



WE KNOW SERVICES

ARBORICULTURAL IMPLICATIONS ASSESSMENT

TREVALYN WOOD
MANOR LANE
ROSSETT
WREXHAM
LL12 0HH

FEBRUARY 2020

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1.0 Introduction

- 1.1 We Know Services were instructed by Mr and Mrs Horan to carry out an arboricultural survey of trees on land at Trevalyn Wood, Manor Lane, Rossett, Wrexham.
- 1.2 This report details the arboricultural implications of developing the site, including:
 - A survey of the trees on and near the development which may impact the proposal- from ground level, noting their location, species and all relevant parameters, i.e. stem diameter, height, crown spread, condition etc;
 - A tree schedule;
 - Advice on the removal, retention and management of trees;
 - Assessment of the potential effects of the proposal on retained trees and vice versa;
 - Assessment of the requirement for tree protection for the duration of the works; and
 - A mitigation proposal for any loss.
- 1.3 The survey was carried out on 7th February 2020 by means of inspection from ground level by an experienced and qualified arboriculturalist. The inspection can be restricted in cases where trees were Ivy clad or surrounded by vegetation.
- 1.4 Under *BS5837: 2012 Trees in Relation to Construction - Recommendations*, the assessment of trees is made objectively. The tree categorisation method identifies the quality and value of the existing tree stock, allowing informed decisions to be made concerning development design layout.
- 1.5 The following documents have been made available by the client:
 - Drawing- Proposed Site Plan.dwg
- 1.6 The supplied drawing did not include tree positions plotted. All trees have been added to the drawing indicatively. Any dimensions regarding tree positions and protective fencing must be checked on site.
- 1.7 The survey was carried out noting the conditions of the trees at the time of inspection. As trees are part of the natural environment, conditions can naturally change; therefore the contents of this report are valid for one year only. After this period, re-inspection may be required.

2.0 Survey Methodology

- 2.1 The trees were surveyed (prefixed T, or G for group) and recorded in the tree schedule in **Appendix 1.0**. Where groups are recorded, average height and diameter at breast height (DBH) of the trees in the group are reported. Where access to the base of any trees was limited, stem size was estimated.
- 2.2 All the trees were assessed using: a grading A to C (retention) and U (removal); condition and age class as defined in **Appendix 2.0**.
- 2.3 Where appropriate, canopy spread for each tree was recorded at four cardinal points in order to reproduce an accurate representation of the crown shape of the tree on the tree plan in **Appendix 3.0**.
- 2.4 The survey included all trees within the proposal area and trees near to the proposal.

3.0 Proposals and Impact Assessment

- 3.1 The site layout plan within **Appendix 3.0** identifies the trees in relation to the proposed development.
- 3.2 In order to fully assess the impact of the proposals an Impact Table (**Table 3.1**) has been created detailing each tree, which shows the proximity of the associated works.
- 3.3 This can then be assessed in accordance with BS 5837:2012 to determine whether proposals will have a detrimental impact on the health of each tree. Once this has been determined remedial measures can be detailed to reduce the impact the proposals will have on the treescape.

Table 3.1: Impact Table

Tree No.	Root Protection Area identified in table 2 of BS5837:2012		Distance to proposed extension (m)	Distance to proposed renewable energy store	Distance to proposed car park (m)	Can the tree/s be successfully retained?
	Area (m ²)	Equal to a circle with radius (m)				
T1	191	7.8	6.7	27.7	4.5	Yes
T2	5	1.32	6.2	26.8	4.0	Yes
T3	122	6.24	14.2	33.1	2.7	Yes
T4	191	7.8	12.7	35.6	10.5	Yes
T5	72	4.8	12.2	37.0	10.0	Yes
T6	36	3.36	15.2	2.3	13.2	Yes
T7	55	4.2	22.3	6.9	11.8	Yes

Table 3.2: Impact Assessment

	Trees to be retained		Trees to be removed	
	With no impact	With detailed construction	Due to condition	Due to development
Tree No.	T2, T4, T5, T6 and	T1 and T3	N/A	N/A

- 3.4 The proposed new car parking courtyard will be installed within the root protection areas of T1 (39m², 22% of existing unsurfaced ground) and T3 (15m², 12% of existing unsurfaced ground). Therefore, the use of a cellular confinement system as detailed at **Section 4.1** is considered achievable without causing a significant adverse effect on these trees and is acceptable in accordance with BS 5837:2012.

