Arboricultural Report

Two new dwellings, parking and garden space
Land to rear of 16&18 Bennions Road
Wrexham

Commissioned by:	**Surveyed and reported on by:**	**Report Date:**
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1.0 Summary

1.1 The proposal is to build two new dwellings, access, parking and garden space on an area of open ground and garages behind no16&18 Bennions Road.

1.2 There are three B and one category C trees on or next to the site. In addition to this there is one category C hedge.

1.3 Just one small category C tree will need to be removed to allow the development to take place. The crown of two category B trees will need to be cut back to allow a good clearance from properties to the trees.

1.4 Correctly placed fencing will ensure retained trees can be suitably protected during the build.

1.5 The proposal is arboriculturally sound and complies with BS5837.

2.0 Instructions

2.1 I am instructed by Gavin Porritt of DPA to carry out a survey at land behind 16&18 Bennions Road and record all significant trees that may be affected by the proposed development.

2.2 The proposal is to build two new dwellings, access, parking and garden space on land currently occupied by garages.

2.3 There are several trees and hedges 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 BS5837:2012[1] 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 has not been investigated. The status of trees can be obtained from Wrexham County Borough Council[2].

3.3 Plans supplied to myself:

i) Site proposal supplied by DPA.

Plans I have produced to accompany this report

i)	Tree Constraints Plan	PC22/551/TCP
ii)	Tree Protection Plan	PC22/551/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.

[1] BS5837:2012 Trees in relation to design, demolition and construction: Recommendations – British Standards Institute
[2] Wrexham Country Borough Council Planning Department 01978 298994
[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 1 April 2022.

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 open ground behind no 16&18 with a line of garages within it.

5.2 To the north and south are residential properties and gardens. In an easterly direction beyond the garages are the rear gardens of properties on Beechley Road. To the west is the rear gardens of no 16&18

5.3 The level of the land is approximately flat.

5.4 The main trees lie behind the line of garages on the border with the garden to the east. Several smaller trees and hedges are found within the site.

5.5 Viewing the Cranfield soil map[4], it appears that the soil is freely draining slightly acid and loamy. 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 Soilscapes. www.landis.org.uk/soilscapes/

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.	3
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.	0
Group	Trees of similar species, size or character which are grouped together. The number of the group is given together with the categorisation.	0
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.	1 - C

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
Ly1	Leylandii	3	100	C	0
NM2	Norway Maple	17	475	B	0
SB3	Silver Birch	18	375	B	0
SB4	Silver Birch	18	500	B	0
H5	Hedge	2	100	C	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 Just one tree a small bush-like category C leylandii will need to be removed to allow the development to take place. This tree has no amenity value.

7.2 The garages will need to be demolished to allow the development to take place. A banks man will need to direct demolition with particular attention on ensuring branches above the garages are not damaged and no excavations extend beyond the footprint of the current building. Walls are to be folded in onto the concrete base of the garages to prevent compaction of soils ear to the retained trees.

7.3 It is clear that the large trees on site are an important factor in the character and appearance of the area and their retention is important. Given these trees have been managed where they overhang other gardens, they have not been managed where they overhang the current group of garages. It is proposed to reduce the crowns of NM2 and SB4 by 2m on their western aspect to provide a clearance of 2m from the walls of the property. Such work would have little impact upon the amenity provided by the tree to the area. Appendix B shows the proposed reduction in these trees.

7.4 The garages which appear to have been in place for some time will have prevented significant rooting into the site. RPAs have been redrawn in Appendix A and B to reflect this.

7.5 When considering likely shading from the trees both gardens will be shaded during the morning, but no shading will occur after this. The shading will not be considerable and direct sunlight will be available for the most sought after times of the day, the afternoon and evenings.

7.6 No other tree will be affected by the proposed development.

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 ½ or ⅓ 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 garages will provide a significant barrier to good rooting and the RPAs have been redrawn to reflect this.

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 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.

8.6 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.

8.7 Underground services are not to enter RPAs. There is sufficient space for services to be laid all around the building without entering 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 two new dwellings, access, parking and garden space on an area of open ground and garages behind no16&18 Bennions Road.

9.2 There are three B and one category C trees on or next to the site. In addition to this there is one category C hedge.

