

Trees and Construction

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

Site: 17 Prospect Place, OL10 4JQ

Ref: 231034/A2_AIA AMS

Client: Naeem Shaukat



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- May 2023 -

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Revision	Description	Date
/	/	/

1. INTRODUCTION

- 1.1 **Instruction:** This advice has been prepared for the Quartet Architecture (hereafter; client) and is in respect of the tree related planning considerations at 17 Prospect Place, OL10 4JQ (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 amenity by trees which are appropriate for retention.
- 1.3 **Scope of this advice:** This advice has been produced in accordance with BS5837 and is intended to demonstrate the site's realistic arboricultural constraints and assist with the design process. The objective is to systematically assess the site and provide suitable recommendations regarding the proposal's potential impact on trees and vice versa.
- 1.4 Following instruction the consultant surveyed the site on the April 2023 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 use the supplied plan to illustrate the surveyed trees in plan format as a 'Tree Constraints Plan' (hereafter; TCP); the TCP and the tree survey data table are at Appendix III.

2. SITE INFORMATION & TREE ASSESSMENT

- 2.1 The site is a piece of land to the side and rear of 17 Prospect Place.
- 2.2 **Proposal:** It is understood that the site is being considered a planning application. This has now been confirmed and the site is to be developed to accommodate 3 new dwellings.
- 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 trees -
- 2.4.1 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 as well as those categorised as 'U' for those trees of curtailed life expectancy not to constrain development.
- 2.4.2 The BS5837 tree survey is a means of objective assessment and reflects the trees' condition, quality contribution, remaining life expectancy and spatial considerations (stem, crown and roots). On this basis and in order to consider the trees' accurate constraints, the survey data is used to illustrate the trees as the TCP; this has the crown extents for north, east, south and west, the stem diameter measurement, and the calculated root protection areas (hereafter; RPAs). Hereafter, the trees are therefore reviewed and considered on their own merits and in line with the guidance of BS5837.

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 (221500/TCP /01).
- 3.2 General Considerations for Tree Retention / Removal
- 3.2.1 'A' the category trees are those which are most 'notable', on site trees and the scheme should be designed to take into account their retention. i.e. crown clearance RPA avoidance and Layout to avail future growth debris and light pressure.
- 3.2.2 'B' Class trees are also 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 although Council resistance would be anticipated.
- 3.2.3 The smaller scale, declining or limited contribution trees are categorised as low quality 'C' category trees. These may be suitable for retention for the most part, but should not present a significant constraint to the scheme as mitigation planting can replicate and enhance their contribution.
- 3.2.4 It is assumed that T1, T2 and T3 are off site trees and managed/owned by a third party. It is assumed that these will be protected throughout the development.

4. SCHEME / IMPLICATIONS ASSESSMENT

- 4.1 For the purpose of this assessment, the proposed site plan is used as a basis for consideration. This takes account of anticipated tree removals, tree protection options and potential alterations to account for arboricultural features; as per section 1.6 and section 2.2 herein, the TCP shows the '*proposed site plan*' as an overlay for review.
- 4.2 *Consideration for T1, T2 and T3* – These trees are assumed to be in third party ownership. Nevertheless there is public access to their RPA's and it is intended to prevent access for the storage of materials during the development. The existing hard surface will be retained to act as ground protection.
- 4.3 Following the above considerations for trees, the trees are clear of the active construction area. These trees can be retained and protected by avoidance and warning 'post and rope' type barriers, as well as retained hard surfacing.
- 4.4 Further to the above review and in consideration for the tree removals and need to protect retained trees, the following section contains said details as an Arboricultural Method Statement (Application Stage).

