



**Arboricultural Impact Assessment
Roundhills
32 Redbrook Road
Gawber
Barnsley**

Report Reference: AIA-1501-1
16 March 2022

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1 Introduction

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1.1 Instruction and Brief

- 1.1.1 Tree Care Consultancy was commissioned by Ian Hampton to prepare an Arboricultural Survey and Impact Assessment to accompany a planning application for the proposed extension to an existing garage at the property. The report produced includes the following information:
- A tree survey (appendix 3), undertaken in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction' – Recommendations.
 - Tree Constraints Plans (appendix 4i and 4ii) which highlight the potential development limitations trees pose.
 - An Arboricultural Impact Assessment which evaluates any potential impact the proposal may have on surrounding trees.
- 1.1.2 This report is based on site observations and information provided. Conclusions have been made in light of the surveyor's experience and qualifications. A list of experience and qualifications in arboriculture are detailed below.
- 1.1.3 This report is only concerned with trees in relation to construction. This report makes no attempt to provide a full safety inspection of the trees surveyed. It should not be seen as an alternative for a Tree Hazard Assessment which is specific to minimising the risk and liability associated with trees.
- 1.1.4 Climatic conditions including storms, drought and temperature-related factors can cause damage and failure in apparently healthy trees. It should be remembered that all trees do pose a risk and whilst every effort has been made to detect any major defects in inspected trees, no guarantee can be given as to their safety. Although the risk should be managed to an acceptable level, no tree can be guaranteed as safe at all times.
- 1.1.5 This report is based on Visual Tree Assessment (VTA) methodology, as devised by Mattheck (1991). V.T.A is a ground level visual assessment of a tree, which is carried out to identify obvious mechanical defects, signs of ill health, potential mechanical failure and the suitability of a tree to a site. The survey is compiled in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction' - Recommendations with Root Protection Areas (RPA's) based upon section 4.6 of the document.

1.2 Site Visit

- 1.2.1 An arboricultural survey was undertaken jointly by Joe Hardaker and Stephen Waterson on the 1 March 2022. Joe holds a National Diploma in Forestry and Arboriculture, a Foundation degree in Arboriculture with Urban Forestry and has recently also undergone a top up program to progress his academic qualifications into a bachelor's degree, where he achieved 1st class honors in Applied Horticulture. In addition to academic studies, Joe has worked in practical areas of Arboriculture gaining over 10 years' experience in the field. Stephen has many years' experience within the Arboricultural industry, predominantly in the role of a Local Authority Tree Officer, though more recently he has worked in the role of Arboricultural Consultancy. He has a wide range of experience covering tree management, trees in relation to development and tree work applications associated with protected trees. In 1997 Stephen was awarded the Technicians Certificate in Arboriculture. As part of his continuing professional development Stephen attends seminars and develops contacts with fellow professionals ensuring his knowledge and awareness of industry best practice is current and up to date.
- 1.2.2 On the day of the survey the weather conditions were dry and still with no visibility constraints.
- 1.2.3 Measurements were calculated using the necessary instruments or estimated where access could not be gained. No climbing inspections or decay detection analysis was undertaken.
- 1.2.1 Details explaining the criteria and methodology used in generating the tree survey schedule is included at Appendix 1 and 2. Trees were graded using table 1 of BS5837. The resulting tree survey data results are included within the tree survey schedule at Appendix 3.
- 1.2.2 This survey should be read in conjunction with the Tree Constraint Plans (TCP) (located at appendix 4i and 4ii) which have been prepared by overlaying tree survey data onto a base map and the proposed site layout drawing. The author has relied on the accuracy of the drawing(s) in the production of this report.

1.3 Site Description

- 1.3.1 The host dwelling is located in the suburb of Gawber in a predominantly residential area. The dwelling occupies an attractive landscape setting. The host dwelling stands back from Redbrook Road at a much higher level its site frontage.

- 1.3.2 The properties most significant tree cover occupies the sloping ground forward of the host dwelling. These trees provide a small, wooded setting, though are distant from the proposed development footprint and are accordingly not detailed in the report. In addition several smaller ornamental trees and shrubs border stand to the east of the existing drive. Several further trees that occupy adjacent property are detailed in the report since these may theoretically be considered to influence the proposed development.
- 1.3.3 Tree cover within the neighbourhood is moderate in terms of numbers and species mix, being defined by the prevailing land use and past landscape management.

