

Trees and Construction

BS5837:2012 Tree Survey, Arboricultural Implications Assessment & Method Statement

Site: 34 Church Road, Knowsley, L36 9TP

Ref: 251380/AIA/A2

Client: Mr & Mrs Owen



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- May 2024 -

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Revision	Description	Date
/	First report release	20/04/2025

1. INTRODUCTION

- 1.1 **Instruction:** This advice has been prepared for Mr & Mrs. Owen (hereafter; client) and is in respect of the tree related considerations at the 34 Church Road, Knowsley, L36 9TP (hereafter; site).

As the proposal relates to development works at site, the advice herein is produced in accordance with the British Standard 5837 : 2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (hereafter; BS5837).

- 1.2 **BS5837:** The scope of BS5837 is to provide guidance on how trees and other vegetation can be integrated into construction and development design schemes. The overall aim is to ensure the protection of amenities by trees which are appropriate for retention.

- 1.3 **Scope of this advice:** This assessment is produced in accordance with BS5837 and is secondary to arboricultural constraints advice which assisted with the design process as a per TCP 251380 and tree survey data. The objective is to systematically assess the proposed scheme and provide suitable recommendations regarding the potential impact on trees and vice versa with associated tree protection recommendations.

- 1.4 Following instruction the consultant surveyed the site on the 9th May with an extended boundary both where a site walkover and BS5837 tree survey were carried out; all trees on site and around the application boundary were surveyed from ground level and plotted as either an individual or a tree group.

- 1.5 This advice is subject to caveat at Appendix I, outlines relevant terms and definitions at Appendix II and constitutes the findings of the preliminary site assessment and associated arboricultural recommendations.

- 1.6 The survey data and site observations used the supplied topographical survey to illustrate the surveyed trees in plan format as a 'Tree Constraints Plan' (hereafter; TCP). The TCP was supplied with the initial tree survey advice, this informed this assessment and is used as a base layer for the appended 'Tree Protection Plan' (hereafter; TPP); the TPP and tree survey data table are at Appendix III.

2. SITE INFORMATION & TREE ASSESSMENT

2.1 The site is a semi detached residence with driveway access from Church Road. Gardens to front side and rear. The rear garden is accessed from the side of the property.

2.2 **Proposal:** At the time of writing the initial tree survey advice, it was understood that a proposed scheme involved the partitioning of the existing garden and the construction of a detached dwelling with joint access from a widened shared existing driveway from Church Road

This is now confirmed as per provided plans 0110_Proposed Plans & Elevations SQ,, 0110_Proposed Plans & Elevations SQ and 34 Church Rd, Roby Rev I

2.3 The site requires consideration from an arboricultural perspective due to the presence of trees on and around the site; these trees are deemed to be within impacting distance of the existing property and potential construction area.

2.4 The tree survey and assessment resulted in the BS5837 quality/retention categories of 'A' – Good, 'B' – moderate and 'C - low' being attributed to trees/tree groups on site and off site; It is also worth noting that the BS5837 circular RPAs are considered to halt at the extents of existing property, driveways and substantial walls.

3. FINDINGS & RECOMMENDATIONS

3.1 The following information, as with the prior contents of this report, should be read with the appended tree data table and tree constraints plan (251380/TCP/01); this information was provided as our initial advice and is supplemented herein with a review of the scheme as the AIA (section 4) and the AMS 'considerations' (section 5).

3.2 General Considerations for Tree Retention / Removal

3.2.1 Based on the boundary line location/neighbour's site location of G1, T6 and T17 (straddles boundary line), their retention and protection are to be assumed as part of the scheme.

3.2.2 Based on the individual prominence, amenity contribution and future potential of the high quality 'A' category trees, it is recommended that they be retained, protected and be clear of the proposal. Again, this is best achieved by avoidance where their crowns and RPAs are accommodated in the design and layout of the scheme. Therefore, proposed encroachment or removal would need to be justifiable and mitigated in any approved scheme. In this instance it is proposed that T12 and T13 is to be removed and a minor encroachment into the RPA of T14. Subject to supplementary details for tree selection as part of a well delivered landscape scheme, proposals of this nature may then be accepted by the council. However, this will require higher grade larger nursery planting stock than that to mitigate the removal of 'B' or 'C' category trees.

3.2.3 The 'B' Class trees are considered of value both individually and in the landscape and should be retained by design. Proposed encroachment or removal would need to be justifiable and mitigated in any approved scheme. In this case there is a car park intended to be within the RPA of T18

NOTE: For the RPA encroachment of T14 and T18, this is considered minor encroachment and is within the tolerable percentage for RPA incursion also given that the RPA is unmodified (as per BS 5837 s.7.4). Hence, the scheme is not considered to affect their safe retention.

3.2.4 Following the removal of the above trees, it may be likely that T5, T7 and T8 which are classed as 'C' will also need to be removed. This should not constrain the development.

3.2.5 The removal of the above trees or vegetation may have an impact on the green cover in the first instance, however, the scheme presents a significant enhancement opportunity. Said removals would have no impact on the long term amenity of the site and will allow for the selection of native species to enhance amenity and biodiversity.

