



ANDERSON

TREE CARE

Arboricultural Contractors and Consultants

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Tree Survey: 2 Hill Top, Cawthorne, Barnsley, S75 4HG.

Client: Mr & Mrs J McLean.

Date of Survey: March 3rd and July 17th 2017.

Weather at time of Survey: Warm and sunny.

File reference: Hill Top 01

Appendices: 1. Tree location plan.
2.

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Introduction.

2 Hill Top is a substantial detached property with a large garden. It occupies a position with an excellent view over the countryside to the west. Mr & Mrs McLean intend to demolish it and rebuild. Although the garden is well-stocked with trees, none of them are particularly noteworthy.

Tree Preservation Orders.

I am not aware of any Tree Preservation Orders (TPO) on the site but the property does fall within the Cawthorne Conservation Area. Thus all the trees have rudimentary protection.

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 The Standard has been recently revised and the 2005 version withdrawn.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. <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 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 (since 2014 replaced by internet guidance that says much the same thing)) 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 National Planning Policy Framework (NPPF) contains similar advice (at paragraph 193).

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.

Tree No.	Species.	Ht	TD	Age class	Category	Comments.	RPA
1.	Lime	6	530	M	C1	Pollarded and thus with the appearance of a large shrub.	137
2.	Bird Cherry	5	350	M	C1	Pollarded, also looks like a large shrub. Crown tangled as a result of pollarding, also significant decay and dead wood.	55
3.	Cherry.	3	500E	M	C1	Probably the pink flowered variety; Kanzan. Ivy covered, some leaf disease, fairly typical.	113
4.	Eucalyptus	7	400E	EM	C1	Off-site, probably the Snow Gum. A decent multi-stemmed specimen overhanging the garden slightly.	72
5.	Group	8	400E	M	C1	Off-site, two trees, one Golden Cypress which is OK, one False Cypress cultivar (possibly Elwoodii), which is starting to collapse and is close to this garden.	72
6.	Beech hedge	2	150E	M	B2	A well maintained hedge surrounding a sort of kitchen garden. Someone took some pride in this hedge, it will require similar treatment in future if it is to be retained.	10
7.	Beech hedge	3 max	150E	M	B2	As 6 above. 3 metres tall at the lower end of the plot.	10
8.	Pear	6	400E	OM	C1	Ivy clad, somewhat decrepit, poor.	72
9.	Pear	6	530	OM	B3	Also somewhat decrepit but with veteran characteristics.	137
10.	Pear	7	420	OM	C1	Leaning and also somewhat decrepit.	81
11.	Holly group	6	300E	EM	C2	Off-site with branches extending over the garden.	41
12.	Apple	5	300E	OM	C1	Off-site, extremely decrepit with a large branch over the roof of the shed.	41

Tree No.	Species.	Ht	TD	Age class	Category	Comments.	RPA
13.	Group	6	500E	M	C2	Himalayan Tree Cotoneaster with surrounding shrubs; Weigela, Rhododendron, Forsythia, Buddleia, and Flowering Dogwood. Also a couple of Silver Birch saplings. Just a large shrubbery.	113
14.	Pear	12	750	OM	A3	This tree could be reasonably called veteran, which unfortunately doesn't stop it from being diseased (Nectria canker). But I think it is potentially a long lived specimen. (More-so than other Pears on the site.)	255
15.	Pear	5	500E	OM	U	Almost dead and rather swamped by group 13 and Ivy. Decay at base, could be kept as nice-habitat.	0
16.	Scots Pine	9	500	M	C1	Good but has had the top chopped off. Possibly in an effort to maintain the view.	113
17.	Scots Pine	9	400	M	C1	Also had the top chopped of and with a broken branch.	72
18.	Oak	15	600	M	B1	A pleasing specimen but off-site, some past pruning. If it is to become a long-lived tree it will need neighbouring trees removing (but not just yet).	163
19.	Cappadocian Maple	5	230	EM	C1	A reasonable specimen but forks in 3 at below 2 metres. (Would not make a large specimen without some fairly drastic remedial work.)	18
20.	Variegated Holly	4	200E	M	C1	Part of a shrubbery and clipped as a hedge but a pleasingly bright specimen.	28
21.	Hornbeam Hedge	2	150E	M	B2	Another well-maintained hedge of an unusual species.	10
22.	Purple Crab	4	280	M	C1	By the gateway, an untidy but pleasing 2 stemmed specimen, in fairly typical condition. (Doesn't appear healthy; specimens seldom do.)	41

Tree No.	Species.	Ht	TD	Age class	Category	Comments.	RPA
23.	Variegated Holly	4	350	M	C1	As tree 20, clipped and shaped.	55
24.	Laburnum	5	300	M	C1	Twin stemmed, close to the wall. (The photo on Google shows it flowering well!)	41
25.	Shrubbery	3	200E	M	C2	Mock Orange and Flowering Dogwood. Not really worth mentioning other than to emphasise it is not really a tree although it is really as prominent as any of the other trees to passers-by in the street.	28
26.	Woodland	20	750E max	M	B2	Off-site. Scots Pine, Corsican Pine, Red Oak, Yew, Redwood, Larch. Not closely inspected, see discussion.	255

There are numerous other trees and shrubs about the property, the above schedule has addressed the ones I consider pertinent to a planning application.

