



Arboricultural Report

**House Extension
145 High Lane
Brown Edge
ST6 8RT**

Commissioned by:
Kay O'Connor
Owner

Surveyed and reported on by:
David Bailey
BSc(hons), M.Arbor.A, cert.Arb(RFS)

Report Date:
2 February 2022

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Contents

	Page
1.0 Summary	2
2.0 Instructions	2
3.0 Preliminary matters	3
4.0 Method of survey	4
5.0 Site details	4
6.0 Summary of trees	5
7.0 Arboricultural impact assessment	6
8.0 Tree protection	7
9.0 Conclusion	8

Appendix A:	Tree constraint plan	PC22/516/TCP
Appendix B:	Tree protection plan	PC22/516/TPP
Appendix C:	Tree categorisation	Table 1 of BS5837:2012
Appendix D:	Protective Fencing	Figures 2&3 of BS5837
Appendix E:	Tree Schedule with key	

1.0 Summary

- 1.1 *The proposal is to build a new extension behind 145 High Lane.*
- 1.2 *There are two category B, one category C and one category U trees on site. Additionally, there is one category C group.*
- 1.3 *The category U tree should be removed within a year. It has no effect upon this proposal but is recommended despite this.*
- 1.4 *The amenity provided by trees to the area will not be harmed.*
- 1.5 *Fencing and ground protection will ensure retained trees can be suitably protected during the build.*
- 1.6 *The proposal is arboriculturally sound and complies with BS5837¹.*

2.0 Instructions

- 2.1 I am instructed by the owner Kay O'Connor to carry out a tree survey at the above property and record all tree that are likely to be affected by the proposed development.
- 2.2 The proposal is to extend the current property, with a new kitchen and living area extending the footprint of the building to the north.

¹ BS5837:2012 Trees in relation to design, demolition and construction: Recommendations – British Standards Institute

- 2.3 There are several trees on or adjacent to the site, some of high quality. Consideration is to be made to justify any trees removed, or work to them and ensure retained trees are not significantly damaged by the proposal.
- 2.4 I am to produce a tree report to support the planning application. The report is to be compliant with BS5837:2012² hereafter referred to as BS5837.

3.0 Preliminary matters

- 3.1 The survey and report cover only arboricultural matters relating to trees that may be affected by the development. It deals with identifying the benefits and constraints trees will impose upon the development site, which trees will need to be removed and how the remaining specimens can be protected and how retained trees will affect the site.
- 3.2 Statutory protection of trees, either tree preservation orders, conservation area status or historical planning conditions have not been investigated.

3.3 Plans supplied to myself:

- i) Site proposal supplied by Daniel Mattias Architecture.

Plans I have produced to accompany this report

- i) Tree Constraints Plan PC22/516/TCP
ii) Tree Protection Plan PC22/516/TPP

- 3.4 Where buildings are constructed close to trees, reference should be made to the NHBC Standards 2022.³ This document, updated yearly, gives appropriate foundation depths for buildings close to trees. It is recommended that the soil's modified plasticity index is investigated to consider the likelihood of soil movement with moisture change. This will allow the appropriate foundation depth to be calculated.
- 3.5 The data, views and opinions of this report relate to the survey undertaken on the date shown and does not take into account the effects of extreme weather conditions, vandalism or accidental damage. Neither can the effects of poorly executed tree surgery work, not complying to current good practice, be predicted. Old Oak Tree Care cannot accept liability in connection with these factors. This report requires renewal in two years from the date of survey, or as soon as site conditions, tree health or tree structural conditions significantly alter.