5. METHOD STATEMENT 'CONSIDERATIONS'

5.1 Arboricultural Construction Restrictions

5.1.1 The following restrictions are considered relevant for tree protection purposes which are illustrated on the appended Tree Protection Plan:

- a) Approved or notified tree works are to be completed prior to site works: no tree works are required to facilitate the proposed scheme, and no leaning against or attaching of objects to trees is permitted unless agreed in writing by the council.
- b) A section of Protective Barrier Fencing (hereafter; PBF) is to be installed in locations as shown on the TPP. This is to be 'post and rope' style. (see TPP for example)
- c) Following the installation of PBF the fenced off sections are Exclusion Zones (hereafter; CEZ) and will have retained hard surfaces supplemented with ground protection.
- d) No chemicals/materials are to be transported/stored/used/mixed within exposed grounds on site; all chemical / cement storage, transport or use will be pre-prepared with impermeable liner and detail within a Construction Management Plan.
- 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, within an RPA / CEZ.
- f) During construction processes the RPA/CEZ may not be breached, i.e. no other works than are approved for the landscape borders and patio areas and no mechanical digging or scraping is permitted within a RPA/CEZ.
- g) Only following construction completion can the PBF be removed to facilitate the commencement of hard landscape, garden works and the soft surface scheme can be implemented.

5.2 Arboricultural Site Monitoring / Supervision

- 5.2.1 The site should be checked by a qualified arboriculturist throughout the construction processes to ensure the tree protection measures are adhered to, thus -
- (a) after tree works, to inspect Protective Barrier Fencing and ground protection are in place.
 - (b) after construction and landscape completion to confirm tree protection adherence.

5.3 Tree Works

- 5.3.1 All approved tree works must be undertaken with the council's written permission (subject to statutory exemption) and undertaken to BS3998 by a tree service contractor who is suitably qualified, experienced and insured to for arboricultural contracting.
- 5.3.2 In accordance with the approved scheme and the tree related planning condition(s), the following tree works are recommended in conjunction with the scheme (additional tree works must only be undertaken with the full and written permission of the council):
- 5.3.3 Further to the above, the following tree works are required prior to site works.

TREE WORK SUMMARY

NUMBER	TREE REMOVALS / PRUNING WORKS	
T1, T2, G1	Remove	Fell trees to facilitate the development
Retained trees		Protected by avoidance.

5.4 Underground utilities

- 5.4.1 For the most part the proposed drainage and underground utilities will be well clear of retained trees meaning that no arboricultural restrictions are to be applied to the excavations or installations.
- 5.4.2 It is anticipated that all utility runs will make use of existing service runs and the trees will be unaffected.
- 5.4.3 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 Protective Barrier Fencing (PBF) Specification

- 5.5.1 Barrier fencing is to be installed (and signed off by way of arboricultural supervision) following the completion of the tree works. It is illustrated on the Tree Protection Plan and is to remain in situ for the entire duration of ground works/construction processes unless otherwise agreed in writing by the council.
- 5.5.2 The barrier fencing is to consist of a series of 'Post and Rope' style fencing as illustrated in the TPP.
- 5.5.3 PBF will be supplemented by ground protection, by way of retained hard surfaces, polythene layer for grounds outside of the PBF and ply boards for pedestrian access(if required).

5.6 Report Handling

- 5.6.1 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.
- 5.6.2 The proposed scheme is reviewed in respect of the arboricultural constraints and is considered to be achievable in line with the BS5837 guidance. The recommendations herein may be approved by the council as a means of authorised tree works and tree protection.
- 5.6.3 This AMS and the TPP may be approved by the council in support of the application, all site personnel will have access to a copy and the tree work and protection details are to be inspected.

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 categorization 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.

Appendix III

Data Table:	As appended (BS5837 Tree Survey Key & Table)
Tree Constraints Plan:	As appended (231034 /TCP/01)
Tree Protection Plan:	As appended (231034 /TPP/01)

