

Arboricultural Report

Tree Survey Arboricultural Impact Assessment & Tree Protection Plan

Land at the
Hookstead Centre
Goldsmith
Avenue
Crowborough
TN6 1RH



Prepared by:
The Mayhew Consultancy Ltd

30 Fair Lane
Robertsbridge
East Sussex
TN32 5AS

Tel: 07711 673138

www.cmarb.co.uk

AR/44016

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1.0 Summary

1.1 Site summary:

The subject site is The Hookstead Centre, Goldsmith Avenue, Crowborough, TN6 1RH.

1.2 The proposal is to undertake refurbishment works at the site, which include extension of the exiting parking provision.

1.3 Existing trees (Section 8 refers):

I surveyed forty three individual trees and four groups of trees in May 2016.

1.3.1 No trees were found to be in such a condition that I would recommend their removal irrespective of the outcome of the proposal.

1.4 Consequences of development on trees (Section 9 refers):

Three individual trees and one group of trees will be lost as a direct consequence of implementing the proposal.

1.4.1 In addition to the above, I would also recommend the removal of one additional group of trees – G47 – which has outgrown its current location adjacent to a detached bungalow.

1.4.2 The proposal will also involve the removal of a proportion of the internal shrub screen, particularly along the Beacon Road frontage of the site.

1.5 Tree Protection (Section 10 refers):

In order to protect the root systems of retained trees during the construction period the following are recommended:

- 1) The installation of one Tree Protection Barrier.
- 2) The specification of one area of temporary ground protection.

1.6 Tree Works (Section 12 refers):

In addition to the tree removals listed within this report there will be a requirement to prune back and/or remove existing shrubs, along with limited tree surgery works to facilitate access.

1.7 Conclusion:

If the recommended tree protection measures are installed and adequately supervised, I consider that the proposal can be successfully implemented while protecting the retained trees to a level which complies with current arboricultural standards.

2.0 Details of survey

The Site:	Land at The Hookstead Centre, Goldsmith Avenue, Crowborough, TN6 1RH
TMC Ref:	AR/44016
Local authority:	Wealden District Council
Survey date:	19 th April 2016
Report date:	20 th June 2016
Surveyed by:	Clive Mayhew BA (Hons), MICFor, FArborA, CEnv

3.0 Instructions

3.1 I am instructed to:

- 1) Survey only the trees potentially affected by the proposal.
- 2) Produce an arboricultural report fully compliant with the recommendations contained within 'BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.'

3.2 My name is Clive Mayhew and I am the author of this report. I have over 35 years of experience in tree, landscape and ecology management in both the public and private sectors. I am a Chartered Arboriculturist within the Institute of Chartered Foresters, a Chartered Environmentalist, and a Fellow of the Arboricultural Association.

4.0 Documents supplied

4.1 Proposal plans have been supplied to me by Hamson Barron Smith.

5.0 Site details

- 5.1 The subject site is The Hookstead Centre, Goldsmith Avenue, Crowborough. The proposal is to undertake refurbishment works at the site, which include extension of the exiting parking provision.
- 5.2 **Existing structures:** There is a large existing building on site, along with a bungalow adjacent to the northern boundary. There is also extensive existing provision for vehicle access and parking around the periphery of the site.
- 5.3 **Existing topography:** The natural topography of the area is essentially level, with no gradients or level changes, apart from some historical ground modelling that has occurred within the site to accommodate the existing development and parking provision, none of which has any significant arboricultural ramifications.
- 5.4 **Existing vegetation:** The area of proposed development covered by this report is along the southern and eastern boundaries and part of the northern boundaries. All of these areas are densely treed, with an equally dense understory of predominantly laurel shrubs beneath the canopies.
- 5.5 **Soils:** The British Geological Survey website indicates the soil geology to be sandstone and siltstone from the Ashdown Formation, in which the clay content is likely to be low. The degree of clay content is relevant because clay soils are capable of being compacted and such a characteristic can be extremely damaging to tree roots, a factor considered when making the recommendations within this report.

6.0 Planning history

- 6.1 I have no knowledge of - and have not been provided with - any information regarding the planning history of this particular site.

7.0 Protected trees

- 7.1 I have been given no information to indicate that the trees on site are currently protected. It should be noted, however, that the legal status of trees can change at any time, and therefore this should be checked prior to the commencement of any works.

8.0 Existing trees

8.1 I surveyed forty three individual trees and four groups of trees in May 2016. All of these trees are illustrated at Appendix A and the survey information is appended to this report at Appendix C.

8.1.1 I classed all the trees according to the classifications outlined within BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations.' (See Appendix E).

8.1.2 I classified seven individual trees as A grade. BS5837 considers that A grade trees are of high quality with an estimated remaining life expectancy of at least 40 years.

8.1.3 I classified nineteen individual trees and one group of trees as B grade. BS5837 considers that B grade trees are of moderate quality with an estimated remaining life expectancy of at least 20 years.

8.1.4 I classified seventeen individual trees and three groups of trees as C grade. BS5837 considers that C grade trees are of low quality with an estimated remaining life expectancy of at least 10 years.

8.2 Location of trees

8.2.1 A Grade trees:

T12 cypress, T14 pine and T16 lime are all located on the southern Goldsmiths Avenue frontage.

T26 lime, T30, T33 and T40 pine are all located on the eastern Beacon Road frontage.

8.2.2 B Grade trees:

T2 and T3 cypress, T4 sycamore, T5 hornbeam, T6, T9 and T10 cypress, T11 and T13 sycamore and T17 pine are all located on the southern Goldsmiths Avenue frontage.