² BS5837:2012 Trees in relation to design, demolition and construction: Recommendations – British Standards Institute

³ National House Builders Council Standards 2022 Part 4, Chapter 2 Building near trees. www.nhbc.co.uk



4.0 Method of survey

- 4.1 The survey was undertaken on 17 January 2021.
- 4.2 Trees were surveyed to measure height, trunk diameter, crown spread and height, health, structural condition, estimated remaining life expectancy and overall quality. This and other information was gathered to comply with section 4.4.2 of BS5837. Trees were categorised utilising the same standard, see Appendix C.
- 4.3 Stem diameters were measured using a surveyor's tape. Crown spreads and heights were measured using a laser rangefinder. Heights were estimated using the height function of the laser rangefinder.
- 4.4 All measurements and observations were made from the ground and no soil or tissue samples were taken. Although significant visually apparent hazards within trees will be identified and commented upon, the survey is not a dedicated health and safety survey of the identified trees.
- 4.5 Where trees could not be reached when off site or inaccessible, dimensions were estimated.

5.0 Site details

- 5.1 The site is a large mature detached house with several outbuildings and extensive gardens.
- 5.2 To the north and east are similar properties and gardens. In a southerly direction is High Lane and to the west and north-west is Sytch Road which quickly falls below the level of the property.
- 5.3 The profile of the site slopes significantly from east to west. A drop of approximately 4 metres occurs from the flat garden of the property into Sytch Road to the north-west.
- 5.4 There are a number of large trees within the garden and in neighbouring properties.
- 5.5 Viewing the Cranfield soil map⁴, it appears that the soil is a slowly permeable seasonally wet acid loamy and clayey soil. Soil of this kind provides a good medium for tree growth. The modified plasticity index of the soil is not known.

⁴ Cranfield Soil and Agrifood Institute Soilscales. www.landis.org.uk/soilscales/

6.0 Summary of trees

6.1 All data gathered on trees is supplied in appendix E. Table 1 and 2 below give a summary of the information.

Category	Description of category	Number
A	High quality with an estimated remaining life span of at least 40 years. Particularly good examples of their species, especially if rare or unusual. They will be visually important and may have significant conservation or historical values.	0
B	Moderate quality and expected to remain between 20 to 40 years. Might have been included as a category A, but downgraded by impaired conditions. Possibly lacking special qualities to be regarded as Category A. Group which collectively increase its value from C to B or a particularly effective screen.	2
C	Low quality with an expected lifespan of 10 to 20 years or below 150mm in diameter. Unremarkable trees, either young, impaired or poor species. Unlikely to increase in quality as time goes by. No conservation or cultural value.	1
U	Those in such a condition that they cannot be realistically retained as living trees for longer than 10 years. Serious structural or physiological problems. Also dead trees.	1
Group	Trees of similar species, size or character which are grouped together. The number of the group is given together with the categorisation.	1 - C
Hedge	Groups of trees planted in lines as a hedge. Trees originally planted as a hedge but have not been managed in some time, reverting back to a line of trees. The number of the hedge is given together with its categorisation.	0

Table 1: Number of categorised trees, groups and hedges. A brief description of categorisation together with colour coding. Appendix E gives full detail.

6.2 A brief description of pertinent data relating to all trees is given in table 2. A key to the table is found below it.

No.	Species	Height	Stem Dia.	Cat.	Comment
Po1	Poplar	19	925	U	significant dysfunction in base
Cy2	Cypress	5	175	C	0
G3	Group	4	100	C	screen of rhodos and laurel
Sy4	Sycamore	17	650	B	0
Sy5	Sycamore	17	625	B	0

Table 2: Summary of trees (Key below)

No: Tree identifier using letters to indicate species and a sequential number.
G indicates a group, H indicates a hedge.



Species: Tree species using the common name.

Height: Height in metres.

Stem Dia: Stem diameter measured at 1.5 metres from the ground in millimetres.

Cat: Category in relation to BS5837. See Appendix C for details on categorisation.

Note: Numbers for sub-categorisation are not used.

Comments: Comments, if necessary. 0 if none.