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

CLIENT: Naeem Shaukat

PROJECT REF: 211034/A1

SITE: 17 Prospect Place, Heywood, OL10 4JQ

CONTACT: /

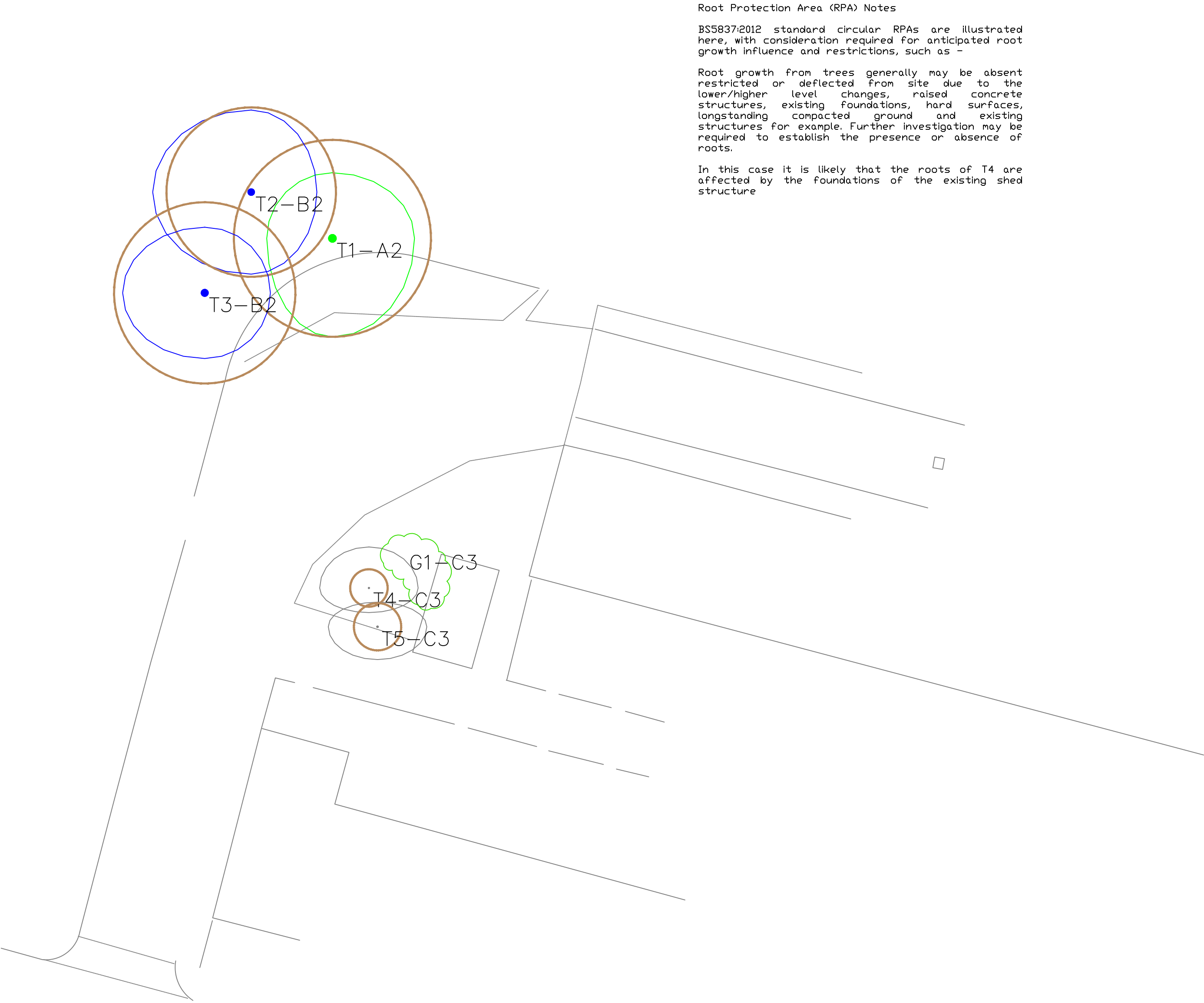
SURVEY DATE: 12th April 2023

ARB CONSULTANT: Lucy Garbutt MSc, BSc (Hons)

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	Beech; Fagaceae	M	15	4	6	5	4	500	6.0	2	2m - East	Good	>40	Old pruning wounds. On an embankment.	A 2	
T2	Norway Maple; Acer platanoides	M	15	5	5	4	6	430	5.2	2.5	2.5m - East	Good	>40	Low vigour with minor deadwood.	B 2	
T3	Sycamore; Acer pseudoplatanus	M	15	4	4	4	5	460	5.5	3	3m - West	Good	>40	Old pruning wounds. Bark damage and minor deadwood.	B 2	
T4	Willow; Salix	SM	6	2.5	1.5	3	3	95	1.1	1	1m - East	Good	>40	5 x stems (90-100). Major snapouts and fresh pruning wounds. Crossed branches. Crown overhangs shed.	C 3	
T5	Sycamore; Acer pseudoplatanus	SM	6	1.5	2	3	3	120	1.4	1.5	1.5m - East	Good	>40	5 x stems (200, 200, 100, 100, 100). Previous pruning wounds to stem.	C 3	
G1	Sycamore; Acer pseudoplatanus	Y	6	/	/	/	/	50	0.6	0.5	0.5m - West	Good	>40	Two young self seeded sycamores.	C 3	