1.4 Tree Status

- 1.4.1 Various trees at Roundhills are protected by a Tree Preservation Order, though the property is not subject to Conservation Area controls. In the case of trees that are subject of TPO, Conservation Area controls or planning application procedures it is essential the Local Authority's advice is sought and where necessary consent obtained prior to undertaking any tree removal or pruning operations.

1.5 Soil Assessment

- 1.5.1 No soil testing was undertaken and no soil information was provided for the author. The precise soil type could only be confirmed with further soil investigation/analysis though it is assumed that the potential for the sub soil to consist of a highly shrinkable clay to be low.

2 Tree Quality Assessment

- 2.1.1 As highlighted in table 1 below of the trees detailed in this report no trees were identified as retention category "A" items, 1No. individual tree and 2No. tree groups were afforded a moderate "B" category, 8No. individual trees were afforded a low "C" category and 1No. individual tree was afforded a seriously defective "U" category.

Table 1:

Category	Category Description	Tree Numbers
'A'	Trees of high quality, with life expectancy in excess of 40 years	Not applicable
'B'	Trees of moderate quality, with life expectancy in excess of 20 years	T1, G11, G12
'C'	Trees of low quality with life expectancy in excess of 10 years or young trees	T2, T3, T4, T5, T6, T8, T9, G10
'U'	Seriously defective trees that cannot be retained in present context for longer than 10 years	T7
Total number of trees:		10No. individual trees and 2No. tree group

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- 2.1.2 The category "B" trees T1 and G11 are a well-formed mature items.
- 2.1.3 The remaining low quality category "C" and "U" trees and shrubs detailed in this report are relatively small in stature and considered inconsequential items within the wider landscape.
- 2.1.4 Generally, the Local Planning Authority is likely to accept the removal of trees in a poor condition or those with a minimal, safe, useful life expectancy. This usually includes category 'U' and 'C' trees. However the removal of category "A" and "B" grade trees may also on occasions be viewed acceptable where compensatory replacement planting can be provided or where in overall planning terms the loss is found to be justified.

3 Arboricultural Impact Assessment

- 3.1.1 The following section evaluates the proposed layout in relation to trees within influencing distance of the proposed development. Any tree and design conflicts are highlighted, and possible remedial action recommended. The assessment is based on the surveyor's findings and the proposed plans and information provided by the applicant.
- 3.1.2 The proposal seeks to provide an extension forward and to the side of the existing detached domestic garage.

3.2 Trees to be removed to accommodate the proposal

As highlighted in Table 2 overleaf the proposed extension will require the removal of 3No. category 'C' trees and shrubs including T2, T3 and T4. In addition the proposal will require the partial cutting back of shrub material occupying G10.

- 3.2.1 Scope exists to mitigate for the removal of the seriously defective category "U" Plum tree T7 with 1No. Hornbeam within 2 metres of the current tree. This tree will help provide for continuity of tree cover and vary the age and species of tree present in the area.

Table 2:

Tree categories A, B, C & U	Trees to be retained and protected	Trees to be removed for development	Trees to be removed for arboricultural management reasons
'A'	Nil	Nil	Nil
'B'	T1, G11, G12	Nil	Nil
'C'	T5, T6, T8, T9, G10 (part)	T2, T3, T4, G10(part)	Nil
'U'	Nil	Nil	T7

3.3 Below Ground Constraints

- 3.3.1 The area of roots that need to be protected around a tree to try to ensure it does not suffer damage during the construction process is called the Root Protection Area (RPA).
- 3.3.2 As recommended in BS5837 we have plotted the RPAs (in magenta) onto the attached Tree Constraints Plan (TCP) taking full account of the surrounding topographical factors, tree condition and probable root disposition.
- 3.3.3 The extension will give rise to a minor incursion within the theoretical RPA of the Sycamore T1. However it is relevant to have regard to the substantial boundary wall and existing garage footprint that all serve to occupy the theoretical RPA of this tree. As such it is considered unlikely for the roots of T1 to have extended close to the footprint of the proposed extension.

3.4 Above Ground Constraints

- 3.4.1 There is no requirement to undertake any pruning works other than the cutting back of the boundary shrub material within reference G10.

