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Tree Survey;	**Former S R Gent factory, Dodworth Road, Barnsley.**
Client;	**David Hudson; Director, Barratt Homes, Sheffield**
Date of Survey;	**January 5th to 12th 2007.**
Weather at time of Survey;	**Windy, wet, generally poor.**
File reference	Dodworth Road 03

Introduction.

This site is a disused factory on the outskirts of Barnsley. It appears to have been built in an old, relatively shallow quarry, surrounded largely by residential development. A petrol filling station lies between the site and Dodworth Road. I believe the intention is to remove the petrol station at the same time as removing the existing buildings before their being replaced with domestic housing. There are relatively few trees on the site, and all appear to be of an age that suggests they were planted or sowed themselves since the factory was built.

Tree Preservation Orders.

At the time of writing there no Tree Preservation Orders (TPO) on the site and it does not lie in a Conservation Area. It is possible that the Council will serve an 'area' TPO as a result of your planning application but a proper appraisal of the trees would reveal that none of the trees currently growing here deserve TPO protection, as indeed this report will show.

The Survey.

I have taken 'British Standard 5837 2005 Trees in relation to construction – Recommendations,' as the basis for this report. The Local Planning Authority in its deliberations about this site should consider this standard. The Standard states its objectives of achieving "a satisfactory juxtaposition of trees, including shrubs, hedges and hedgerows, with structures."

It provides us with a 'flow diagram' that summarises how trees should be considered on a potential development site. The flow diagram suggests trees should be surveyed and categorised after the initial Land (Topographical) Survey, but prior to the initial design for the site. The categorisation process is an appraisal of the value of the trees for retention in the development.

The Standard implies that the topographical survey should accurately show the extent of tree canopies, and states that all trees over 75mm trunk diameter should be shown. Also, trees that are outside the site but close to, or overhang the site should be shown. It recommends the preparation of a "Tree Constraints Plan" (TCP) to assist the designer in preparing the layout.

I have marked the trees I have considered on a site plan appended to the rear of this report. I may have marked some of the trees on site in order to help orientation on site. I may have omitted some trees that other people might have included; there will always be differences of opinion over the significance of individual trees, but I am bearing in mind the advice of the Standard. I routinely include hedges and hedgerows and deal with some trees as groups where their proximity to one another means that their crowns have merged and their retention as individuals would be questionable.

I shall summarise the information I have tabulated, the reasons for gathering it and its uses:

1. **Tree no & species.** I hope this is self-explanatory. I routinely use common names but will use scientific names where necessary to clarify the identification. Some trees are dealt with as groups. The categorisation system suggests this is reasonable.
2. **Height.** (Ht) measured n metres. This is estimated from ground level. I use a clinometer 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. This is included in order to comply with BS5837. It is usually measured at 1.5 metres above the ground but deformities or peculiarities have to be avoided. If we were to measure an 'average' tree we would find little variation in measuring the trunk anywhere between 1 & 2 metres. I have attempted to measure the trees at a 'typical' point. Where trees have multiple stems the Standard instructs us to measure below the branch union but above the root flare (af). Obviously a pragmatic approach needs to be adopted. This information is used to calculate the Root Protection Area (RPA)
4. **Age class**. BS5837 also requires the age class of the tree. The categories are Young (Y), Middle-aged (EM for early-mature), Mature (M), Over-mature (OM) and Veteran (V). 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.** BS5837 requires us to assess a 'retention category' for each tree. I shall interpret the standard:

TREES FOR REMOVAL	
Category and definition	Criteria
Category 'R' Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management	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 R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). 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 (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality. NOTE: Habitat reinstatement may be appropriate (e.g. installation of bat box in nearby tree).
'R' category trees do not have to be removed. If the site layout does not require their removal and there are no safety issues they can be allowed to decline naturally to perhaps provide a habitat or to contribute to biodiversity.	

TREES FOR RETENTION			
Category and definition	Criteria - Subcategories		
	1. Mainly arboricultural values	**2. Mainly landscape values**	**3. Mainly cultural values**
Category A Those of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits
Category C Those of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits.
	The Standard states that C category trees *"will usually not be retained where they would impose a significant constraint on development."*		
NB. This is an interpretation not a reproduction of BS5837's table 1.			