7.0 Arboricultural impact assessment

- 7.1 I have moved the RPAs of a number of trees away from hardstanding towards better rooting areas. It will be expected that tree roots will have over time penetrated hard surfaces. The RPAs have been left as circles but deflected into areas of more favourable rooting.
- 7.2 Although Po1 is a large tree and highly visible to users of High Lane, significant dysfunction is found within it and it is categorised as U. Dysfunctional wood displaying significant white rot is found in the union between main stems on the side facing the house. It is likely that the tree has reached the end of its life and recovery from this fungal infection, given poplars very poor ability to resist such infections, indicates the tree should be removed in the near future as failure at the point of decay would lead to large stems falling into the road.
- 7.3 Po1 is not affected by the proposed development and it could be left in place, but my tree survey did identify the concerns above and I would recommend that whether the development takes place or not, the tree should be felled within 12 months. It is likely that the tree is covered by a tree preservation order and the findings of this report will provide evidence to the Council that the tree is in a poor state and needs to be felled within a tree work application
- 7.4 No tree needs to be removed to allow the extension at the rear of the property to take place. The building work will take place on an existing hardstanding area, the extremities of the new build being 1.5m away from the nearest RPA. To ensure a mini-digger can operate within the area at the rear, ground protection is to be temporarily installed to allow easy access for the digger and foot traffic during the build. Section 8 gives details of ground protection.
- 7.5 Protective fencing will ensure all trees are not damaged by vehicular or foot traffic. The small category C cypress at the front of the building is duly protected by its thick foliage reaching to the floor which more than covers its RPA. This tree, in effect, protects itself.
- 7.6 Given no tree will need to be removed to allow the development to take place, there will be no loss of amenity provided by trees to the area.

8.0 Tree protection

- 8.1 Appendix A and B show the category of trees, their crown spread and their root protection area (RPA), an area of rooting around the tree which if retained will provide suitable medium for the tree to continue to grow without significant harm.
- 8.2 RPAs do not show the entire rooting area of the tree. They may show just $\frac{1}{2}$ or $\frac{1}{3}$ of it depending upon site conditions. The RPA is usually drawn as a circle 12 times the diameter of the tree at 1.5m from the ground or its mathematical equivalent given in BS5837. However, site conditions may require the RPA to be drawn differently depending upon the most likely area where good rooting is found for the tree. In this case, the RPA of all major trees have been moved to better reflect good rooting potential for trees
- 8.3 Protected RPAs are to be kept clear of refuse, materials, fuels and chemicals. These items are to be prevented from leaking into RPAs, either above or below ground.
- 8.4 Protective fencing should be in place before any plant, materials, deliveries, site offices or skips arrive. No demolition or construction work is to take place until protective fencing is installed and approved for use.
- 8.5 To allow space for mini-diggers and constant foot traffic around the new development, ground protection within and around the edge of the RPA of category B Sycamore Sy4 is to be installed. The ground is to be levelled by placing sharp sand over the ground to create a flat base for 18mm thick shuttering board to be laid upon it. 4 boards at 2400*1200mm are to be used and fencing erected around it as shown in appendix B. Boards should be pegged in place to prevent them from moving.
- 8.6 Protective fencing similar to that shown in BS5837, shown in Appendix D, is to be used to protect RPAs from vehicular and foot access. The fencing is to be securely joined and attached to immovable objects to prevent it from being moved. Fencing should be firmly attached into the ground and will require tools to move it. The positioning of fencing is shown in appendix B.
- 8.7 Any boundary fencing passing through RPAs should have post holes dug by hand avoiding severance of tree roots over 25mm in diameter. Should gravel boards be used, they are not to be dug into the ground.
- 8.8 Underground services are not to enter RPAs. Should a service run be required within an RPA then a site-specific method statement is to be produced to show how this will not cause damage to trees.

9.0 Conclusion

- 9.1 The proposal is to build a new extension behind 145 High Lane.
- 9.2 There are two category B, one category C and one category U trees on site. Additionally, there is one category C group.
- 9.3 The category U tree should be removed within a year. It has no effect upon this proposal but is recommended despite this.
- 9.4 The amenity provided by trees to the area will not be harmed.
- 9.5 Fencing and ground protection will ensure retained trees can be suitably protected during the build.
- 9.6 The proposal is arboriculturally sound and complies with BS5837⁵.