4.0 Mitigation Proposals

4.1 Car Parking Courtyard Construction

- 4.1.1 As shown above, the Impact Table raises concern of the proximity of the proposed car park to T1 and T3 and the effect the proposals would have on the safe useful life expectancy of these trees.
- 4.1.2 If ground levels remain the same, the detrimental effects the car park would have on this tree would be: -
- Compaction, resulting in oxygen depletion, caused from creating the access way.
 - The loss of a permeable surface.
- 4.1.3 It is possible with the use of a cellular confinement system to be able to create hard surfaces very close to trees without having a detrimental effect.
- 4.1.4 A cellular confinement system provides a load transfer mattress which prevents direct loads on tree roots and reduces the bearing pressure on subsoil's by stabilising aggregate surfaces against rutting under wheel loads.
- 4.1.5 A proposed methodology and cross-sectional diagram for the construction of the access way can be found in the accompanying arboricultural method statement.
- 4.1.6 Should this system be used for the car parking, in the area affecting the above trees then the proposals should not have a detrimental effect on the trees.

4.2 Soft Landscape Works within the RPA

- 4.2.1 Heavy mechanical soil cultivation techniques will not be carried out within any RPA. Any cultivation will be carried out by hand to minimise damage to tree roots.
- 4.2.2 Existing ground levels within the RPA will be maintained.

5.0 Conclusions and Arboricultural Recommendations

- 5.1 The tree categorisation method identifies the quality and value of the existing tree stock but it is not meant to be interpreted rigidly and is presented in order to form a balanced judgement on tree retention and removal.
- 5.2 A precautionary method of working near trees is detailed in the accompanying Arboricultural Method Statement.
- 5.3 It is considered that in following the advice in this document, any negative factors affecting trees on the site will be minimised.

Appendix 1.0

Tree Survey Schedule

TREE SURVEY SCHEDULE

Arboricultural Data Sheet: 386 Hale Road, Widnes					Date of Survey: 20/01/2020					Surveyor: Nicola Wallbank			
Tree No.	Species	DBH (mm)	Height (m)	Age	Crown Spread (m)				Crown clearance	Condition rating	Comments and preliminary management recommendations	Estimated remaining contribution	Tree quality category rating
					N	E	S	W					
T1	Lime	620	22.5	M	5.0	6.0	6.0	6.0	2.0	2	Co-dominant specimen with reasonable form. Previously topped. Minor decay evident at pruning cut on stem. Minor deadwood (diameter <50mm). Extensive epicormic growth. – Pollard and remove epicormic growth	10+	C1/3
T2	Yew	110	3.5	SM	1.5	1.0	1.5	1.0	0.5	1	Good form. Roots are sound and functioning well based on crown signs. Stem is sound with no defects observed.	20+	C1
T3	Sycamore	520	17.5	M	4.0	3.0	4.0	4.0	2.5	2	Co-dominant species with reasonable form. Bifurcated. Stem covered in dense Ivy. Roots appear to be sound and functioning well based on crown signs. – Sever Ivy	10+	C1/3
T4	Lime	650	16.0	M	5.0	5.0	5.0	5.0	3.0	3	Multi-stemmed with reasonable form. Roots are sound and functioning well based on crown signs. Limited inspection of stem due to epicormic growth but one dead stem which has been reduced to a height of 6 metres is evident. - Full crown reduction by 20%	10+	C1/3
T5	Horse Chestnut	400	10.5	EM	4.0	3.0	4.0	6.0	2.0	1	Trifurcated with reasonable form. Minor Ivy cover. Roots are sound and functioning well based on crown signs. Stem is sound with no significant defects observed	10+	C1/3
T6	Cherry	280	9.5	M	3.0	3.0	4.0	3.0	3.5	1	Trifurcated with poor form. Roots are sound and functioning well based on crown signs. Minor stem wound which	10+	C1/3

Arboricultural Implications Study – Trevalyn Wood, Manor Lane, Rossett, Wrexham, LL12 0HH

Arboricultural Data Sheet: 386 Hale Road, Widnes					Date of Survey: 20/01/2020					Surveyor: Nicola Wallbank			
Tree No.	Species	DBH (mm)	Height (m)	Age	Crown Spread (m)				Crown clearance	Condition rating	Comments and preliminary management recommendations	Estimated remaining contribution	Tree quality category rating
					N	E	S	W					
											exhibits good wound wood .- Reduce and reshape		
T7	Lime	350	20.0	M	5.0	5.0	5.0	5.0	3.0	1	Co-dominant specimen with good form. Roots are sound and functioning well based on crown signs. Extensive epicormic growth. – Remove epicormic growth	20+	B1/3

Appendix 2.0

Tree Survey Key

Arboricultural Implications Study – Trevalyn Wood, Manor Lane, Rossett, Wrexham, LL12 0HH