4. SCHEME / IMPLICATIONS ASSESSMENT

4.1 For this assessment, the proposed scheme has been considered (see; s.2.2 herein). This includes consideration for arboricultural management / tree works for H&S tree risk management, tree removal and pruning options, design solutions, tree protection and sensitive measures to account for trees. As per s.1.6 and s.2.2 herein, the TCP scheme overlay illustrates the proposed scheme.

4.2 *Consideration for T14*

4.2.1 The proposal shows alteration of the landscape configuration within the trees RPA. A new hard surface area and is to be installed within the unmodified RPA of this tree. Any works within the RPA are to be carried out by hand. Breaking out of existing surfaces and installation of a proposed driveway.

4.2.2 *Consideration for T19 (Car parking),*

A new car park bay is to be constructed within the RPA of this tree. It is then intended to use a porous construction for the final surface using cell web or similar. It is to maintain the current level and is to be installed by hand (as per example on TPP).

4.2.3 *Consideration for the remaining trees,*

The remaining trees will be protected by temporary protective fencing and avoidance.

4.2.4 Further to the above, the following tree works are considered necessary in conjunction with the proposed scheme. These are not considered to have a notable impact on the site's amenity contribution from trees and can be mitigated for by way of a landscape scheme with functional and considered tree planting of 1:1 remove to replace ratio.

NOTE: Also, the H&S tree risk management investigations, works and repeat / maintenance works are listed within the tree survey data table, for which the client is advised to implement as part of their wider site management regime.

TREE WORK SUMMARY

NUMBER	TREE REMOVALS / PRUNING WORKS	
T5, T7, T8, T12 and T13	Remove	Remove in conjunction with the scheme: - to be replaced with new tree planting as part of the general site landscaping and new tree planting proposals.
T14 and T20	Remove/ Retain	Remove due to arboricultural reasons. Note: T14 can be retained due to its small stature with a view to improving its growing conditions. (as per entry in the management section of the tree data table)
Retained trees		Protection by placement of fixed Scaffolding panels around the crown / RPA extents to have no access during construction. To be realigned during landscape phase

NOTE: Further to the above scheme review, the tree works and tree protection measures are outlined at s.5 as Arboricultural Method Statement 'considerations' (hereafter; AMS) and correspond to the appended Tree Protection Plan (TPP).

5. METHOD STATEMENT 'CONSIDERATIONS'

5.1 Arboricultural Construction Restrictions

5.1.1 The following restrictions are considered relevant for tree protection purposes which are to be illustrated on a detailed Tree Protection Plan as part of planning conditions:

- a) **Tree Works** - are to be completed prior to any and all site works: no tree works not specified within this AIA (or leaning against or attaching of objects to a tree) are permitted unless agreed in writing by the council (subject to standard exemptions).
- b) **Tree Protection** - a site compound will be set up around the application boundary, excluding the surveyed trees as per the TPP, or Protective Barrier Fencing (PBF) is to be installed as per the TPP with works clearance, i.e. 1.5-2.0m around the hard landscape extents, existing boundary walls retained and supplemented to prevent RPA, stem or crown impact.
- c) **Construction Exclusion** - the fenced off areas are Construction Exclusion Zones (CEZ), and will be supplemented with pedestrian ground protection for the RPA of T1.
- d) **Site Restrictions** - no chemicals/materials are to be transported/stored/used/mixed within the CEZ, and no fires are to be lit and no machinery, plant or vehicles are to be washed down within 10m of the tree's canopy or in a CEZ.
- e) **Ground Works** - during site works RPAs/CEZ may not be breached, i.e. no surface works, without the consultant's prior advice and council consent, and no mechanical digging or scraping is permitted within RPAs/CEZ;
- f) **Hard surface RPA works** - removal and replacement undertaken after construction completion, to have the existing surface broken out manually, sub-base removed, and new sub-base and dress course installed to allow pedestrian access and final finishes.
- g) **Sensitive Landscape** - the PBF may be temporarily moved to allow pedestrian access to start sensitive soft landscape works, i.e. turf removal, retained soil levels, new planting, mulch borders.
- h) **Completion** - only following construction and hard landscape completion can PBF be removed and remaining soft landscape works undertaken within RPAs / CEZ (ground levels to be retained and works undertaken manually with non driven machinery).

5.2 Arboricultural Site Monitoring / Supervision

- 5.2.1 The council will typically request '*a scheme of supervision for the arboricultural protection measures*' to confirm tree protection and adherence to working methods around trees.
- 5.2.2 The appointed site contractor and project manager will be provided with an approved AMS and TPP and will need to be briefed as to prohibited works and tree protection.
- 5.2.3 A record of each site visit will be kept and a summary letter drafted for the client, the site manager and the local authority (to be sent to the client for distribution), thus -
- (1) ***Pre-commencement*** to confirm approved tree works, site hoarding / tree protection fence line and construction restrictions for ground works;
 - (2) ***Half way*** through the program to confirm maintained tree protection, no tree damage and exclusion of RPA access;
 - (3) ***Development completion*** after all hard landscape works and tree and shrub planting is complete to sign off the site as having adhere to the AMS.