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. 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.** (RPA) Measured in square metres**.** This is calculated as a circular area with a radius of 12 times the diameter of the tree if measured at 1.5 metres, or 10 times the diameter if measured below the fork and above the root flare. An 'R' category tree obviously will not require any RPA. (See BS5837's table 2) I shall round the figure up to the nearest square metre. The Standard suggests that the area does not need to be round but may change shape where this can be achieved while maintaining the necessary tree to building distances. The square root of the RPA halved, gives us the length of the sides if the shape was a square. Half the side conveniently gives us a minimum 'tree to building distance.' The Standard suggests this distance can be reduced by 20% in one direction as long as the protected area can be maintained. (The circular area can be "offset"). Peculiar site restrictions might also have a bearing on the layout. For example if root growth might have been anticipated in a certain area due to a nearby building or road restricting root development, then obviously this area cannot be omitted from the RPA. In reality such a situation would probably mean the tree would be graded as category 'R.'
(The RPA is 'capped' at 707m^2, i.e. a circle with 15m radius or a square with 26m sides.)

Tree Constraints Plan.

BS 5837 is quite clear about the TCP being a 'tool' for the designers of a site layout. It is not clear to me whether a Planning Department can reasonably ask to see a tool that an applicant has used in order to design a layout. The ODPM has issued guidance on the use of planning conditions (circular 11/95). Suffice to say that a planning condition needs to be reasonable.

BS5837 also suggests that trees be coloured on the TCP in the following way: R category - Dark Red, A category - Light Green, B category – Mid Blue, C category – Grey. It occurs to me that a plan marked with RPAs, actual crown spreads, and then areas likely to be shaded by trees, would be at best complicated, and at worst hopelessly confusing.

The Trees.

Tree No.	Species.	Ht	TD	Age class	Cate-gory	Comments.	RPA
1.	Group at left hand side of entrance to site.	9m max	600 max	M	C2	Two Weeping Willow, a Rowan and a Sweet Chestnut. A rather nondescript assortment of trees. The Chestnut is almost a reasonable specimen albeit close to the driveway. The others are all poor specimens.	165
2.	Group around ornamental pond.	12m max	400 max	OM	C2	Ornamental Cherries, False Cypress, a single Weeping Willow and several Silver Birch. Ivy clad. Another nondescript group. Impossible to imagine the factory building being demolished without these trees being terminally damaged.	75
3.	Hedge of Cypress and Laurel.	5m	250 max	M	C2	Cypress hedge alongside northernmost part of the site, with Laurel shrubs alongside the petrol station part of the site. Unkempt, not suitable for restoration.	30.
4.	Group at north eastern edge of 'front' car park.	8m	450 max	M	C1	2 Rowan, 2 Silver Birch and a twin stemmed False Acacia. Very close to rock outcrop (quarry wall). Also close to car park. False Acacia is suckering profusely and growing particularly vicious thorns. Not really a suitable tree for growing in a domestic garden.	95
5.	Silver Birch	9m max	250	OM	C1	2 trees. Some crown damage, close to quarry wall. Fairly nondescript.	30
6.	Group	4m	200	M	C2	Lodgepole Pine and Leyland Cypress on the quarry edge, may not be within the site boundary, little more than a shrubbery.	20
7.	Group	7m max	300	OM	C3	Hawthorn and Elder shrubs growing out of the quarry face; little more than 'scrub' really. Cypresses and Laurels along quarry edge maybe hedges planted by neighbours and outside the site.	40
8.	Hybrid Black Poplar	10m max	400	M	C1	2 trees growing on the quarry edge. Close to the fence. Nondescript.	75

Tree No.	Species.	Ht	TD	Age class	Cate-gory	Comments.	RPA
9.	Sycamore	6m	180	Y	C1	A sapling, presumably self sown.	20
10.	Pussy Willow	5m	200af	M	C1	Another self set sapling, albeit multi stemmed.	15
11.	Hawthorn	4m	200af	M	C1	Little more than a shrub, prominent on the quarry edge.	15
12.	Hawthorn	5m	200af	M	C1	Another shrub on the quarry edge.	15
13.	Group	8m	500af	OM	C2	Hawthorn, Pussy Willow, Crack Willow, a single Ash sapling. All growing from the quarry wall, which is less vertical hereabouts. Some of the Crack Willow appears to be coppice growth. Japanese Knotweed infestation amongst these trees.	80
14.	Pussy Willow	6m	500af	M	C1	Another large shrub.	80
15.	Italian Alder	17m	570	M	C1	Superficially a reasonable specimen but poor form, some crown damage, and a trench has been dug through the root system.	150
16.	Group.	15m max	450 max	M	C2	The largest group on the site and the most disappointing. Silver Birch, False Acacia, Rowan, Sweet Chestnut, Scots Pine, Silver Maple, Whitebeam, Cherry, Italian Alder. All the trees have poor form, some have crown damage and the best tree of the lot (the Maple) has had a trench recently dug right through the root system to such an extent that I would not be surprised to find it fallen down. While it could be argued that some should be pruned and retained, in my opinion it would be wisest to remove and replace the lot.	95

Discussion.