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



KEY

Tree Crown Spread

Root Protection Area (RPA)

Tree Stem

T1

Tree No.

Removed Tree

Tree Condition Category

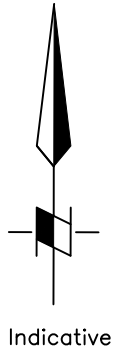
A

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'

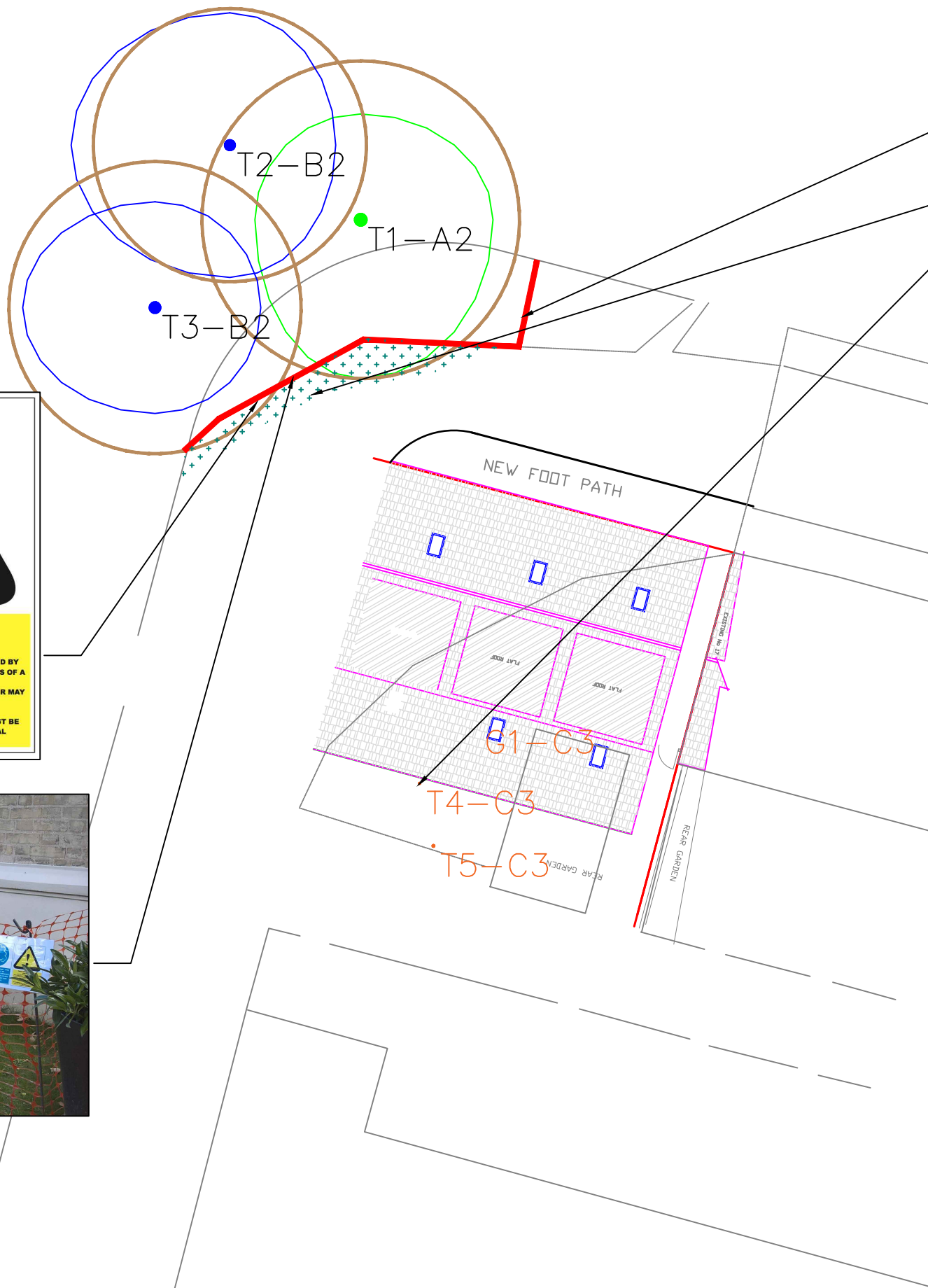


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REV.	DESCRIPTION	DWN	CHK'D	DATE		
CLIENT Naeem Shaukat						
PROJECT 231034/A1 17 Prospect Place, OL10 4JQ						
TITLE Tree Constraints Plan						
DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	28/04/2023	AT	28/04/2023			1–200
 (Mail) Second Floor, 1 Hunter's Walk, Canal Street, Chester, CH1 4EB Telephone: 0333 123 7080 www.indigosurveys.co.uk						
Drawing Number 231034/A1/TCP/01						A2 REV.

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- Tree Removals:**
T4, T5 and G1 to be removed to facilitate the scheme; replacement tree detail to be included within the landscape scheme.
- Protective Barrier Fencing (PBF):**
'Post and Rope' style protective fencing to be installed in the areas indicated to prevent access for the construction duration. Tree Protection Area signs to be connected to fence every 5m.