3.6 Alterations to Ground Levels

- 3.6.1 A rise or reduction in soil level can have major implications on the longevity and health of trees. Minor changes (up to 100mm) can be tolerated in some cases but is heavily dependent on tree species, condition and growing environment. There is no requirement for alterations to ground levels within the RPA's of retained trees.

3.7 Tree Protection

- 3.7.1 Should it be considered necessary a scheme of tree protection can be provided to safeguard retained items T5, T6, T8, T9 and G10, though it might equally be accepted these trees are sufficiently distant from the footprint of the extension and of significance that do not warrant this level of intervention.

3.8 Material Storage

- 3.8.1 No material storage or plant movement will be required within the Construction Exclusion Zone of retained tree(s). Proposed construction activities would be serviced from the existing garage footprint and the driveway between the development footprint and dwelling.

3.9 Services

- 3.9.1 No new services or soak-a-ways are to be sited or constructed within the RPA of any retained tree.

3.10 Landscaping

- 3.10.1 The loss of the Plum T7 is mitigated by the recommended replacement with 1No. Hornbeam.

4 Conclusions

- 4.1.1 As demonstrated the proposal will require the loss of 3No. low category 'C' trees and pruning back of 1No. low-quality category 'C' shrub group.
- 4.1.2 It is hoped that this report and recommendations provides all necessary information, however, should there be any queries, or should clarification of any points be required, please contact the report author.

5 Appendices

Appendix 1 - Explanation of Survey Details

Tree Id- Each tree/group has been given a unique number, which coincides with the drawings located in appendix 3.

Species & botanical name- where identifiable the full botanical name has been given. Where a cultivar, variety or species cannot be accurately given the genus name only will be given.

Height (m)- measured approximately to the nearest 1m. If height issues are critical, measurements can be collected accurately using optical instruments.

No of stems- the number of separate stems each individual tree has.

Stem Dia @1.5m (mm)- the diameter of the given tree at 1.5m above soil level, (on sloping ground taken on the up-slope side of the tree base). Where the tree is multi-stemmed measurements will be record for each stem.

Spread- indicates the crown radius from the base of tree in four compass directions, recorded to the nearest metre.

Crown height + direction (m)- recorded as the first significant branch and direction of growth.

Life stage- described as young, semi-mature, early-mature, mature or over-mature.

Physiological condition (P)- an assessment of the tree's health. Considers vitality, die back and the presence of disease. Described as Good = no significant health problems Fair = symptoms of ill health that can be remediated Poor = significant ill health.

Structural condition (S)- an assessment of the trees structural condition. Described as Good = no significant defects Fair = significant defects that can be remediated Poor = significant defects no remedy.

Observations – negative and positive- narrative comments on general condition, significant defects and overall appearance (e.g. the presence of any decay).

Preliminary management recommendations- e.g. requires pruning or further investigation of suspected defects is needed.

Life expectancy- preliminary management recommendations, e.g. requires pruning or further investigation of suspected defects is needed.

Retention Category- Each tree/group is identified with a retention category in accordance with BS5837 (an in-depth explanation is provided on the following page)

RPA radius (m)- minimum area in metres which should be left undisturbed around each retained tree.