5.3 Protective Barrier Fencing (PBF) Specification

- 5.3.1 Barrier fencing is to be installed (and signed off by way of arboricultural supervision) following the completion of the tree works. It is to be illustrated on a Tree Protection Plan to aid installation and is to remain in situ for the entire duration of demolition/construction processes unless otherwise agreed in writing by the council.
- 5.3.2 The barrier fencing is to consist of a series of braced scaffolding panels secured in place by driven scaffold posts or a scaffold frame to ensure that the fencing lines are well braced to resist impact, prevent access to RPAs and the designated CEZs around the trees and groups.

5.4 Underground utilities

- 5.4.1 Any new underground utilities are to utilise the construction area for new installations and avoid the need for works in proximity to trees. Certainly, utility installations are to be:
- Located outside of RPAs and construction exclusion zones; and
 - Installed only following the installation of the protective barrier fencing to ensure the retained trees and their RPAs are protected.
- 5.4.2 The following restrictions are recommended for underground utilities within RPAs:
- Any necessary excavations to be undertaken sensitively using either a no-dig method (e.g. Air-Spade) and/or under arboricultural supervision;
 - Any exposed roots shall be packed with a clean damp sand (not builders sand) and wrapped in hessian sacking to protect them;
 - Small roots which are identified (those less than 25mm diameter) may be carefully pruned back with a clean sharp tree saw; and
 - Larger roots which are identified (those greater than 25mm in diameter) are to be retained and protected as they may be necessary for a tree's health and stability.

5.5 Ground Works within RPAs (T18)

- 5.5.1 As all construction works are clear of retained trees and vegetation, no direct RPA incursion is anticipated [other than for the hard surface works as indicated at [s.4.2] - retained levels detail to be demonstrated by the client in the form of a 'site levels plan'.
- 5.5.2 Any excavations within a RPA or designated CEZ (the area enclosed by PBF) must:
- Only be undertaken when the construction works are completed; and
 - Use sensitive excavation techniques to protect the tree roots and their existing growing conditions.
- 5.5.3 The new hard surfaced area within the RPA/ CEZ is to be marked out and preparations undertaken by hand with the use of manually operated (hand held) tools.
- 5.5.4 The excavation of existing surfaces is to be preventative and carefully avoid damage to tree roots; i.e. individual 50mm layers of existing hard surfaces are to be excavated at a time within an RPA/CEZ. This is to ensure that excavations do not incur on the existing soil levels, i.e. no downward regrading of soil levels within RPAs.
- 5.5.5 Any exposed roots shall be packed with a clean damp sand (not builders' sand) and wrapped in hessian sacking to protect them from temperature changes and drying out.
- 5.5.6 Small roots (those less than 25mm in diameter) may be carefully pruned back with a clean sharp tree saw. However, pruning large roots (those greater than 25mm in diameter) will require the advice of the consultant and permission of the council; these may be necessary for a tree's health and stability.
- 5.5.7 Once the hard surface material (including compacted base) has been removed, any hessian wrapping will be removed and roots will be surrounded/packed with a sharp sand and any existing ruts, holes or dips are to be infilled with a mix of sharp sand and high grade tree planting soil.
- 5.5.8 The new surfaces can use more preferential treatments to encourage percolation of surface water and encourage aerated soils with nutrient availability, this will demonstrate retained current conditions or an enhancement to the existing conditions (where hard surfaced are replaced) for tree root growth and is encouraged where possible (to be confirmed on the landscape scheme).

5.6 Sensitive Ground Works (within RPAs) T14

- 5.6.1 To avoid root pulling and damage to roots excavation within the RPAs will be initially undertaken by hand under direct on-site arboricultural supervision to a to the required extent.
- 5.6.3 The soil is to be loosened with the use of a fork or pick and then cleared with the aid of an air-spade and air-vac. All roots to be cut will be cleanly severed with the use of a hand saw or secateurs. The edge of the excavation closest to the retained trees will be covered over with damp hessian to prevent drying out, and where necessary be shuttered to prevent soil collapse or contamination by concrete.

5.7 Landscape Detail

- 5.7.1 The finer details of the tree planting proposals are to be illustrated on a tree planting landscape plan. This is to include the exact proposals for hard and soft landscape, retained soil levels for trees' RPAs, together with the details for new replacement tree planting locations, species and stock selection, installation and maintenance; this is to be undertaken by the appointed landscape architect who will have the full support of the arboricultural consultant where required.

5.8 Report Handling

- 5.8.1 This report is released to the client and architect to be distributed at their discretion and the consultant is available for queries relating to this report and/or trees.
- 5.8.2 The proposed scheme is reviewed in respect of the arboricultural constraints and is considered to be achievable in line with the BS5837 guidance. The tree protection methods herein may be approved by the council based on the approved information and other detail i.e. utility layout, final landscape plan, construction management plan (CMP) etc.
- 5.8.3 This AMS and the TPP may be approved by the council in support of the application, as a means of authorised tree protection measures; all site personnel will have access to a copy and the tree work and protection details are to be inspected as per s.5.2 for '*Arboricultural Monitoring / Supervision*'

This concludes our advice.

