

Trees and Construction

BS5837 Arboricultural Method Statement

Site: Land to Rear College Ave, Formby
Ref: 220653_23/A4_AMS
Client: Evergreen Developments (Formby) Limited



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Arboricultural Consultant (Author):
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- Aug 2023 -

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Revision	Description	Date
	First report release	18/8/23

1. INTRODUCTION

- 1.1 **Instruction:** This advice has been prepared for Evergreen Developments (Formby) Limited (hereafter; client) and is in respect of the tree related considerations at Land to Rear College Ave, Formby (hereafter; site).

It is in respect of the tree related planning conditions of granted planning application at the above address and is produced in accordance with British Standard 5837 : 2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (hereafter; BS5837).

- 1.2 **Scope of this report:** This report has been produced in accordance with BS5837 and is intended to demonstrate how trees have been properly considered in relation to the approved application and associated plans. The objective is to provide tree protection details relating to the scheme's potential impact on trees and vice versa.

- 1.3 Following instruction the site was surveyed by Rod Benzies *BSc MArborA* (hereafter; Consultant) on the 13th Sept 2022. Pursuant to the agreed brief a site assessment and a BS5837 tree survey were carried out with the production of arboricultural advice for the client in the form of the '*BS5837 Tree Survey Report*'.

The previous arboricultural advice supported the approved planning application of which, together with the tree related planning conditions, will inform this detailed arboricultural method statement / tree protection advice.

- 1.4 The details herein are subject to caveat at Appendix I, outlines relevant terms and definitions at Appendix II and constitutes the findings of the preliminary site survey, the assessment of the accepted scheme and the tree related planning conditions.

- 1.5 The tree survey and site observations were used to illustrate the site's arboricultural constraints in plan format as a 'Tree Constraints Plan' (hereafter; TCP). This is used as a base layer with the approved scheme outline as an overlay to inform this advice as a Tree Protection Plan (hereafter; TPP); the survey table and TPP are at Appendix III.

- 1.6 The initial arboricultural assessment and Tree Report referenced are as part of the planning approval notice, these outlined the arboricultural constraints which informed a TCP with tree locations, BS5837 quality categories, measured crowns and augmented RPAs (based on existing restrictions to root growth). With reference to the above detail, the overlaid scheme outline is assessed against the arboricultural constraints and tree protection recommendations detailed herein.

2. SITE & APPLICATION INFORMATION

2.1 The site consists of former gardens from existing surrounding properties and has been fenced along the new boundaries. It is accessed from The Evergreens to the north. The site is currently empty of buildings apart from an existing garage.

2.2 **Scheme:** A development scheme has been granted planning permission.

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.

Also, the site requires consideration from an arboricultural perspective due as part of the approved layout and design as acknowledged by the council in the form of planning conditions 8 reproduced below.

2.4 ***Condition 8) Prior to the commencement of development site specific information must be submitted to and approved by the Local Planning Authority in respect of the measures to be used to protect trees bordering the development site. The approved measures must then be adhered to throughout construction.***



3. ARBORICULTURAL ASSESSMENT & METHOD STATEMENT

3.1 The following information, as with the prior contents of this report, is to be read in conjunction with the tree survey data table and the appended Tree Protection Plan (220653_23/TPP/01); it is referred to as the Method Statement (hereafter; AMS).

Additionally, the recommendations of this AMS require approval by the local authority in accordance with the tree related planing conditions as illustrated on the TPP.

3.2 Arboricultural Site Monitoring / Supervision

3.2.1 In adherence to this AMS, the local authority will need confirmation of adherence to this AMS for tree protection, generally by 'a scheme of arboricultural supervision'. This will require site inspections by a qualified arboriculturist during the site's development (i.e. Rod Benzies from Indigo Surveys Ltd).

3.2.2 In this instance, as the majority of the trees are clear of works, phased works will be used in conjunction with Protective Barrier Fencing (hereafter; PBF). The tree protection and site management will be supplemented by arboricultural supervision / inspection.

3.2.3 Once the PBF is in place with retained hard surfaces for RPAs (ground protection), a high frequency of site inspections is not necessarily essential, i.e. the risk to trees [once the protection measures are in place] is considered to be limited on this site.

It is necessary for *intermittent inspections* which are *recommended monthly* to ensure this advice is adhered to and the consultant is available for onsite tree queries; this will require the council's approval as a variation on the planning condition terminology.

3.2.4 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 by email for distribution).

The arboricultural supervision/monitoring is therefore recommended thus:

- Unless the below points are within consecutive months, additional inspections will be undertaken to provide a '1 month frequency' for arboricultural visits;
- Onsite observation/guidance at the time of PBF installation;
- Induction of site management regarding arboricultural considerations and the assignment of key personnel (site manager) responsible for maintaining the AMS;
- Installation of foundations within the RPA of T9.
- Installation of foundations within the RPA of hard surfaces within the RPA of T3, T9 and T10
- On construction completion, onsite guidance for the sensitive surface works and new landscape installations (paving / turf) (see; TPP);
- On completion of hard landscaping works, onsite observation/guidance for the removal of protective measures to sign off the site as having adhered to the AMS.