9.3 Just one small category C tree will need to be removed to allow the development to take place. The crown of two category B trees will need to be cut back to allow a good clearance from properties to the trees.

9.4 Correctly placed fencing will ensure retained trees can be suitably protected during the build.

9.5 The proposal is arboriculturally sound and complies with BS5837.

Appendix A

Bennions Road, Wrexham

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

SCALE :	DATE :	
1 : 200 @ A3	12/08/2022	N

David Bailey Old Oak Tree Care 01630 673216
07813 808174 oldoaktree@talktalk.net

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Map reference:
PC22/551/TCP



Appendix B

Bennions Road, Wrexham

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

SCALE :	DATE :	
1 : 200 @ A3	12/08/2022	N

David Bailey Old Oak Tree Care 01630 673216
07813 808174 oldoaktree@talktalk.net

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Map reference:
PC22/551/TPP

BENNION ROAD

NM2
B

SB3
B

SB4
B

Legned

Protective Fencing

Crown Spread

Root Protection Area

Category 'A' Category 'B' Category 'C' Category 'U'

0 15m

Appendix C Tree Categories

Table 1 of BS5837:2012

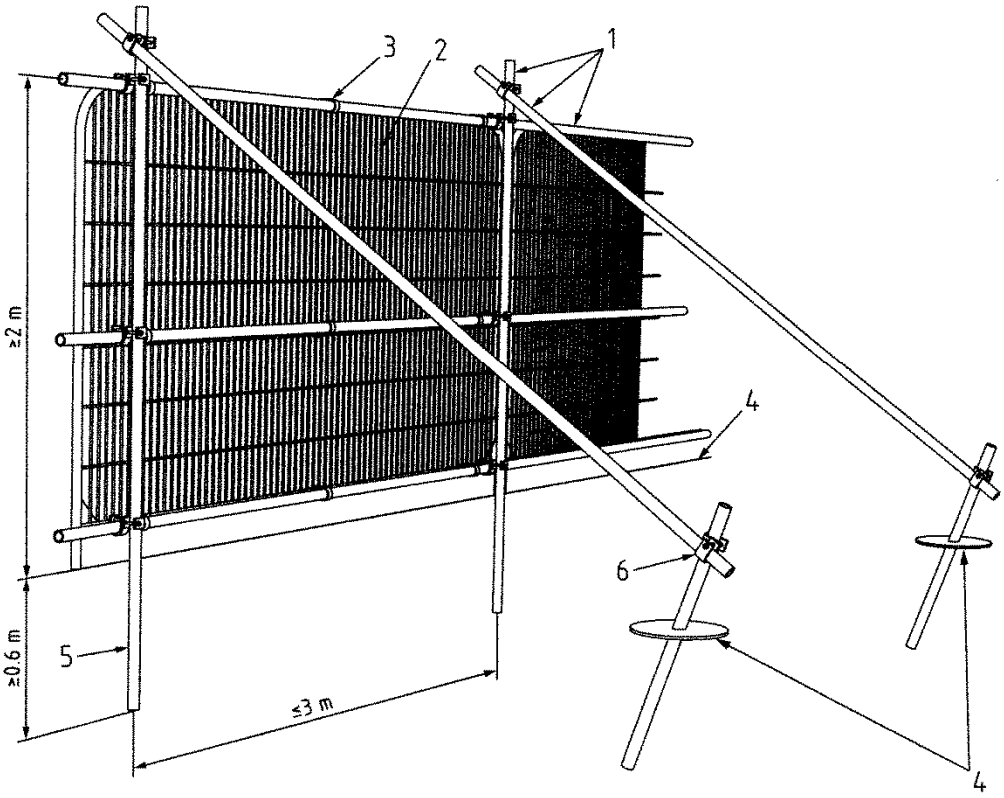
Table 1 Cascade chart for tree quality assessment

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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
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 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)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix D