T18 lime, T20 Douglas fir, T24 and T25 lime, T29 and T32 cypress are all located on the eastern Beacon Road frontage.

T38 pine, T41 yew, T42 cypress and G47 Monterey cypress are all located at the eastern end of the northern site boundary.

8.2.3 C Grade trees:

T1 sycamore, T7 cypress, T8 sycamore, and T15 cypress are all located on the southern Goldsmiths Avenue frontage.

G19 2x sycamore, T21 cypress, T22 holly, T23 Douglas fir, T27 yew, T28 cypress, T31 Norway spruce, T34 and T35 lime, G36 and T37 cypress are all located on the eastern Beacon Road frontage.

T39 cypress, G43 holly, T44 laurel, T45 cypress, and T46 Monterey cypress are all located at the eastern end of the northern site boundary.

9.0 Arboricultural Impact Assessment

9.1 The recommendations made here relating to tree retention, removal and planting are informed by current arboricultural, planning and urban design best practice, primarily British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations,' which advocates a pragmatic approach to tree removal and retention, based on sustainability.

9.2 Trees requiring removal *irrespective* of the proposal:

9.2.1 No trees were considered to be in such a condition that I would recommend their removal irrespective of the outcome of this proposal.

9.3 Trees requiring removal as a *consequence* of the proposal:

9.3.1 I consider that the following trees would be lost if the proposal were to be implemented:

9.3.2 T34 and T35 - Lime

Reason for removal – Both of these trees are in close proximity to the proposed bin store and as such their longer term health and stability could not be guaranteed if the proposal were to be implemented.

Appraisal – Both of these trees are good established specimens. However, their individual canopies are lost within the greater mass of the tree screen in this part of the site; their removal will have limited impact on visual amenity as viewed from within the site, and no impact from public vantage points beyond it. As a consequence, I consider their removal to be acceptable within the context of the proposed development.

9.3.3 G36 - Cypress

Reasons for removal – This group of trees is in close proximity to the proposed northern parking spaces. As above, their longer term health and stability could not be guaranteed if the proposal were to be implemented.

Appraisal – This is an entirely unexceptional small line of cypress trees growing beneath the canopies of larger adjacent specimens. I can see no reason to object to the removal of these trees.

9.3.4 T37 - Cypress

Reason for removal – This tree is in close proximity to the footprint of the proposed northern parking spaces. It would be lost if the proposal were to be implemented.

Appraisal – This is an established tree which provides a degree of visual amenity to the interior of the site. However, the tree cannot be seen from any public viewpoint and, as a consequence, its visual amenity from that perspective is extremely limited. If the tree were to be removed retained trees along the northern boundary - such as T41, T42 and G43 - would still provide screening both to and from the interior of the site, and I therefore consider the tree's removal to be acceptable within the context of the proposed development.

9.4 In addition to the above, I would recommend that the following trees are removed as part of the ongoing arboricultural management of the site:

9.4.1 G47 - Monterey cypress

Reason for removal – This group of trees is growing in close proximity to the adjacent detached bungalow.

Appraisal – This group of large evergreen trees may have initially been planted with a view to being maintained as a hedge. Whatever the initial motivation, however, these trees have now greatly outgrown their location to an extent where I consider their retention to be untenable given the immediately adjacent building. Owing to their present size, the fact they will grow even larger and the lack of any pruning alternative, my firm recommendation is that they should be removed.

10.0 Tree protection measures

10.1 Root Protection Areas (RPAs)

The identification of Root Protection Areas is the primary means by which retained trees are protected on construction sites. No unspecified activity should occur within any prescribed RPA, access should only be permitted with prior approval of the Local Planning Authority, and encroachment should normally only take place if the ground beneath is suitably protected.

10.1.1 BS 5837:2012 provides arboriculturists with a method to determine the extent to which excavations associated with construction works might have a damaging effect on the roots of adjacent trees. The Standard enables an RPA to be calculated from the diameter of each retained tree, and this is usually described as a circle with a radius at the prescribed distance from that tree.

10.2 RPAs and the subject site:

10.2.1 I have calculated the RPAs of the existing trees as recommended within BS 5837:2012. These areas are shown as a dashed red line around retained trees at Appendix B attached to this report, and each figure is included within the survey schedule at Appendix C.

10.2.2 Following the tree removal works, some aspects of the proposed development will either potentially encroach into the nominal RPAs of some retained trees or occur close to them. Details with regards to these encroachments, and the consequently recommended tree protection measures are given below:

10.2.3 Trees along the northern and western frontage with Beacon Road

All of the trees along these frontages will have works occurring close to their nominal RPAs as a result of the proposal to install new parking bays. In order to protect the roots of these trees during the construction period the installation of one Tree Protection Barrier (TPB1) is advocated. The extent of this barrier has been illustrated at Appendix B as an interrupted fence along both frontages – though allowance and access may have to be made to retain pedestrian access to the site. A specification for the design and installation of this barrier is detailed below.

10.2.4 Tree Protection Barriers:

BS 5837:2012 recommends that the RPAs of the subject trees should be protected by the erection of barriers, the preferred form of which consists of welded mesh 'Heras' type panels 1.8 metres high, mounted on a braced scaffolding frame as detailed in Figure 2 & 3 of BS 5837:2012. (See Appendix F). The barriers should carry laminated signs stating: "Construction exclusion zone – No Access," or similar. (See Appendix G). It is recommended that gaps should be left beneath the bottom of any perimeter site fencing and the ground to allow for the passage of foraging mammals.