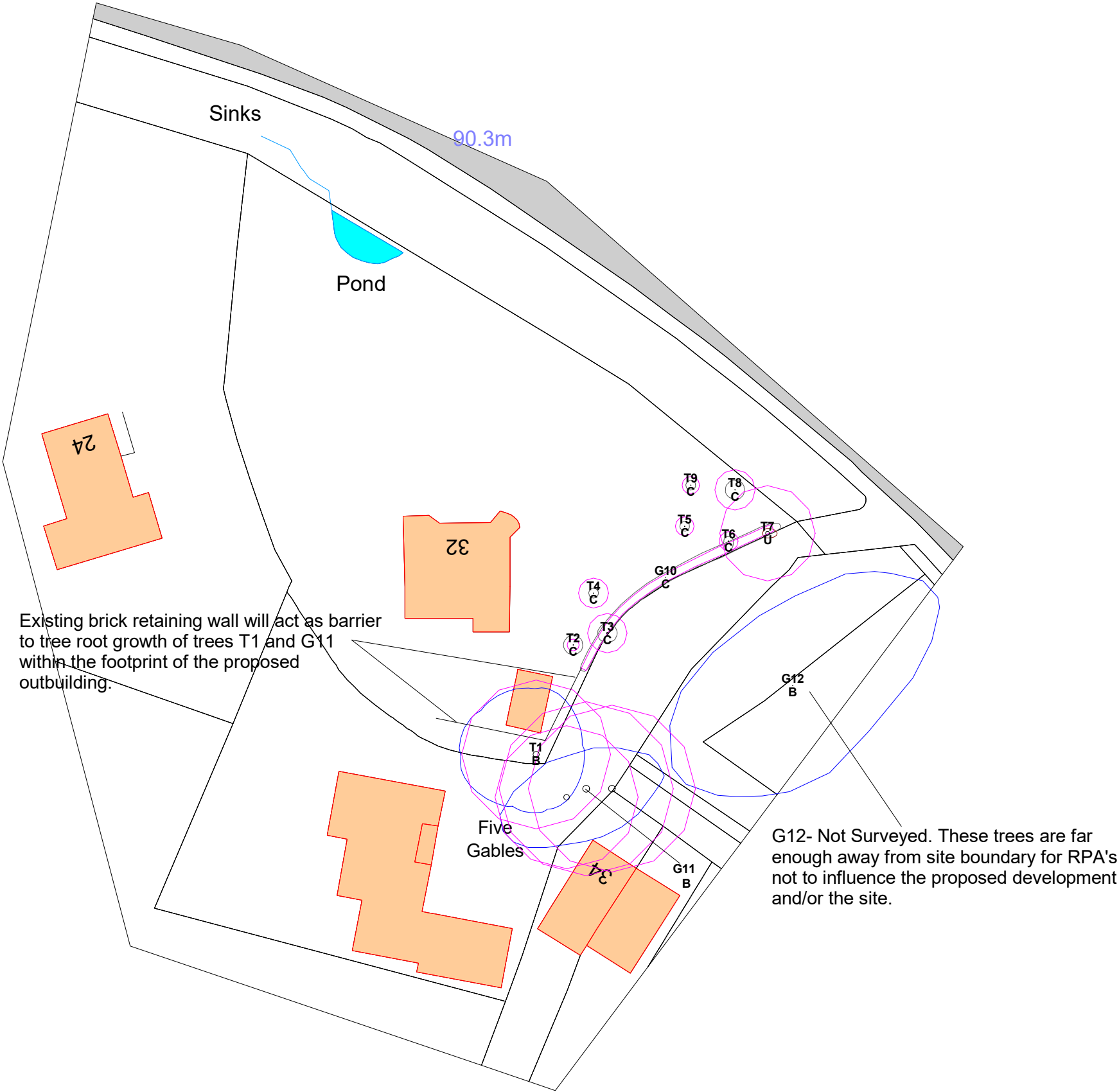
Appendix 2 - Cascade Chart for Tree Quality Assessment (Extract from BS5837 table 1)

Category and definition	Criteria (including subcategories where appropriate)			Identification on Plan
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 (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 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			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria – Subcategories			Identification on Plan
	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values, including conservation	
Category A Trees of a 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 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
Category B Those of moderate quality with and 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 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
Category C Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of a 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 screening benefits	Trees with no material conservation or other cultural values	GREY