Figure 2 of BS5837:2012

Figure 2 **Default specification for protective barrier**

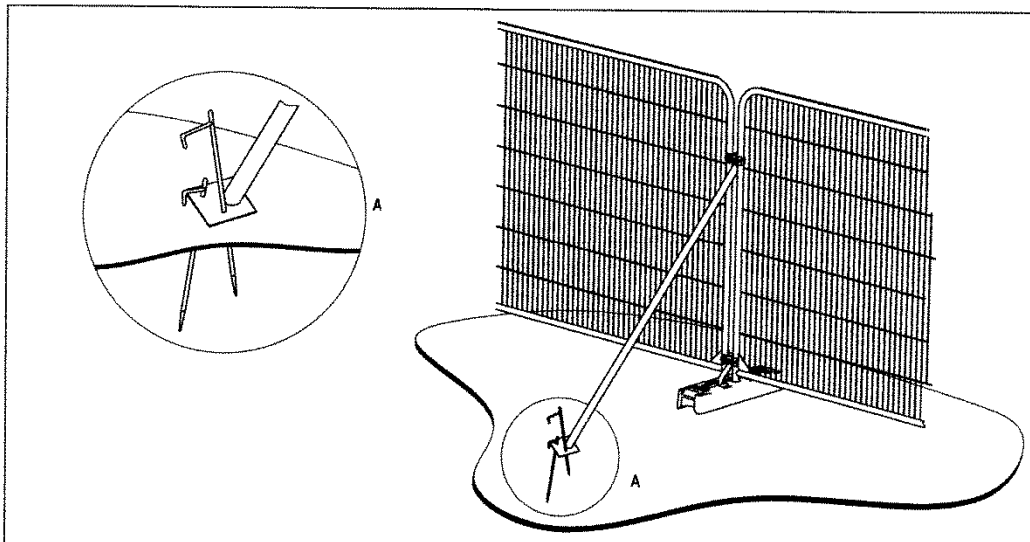


Key

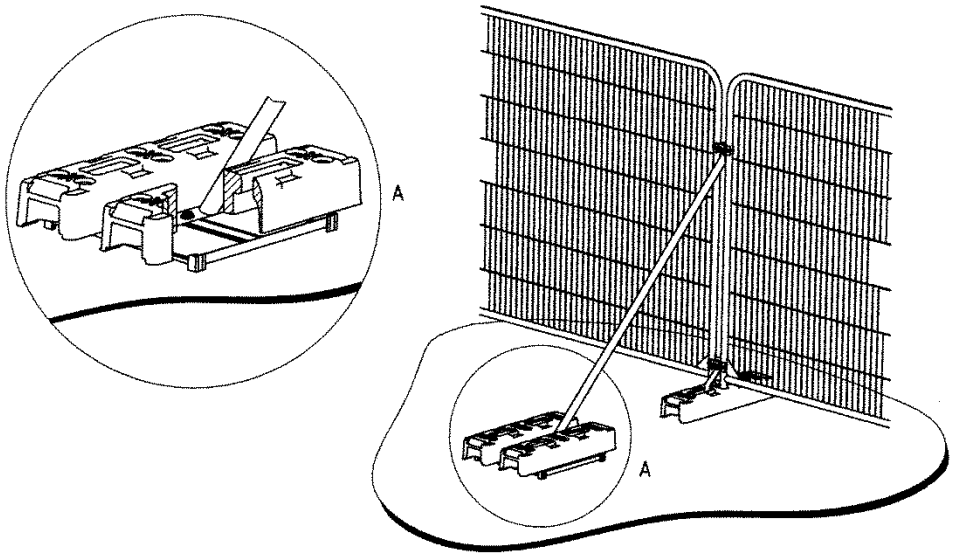
1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Appendix D (continued) Figure 3 of BS5837:2012

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

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
Ly1	Leylandii	3	100	1	1	1	1	0	0	0	0	mid-aged	good	good	10 to 20	C	1.2	5	0
NM2	Norway Maple	17	475	7	7	4	7	4	4	4	4	mature	ghood	good	20 to 40	B	5.7	102	0
SB3	Silver Birch	18	375	4	4	4	4	8	8	8	8	mature	good	good	10 to 20	B	4.5	64	0
SB4	Silver Birch	18	500	5	7	8	8	6	5	5	4	mature	good	good	10 to 20	B	6	113	0
H5	Hedge	2	100	1	1	1	1	0	0	0	0	mature	good	good	10 to 20	C	1.2	5	0