important." (See discussion below.)	55

Discussion.

Superficially, this site in not containing any trees, would not seem to require a tree survey. However as there are trees nearby then I think it is reasonable to consider how the site's future occupants might be affected by those trees and how the proposal might lead them to be looked-upon in the future. I shall start with the large Ash tree.



Photograph 1.

Photograph 1 shows the tree from within the site looking roughly west. I measured the tree using a laser device as 18 metres tall, and using a tape measure I measured its crown to reach 10 metres into the site. From afar its crown appears roughly symmetrical so my measurements appear reasonably accurate. Trees have a habit of appearing much larger than they really are and this one can reasonably be described as an imposing specimen.

There is some debris on the ground to the right, which may be broken branches from the tree. In the crown there are signs of branches having been lost and the large branch at the right, which reaches well into the site, is in fairly decrepit condition. In fact it is sufficiently decrepit that if it extended over a road, a Highway Safety Officer would justifiably be demanding something be done about it. However it is not over a road and at the moment there are only a few sheep. Although the sheep clearly have a value, the risk of any being beneath the tree when the branch collapses is low, and the cost of doing something about the branch (probably £500.00 plus tax) would probably outweigh the value of the sheep.



Photograph 2.



Photograph 3.

Photograph 2 is a view of the right hand branch in which the damaged and decayed part can be seen. In photograph 1 it seems that the branch beyond this point is subsiding, which has left the tree's crown with something of an unnatural gap between this branch and the rest of the crown. Photograph 3 shows the wound left from another broken branch, the owl box can just be seen in the main fork as can a cavity above it in the rearmost branch. Defects like these provide nesting and roosting places for birds and bats, and are known as "niche-habitats" and are the reason veteran trees are important.

It is normal for trees in their early life to grow upwards, and then start to spread as they mature. As they senesce they start to subside, whereupon they might be described as over mature. I think describing this tree as "over-mature" is excessive, but it is certainly in late-maturity. I also don't think it would be fair to describe it as "veteran" although the above characteristics are typical of veteran trees. At the moment this tree is several decades away from becoming veteran.

Although some veteran tree enthusiasts perceive all trees as potential veterans, this is not the case. And in pretty much the same way that very few seedlings survive to be saplings, and very few saplings survive to maturity, and very few mature trees survive to late-maturity, even fewer senescent trees survive to become veterans. None of this is to deny that this is a fine tree, but unless the owner is prepared to spend a lot of money on it then it is likely to be in the latter part of its life.

It would be perfectly feasible to prune this tree to reduce the weight of the crown and thus the mechanical burden on the compromised structure, but this would cost a lot of money, say £1200 or so, and then it would require regular repetition, at lesser but not insignificant expense. Environmentally it would be prudent to simply let it collapse and eventually rot back into the ground. The biodiversity value of this is probably

comparable to undertaking pruning work in an attempt to conserve the veteran features, which also have biodiversity value.

I think this is probably sufficient discussion about what to do with this tree, especially as it is not actually Mr Poisson's tree. Suffice to say that avoiding making the area beneath and around it more intensely used would be prudent. For example building a garden feature beneath it would be to increase the risk of injury or damage, which would require the owner to take action to reduce the risk. I regard avoiding this potential problem as prudent to all concerned.

The legal responsibility for damage done by a falling tree is a well-worn topic; the responsibility lies with the owner, but I think further discussion of the topic is not helpful to this project. Avoiding the problem is my recommended course of action.



Photograph 4.

Photograph 4 shows the base of tree 1. My presumption is that the fence is the site's boundary. The fence and the hedge prevented me from putting a tape measure around the tree but my estimate of it being a metre through is reasonable.

It is possible that the hedgerow is actually the boundary, which raises the possibility that the tree is jointly owned. This is a topic that I shall avoid.

My presumption at this time is that the tree and the hedgerow is owned by the neighbour and because of this I have only inspected it from within the site.

Turning to the roadside trees, my presumption here is that they are owned by the highway authority, largely because they look like the sort of trees; especially the Norway Maples, that would be planted by the highway authority as part of a road improvement scheme. In fact some in group 9 had rabbit guards and stakes still present. This in itself does not mean anything, but the impression I gained was that the verge is part of the highway. I am aware that ownership of the land crossed by a public highway and maintained by a highway authority is another complicated topic so I don't propose to discuss it any further.