Appendix I

Caveat

Any and all information supplied to Indigo Surveys Ltd by/on behalf of the client is assumed to be accurate unless otherwise informed. | This advice is limited to the observations made on the date of inspection as detailed herein and any deletion, editing or alteration will result in the advice being null and void in its entirety. | This advice in its entirety may be deemed null and void if remedial works are undertaken on any area of the site, on or after the date of the survey. | No liability is assumed by the author or by Indigo Surveys Ltd for any misuse, misinterpretation or misrepresentation of this advice. | This advice is not valid in adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events. | No responsibility is assumed either by the author of this advice or by Indigo Surveys Ltd for any legal matters that may arise as a consequence. | Neither the author nor Indigo Surveys Ltd will be required to attend court or give testimony as part of this agreement. | The responsibility for any works undertaken on the basis of the recommendations of this advice does not form part of this agreement.

Appendix II

Terms and Definitions

“Arboriculturist” - person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.

“Competent Person” - person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

“Topographical survey” - an accurately measured land survey undertaken to show all relevant existing site features. *A method of carrying out topographical surveys is given in RICS specification* Surveys of land buildings and utility services at scales of 1:500 and larger.

“BS5837 Tree survey” - should be undertaken by an arboriculturist to record information about the trees on or adjacent to a site. The results of the tree survey, including material constraints arising from existing trees that merit retention, should be used (along with any other relevant baseline data) to inform feasibility studies and design options. For this reason, the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for development.

“Tree categorisation method” - trees should be categorised in accordance with the BS5837 cascade chart by an arboriculturist. This is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.

“Root protection area (RPA)” - layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority, shown as an arboricultural constraint in m². The radius is calculated using the BS5837 calculation method. An arboriculturist may change the shape of an RPA but not reduce its area.

“Arboricultural implications assessment” - a study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

“Arboricultural method statement” - methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.

“Tree protection plan” - a scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.

Appendix III

Data Table:	As appended (BS5837 Tree Survey Key & Table)
Tree Constraints Plan:	As appended (251380/TCP/01)
'Draft' Tree Protection Plan:	As appended (251380/TPP/01)

TREE SURVEY IN ACCORDANCE WITH BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'

