ANDERSON
TREE CARE
Arboricultural Contractors and Consultants

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Tree Survey:	**116 Churchfield Lane, Darton, Barnsley.**
Client:	**Philip Hindley Esq.**
Date of Survey:	**December 11th 2014.**
Weather at time of Survey:	**Changeable, cold but bright, windy.**
File reference:	Churchfield Lane 01

Appendices: 1. Tree location plan.

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Checked by:	Gary McCarthy BSc (Hons) Dip LM

Introduction.
116 Churchfield Lane is a semi-detached property with a large garden. The intention is to erect 3 new properties within the garden. There are numerous trees in the garden, most having suffered fairly typical treatment.

Tree Preservation Orders.
I have seen e-mails from Barnsley Council wherein it is revealed that there are no Tree Preservation Orders on the site and it is not in a 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 The Standard has been recently revised and the 2005 version withdrawn. The Local Planning Authority should consider this Standard in its deliberations about this site. The Standard states its objectives of 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. *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.*		
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. (See note above.)
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 707m^2, 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 Blue Book (that is "Tree Preservation Orders; a guide to the law and good practice" DETR 2000.) 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 recent NPPF document (at paragraph 193) contains similar advice.

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 graphic designer to prepare some sort of Tree Constraints Plan should he or she consider it was 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. Please note I have based my plan on one previously submitted and there is no logical progression around the site, for which I apologise. I thought it better to follow the lead rather than to renumber.

Tree No.	Species.	Ht	TD	Age class	Cate-gory	Comments.	RPA
1.	Tree of Heaven	12	460	M	C1	OK, rather close to a neighbouring house. This species can be a nuisance due to its tendency to produce root suckers.	102
2.	Tree of Heaven	12	440	M	C1	OK, rather close to the neighbouring house, suppressed by tree 1.	92
3.	Cherry group	12	300 max	M	C2	3 trees, reasonable condition, crowns merged, poor asymmetric form, partly due to lower branches having been removed.	41
4.	Apple	5	350	M	C1	Leaning and supported by props. Quite attractive in its decrepitude.	55
5.	Sycamore	13	350	M	C1	TD estimated, in a cramped position and slender as a result.	55
6.	Cherry Group	12	470	M	C2	As tree 3.	
7.	Silver Birch	12	420	M	C1	A short lived species, this one appears elderly.	
8.	Cherry	12	500	M	C1	Poor form due to lower branches being removed. TD estimated.	
9.	Sycamore	12	450	M	C1	Poor form due to lower branches being removed.	
10.	Red Oak	8	350	M	C1	OK despite some poor pruning.	
11.	Rowan	5	210	M	C1	OK	
12.	Lombardy Poplar	5	-	OM	U	A dead stump.	0
13.	Tree of Heaven	12	380	M	C1	OK.	
14.	Silver Birch	7	250	OM	C1	Poor form and decrepit, best removed. Young Beech sapling in its shade will develop better afterwards, probably.	

Tree No.	Species.	Ht	TD	Age class	Cate-gory	Comments.	RPA
15.	Sycamore	12	440	M	C1	Crown somewhat sparse.	
16.	Silver Birch	4	150	M	U	Barely a sapling but decaying. Remove.	0
17.	Pissard's Plum	6	200	M	C1	A fairly typical twiggy, shrubby untidy specimen.	
18.	Cherry	7	300	M	C1	TD estimated. A poor specimen tangled with roadside overgrown shrubs.	
19.	Corsican Pine	16	530	M	C1	Superficially a decent specimen but with a weak, included-bark fork, that was creaking disconcertingly in the breeze.	
20.	Hybrid Poplar group	12	500	M	C1	Have been rather brutally topped. Recommend removal.	
21.	False Cypress	6	350	M	C1	TD estimated, very close to a wall which is collapsing as a result.	
22.	Apple	4	250	M	C1	A domestic fruit tree. TD estimated.	
23.	Apple	4	250	M	C1	As tree 22.	
24.	Silver Birch group	12	450 max	OM	C2	A group of trees in a row along the boundary of the site, all have been unsympathetically topped, all are bordering on decrepit.	
25.	Sycamore saplings	7 max	250 max	Y	C2	Growing from the roadside shrubbery, nondescript.	

Discussion.