10.2.5 **T33 - Pine**

The southwestern periphery of the nominal RPA of this tree encroaches into the development footprint of the proposed new bin area. The actual extent of construction activity which might result in excavation works within the RPA is limited and I would not necessarily anticipate that any significant roots would be present in the area of proposed excavation. If roots are encountered, however, the following method of working should be adopted:

- 1) Any roots should be severed using a sharp tool.
- 2) Backfilling should be carefully carried out to avoid direct damage to the retained roots and excessive compaction of the soil around them. Backfilling should be carried out using the excavated soil. This should not be compacted but lightly “tamped” and usually left slightly proud of the surrounding surface to allow natural settlement.
- 3) Other materials should not be incorporated into the backfill.
- 4) It should be recognised that fine roots are vulnerable to desiccation once they are exposed to the air. Larger roots have a bark layer which provides some protection against desiccation and temperature change. The greatest risk to these roots occurs when there are rapid fluctuations in air temperature around them - e.g. winter diurnal temperatures. It is important, therefore, to protect exposed roots where the excavation is to be left open overnight when there is a risk of frost. In winter, before leaving the site at the end of the day, the exposed roots should be wrapped with dry sacking. This sacking must be removed before the trench is backfilled.
- 5) If roots over 25mm in diameter are encountered, the advice of a suitably qualified arboriculturist should be sought before any severance works take place.

The potential encroachment becomes more significant when allowance is made to accommodate the required working areas. Therefore, in order to protect the roots of this tree during the construction period the following protection measure is advocated in addition to the Tree Protection Barrier detailed above:

10.2.6 **Temporary Ground Protection:**

Temporary ground protection should be installed in an area to the west of this tree for the duration of the construction period. The extent of this ground protection has been illustrated in pink at Appendix B, and a specification for its design and installation is given below.

10.2.7 BS 5837 recognises that temporary ground protection may be needed within construction sites and provides sample specifications for that protection. The Standard states that any ground protection should be appropriately specified and capable of supporting any activity without being distorted or causing compaction of the underlying soil. In this instance the activity in this area should be restricted to pedestrian movement and pedestrian operated plant with a gross weight of 2 t only. As a consequence, the ground in this area should be protected with proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane.

10.2.8 If a greater – or lesser – degree of activity is envisaged than that described in 10.2.4 above, the specification of ground protection required can be adjusted accordingly; guidance for such amendments should be sought from an appropriately qualified arboriculturist.

10.3 Construction Exclusion Zones

10.3.1 In some instances discrete portions of a site can be identified from which all construction activity can be excluded.

10.3.2 **The subject site:** All the areas enclosed within the Tree Protection Barrier effectively exclude all construction activity and can therefore be recognised as Construction Exclusion Zones for the duration of the construction period.

10.4 Demolition

No large scale demolition works have been identified as part of this proposal, but whatever its scale any works on site should only commence after the tree protection measures prescribed above have been installed.

10.5 Other general activities

10.5.1 Many of the activities which occur on construction sites are potentially damaging to trees. These include the location of site huts, parking arrangements, the storage of materials, the storage of rubbish, and the movement and operation of plant. It is important to understand the range of potentially damaging activities that might occur on a particular site, and ensure at an early stage that these possible conflicts are recognised and avoided. Therefore areas designated for site huts, parking and storage of materials should be identified prior to the commencement of works and agreed with the Local Planning Authority.

10.5.2 **The subject site:** There appear to be adequate working areas within the site to accommodate the activities described above, and I see no reason why there would be any need to encroach into the restricted areas defined by the tree protection barriers.

11.00 Post development pressure

- 11.1 When new structures are located near to trees there may be pressure to prune or remove them because of concerns that the trees might fail in some way, or because of perceived shading. Inevitably the tolerance of individuals towards trees varies considerably; one may take exception to the proximity of adjacent trees while another will happily coexist with the same juxtaposition. In addition, the adopted fenestration configuration and internal layout of living rooms should be mindful of the perceived problems of shading, and as a consequence this issue can be successfully addressed at the design stage.
- 11.2 **The subject site:** Given the nature of the proposal, I do not consider that there will be any issues with regards to post development pressure being directed towards the retained trees on site.

12.0 Tree works

- 12.1 In addition to the tree removals listed above, there will be a requirement to prune back and/or remove existing shrubs, along with limited tree surgery works to lift the crowns of trees in order to facilitate access.
- 12.2 Any works that might be necessary should comply with the recommendations contained within British Standard 3998:2010 'Tree Work' and undertaken with the consent of the local planning authority – if such consent is required.

13.0 Sequence of works

- 13.1 The sequence of works should be as follows:
1. Tree works and shrub removal
 2. Erection of Tree Protection Barrier
 3. Installation of Temporary Ground Protection
 4. Construction works
 5. Removal of temporary ground protection
 6. Removal of protective fencing