CLIENT: Mr & Mrs Owens

PROJECT REF: 251380

SITE: 34 Church Road, Knowsley, L36 9TP

CONTACT: /

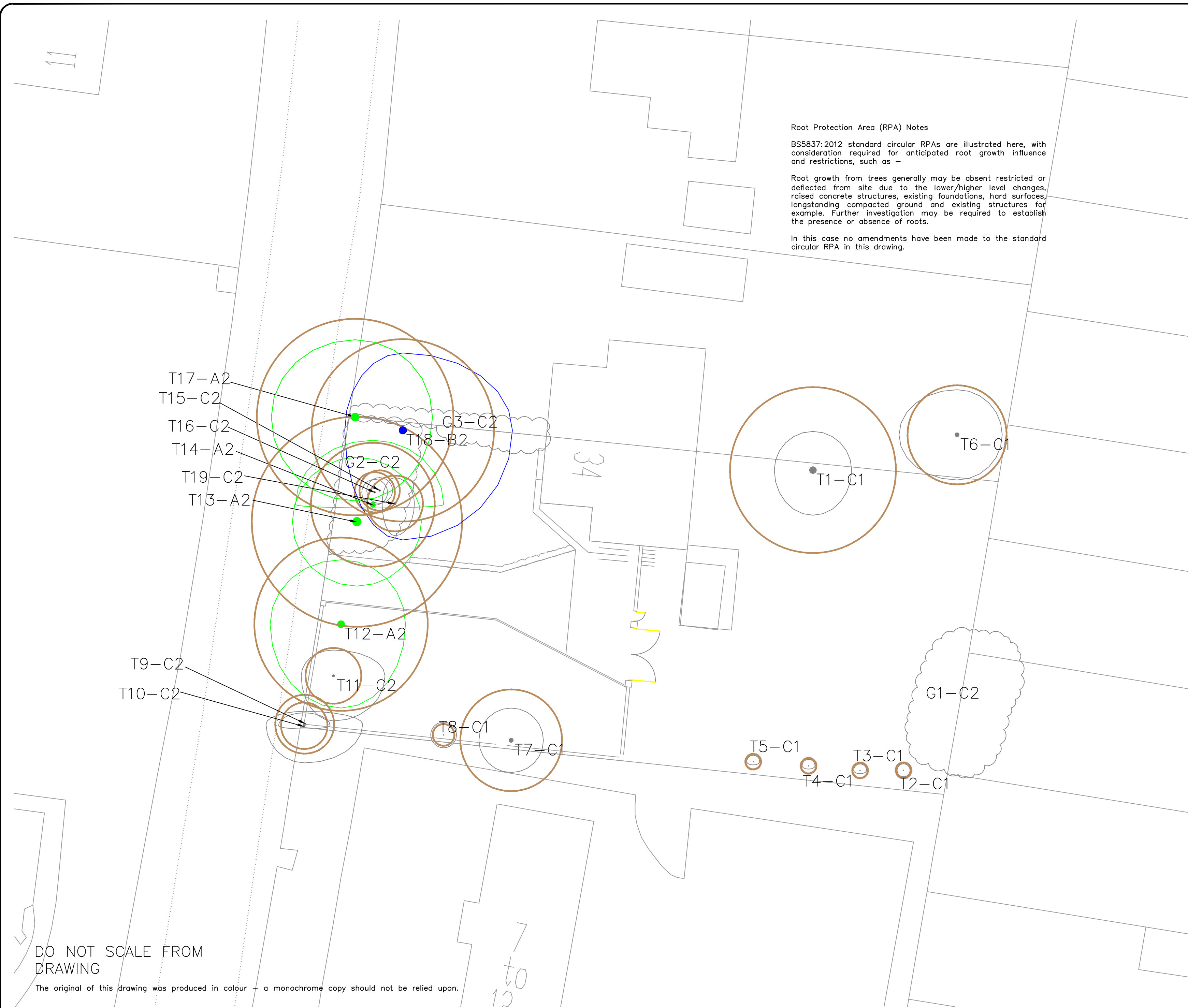
SURVEY DATE: 9th May 2025

ARB CONSULTANT: Rod Benzie BSc MArborA

TREE REF. #	SPECIES	AGE	HEIGHT (in m)	CANOPY (in m) N - S - E - W				STEM (in mm)	RPA (in m)	CLEARANCE (in m)	1st BRANCH (in m)	VITALITY	LIFE EXPEC.	NOTES	BS CAT.		MANAGEMENT
T1	Hybrid Holly; Ilex alterclarensis; Aquifoliaceae	M	17	3	3.5	3	3	320, 430*	6.4	2	2	Norm	20-40	Managed by crown lifting. Managed by clipping. Bird nest in crown. Multistemmed tree 2 stems. Bifurcates at 1.5m or below	C	1	
T2	Flowering Cherry; Prunus (spps); Rosaceae	NP	3	0.5	0.5	0.5	0.5	<75	0.6	1	1	Norm	10_20	Newly planted tree	C	1	
T3	Rowan; Sorbus aucuparia; Rosaceae	NP	3	0.5	0	0.5	0.5	<75	0.6	1	1	Norm	10_20	Newly planted tree	C	1	
T4	Flowering Cherry; Prunus (spps); Rosaceae	NP	3	0.5	0	0.5	0.5	<75	0.6	1	1	Norm	10_20	Newly planted tree	C	1	
T5	Norway Maple; Acer platanoides 'Crimson King'; Aceraceae	NP	3	0.5	0	0.5	0.5	<75	0.6	1	1	Norm	10_20	Newly planted tree	C	1	
T6	Birch; Betula (species); betulaceae	EM/M	19	3.5	3.5	3.5	4.5	320*	3.8	1	1	Norm	10_20	Newly planted tree. Located within neighbouring property	C	1	
T7	Lawson Cypress; Chamaecyparis lawsoniana; Cupressaceae	EM/M	12	2.5	2.5	2.5	2.5	170, 170, 100, 200*	3.9	0	0	Norm	20-40	Close to boundary wall. Branches in close proximity touching or close proximity to building/structure. Multistemmed tree 4 stems	C	1	
T8	Hybrid Holly; Ilex alterclarensis; Aquifoliaceae	Y	3	1	1	1	1	70, 30*	0.8	0	0	Norm	20-40	Close to boundary wall. Multistemmed tree 2 stems	C	1	
T9	Horse Chestnut; Aesculus hippocastanum; Hippocastanaceae	SM/EM	11	1	3	4.5	3	190*	2.3	1	1	Norm	20-40	Close to boundary wall. Ivy on stem into crown. Growth affected by adjacent trees due to light competition	C	2	
T10	Rowan; Sorbus aucuparia; Rosaceae	SM	11	1	0	2	2	150	1.8	1	1	Norm	20-40	Close to boundary wall. Ivy on stem into crown. Growth affected by adjacent trees due to light competition. Grown in conjunction with adjacent tree	C	2	
T11	Sycamore; Acer pseudoplatanus; Aceraceae	SM	12	2	3.5	4	2.5	180*	2.2	2	2	Norm	20-40	Close to boundary wall. Ivy on stem into crown. Growth affected by adjacent trees due to light competition	C	2	
T12	European Lime; Tilia europaea; Tiliaceae	M	20	5	6.5	5	5.5	560*	6.7	1	1	Norm	40+	Close to boundary wall. Close to drive way retaining wall , appears to be pushing wall out. Extensive lime epicormic growth at base obscuring lower trunk. Managed in the past by crown lifting and reduction. Low visibility to mid upper crown due to vegetation	A	2	Remove lime Epicormic