I understand that this proposal will require a new entrance to the site, and opening on to the main road. Although I am not a highways-expert it is fairly obvious that the A628 is a fast road, and traffic emerging on to it will need a reasonably clear view up and down the road as it emerges. This is likely to mean that some trees will need to be pruned to permit the clear view. The topography of the site with the highway somewhat above field level will also mean that soil levels are likely to be changed in proximity to the highway verge, which might also affect the trees.

Photograph 5 is a view looking north along the highway; tree 5 is the first tree in the row, hiding trees 2 to 4. The proposed driveway will emerge through this row of trees.



Photograph 5.



Photograph 6.

Photograph 6 is a view of tree 4 at the left, and 5 at the right. The driveway is planned to be to the left of the street light.

Photograph 7 shows tree 2 in the left background and tree 3 to the right. It also shows the difference in levels between the highway (beyond the trees) and the site. the driveway is planned to be to the right of this photo.



Photograph 7.



Photograph 8.

Photograph 8 is a view of tree 2. I took this to show the extent of the Canker infection. Although this appears fairly dreadful, plenty of ash trees seem to survive with this infection for many years. Nonetheless it is not the sort of tree that should stand in the way of anything.

Photograph 8 is a view of tree group 8, also looking northwards. This group appears to be some planted trees and some colonised ones. Together they form a useful screen.

Roadside groups like this are frequently largely unmanaged and will most likely be left alone until the highways maintenance contractors decide that something must be done. At that point some trees will be cut, some shrubs will be flailed (with a tractor mounted machine) and then the group will be left alone again. This might be environmentally better than a more intensive, annual-trimming approach.

I do not think these trees and shrubs will be affected by this proposal.



Photograph 8.



Photograph 9.

Photograph 9 is another view of group 8. There is something to be said for managing verges like this to maintain a screen at ground level. Phased Coppice management of the trees would be appropriate, and ought to be economical.



Photograph 10.

I've included photograph 10 in an attempt to show the hedgerow along the western boundary. Tree 1 is in the centre.



Photograph 11.

Photograph 11 is another view of the hedgerow with tree 1. This is looking roughly north.

The 1997 Hedgerow regulations were introduced in an effort to prevent the widespread removal of hedgerows. Briefly, they empower a local planning authority (LPA) to serve a "Hedgerow Retention Notice" when a hedgerow has characteristics to mean it is "important." The Act describes in some detail what these characteristics should be but I do not intend to go into further detail as we have no intention of removing this hedgerow. My only reason for mentioning them is to point out that the regulations do not give the owner of a hedgerow any rights over the neighbouring landowner, and nor do they empower the LPA to require any particular course of hedgerow management. My main concern with any development close to an established hedgerow is that routine maintenance will become more onerous.

In this case as the management seems to have been neglected over recent years, the main concern is that the proposal will make future management unnecessarily arduous. In reality I think this means that the proposal should be designed to ensure that a tractor mounted hedge-clipping (flailing) machine can still access the hedgerow. Although responsibility for hedgerow management must fall to the owner of the hedge, a certain amount of neighbourliness is pragmatic.

As an aside, this hedgerow appears to have been reinforced by planting some species that are now seen as invasive pests. In particular I noticed Box-leafed Honeysuckle (*Lonicera nitida*), which is becoming something of a pest in some areas.

This concludes my observations on the trees in relation to this site.