Discussion.

Although this site is superficially well-stocked with trees and shrubs there are very few that would be a restriction to a planning application.



Photograph 1.

Photograph 1 shows tree 2, the Bird Cherry, which grows in an island bed in the centre of the drive. It has the appearance of a large shrub due to its pruning regime.

Tree 3 is in the right background.

Photograph 2 is tree 1, which has also been pruned regularly; clearly had it not been pruned it would have outgrown its position. So although it is a reasonable specimen, it is only maintained like this with a fairly intensive pruning regime.



Photograph 2.

Although it is plain that pruning trees at this address is a fairly regular occurrence, there was only one planning application relating to trees recorded on the Barnsley Council website. This was for the felling of trees and was dated May 2008. Unfortunately the documents associated with the application, probably more accurately described as "Section 211 Notice" are not available so I know nothing about it beyond it was for the felling of trees and no objections were raised.



Photograph 3.

Photograph 3 is a view of tree 3 with hedge 6 in the lower left background. The purple leaved tree is in the neighbouring garden, it's a Pissards Plum and is well away from the site boundary.

Photograph 4 is a view of tree group 5 with Eucalyptus 4 at the right; it overhangs the vegetable garden quite a lot. I wouldn't have recorded group 4 but for the fact that the darker green False Cypress is starting to collapse. This is fairly typical of this cultivar.



Photograph 4.

It should be noted that there are many different varieties of False Cypress and that many of them are very similar to one another. I think this is one called *Elwoodii* but there are many similar ones so the exact identity is probably inaccurate. Going to any trouble to positively identify it is unnecessary in this instance.



Photograph 5

Photograph 5 is a view of the northern part of the garden. The Yellow Cypress is the one in photo 4, the pink flowered shrub beyond the shed is a *Buddleia*. There are numerous varieties of *Buddleia* with different coloured flowers. The common purple flowered one is now regarded as a fairly notorious pest and is included on schedule 9, the list of plants that should not be released into the “wild.” Other plants on this list are Japanese Knotweed and Giant Hogweed.



Photograph 6.

Photograph 6 is a view of Apple tree 12. Although this outside the site it is reaching over the shed. It is decrepit and while in danger of collapse, not likely to cause any damage or injury.

NB the white flower at the left is the native, non-noxious Hogweed.



Photograph 7.

Photograph 7 is a view of the northern part of the rear garden as viewed from the veranda of the existing building. I've named the trees to aid identification. To the rear tree 10 is group 13.

I noted that tree 9 had "veteran characteristics" because there is some untreated damage in the crown that has led to cavities that might be used by bats or birds. It's unfortunate but the Pear trees are infected with diseases from which they are unlikely ever to recover.

Tree 14 which can be seen in photo 8 is the best of all the Pears in the garden; mainly because it's the largest. I suggested it could be called veteran although I don't think it is host to any particularly rare species. It is however the tree I would consider most worthy of retention.

Oak tree 18 can be seen in the background, this is the best view of that tree.



Photograph 8.



Photograph 9.

Photograph 9 is a view into the adjacent woodland, which is clearly not part of this site.



Photograph 10.

During my site visit I was hoping that the owner might be out stacking (or polishing) his firewood, whereupon we might have been able to have a discussion about it; unfortunately this was not the case. Without further inspection I feel I need to confine my comments to simply remarking that it appears extremely pleasant and clearly belongs to an enthusiastic and capable tree-lover. In planning terms this is not really woodland but that's a pedantic point and of little relevance to the situation I'm addressing here.

Photograph 10 is a view of the area between the woodland and group 13; I've marked trees 15 & 17, tree 16 is behind them. Scots Pine is, in my opinion, an underappreciated tree. Despite having had the top chopped off and being damaged, trees 16 & 17 are still quite attractive.



Photograph 11.

Photograph 11 is a view of trees 24, the taller tree at the right which is a Laburnum, and 22, the amorphous mass at the left and centre. The wispy things are Ash seedlings. Although these trees are nondescript they provide a useful screen and contribute to the village landscape.

This concludes my observations on the trees at this site.

Conclusion.