Appendix 3- Tree Schedule

Tree ID	Species, Botanical Name	Height (m)	No of stems	Stem @ 1.5M (mm)	Spread - N,E,S,W				Crown height+ direction (m)	Life stage	Physiological (P) and Structural (S) condition. Observations- negative and positive	Recommendations	Life expectancy	Retention category	RPA Radius (m)
T1	Sycamore, <i>Acer pseudoplatanus</i>	16	3	360, 370, 350	7	5	6	8	3n	Mature	P= Good, S= Good. Triple stemmed item set atop banking located above retaining wall with RPA likely to be defined by wall and existing garage.	Retain, no work required.	20 to 40 yrs	B2	7.5
T2	Sugi, <i>Cryptomeria japonica</i>	2	1	50	1	1	1	1	0ar	Mature	P= Good, S= Good. Small ornamental inconsequential shrub type item.	Remove to accommodate development.	10 to 20 yrs	C2	0.6
T3	Hinoki Cypress, <i>Chamaecyparis obtusa</i>	3.5	4	40, 60, 110, 100	1	1	1	1	0ar	Semi-mature	P= Good, S= Good. Small inconsequential ornamental type tree. No visible defects	Remove to accommodate development.	10 to 20 yrs	C2	2
T4	Lawsons Cypress 'Ellwoodii', <i>Chamaecyparis lawsoniana</i> 'Ellwoodii'	3.5	10	40 average	0.5	1	1	1	0ar	Semi-mature	P= Good, S= Good. Small inconsequential ornamental type Conifer. No visible defects	Remove to accommodate development.	10 to 20 yrs	C2	1.5
T5	Camellia, <i>Camellia japonica</i>	2	7	30 average	0.5	1	1	1	0ar	Mature	P= Good, S= Good. Inconsequential ornamental type shrub.	Retain, no work required.	10 to 20 yrs	C2	1
T6	Firethorn, <i>Pyracantha spp</i>	3	1	80	0.5	1	1	1	0ar	Early-mature	P= Good, S= Fair. Managed inconsequential shrub type item.	Retain, no work required.	10 to 20 yrs	C2	1
T7	Myrobalan Plum, <i>Prunus cerasifera</i>	3	1	400	0.5	1	1	1	2e	Mature	P= Poor, S= Poor. Recently storm damaged tree leaving little living material. <i>Ganoderma spp</i> fruiting body present at base.	Fell for arboricultural management reasons and replant with 1No. 8-10cm girth Hornbeam - <i>Carpinus betulus</i> Frans Fontaine within 2m of tree to be removed.	<10 yrs	U	4.8
T8	Lawsons Cypress 'Ellwoodii', <i>Chamaecyparis lawsoniana</i> 'Ellwoodii'	5	8	60 average	1	1	1	1	0ar	Semi-mature	P= Good, S= Good. Small inconsequential ornamental type Conifer. No visible defects.	Retain, no work required.	10 to 20 yrs	C2	2
T9	Lawsons Cypress 'Ellwoodii', <i>Chamaecyparis lawsoniana</i> 'Ellwoodii'	2	6	30 average	0.5	1	1	1	0ar	Young	P= Good, S= Good. Small ornamental type Conifer. No visible defects.	Retain, no work required.	10 to 20 yrs	C2	0.9

Tree ID	Species, Botanical Name	Height (m)	No of stems	Stem @ 1.5M (mm)	Spread - N,E,S,W				Crown height+ direction (m)	Life stage	Physiological (P) and Structural (S) condition. Observations- negative and positive	Recommendations	Life expectancy	Retention category	RPA Radius (m)
G10	Group of Holly, <i>Ilex aquifolium</i> , <i>Lindera</i> , <i>Lindera</i> spp, Hazel, <i>Corylus avellana</i> , Laurel, <i>Prunus laurocerasus</i>	2	1	50	1	1	1	1	0ar	Mature	P= Good, S= Good. Inconsequential shrub type items tight up to boundary wall/fence line.	Draw back material where required to facilitate construction work.	10 to 20 yrs	C2	0.6
G11	Group of 1 Hybrid Black Poplar, <i>Populus x canadensis</i> , 2 Oak, <i>Quercus robur</i>	18	1	750	6	6	2	6	4n	Mature	P= Good, S= Good. Group of 3 off-site mature items set back from boundary with neighbours driveway in between. Individual RPA's plotted for the 3 trees, however location above level of retaining wall likely to have controlled the theoretical RPA's.	Retain, no work required.	20 to 40 yrs	B2	9
G12	Off site trees that are a sufficient distance from site boundary not to influence the development proposal.													B2	N/A



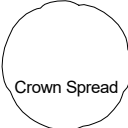
KEY


Category 'A'


Category 'B'


Category 'C'


Category 'U'


Crown Spread


Root Protection Area



Tree Care Consultancy
ARBORICULTURAL CONSULTANTS

Tree Constraints Plan
Roundhills 32 Redbrook Road, Gawber Barnsley

SCALE :
500 @ A3

DATE :
10/03/2022



MAP FILENAME : TCC-1501-1

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KEY

Crown Spread

Root Protection Area

Category 'A'

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