As is frequently the case, this site was a great disappointment to me with no trees worthy of retention in a residential development. A couple of specimens almost inspired some affection but vandalism and unfortunate positioning means that they must ultimately, and in the not too distant future, be unviable. I presume the trench that has been dug through the root system of the Silver Maple in

group 16 was caused by vandals salvaging the copper from the armoured cable, the casing of which is now scattered around the site.



The picture to the left shows the base of the Maple while the picture to the right shows a nearby Cherry in group 16 that has lost roots to the installation of some sort of utility building. I have to say that during the recent weather with very high winds I was surprised not to find the Maple blown over; such was its loss of roots.



The photograph to the right shows trees 7. The evergreens appear to be off the site. The Hawthorn and Elderberry in the middle grow out of the quarry wall. It is hard to imagine these not being disturbed by the removal of the car park surface. The ground levels may be substantially changed during the remediation works as well.

(The photo is a computer manipulated composite.)



I can imagine the Local Planning Authority being somewhat annoyed by my 'blanket' condemnation of all the trees on this site. However my appraisal is pragmatic and bears in mind current TPO legislation, which is not intended to permit the protection of scrubby shrubs or hedgerows such as trees 7. It will permit the protection of trees that have developed from unkempt hedgerows, but that is certainly not the case here.



The photograph to the left shows group 1. The Sweet Chestnut is in the centre of the photograph. It is a pity that the estate agents saw fit to cut various branches off the tree in order to erect their 'for sale' board. However in reality the tree is so close to the driveway that by the time it has been dug up and resurfaced and the site traffic has used the existing access for the removal of the existing building, the chances of this solitary tree surviving unscathed are remote. The Willow, to the right and rear of the Chestnut are distinctly nondescript specimens and the Rowan, which can just be seen leaning beyond the sign, is positively poor.

The photograph to the right shows group 2, another nondescript Willow in the centre, a similarly nondescript Cherry to the left and a depressingly suppressed, barely discernible fastigiate Cherry to the right. The pond is beyond these trees and again is sadly vandalised and overgrown. It is hard to imagine the building beyond being demolished and the trees not being terminally damaged. While it seems callous of me to say so, the trees are so poor as it to be no great loss. The important thing is of course their replacement with good quality trees of a diverse nature.



To go beyond the subject of merely planting trees; we within the Arboricultural industry need to consider lots of matters relating to biodiversity, urban nature conservation, energy consumption as well as the intrinsic desirability of trees for their pleasant characteristics. This seems to be getting a long way from the purpose of this report but I think it is reasonable to consider what this site gives to the tree population of Barnsley and what it will give after redevelopment.