- Ground Protection:**
Temporary ground protection is to take the form of existing hard surfacing the areas indicated which are within the unmodified RPAs of T1 and T3.

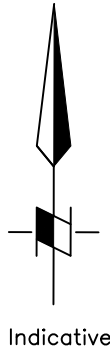
KEY

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

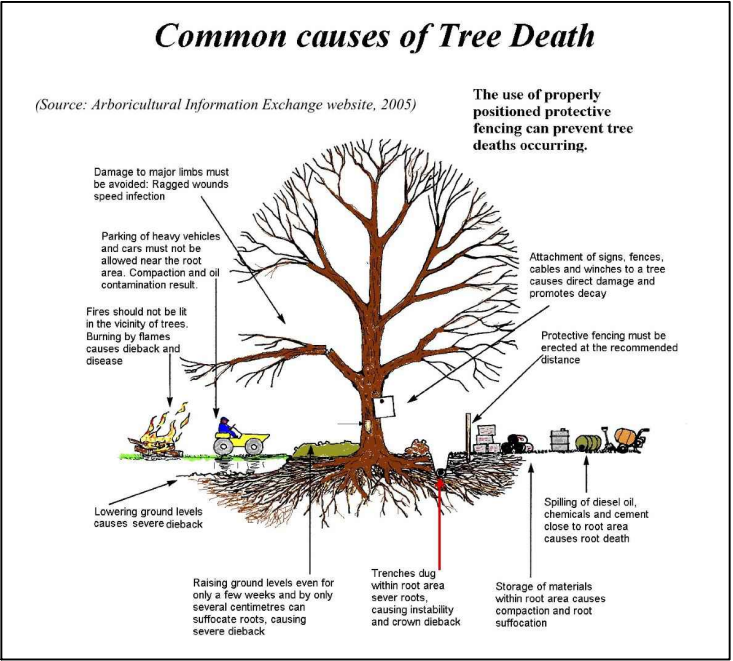
Tree Condition Category

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: 231034/A2 AIA_AMS) are to be adhered to as illustrated on this Tree Protection Plan (ref: 231034_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 work commencing.
 - c) Hard Surfaces within RPAs are to be retained where ongoing access is required and material drop-off and storage.
 - 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.



	Based on TCP 231034 & IPS/R/17/01.104JQ	RB	TB	11/5/23
REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT
Naeem Shaukat

PROJECT
231034/A1
17 Prospect Place, OL10 4JQ

TITLE
Tree Protection Plan

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	16/05/2023	AT	16/05/2023			1-200



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A2
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