It is plain to me that this garden will require a lot of work if it is to be retained in the form that it has been so far. Some judicious tree and shrub removals would simplify the maintenance task and thus make it less onerous and less expensive.

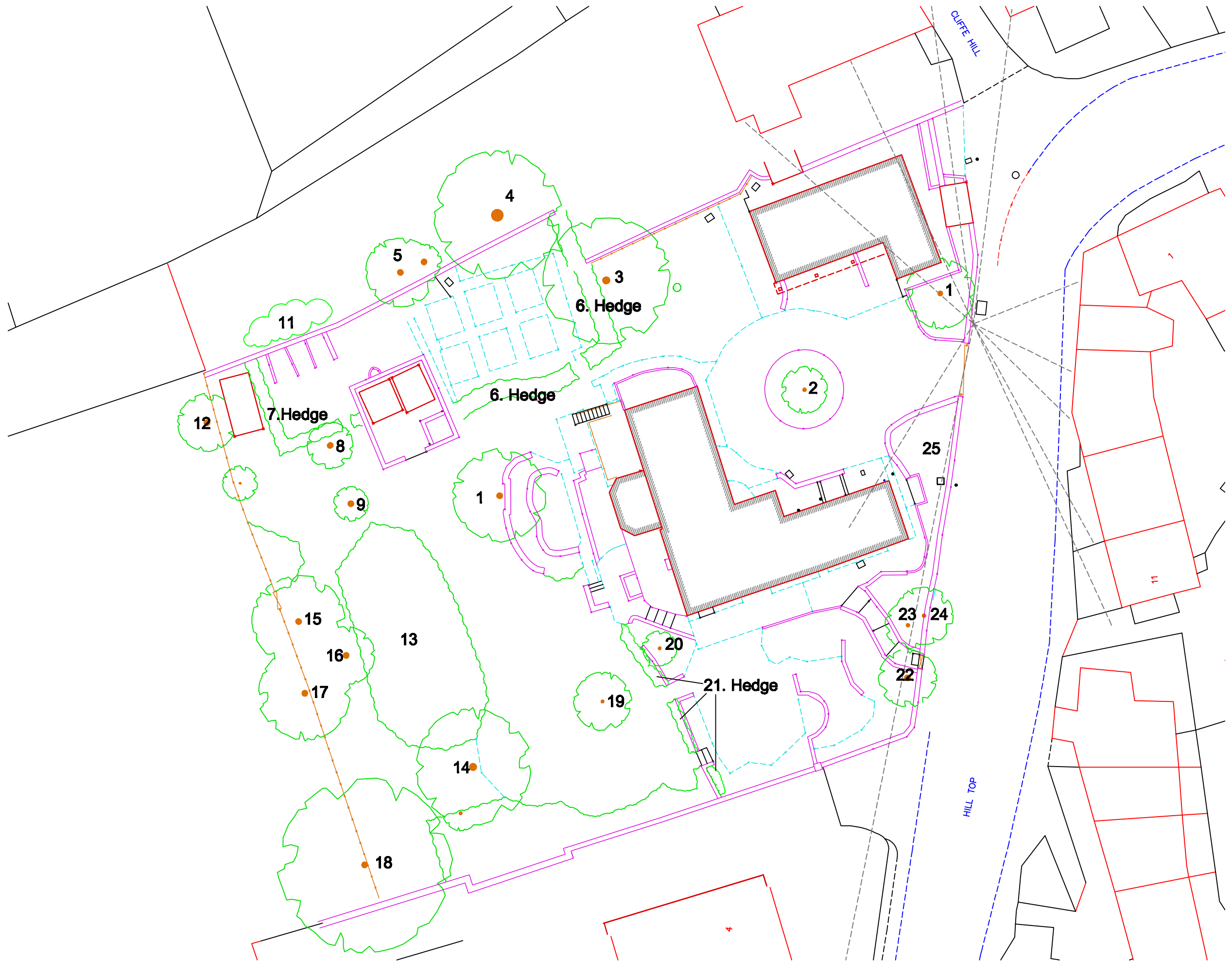
None of the trees within this site are of such stature that a redevelopment project should be diverted around them, which is not to say they should all be removed and simply replaced when construction work is complete.

The trees benefit the site greatly and if some are to be retained then it will be necessary to take great care of them during the redevelopment period. The feasibility of this will need to be discussed once a design proposal is completed. I do not consider any of this to be a matter that should overly concern the Planning Authority.

In summary, I see no reason why trees should be a hindrance to this project unless you are particularly keen to keep specific ones. The only tree I would be keen to keep would be Pear 14, and then really only to see how it fared in future years; for scholarly curiosity more than particular affection.

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July 2017.



Tree location plan. Hill Top. Cawthorne. July 2017