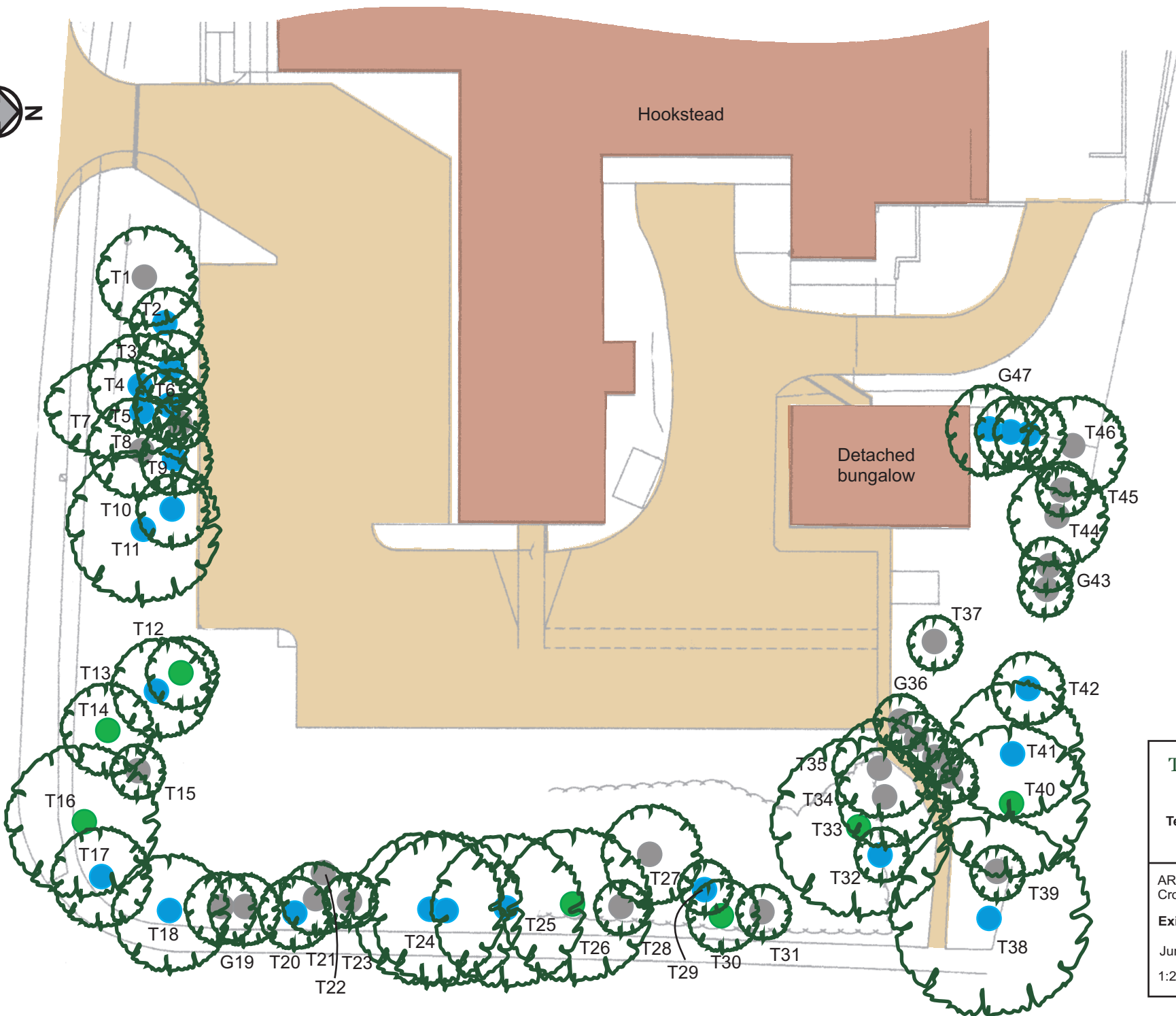
14.0 Recommendations

- 14.1 It is recommended that the tree protection measures advocated in this report should be followed at all times. Any deviation should only occur following consultation with the local authority's arboricultural officer, and only then with their specific approval.
- 14.2 It is recommended that a suitably qualified arboriculturist supervises the installation of the tree protection measures and confirms that they comply with BS 5837:2012, and if necessary briefs the individual who will be responsible for the maintenance of tree protection measures for the duration of the works.
- 14.3 An individual should be identified as a point of contact for arboricultural matters for the duration of the works. This individual will need to be familiar with the arboricultural constraints presented by the site, the tree protection measures that have been installed, and the requirement to keep those measures adequately monitored and maintained.




15.0 Conclusion

- 15.1 I consider that this scheme is acceptable in arboricultural terms and that the subject trees can be protected according to current standards, providing the recommended mitigation measures are adopted.

APPENDIX A



Key:

-  A class trees
-  B class trees
-  C class trees

The Mayhew Consultancy Ltd
 30 Fair Lane, Robertsbridge
 East Sussex TN32 5DA
Tel: 01580 881092 Mobile: 07711 673138
E-mail: clive@cmarb.co.uk