⁵ BS5837:2012 Trees in relation to design, demolition and construction: Recommendations – British Standards Institute



Appendix A
145 High Lane, Brown Edge,
Staffordshire

Tree Constraints Plan
Showing all trees, crown dimensions, tree
categories and root protection areas (RPAs)

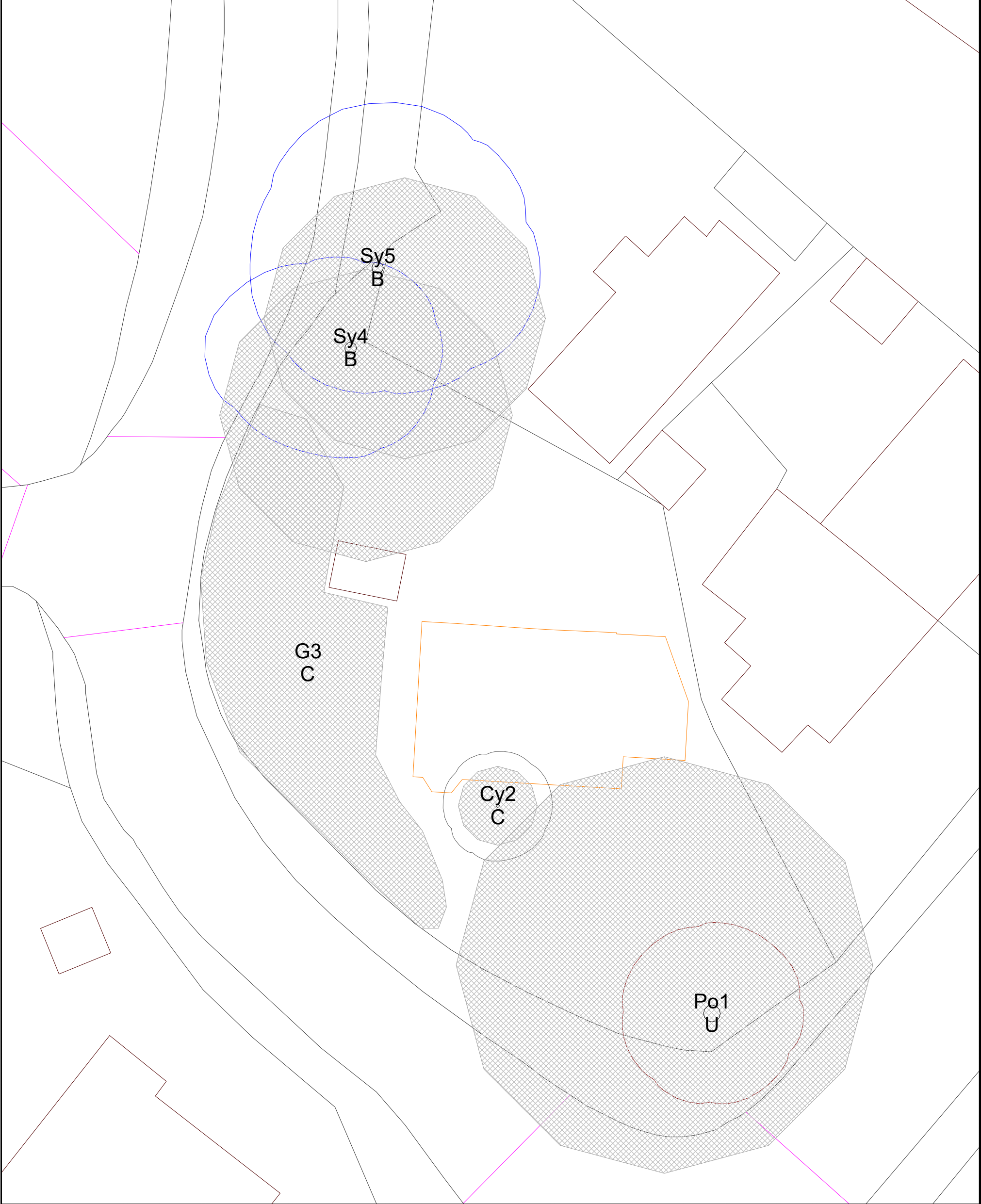
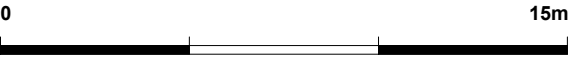
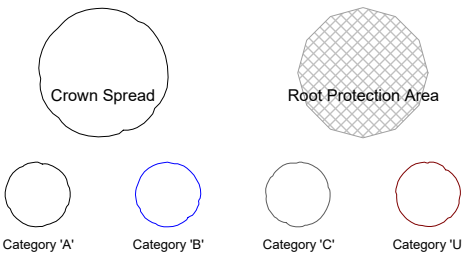
SCALE : 1 : 200	@ A3	DATE : 08/02/2022
David Bailey Old Oak Tree Care 01630 673216 07813 808174 oldoaktree@talktalk.net		