Trees for removal				
Category and definition		Criteria		
Category U Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management		Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality Note – Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).		
Trees to be considered for retention				
Category and definition		Criteria - Subcategories		
		1 Arboriculture values	2 Landscape values	3 Conservation values
Category A Those of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum 40 years is suggested)		Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboriculture features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)		Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboriculture features (e.g. trees of moderate quality within avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits
Category C Those of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm		Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits
		Note - Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation		

Age Class

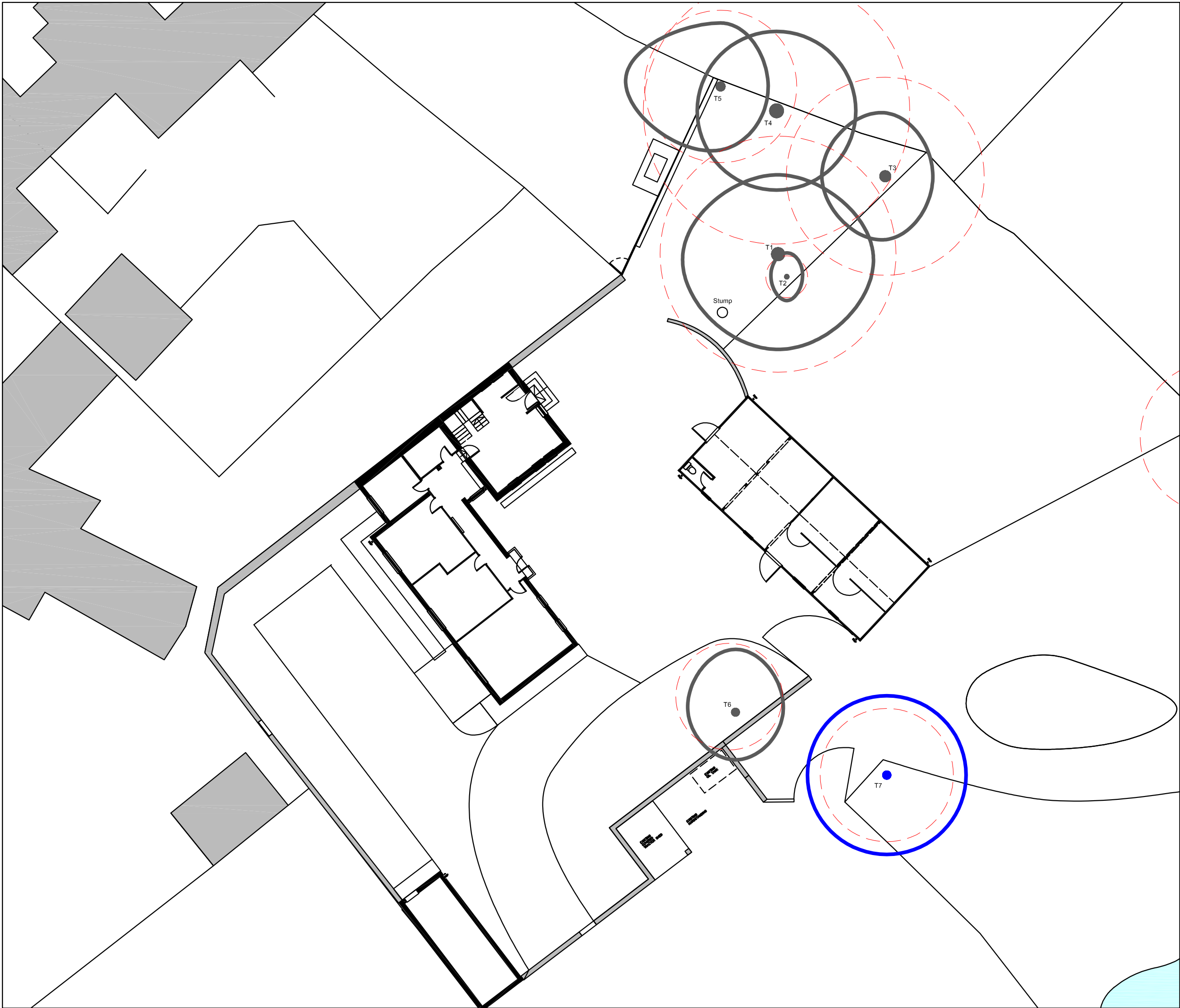
Y	Young	Trees that have not yet established
SM	Semi-Mature	Established trees up to 1/3 of expected height and crown
EM	Early mature	Between 1/3 and 2/3 expected height and crown
M	Mature	Between 2/3 and full expected height and crown
FM	Fully Mature	Full expected height and crown
OM	Over-Mature	Crown beginning to break up and decrease in size
S	Senescent	Crown in advanced stage of break-up