This site is fairly straightforward and fairly typical for this sort of development. That is there are a lot of trees and while there's nothing much wrong with most of them, a closer examination reveals that there is little notable about any of them either.



Photograph 1.

I suspect that if the person who had planted and nurtured them for many years was to hear me making this observation he would be rather peeved, but unfortunately this is typical of many garden trees.

Photograph 1 shows trees 20, the two Poplars. While these are superficially in reasonable condition the pruning they have received means they are not what anyone could call handsome. It's not that the arborist who pruned them wasn't skilled, it's just that the trees were never suitable candidates for pruning in the first place. And while pruning trees in this manner is widely seen as acceptable, that does not mean it should not be looked upon as desirable. A better option would have been to remove them and grow something else.

Photograph 2 shows some of the Silver Birch in group 24, which have also been pruned unsympathetically. Again the work has been reasonably well-executed and it was no doubt not cheap, but it would have been better to spend the money on something else. While the work might have reduced some neighbours' unjustified fears, it would have been better to see some trees removed and new ones planted.



Photograph 2.

In case this sounds as though I am being critical of the person who commissioned this work and the person who undertook it, I am not; we (the arboricultural industry) seem to have got into the habit of managing urban trees in this way, but we should perhaps think about the process more carefully.



Photograph 3.

Photograph 3 shows tree 10, the Red Oak. The lower branches at the right have pruned inexpertly, presumably by the neighbour, whose house is not so far away.

Red Oak (*Quercus rubra*) seem to grow with a rather squat form in the north of England; their spread is usually greater than their height. I've noticed them growing differently in the southwest. While this sounds a strange observation to note, there are other species that grow differently in different parts of the country, not least the Tree of Heaven, which doesn't sucker as much up here as it does in the southeast.

Photograph 4 shows tree 9, a Sycamore which has poor form due to the lower branches being removed. The tree in the right background is tree 8 which has also been excessively pruned. These two trees are quite close to the house behind which is to the north.

It's likely that these trees are seen as something of a nuisance because of the shade they cast. They may have been pruned in this way to let light come underneath the canopy. This sort of pruning is understandable but ultimately unsustainable.



Photograph 4.



Photograph 5.

Photograph 5 shows the Corsican Pine tree 19. Superficially this is the best tree on the site. Unfortunately, as mentioned above it has a serious weakness; that is the fork where the trunk divides in two. At the time of my visit the wind was blowing and the two stems could be heard rubbing together. This is not a good situation as clearly something that is rubbing against something else is going to make a wound, which will be an avenue for infection that is likely to lead to decay.

The weak fork looks almost like a crack in photograph 6. In this sort of situation the growth of the two trunks is actually exerting pressure on the attachment and increasing the crack.

While this tree is otherwise in reasonable condition, the problem is that if it were to fail and cause damage, then someone is likely to reason that the tree should have been removed before it failed, and that the owners had not exercised their duty-of-care.

Not so many years ago, an Arborist might have considered inserting bolts between two stems like this, which probably wouldn't have made much difference beyond giving the owner a sense of some security in having expended some money on preserving their tree.



Photograph 6.



Photograph 7.

Photograph 7 shows the base of tree 21. The tree is clearly pushing the wall over but it seems that someone has decided to try and support the wall by tying it to the tree. Clearly correcting this situation is going to involve causing damage to the tree as well as damage to the wall. Beyond noting that timely tree removal is usually prudent there's little to be said about this situation.

Photograph 8 shows Apple tree 4, which is seemingly supported by props. I say seemingly because the chances are the props will rot away and the tree would still stand up.

Again this is the sort of work Arboriculturists used-to-do but don't now. Clearly it is less invasive (and cheaper) than drilling right through a tree and installing steel bolts; to my mind it's rather quaint.



Photograph 8.

In summary, I think it is fair to say while this site is not at all badly off for trees and it clearly makes a contribution to the neighbourhood tree stock, and biodiversity there is very little that can be regarded as notable, or even noticeable from outside the site. From an administrative point-of-view it serves to illustrate how an average, man-in-the-street, without any tree-related legal obligations (such as a TPO or a Conservation Area), makes a contribution to the local landscape. The point I am

making here is that property owners do this, have always done this, and there is no reason to assume that the people who eventually live on this site will be any different.