TREE REF. #	SPECIES	AGE	HEIGHT (in m)	CANOPY (in m) N - S - E - W				STEM (in mm)	RPA (in m)	CLEARANCE (in m)	1st BRANCH (in m)	VITALITY	LIFE EXPEC.	NOTES	BS CAT.		MANAGEMENT
T13	European Lime; Tilia europaea;Tiliaceae	M	20	5	5	5	5	480, 480*	8.2	4	4	Norm	40+	Close to boundary wall. Ivy on stem into crown. Ivy inhibiting VTA. Large pieces of deadwood in crown and over road. Multistemmed tree 2 stems	A	2	Remove major crown deadwood
T14	European Lime; Tilia europaea;Tiliaceae	M	20	5	0	5.5	6	400*	4.8	4	4	Norm	40+	Ivy on stem into crown. Ivy inhibiting VTA. Part of group	A	2	
T15	Rowan; Sorbus aucuparia; Rosaceae	Y	20	1	1	1	1	130*	1.6	4	4	Norm	10_20	Subdominant tree	C	2	
T16	Elm; Ulmus (species); Ulmaceae	Y	20	1	1	1	1	130*	1.6	4	4	Norm	10_20	Subdominant tree. Ivy on stem into crown. Ivy inhibiting VTA	C	2	Remove major crown deadwood
T17	European Lime; Tilia europaea;Tiliaceae	M	20	6	6.5	6	6.5	570, 280*	7.6	4	4	Norm	10_20	Ivy inhibiting VTA. Ivy on stem into crown. Low visibility to mid upper crown due to vegetation. Situated half and half on boundary	A	2	Remove major crown deadwood
T18	Sycamore; Acer psuedoplatanus; Aceraceae	M	20	6	8.5	8.5	4.5	380, 450*	7.1	4	4	Norm	10_20	Ivy inhibiting VTA. Ivy on stem into crown. Low visibility to mid upper crown due to vegetation. Situated half and half on boundary. Multistemmed tree 2 stems. Part of group	B	2	Remove major crown deadwood
T19	Pissards Plum; Plum; Prunus cerasifera Rosaceae 'Atropurpurea' Rosaceae	M	8	2	2.5	1.5	1	180*	2.2	4	4	Norm	10_20	Ivy inhibiting VTA. Ivy on stem into crown. Low visibility to mid upper crown due to vegetation. Situated half and half on boundary. Multistemmed tree 2 stems. Part of group	C	2	Remove major crown deadwood
G1	Leyland Cypress; x Cupressocyparis leylandii; Cupressaceae	M	9	n/a	n/a	n/a	n/a	450	5.2	0	0	Norm	20-40	3 trees used as screen hedge, managed by clipping and height reduction. Located within neighbouring property	C	2	
G2	Rhododendron; Rhododendron ponticum; Ericaceae;Laurel; Prunus laurocerasus; Rosaceae	M	2	n/a	n/a	n/a	n/a	100	0.8	0	0	Norm	10_20	Undergrowth screen planting	C	2	
G3	Cherry Laurel; Prunus laurocerasus; Rosaceae;Hawthorn; Crataegus monogyna; Rosaceae;Hornbeam; Carpinus betulus; Carpinaceae;Shrubs	Y/SM;E M;EM/M	2	n/a	n/a	n/a	n/a	100	0.8	0	0	Norm	10_20	Boundary hedge and screen planting. Managed by clipping	C	2	

TREE REF. #	SPECIES	AGE	HEIGHT (in m)	CANOPY (in m) N - S - E - W	STEM (in mm)	RPA (in m)	CLEARANCE (in m)	1st BRANCH (in m)	VITALITY	LIFE EXPEC.	NOTES	BS CAT.	MANAGEMENT
TREE SURVEY 'KEY' - BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'													
	TPO/CA	-	On client request: presence of Tree Preservation Orders (TPO) / site location within a Conservation Area (CA) & date checked;										
	TREE REF. #	-	Tree reference number: tag or plan number (T - individual tree, G - group of trees/shrubs, H - hedge);										
	SPECIES	-	Genus, species and/or common name;										
	AGE	-	Age classification (NP - new planting, Y - young, EM - Early-Mature, SM - semi mature, M - mature, LM - late mature, OM - over mature);										
	HEIGHT (in m)	-	Approximate height of tree in metres;										
	CANOPY (in m) N - S - E - W	-	Approximate branch spread in metres of the four principal compass points;										
	STEM (in mm)	-	Stem diameter in millimetres: measured in accordance with s.4.6 of BS5837;										
	RPA (in m)	-	Circle radius of the Root Protection Area: calculated using the stem diameter (single/multiple stem variant, as outlined within BS5837);										
	CLEARANCE (in m)	-	Crown clearance in metres above the adjacent ground level;										
	1ST BRANCH (in m)	-	Clearance in metres to first significant branch and direction of growth (where relevant);										
	VITALITY	-	Physiological condition typically gauged from canopy cover and annual extension growth (good, fair, poor, dead);										
	ESTIMATED REMAINING CONTRIBUTION	-	Approximate number of years a tree will continue to contribute without the need for oppressive arboricultural intervention, categorised in years as <10, 10-20, 20-40 and >40;										
	NOTES	-	Structural and physiological condition observations;										
	BS CAT.	-	BS5837 tree quality assessment category: resulting from structural/physiological condition and remaining contribution (approximate useful life expectancy); Standard retention category U : in such a condition that any existing value would be lost within 10 years; Standard retention category A : high quality and value, in such a condition as to be able to make substantial contribution of 40+ years; Standard retention category B : moderate quality and value, in such a condition as to make a significant contribution of 20+ years; Standard retention category C : low quality and value, currently in adequate condition to remain until new planting could be established 10+ years; Standard retention sub-category, mainly due to: 1 - Arboricultural values, 2 - Landscape values, 3 - Cultural values, including conservation;										
	MANAGEMENT	-	Preliminary management recommendations (as appropriate);										
	' * '	-	Within the survey schedule denotes an estimate										



Root Protection Area (RPA) Notes

BS5837:2012 standard circular RPAs are illustrated here, with consideration required for anticipated root growth influence and restrictions, such as –

Root growth from trees generally may be absent restricted or deflected from site due to the lower/higher level changes, raised concrete structures, existing foundations, hard surfaces, longstanding compacted ground and existing structures for example. Further investigation may be required to establish the presence or absence of roots.