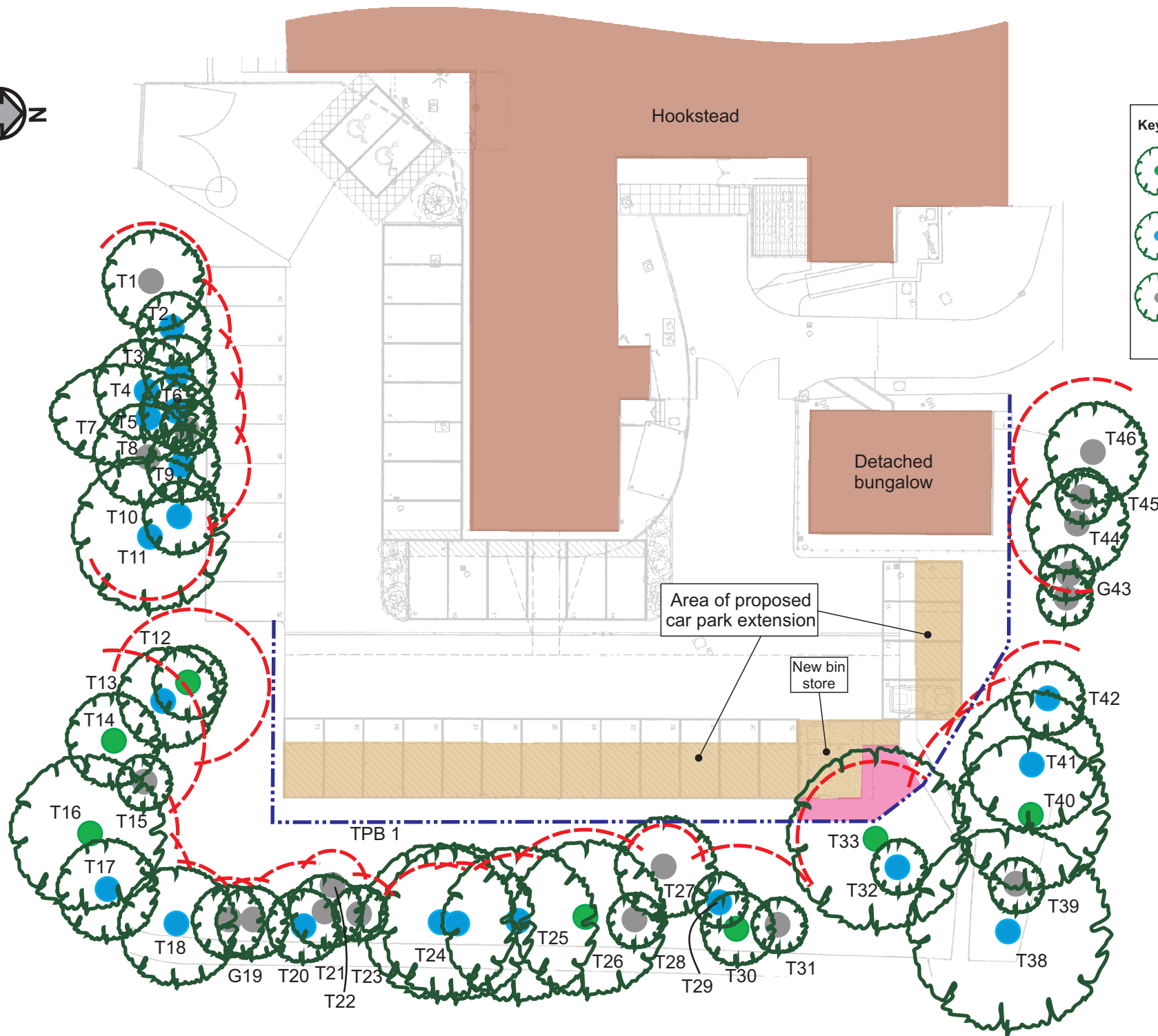
AR/44016 - Hookstead Resource Centre,
 Crowborough.

Existing Tree Plan

June 2016

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APPENDIX B



Key:

- A class tree
- B class trees
- C class trees
- Area of ground protection
- Root Protection Area
- Tree Protection Barrier

The Mayhew Consultancy Ltd
 30 Fair Lane, Robertsbridge
 East Sussex TN32 5DA
Tel: 01580 881092 Mobile: 07711 673138
E-mail: clive@cmarb.co.uk

AR/44016 - Hookstead Resource Centre,
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Tree Protection Plan

June 2016

1:200 @ A4 - Do not scale from drawing

Tree No	Species	Height	Stem dia	RPA Rad	RPA area	Crown spread N – S – E - W				Age	Phy con	Str con	ERC	Class	Tag No	Notes
T1	Sycamore	12	35	4.2	55	4	4	4	4	Y	G	G	M	C	141	Unexceptional tree adjacent entrance.
T2	Cypress	21	35	4.2	55	3	3	3	3	SM	G	G	M	B	139	Prominent tree to site and highway.
T3	Cypress	21	40	4.8	72	3	3	3	3	SM	G	G	M	B	138	Prominent tree to site and highway.
T4	Sycamore	12	25	3.0	28	4	4	4	4	Y	G	G	M	B	137	Unexceptional tree.
T5	Hornbeam	12	40	4.8	72	4	4	4	8	SM	G	G	M	B	136	Prominent to highway.
T6	Cypress	22	45	5.4	92	3	3	3	3	M	G	G	M	B	135	Prominent tree to site and highway.
T7	Cypress	18	18	2.4	18	2	2	2	2	Y	G	G	M	C	134	Prominent tree to site and highway.
T8	Sycamore	12	25	3.0	28	4	4	4	4	Y	G	G	M	C	133	Unexceptional tree.
T9	Cypress	18	45	5.4	92	3	3	3	3	SM	G	G	M	B	132	Twin stem. Prominent to site.
T10	Cypress	18	30	3.6	41	2	2	2	2	SM	G	G	M	B	131	Prominent to highway.
T11	Sycamore	12	40	4.8	72	6	6	6	6	SM	G	G	M	B	130	Prominent to highway.
T12	Cypress	18	50	6.0	113	3	3	3	3	M	G	G	M	A	129	Prominent tree to site.