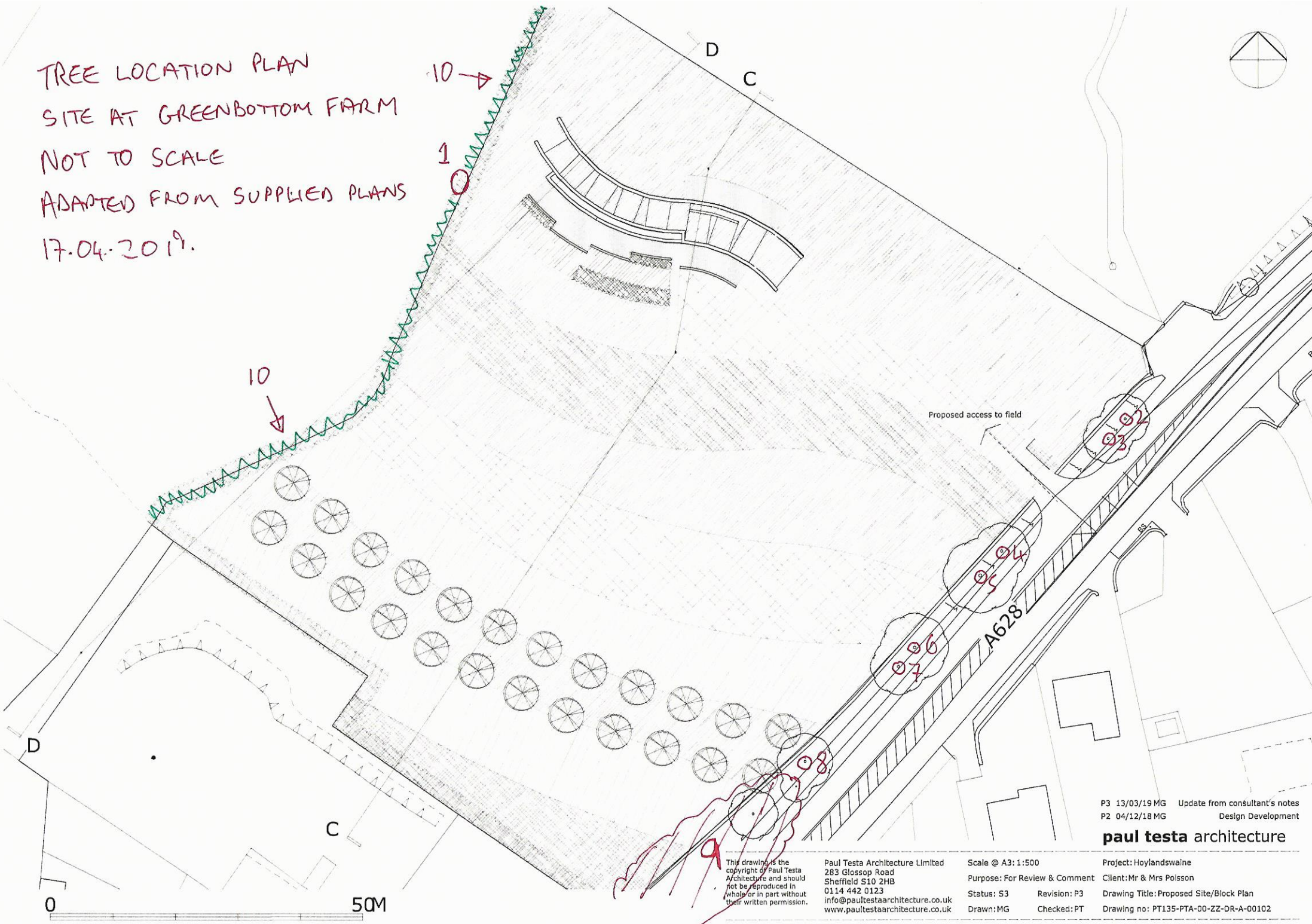
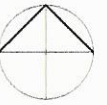
Conclusion.

1. I see no reason why trees should interfere with this proposal. Although some of the roadside trees may need to be removed for reasons of highway safety, none are of sufficient quality that they cannot be easily replaced in a more convenient position.
2. The large Ash tree needs to be given plenty of space if it is not to be regarded as a threat by the occupants of the site. Its RPA of 12 metres radius should be increased if it is practical.
3. If the pile of brushwood beneath tree 1 is to be disposed of by burning, it should be moved well away so that the tree does not get scorched.

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ANDERSON TREE CARE LIMITED.

April 2019.

TREE LOCATION PLAN
 SITE AT GREENBOTTOM FARM
 NOT TO SCALE
 ADAPTED FROM SUPPLIED PLANS
 17.04.2019.



P3 13/03/19 MG Update from consultant's notes
 P2 04/12/18 MG Design Development

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Project: Hoylandswaine
 Client: Mr & Mrs Poisson
 Drawing Title: Proposed Site/Block Plan
 Drawing no: PT135-PTA-00-ZZ-DR-A-00102