In this case no amendments have been made to the standard circular RPA in this drawing.

KEY

Tree Crown Spread

Root Protection Area (RPA)

Tree Stem

T1 Tree No.

Removed Tree

Tree Condition Category

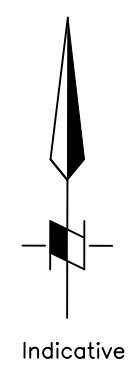
A

B

C

U

The surveyed trees are illustrated on this Constraints Plan which is prepared in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'



REV.	DESCRIPTION	DWN	CHK'D	DATE		
CLIENT Mr and Mrs Owen						
PROJECT 251380/A1 34 Church Road, Knowsley, L36 9TP						
TITLE Tree Constraints Plan						
DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	20/05/2025	AT	20/05/2025			1-200
(Mail) Second Floor, 1 Hunter's Walk, Canal Street, Chester. CH1 4EB Telephone: 0333 123 7080 www.indigosurveys.co.uk						
Drawing Number 251380/A1/TCP/01						A2 REV.
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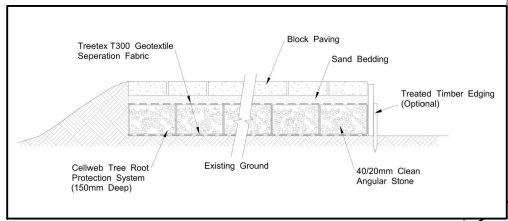
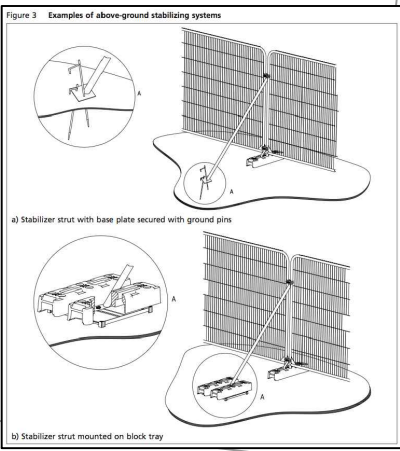
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Root Protection Area (RPA) Notes

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Root growth from trees generally may be absent restricted or deflected from site due to the lower/higher level changes, raised concrete structures, existing foundations, hard surfaces, longstanding compacted ground and existing structures for example. Further investigation may be required to establish the presence or absence of roots.

In this case T14's RPA has been amended due to the existing driveway



Tree Removals:
The current scheme would require the removal of T5, T7, T8, T12 and T13. replacement tree detail to be included within the landscape scheme.

Tree Pruning:
No tree pruning is anticipated

Protective Barrier Fencing (PBF):
To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should be attached to a base plate and secured with ground pins. All weather notices should be erected at regular intervals on the weld mesh panels with words such as "Tree Protection Area – Keep out". See example on TPP.

Sensitive Ground Works:
Excavation within the RPAs will be initially undertaken by hand under direct on-site arboricultural supervision to the required extent of any excavation, whether for proposed foundations, hard surfacing or underground services. The soil is to be loosened with the use of a fork or pick and then cleared with the aid of an air-spade and air-vac. All roots to be cut will be cleanly severed with the use of a hand saw or secateurs. The edge of the excavation closest to the retained trees will be covered over with damp hessian to prevent drying out, and where necessary be shuttered to prevent soil collapse or contamination by concrete.

Proposed Parking Bay Existing vegetation may be removed with hand tools or sprayed with an approved non residual herbicide such as 'Glyphosate'. The new hard surfacing will be constructed using a 'No Dig' surfacing situated entirely above the existing soil surface and where needed using a proprietary cellular confinement system (GeoWeb or similar) laid over a bi-axial geo-grid (tensor TriAx or similar). Prior to this any small hollows on the surface may be filled with clean sharp sand (not builders sand) to a maximum depth of 150mm. The 'GeoWeb' is to be back filled by hand with a no-fines aggregate of 20mm – 30mm. The area of 'GeoWeb' will be covered with a permeable geotextile fabric and the finished wearing course laid on top. Edge supports of an appropriate size and strength should be set above ground level and secured with haunching or steel pins driven into the ground. the outer edge of the supports may be banked up with clean top soil. Please example on the TPP for the principle.