Tree No	Species	Height	Stem dia	RPA Rad	RPA area	Crown spread N – S – E - W				Age	Phy con	Str con	ERC	Class	Tag No	Notes
T13	Sycamore	12	40	4.8	72	4	4	4	4	SM	G	G	M	B	128	Unexceptional tree.
T14	Scots pine	21	60	7.2	163	5	5	5	5	M	G	G	M	A	126	Prominent tree.
T15	Cypress	9	25	3.0	28	2	2	2	2	Y	G	G	M	C	125	Unexceptional tree.
T16	Lime	21	55	6.6	137	6	6	6	6	M	G	G	L	A	124	Prominent to highway.
T17	Scots pine	20	55	6.6	137	4	4	4	4	M	G	G	M	B	123	Prominent to highway.
T18	Lime	20	40	4.8	72	5	5	5	5	SM	G	G	M	B	121	Prominent to highway.
G19	Sycamore x 2	12	25	3.0	28	4	4	4	4	Y	G	G	M	C	118/ 119	Unexceptional trees.
T20	Douglas fir	22	45	5.4	92	3	3	3	3	SM	G	G	M	B	117	Prominent to highway.
T21	Cypress	13	30	3.6	41	3	3	3	3	SM	G	G	M	C	116	Prominent to highway.
T22	Holly	9	20	2.4	18	2	2	2	2	M	G	F	M	C	115	Variegated. Prominent tree to site.
T23	Douglas fir	18	25	3.0	28	2	2	2	2	SM	G	G	M	C	114	On boundary – drawn crown.
T24	Lime x 2	21	40	4.8	72	6	6	6	6	SM	G	G	M	B	113	Prominent to highway.

Tree No	Species	Height	Stem dia	RPA Rad	RPA area	Crown spread N – S – E - W				Age	Phy con	Str con	ERC	Class	Tag No	Notes
T25	Lime	22	45	5.4	92	6	6	6	6	SM	G	G	M	B	112	Prominent to highway.
T26	Lime	23	60	7.2	163	6	6	6	6	SM	G	G	M	A	111	Prominent to highway.
T27	Yew	9	25	3.0	28	4	4	4	4	Y	G	G	M	C	110	Prominent to site.
T28	Cypress	12	25	3.0	28	2	2	2	2	Y	F	F	M	C	109	Overshadowed by adjacent canopies.
T29	Cypress	14	35	4.2	55	2	2	2	2	Y	G	G	M	B	108	Overshadowed by adjacent canopies.
T30	Pine	17	55	6.6	137	3	3	3	3	M	G	G	M	A	107	Prominent tree.
T31	Norway spruce	12	20	2.4	18	2	2	2	2	Y	G	G	M	C	106	Unexceptional tree.
T32	Cypress	14	50	6.0	113	2	2	2	2	SM	G	G	M	B	101	Overshadowed by adjacent canopies.
T33	Pine	18	50	6.0	113	7	7	7	7	M	G	G	M	A	102	Good, prominent tree.
T34	Lime	12	30	3.6	41	4	4	4	4	Y	G	G	M	C	103	Overshadowed by adjacent canopies.
T35	Lime	10	35	4.2	55	4	4	4	4	Y	G	G	M	C	104	Overshadowed by adjacent canopies.
G36	Cypress x 4	8	<25	3.0	28	2	2	2	2	Y	G	G	M	C	170	Unexceptional trees.

Tree No	Species	Height	Stem dia	RPA Rad	RPA area	Crown spread N – S – E - W				Age	Phy con	Str con	ERC	Class	Tag No	Notes
T37	Cypress	9	50	6.0	113	2	2	2	2	SM	G	G	M	C	171	Unexceptional beyond site.
T38	Pine	20	75	9.0	255	7	7	7	7	M	G	L	M	B	169	Thin crowned but prominent.
T39	Cypress	12	30	3.6	41	2	2	2	2	SM	G	G	M	C	168	Ivy to crown.
T40	Pine	20	80	9.6	290	6	6	6	6	M	G	G	M	A	165	Good tree, but with 1x broken stem branch.
T41	Yew	12	60	7.2	163	5	5	5	5	M	G	L	M	B	164	Good tree within dense surrounding canopies.
T42	Cypress	15	35	4.2	55	3	3	3	3	SM	G	G	M	C	163	Unexceptional tree.
G43	Holly x 2	8	30	3.6	41	2	2	2	2	SM	G	G	M	C	161 - 162	Unexceptional trees.
T44	Laurel	7	45	5.4	92	4	4	4	4	M	G	F	M	C	160	Unexceptional tree. Multi stemmed and overgrown.
T45	Cypress	14	25	3.0	28	2	2	2	2	SM	G	G	M	C	159	Unexceptional tree.
T46	Monterey cypress	15	50	6.0	113	4	4	4	4	SM	G	G	M	C	155	On boundary.
G47	Monterey cypress	18	<55	6.6	137	4	4	4	4	M	G	G	M	B	156 - 158	Prominent trees to site. Close to adjacent bungalow.