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Map reference:
PC22/516/TCP

Legend





Appendix B
145 High Lane, Brown Edge,
Staffordshire

Tree Protection Plan
Showing all retained trees, crown dimensions, tree
categories, RPAs and protective fencing

SCALE : 1 : 200	@ A3	DATE : 08/02/2022
David Bailey Old Oak Tree Care 01630 673216 07813 808174 oldoaktree@talktalk.net		



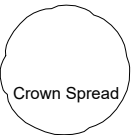
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Map reference:
PC22/516/TPP

Legend

Protective
fencing

Ground
protection



Category 'A'

Category 'B'

Category 'C'

Category 'U'

0



15m

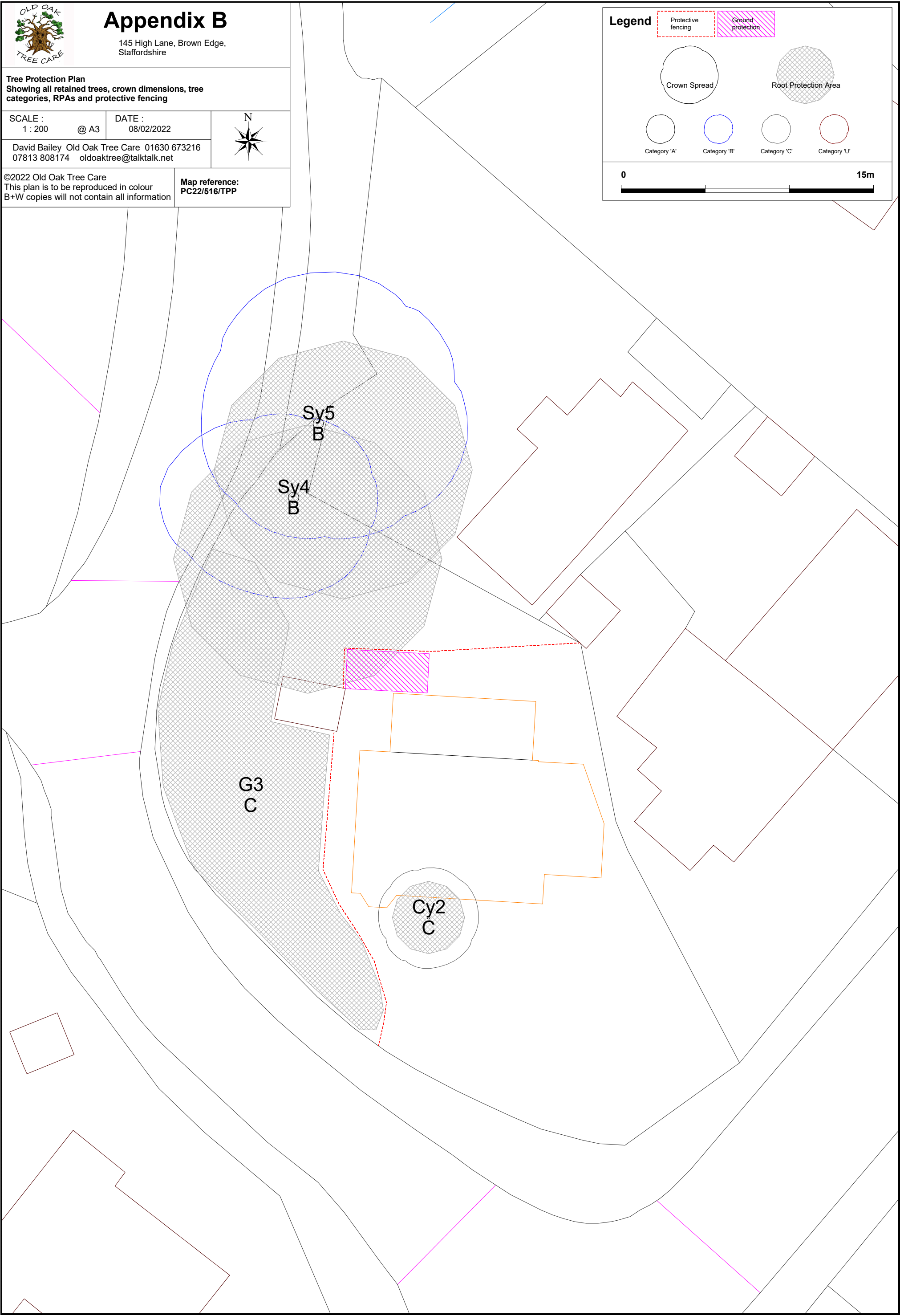


Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
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 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; see 4.5.7.</i>	See Table 2
Trees to be considered for retention		
1 Mainly arboricultural qualities		
2 Mainly landscape qualities		
3 Mainly cultural values, including conservation		
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 and/or principal trees within an avenue)	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
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 with no material conservation or other cultural value