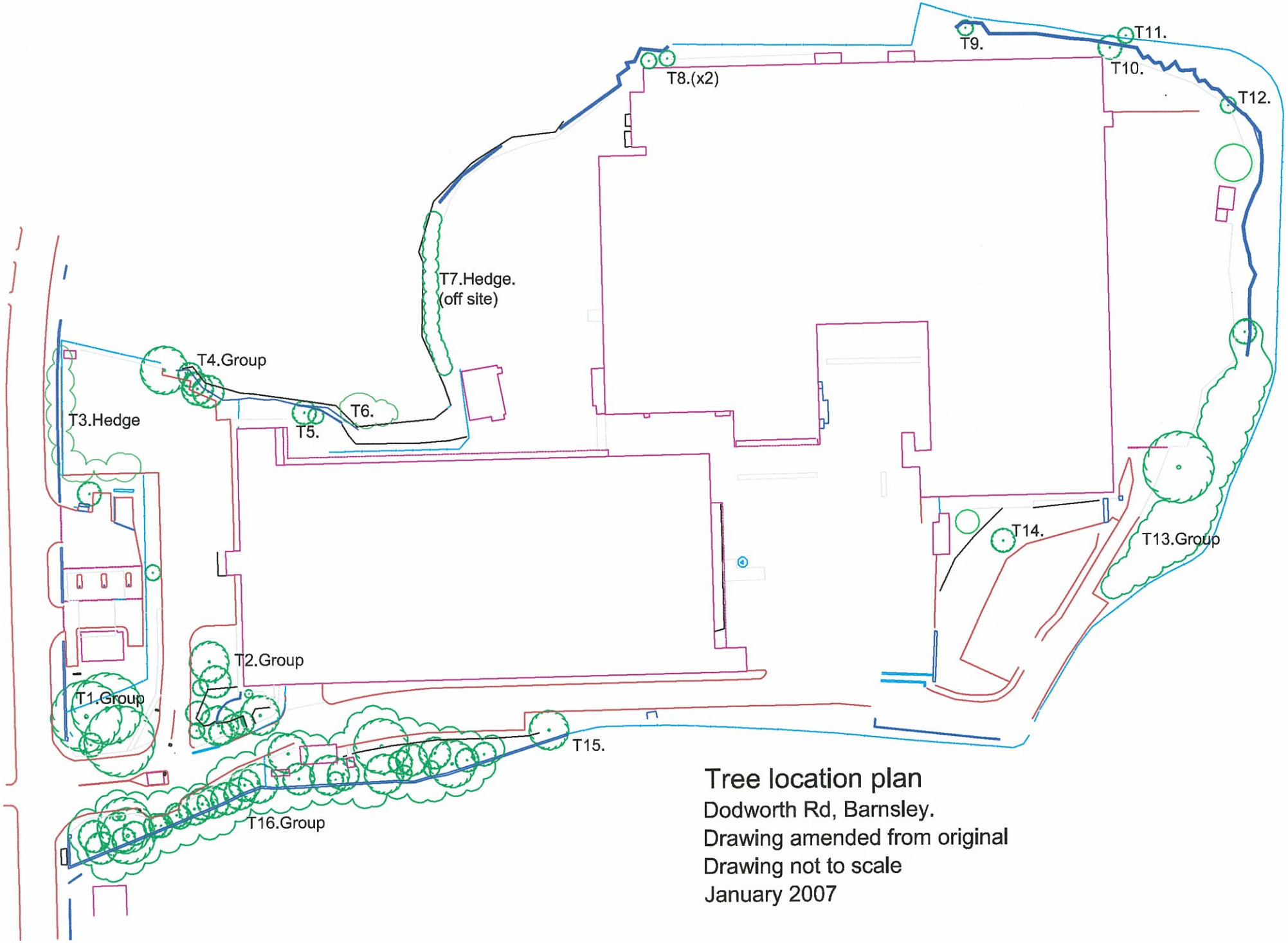
At the moment I think it is fair to say that the majority of this site is currently covered by tarmac and buildings. After redevelopment a larger proportion of the site will be given over to domestic gardens, which from my point of view means more space for growing trees. Property owners like to grow trees not only for their intrinsic beauty but for the benefits of shelter and shade, as well as nature conservation. It therefore seems likely that the tree population of the neighbourhood ought to be improved by the redevelopment.

I note also that the RSPB recently acknowledged that domestic gardens were of more benefit to birds and wildlife than farmland. I think we can extrapolate from this that the ultimate result of this development will be an improvement in the local biodiversity.

In summary it would be very difficult to retain any of the existing trees on the site while undertaking the extensive demolition and remediation that redevelopment will require. As none of the trees currently present are particularly desirable specimens it makes far more sense to remove the lot and start again with some new planting. I think it is worth noting that the site is surrounded by 'green space' presumably managed by Barnsley Council. There would appear to be scope for sponsoring some planting of trees in those areas as part of a section 106 agreement. This would be doubly beneficial to Barnsley Council as managing urban trees is certainly cheaper than cutting grass.

Conclusion.
The redevelopment of this site will ultimately improve the environment of the whole area. While it would have been nice to find some trees worthy of retention on the site the most important thing is to ensure that sufficient space is left for the planting of new trees and that some sensible tree planting is undertaken as part of the redevelopment.

W. L. Anderson. Dip.Arb. (RFS) M.Arbor.A.
ANDERSON TREE CARE. January 2007.



Tree location plan

Dodworth Rd, Barnsley.

Drawing amended from original

Drawing not to scale

January 2007