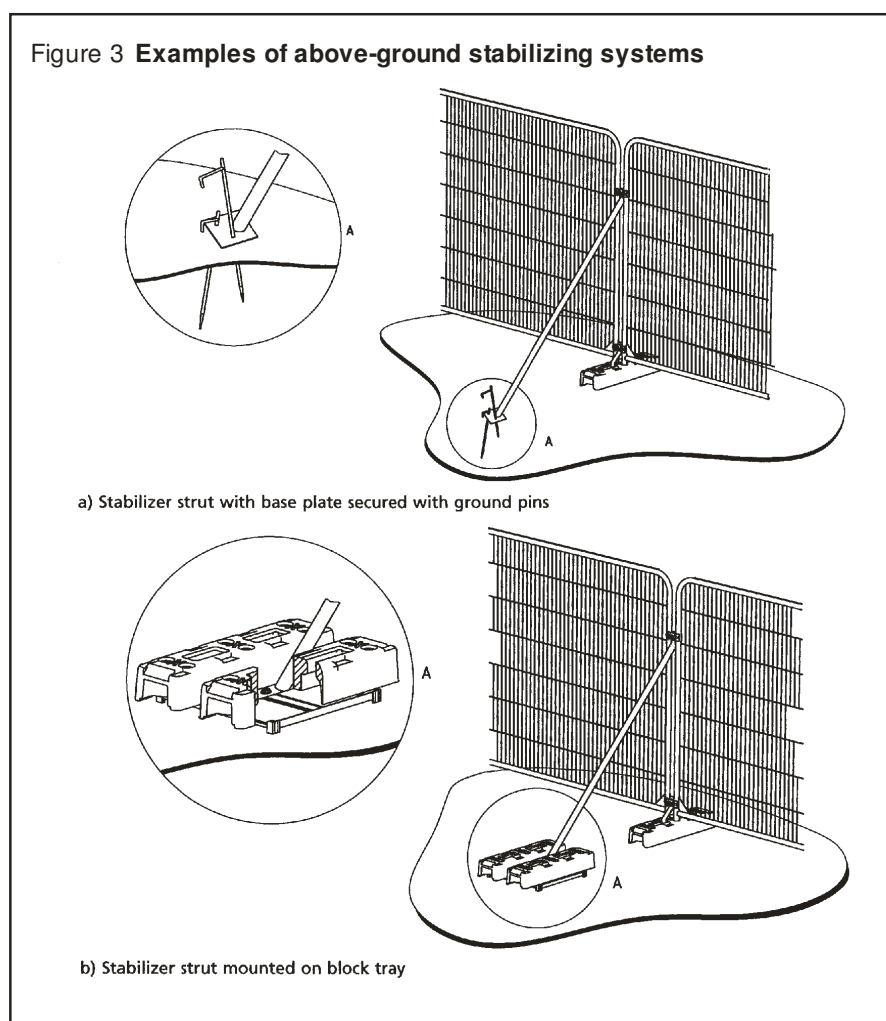
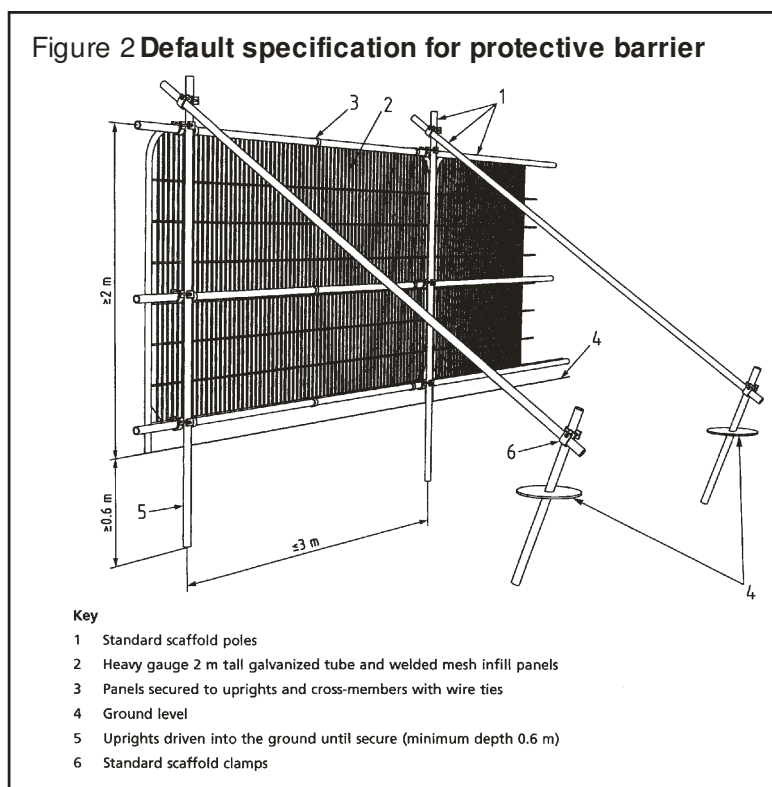
Survey sheet key

Tree No	Tree reference number as used in the report and survey plan T = Tree G= Group H = Hedge W = Woodland
Ht	Tree height in metres
Stem dia.	Stem diameter in millimetres Measured at 1.5 metres above ground level, or immediately above the root flare of multi-stemmed trees M = Multi-stemmed tree
Crown sp	Crown spread measured in metres from the stem to the four compass points
Crown break	Height of crown clearance above adjacent ground level, given in metres
Age class	Age class Y = Young: Staked or newly established tree SM = Semi-mature: An established tree at a stage of rapid growth EM = A tree nearing its ultimate canopy size for its situation M = Mature: A tree at its ultimate canopy size for its situation OM = Over mature: A mature tree smaller than its ultimate canopy size, often such trees are of great historical or ecological importance.
P. Con	Physiological condition of the tree expressed through an assessment of its general well-being G = Good, F = Fair, P = Poor, D = Dead
S. Con	Structural condition of the tree G = Good, F = Fair, P = Poor, D = Dangerous
R.C.	Estimated remaining contribution expressed in years D = <10, S = 10-20, M = 20-40, L = >40
BS Cat	Tree category graded as per the guidance given within Table 1 of BS 5837:2012 – See Appendix E A - Green = Trees of high quality with an estimated remaining life expectancy of at least 40+ years B - Blue = Trees of moderate quality with an estimated remaining life expectancy of at least 20 years C - Grey = Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm U – Red = Trees in such a condition that they cannot be realistically retained for longer than 10 years.
RPA ~ R	Root Protection Area radius, as measured in metres from the centre of the tree
RPA ~ A	Root Protection Area expressed in square metres