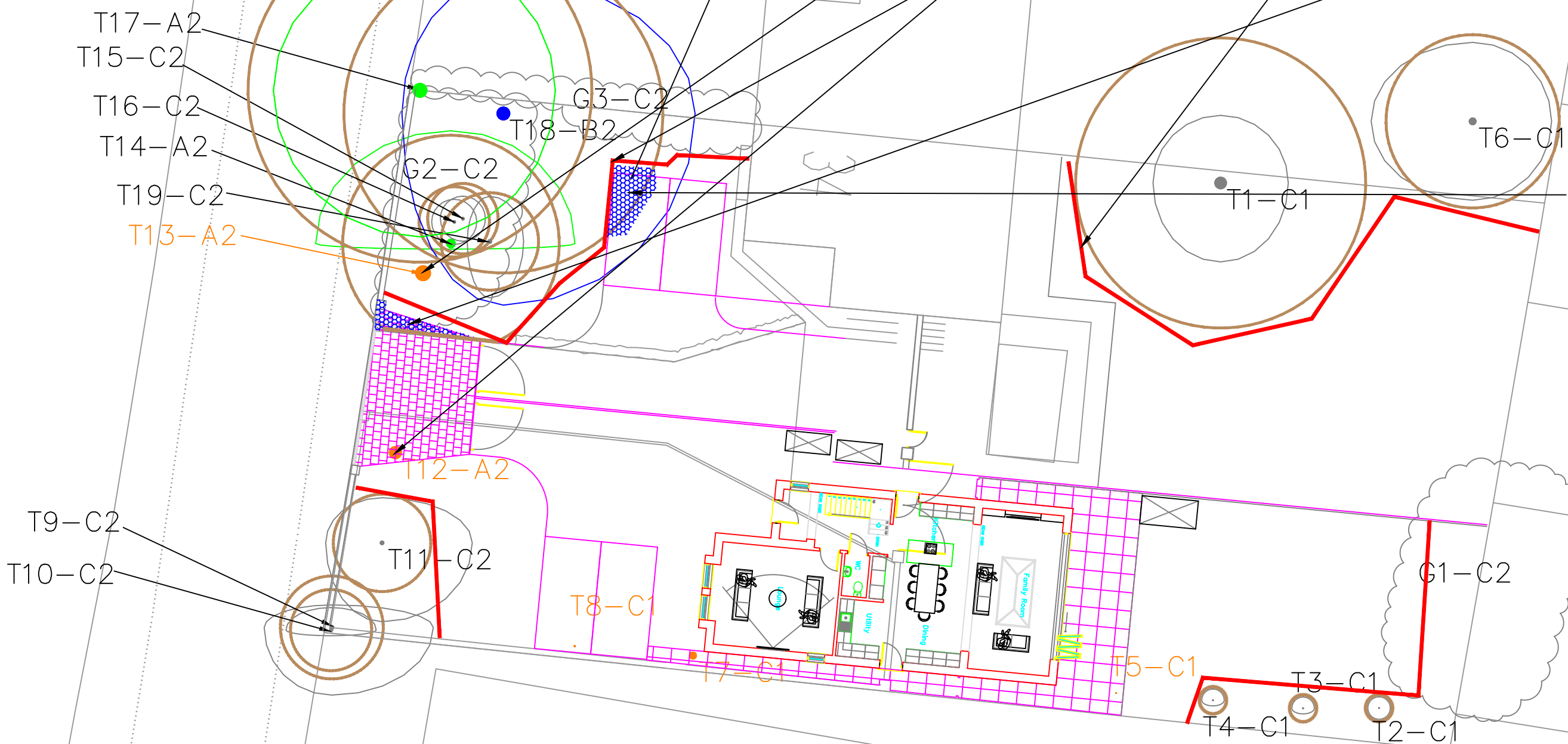
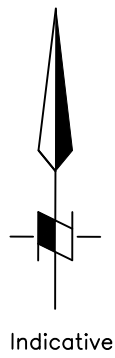
KEY

Tree Crown Spread
Root Protection Area (RPA)
Tree Stem
T1 Tree No.
Removed Tree

Tree Condition Category

A
B
C
U

The surveyed trees are illustrated on this Constraints Plan which is prepared in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'



- Tree Protection Specification**
- The tree protection measures outlined within the Arboricultural Method Statement (ref: 251380/A2 AIA_AMS) are to be adhered to as illustrated on this Tree Protection Plan (ref: 251380/A2-TPP-01), and the additional details below, thus:
- a) Tree works are to be completed prior to commencement of any and all site processes: no additional tree works (not specified in the method statement), or leaning against or attaching of objects to a tree, are permitted.
 - b) Protective Barrier Fencing (PBF), with Tree Protection Signs fixed at least every 5m (see detail and illustration on this TPP), is to be installed prior to the site works commencing.
 - c) Hard Surfaces within RPAs are to be retained where ongoing access is required and supplementary Ground protection is to be installed for exposed soft surfaced RPA sections for material drop-off and storage (needs to be load bearing and prevent chemical run-off or leaching into soil).
 - d) No chemicals or materials are to be transported or stored or used or mixed within a RPA or Construction Exclusion Zone (CEZ).
 - e) No fires are to be lit and no machinery, plant or vehicles are to be washed down within 10m of a tree's canopy or in a CEZ.
 - f) During site works RPAs and CEZs may not be breached, i.e. no surfacing works, without the prior advice of the consultant and the consent of the council.
 - g) No mechanical digging or scraping is permitted within a RPA or CEZ.
 - h) When all construction works are completed the PBF can be removed however, should be realigned consistent with the final landscape design to allow for the hard landscape improvement works to be undertaken ahead of the soft landscape shrub and tree planting works.

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	Based on TCP 251380 & 34 Church Rd, Roby Rev 1	RB	TB	21/5/25
REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT
Mr and Mrs Owen

PROJECT
251380/TPP/A2
34 Church Road, Knowsley, L36 9TP

TITLE
Tree Protection Plan

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	21/05/2025	AT	21/05/2025			1–200



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Drawing Number
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