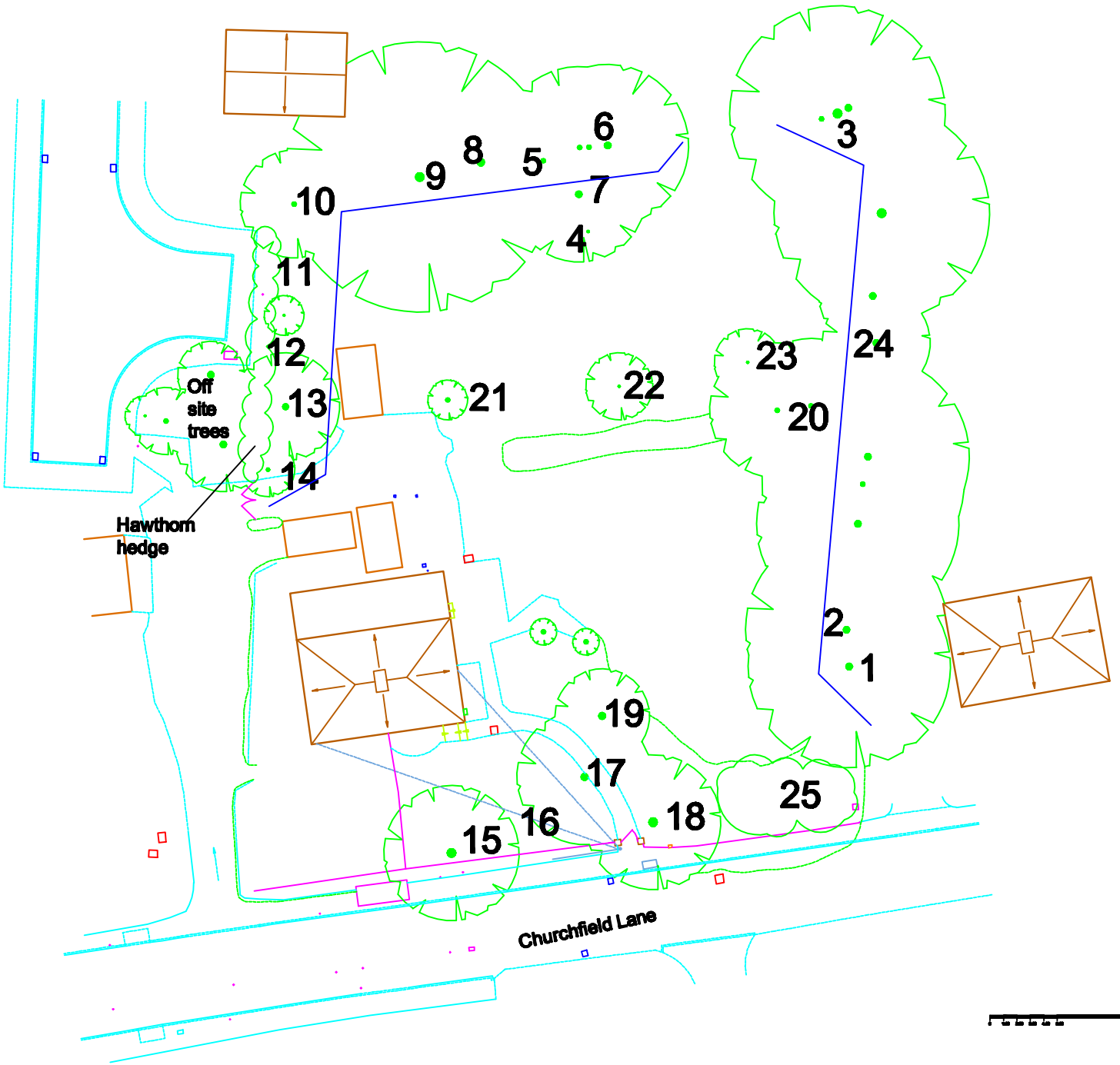
Conclusion.

I see no reason why trees should stand in the way of a modest proposal, such as the one proposed, for this site.

While there is a fair number of trees on the site, none are particularly striking individuals or have any features that would single them out for special note or TPO protection.

While the project will mean a number of trees are lost it is reasonable to assume that the new occupants will, before too long, plant new ones.

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ANDERSON TREE CARE LIMITED. December 2014.



Tree Location Plan

Churchfield Lane, Darton

December 2014

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