Figure 2 Default specification for protective barrier

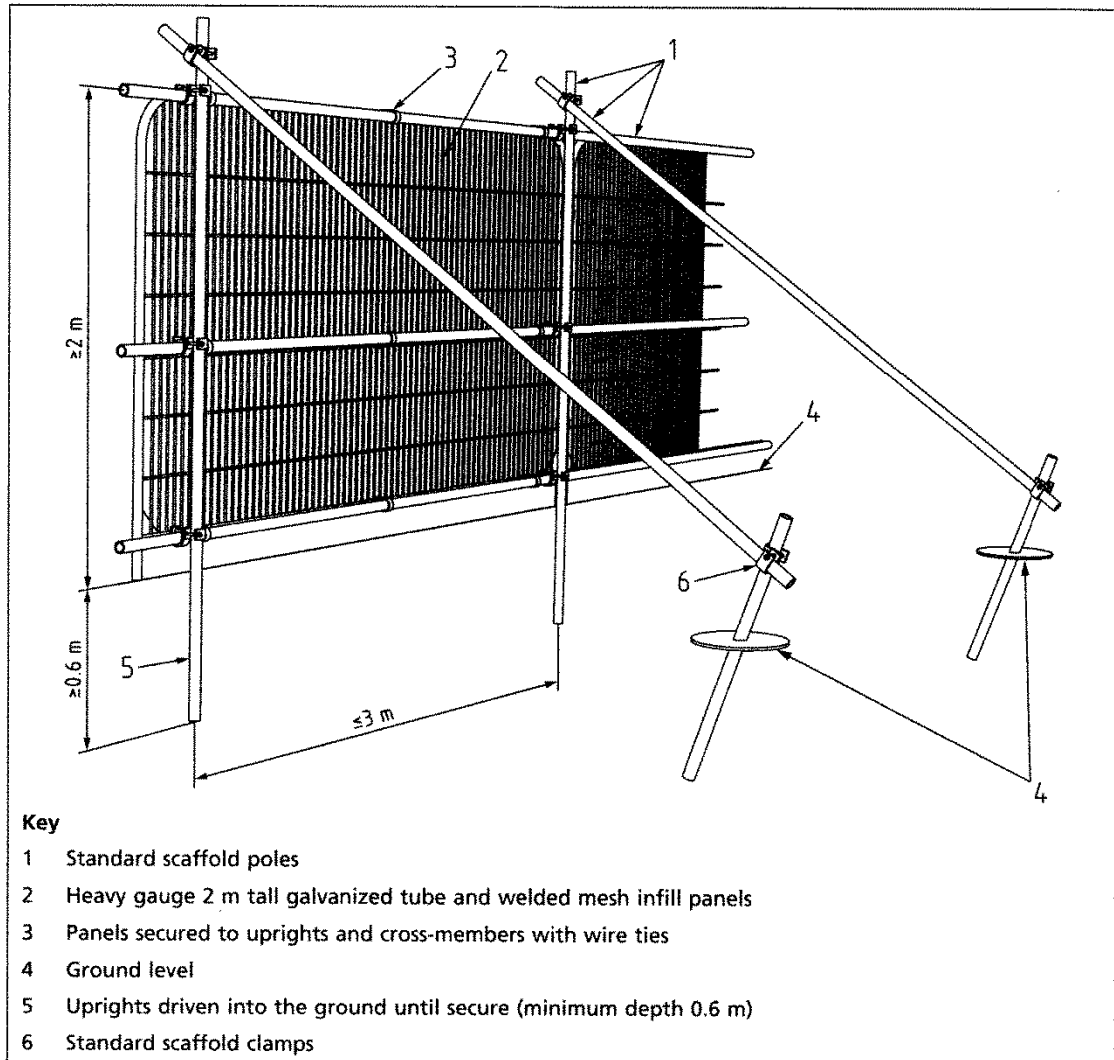
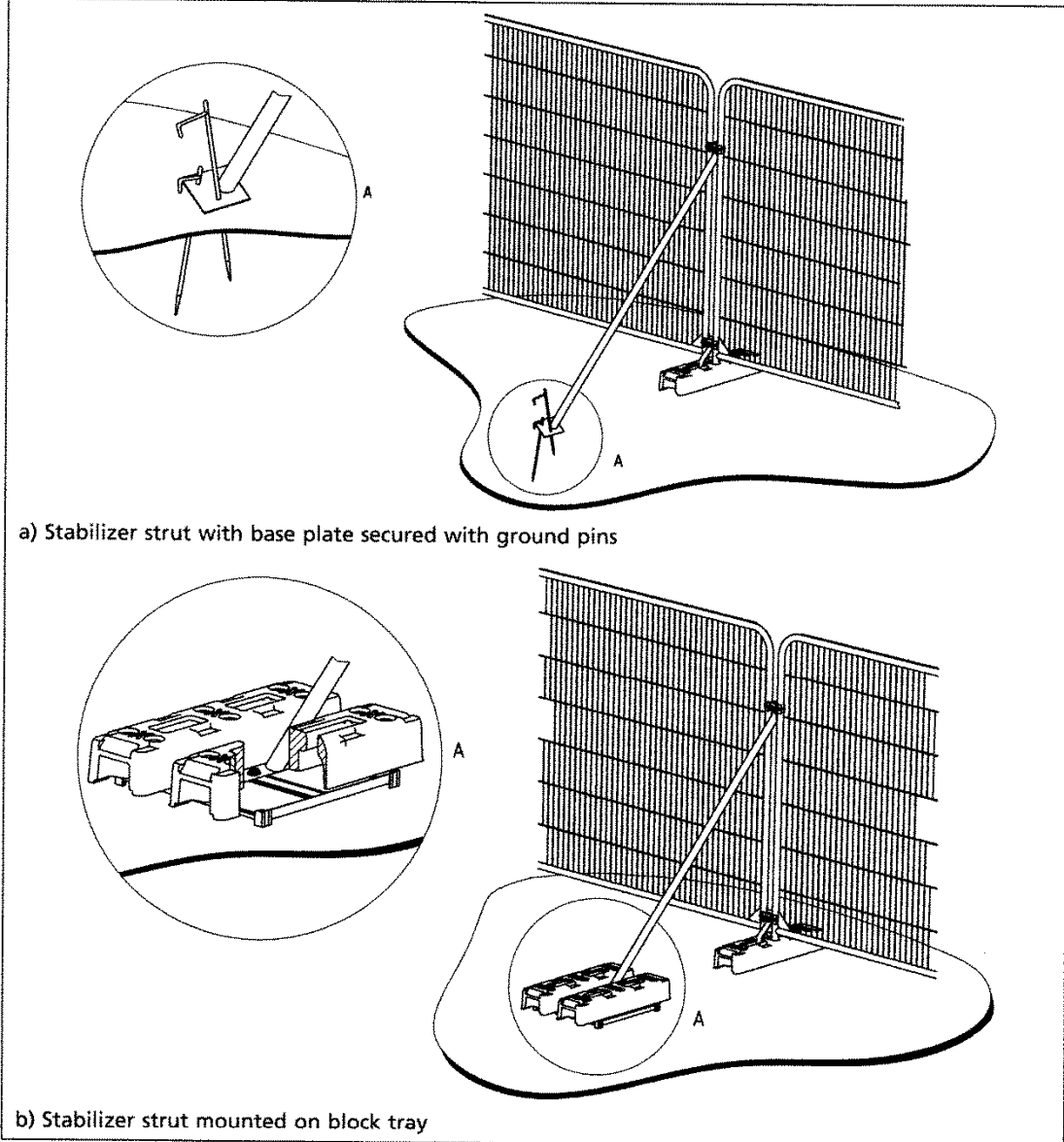