BS 5837:2012 Table 1 – Cascade chart for tree quality assessment

Category and Definition	Criteria (including subcategories where appropriate)			Identification on plan																								
Trees unsuitable for retention																												
<p>Category U Trees 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.</p>	<ul style="list-style-type: none"> 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 (e.g. 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, or very low quality trees suppressing adjacent trees of better quality <p>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.</p>			DARK RED																								
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:25%;"></th> <th style="width:25%;">1. Mainly arboricultural values</th> <th style="width:25%;">2. Mainly landscape values</th> <th style="width:25%;">3. Mainly cultural values, including conservation</th> </tr> </thead> <tbody> <tr> <td colspan="5">Trees to be considered for retention</td> </tr> <tr> <td> <p>Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years</p> </td> <td>Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</td> <td>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</td> <td>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</td> <td>LIGHT GREEN</td> </tr> <tr> <td> <p>Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p> </td> <td>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</td> <td>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</td> <td>Trees with material conservation or other cultural value</td> <td>MID BLUE</td> </tr> <tr> <td> <p>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 150mm</p> </td> <td>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</td> <td>Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value; and/or trees offering low or only temporary/transient landscape benefits</td> <td>Trees with no material conservation or other cultural value</td> <td>GREY</td> </tr> </tbody> </table>						1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation	Trees to be considered for retention					<p>Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are 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 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)	LIGHT GREEN	<p>Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	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	MID BLUE	<p>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 150mm</p>	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 landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY
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BS 5837:2012 - Tree protection fencing



Tree protection area warning sign



1.0 Scope of this report

- 1.1 I have been commissioned to produce base line survey data for trees, with a view to identifying constraints and opportunities for sustainable tree cover in the context of the development proposal for the site. The survey has been undertaken in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' and was made in the context of the site's current usage.
- 1.2 This report comprises the prerequisite information for the planning process recommended in BS 5837:2012
- The production of a Tree Survey
 - The production of an Arboricultural Impact Assessment
 - The production of a Tree Protection Plan if required.
 - The production of an Arboricultural Method Statement, if required.
- 1.3 The tree locations and canopy spreads are plotted on the indicative plans at Appendix A.
- 1.4 A detailed condition survey or hazard assessment of each tree has not been undertaken within the scope of this report. If a tree was noted as being in such a condition as to require more detailed assessment then that observation is included in the tree survey notes at Appendix B.
- 1.5 The findings within this report have been made on the basis of evidence seen on the day of inspection. It should be understood that some indications of tree hazard, such as leaf appearance and density, fungal fruiting bodies, and specific pests and diseases, are only visible at specific times of the year. Should significant additional information become apparent following the submission of this report I would reserve the right to modify the conclusion made accordingly.
- 1.6 This report is valid until:
- The re-inspection dates given for any tree in the survey schedule
 - An episode of adverse weather conditions - for example winds over land measured at Beaufort scale force 8 or above.
 - For two years from the date of inspection.
- Whenever any of the above occurs first, the trees must be re-inspected and any recommendations carried out. The presence of a hazard, the probability of the risk and the value of the target area all help to determine the frequency of re-inspection.
- 1.7 Some trees are protected in law. Prior to any works to trees being undertaken a check should be made with the relevant Local Authority to ensure that prior permission is not required with regard to Tree Preservation Orders (TPOs), Conservation Areas (CAs) or planning conditions that may affect the site or its trees.
- 1.8 Works to trees can also be regulated because of the risk of harming wildlife which may live on, or around them. Wild birds and bats are protected under the Wildlife and Countryside Act (1981) for example, and it is an offence to knowingly disturb their nests or roosts, while works to trees in proximity to badger setts may require a license.
- 1.9 Any tree works should be undertaken in accordance with British Standard 3998:2010 'Tree work - Recommendations'.

1.10 If hard surfacing needs to be installed close to trees the principles prescribed in BS 5837:2012 and modified specifications contained within Arboricultural Practice Note 12, 'Through the Trees to Development,' should be adopted.

1.11 My expertise is within the field of arboriculture and this report is limited to the arboricultural aspects of the site only. Any comments made with regard to other matters are from a lay person's point of view.

2.0 Survey method

2.1 Each tree was inspected from ground level, noting only external features and defects. The Visual Tree Assessment (VTA) method was used to carry out the tree survey; this is an industry standard, best practice method for assessing the health, stability and, to some degree, the amenity of urban trees. A tree may be physiologically healthy, with vigorous growth, but also exhibit mechanical defects and therefore be structurally weak, consequently presenting a risk. VTA involves an assessment of each tree's physiological and structural condition. It is carried out from ground level, with the aid of binoculars as necessary.

2.2 No climbing inspection was made of the crown, no excavation was made of the root system, and no specific decay detection equipment was used.

2.3 The following instruments were available to carry out the inspection:

- Diameter tape – To measure stem diameters
- Nylon headed mallet – To sound trees for audible indications of decay
- Steel probe – To indicate the presence and extent of cavities
- Binoculars – To visually inspect above ground parts of the tree

2.4 No soil samples were taken and no tissue samples were collected.

2.5 The following publications have been used to inform this survey, and the recommendations which follow from it:

1. British Standard 5837:2012
'Trees in relation to design, demolition and construction – Recommendations.'
2. British Standard 3998:2010 'Tree work - Recommendations.'
3. 'Diagnosis of ill-health in trees' by R.G. Strouts and T.G. Winter.
DoE booklet Research for Amenity Trees No. 2, 1994.
4. 'The body language of trees - A handbook for failure analysis'
by C. Mattheck and H. Breloer.
DoE booklet Research for Amenity Trees No. 4, 1994.