Condition

1	Good
2	Fair
3	Poor
4	Dead

Appendix 3.0

Plans



-  Category A Trees
-  Category B Trees
-  Category C Trees
-  Category U Trees
-  Root protection area



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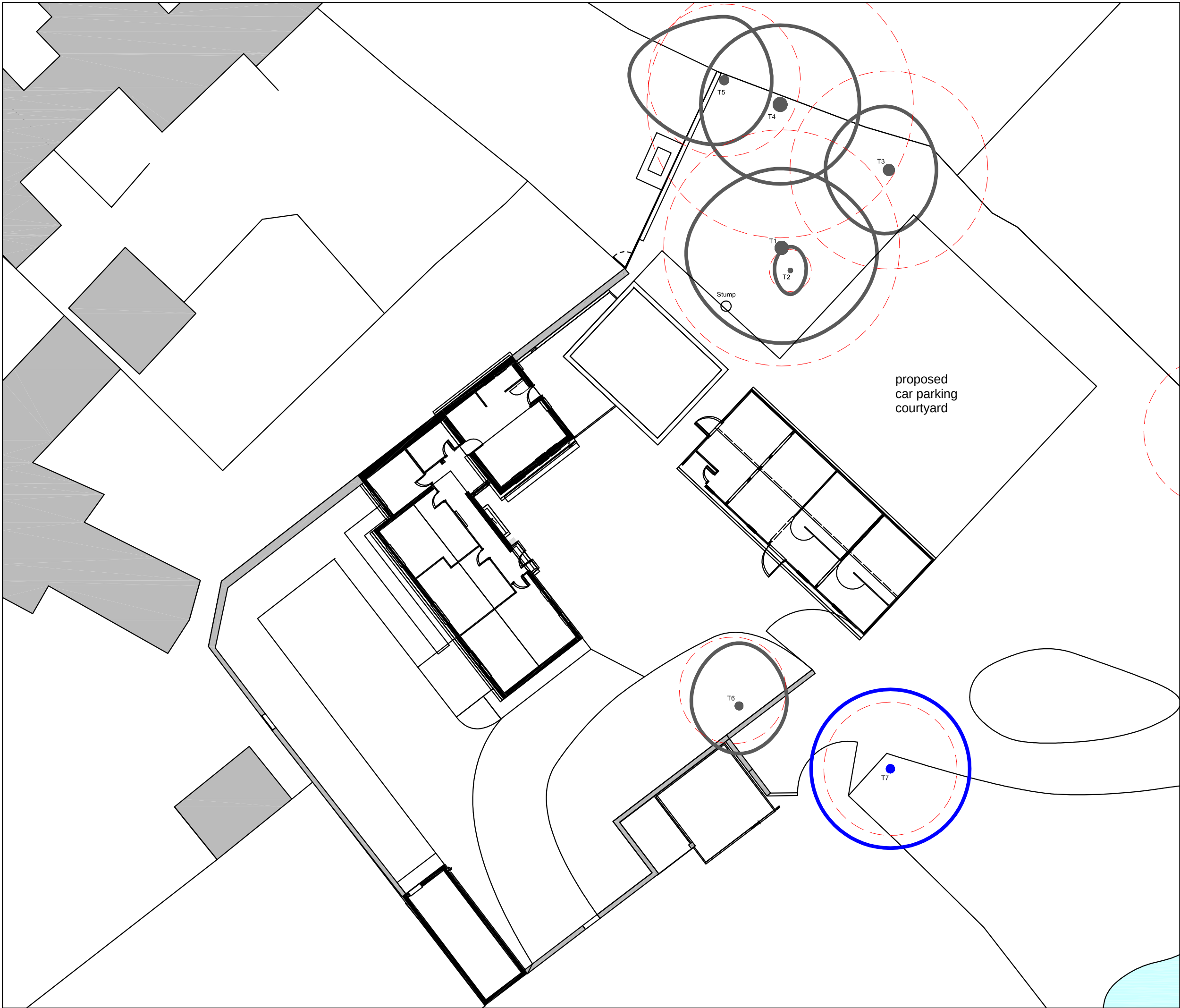
Client:
Mr and Mrs Horan

Site Address:
Trevalyn Wood, Manor Lane,
Rossett, Wrexham, LL12 0HH

Drawing Title: BS5837 Plan	Drawing No: 19/00080/BS
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Date: 17.02.2020	Scale: 1:300@A3	Drawn by: NW
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-  Category A Trees
-  Category B Trees
-  Category C Trees
-  Category U Trees
-  Root protection area

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Client:
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Site Address:
Trevalyn Wood, Manor Lane,
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Drawing Title: AIA Plan	Drawing No: 19/00080/AIA
Date: 18/02/2020	Scale: 1:300@A3
	Drawn by: NW

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