Figure 3 Examples of above-ground stabilizing systems



Appendix E Tree Schedule - Key

Where measurements are estimated due to lack of access or vegetation, a * denotes this.

Tree Number -	Identification for specific tree. Using a couple of letters to help with species identification together with a number. Groups or hedges will be identified as Gr.
Species-	Tree species, using common name.
Height-	Taken using angular triangulation function of a laser rangefinder.
Diameter-	Taken by measuring circumference with a tape measure and applying Pi equation or by measuring circumference by eye if entire circumference is not accessible (in this case denoted by *).
Crown spread-	Radius of crown at four cardinal points, north, east, south and west measured by laser rangefinder. (Estimates denoted with a *).
Crown height-	Height of lowest branch at each cardinal point. Measured by laser rangefinder. (Estimates denoted with a *).
Age bracket-	Estimated life stage of tree ranging from young, mid-aged, early-mature, mature and over-mature.
Physiological condition-	Assessment of health and vitality of the tree. Good, fair, poor or dead. Fair or poor will have more details attached.
Structural condition-	Assessment of physical structure of tree. Good, fair, poor or dead. Fair or poor will have more details attached.
Years remaining-	Estimate of likely useful life of tree taking into account age, species, character, situation and likely management requirements.
Quality assessment-	Subjective assessment. Either A-very good, B-good, C-reasonable or U-unsuitable for retention. See appendix C for more details.
RPA radius-	Positioning of root protection area (RPA) measured from centre of the tree to the radius. This is for circular RPAs. Where RPAs have been adjusted for site conditions and are no longer circular this value will not be correct.
RPA area-	Area of RPA irrespective of its shape.
Notes:	Any notable comments on group make up, physiological, structural condition or notable features.

Appendix E			Tree Schedule																			
Tree number	Species	Height (m)	Diameter (mm)	N Crown spread (m)	E	S	W	N Crown Height (m)	E	S	W	Age bracket	Physiological Condition	Structural Condition	Years remaining	Quality assessment	RPA radius(m)	RPA Area (m2)	Notes			
Po1	Poplar	19	925	5	5	5	5	4	4	4	4	mature	fair	poor	<10	U	11.1	387	significant dysfunction in base			
Cy2	Cypress	5	175	3	3	3	3	0	0	0	0	early-matu	good	good	10 to 20	C	2.1	14	0			
G3	Group	4	100	2	2	2	2	0	0	0	0	early-matu	good	good	10 to 20	C	1.2	5	screen of rhodos and laurel			
Sy4	Sycamore	17	650	8	5	6	8	3	3	3	9	mature	good	good	>40	B	7.8	191	0			
Sy5	Sycamore	17	625	9	9	8	8	5	5	5	5	mature	good	good	>40	B	7.5	177	0			