3.3 Tree Works

3.3.1 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.

3.3.2 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):

TREE WORK SUMMARY

NUMBER	TREE REMOVALS / PRUNING WORKS	
T2, T4, T5 and G1	Remove	Remove in conjunction with the scheme:
Retained trees		Protection by placement of fixed Heras panels around the crown / RPA extents to have no access during construction and manually operative sensitive surface works and retained soil levels within RPA of T3, T9, T10.

3.4 Underground utilities

- 3.4.1 For the most part the proposed drainage and underground utilities will be well clear of retained trees (those within the rear garden) meaning that no arboricultural restrictions are to be applied to the excavations or installations.
- 3.4.2 It is anticipated that all utility runs will be located to the side and/or front of the property. These are to be shown on a dedicated utilities layout plan and be clear from RPAs; if this is not the case special measures for underground utilities will be required.
- 3.4.3 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.

3.5 Protective Barrier Fencing (PBF) Specification

- 3.5.1 Protective barrier fencing (hereafter; PBF) is to be installed to prohibit access, exclude ground works, material storage and construction processes etc. from the exposed RPA sections of retained trees during construction.

PBF is to be used in conjunction with retained boundary wall/fence sections as well as existing hard surfaces within RPAs for site movements until construction completion (surface works within RPAs will be undertaken sensitively - detail to follow).

- 3.5.2 PBF is to be installed as illustrated on the TPP prior to site works commencing and is to remain in place until construction completion unless otherwise agreed by the council.
- 3.5.3 The PBF, due to the degree and proximity of work taking place around the trees, is *“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*
- 3.5.4 Tree protection signage denoting the words *“TREE PROTECTION ZONE – KEEP OUT”* is to be fixed onto each panel of the PBF (see TPP illustration).

3.6 Ground Protection

3.6.1 In order to avoid the need for supplementary ground protection, phased construction works are to be used in conjunction with the installation of the PBF; surface works within retained trees' RPAs are to be delayed until construction completion.

At the point of PBF being installed, the enclosed RPA sections become Construction Exclusion Zones (hereafter; CEZ) to protect the trees' rooting areas during construction.

3.6.2 Due to the PBF installation and retention of existing hard surfaces within RPAs (for the duration of works), it is not anticipated that construction related RPA incursion will occur. However, where this situation arises, it may be necessary to protect tree roots and their growing environment. If so, the advice of the consultant will be sought and the written permission of the council will be required.

3.6.3 Where the retention of existing hard surfaces cannot be maintained within RPAs during construction, temporary ground protection will be needed, i.e. for exposed RPAs.

Specifically, the ground is to be protected from impact where it may be subject to direct pedestrian/vehicular movements. The ground protection is to be appropriate for the intensity of the pedestrian or vehicular movements thus -

- a) For pedestrian movements within an exposed RPA, the ground protection is to consist of *"a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold"*; and
- b) For wheeled or tracked movements within an exposed RPA, the ground protection is to *"be designed by an engineer to accommodate the likely loading"*.

3.7 Sensitive Ground Works (within RPAs)

3.7.1 Any excavations necessary within a RPA or designated CEZ (as illustrated on the TPP - each RPA and the areas enclosed by PBF) must:

- Only be undertaken when the construction works are completed; and
- Retain the existing soil levels; and
- Use sensitive excavation techniques to protect the tree roots and their existing growing conditions, i.e. sensitive manual excavations / air spade.

3.7.2 The RPA excavation area of T3, T9 and T10 is to be marked out [as per the TPP] on the hard surface and undertaken by hand with the use of manually operated (hand held) tools.

3.7.3 The excavations are to be preventative and carefully avoid damage to tree roots; therefore, individual 50mm layers 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.

3.7.4 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.

3.7.5 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.

3.7.6 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.

3.7.7 As the existing surface being removed is hard surfaced with either tarmac or concrete bound sections and the proposed surface finishes are either similar or more preferable, the surface treatment installations can be undertaken in a traditional manner.

Where the new surfaces can use more preferential treatments to encourage percolation of surface water and encourage aerated soils with nutrient availability, this will demonstrate an enhancement to the existing conditions for tree root growth and is encouraged where possible (to be illustrated on the landscape scheme).

- 3.7 Foundations within RPA (T9) (under arboricultural supervision)
- 3.7.1 Excavation within the RPAs will be initially undertaken by hand under direct on-site arboricultural supervision to a minimum of 750mm deep of any excavation, whether for proposed foundations, hard surfacing or underground services.
- 3.7.2 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.
- 3.7.3 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.
- 3.7.4 If appropriate soil beneath the depth 750mm may be sheet piled, tegular piled or individual piles. Any deeper excavations may be undertaken by a machine provided it works from outside of the RPA or has appropriate ground protection in place to move and work upon.
- 3.8 Additional Tree Protection Considerations
- 3.8.1 General consideration for material storage, handling and pollution control is to be detailed within a 'construction management plan' and supplied by the client in addition to this advice.

The hard surfaces outside of tree RPAs will likely allow for a site cabin or material storage area to be allocated there. However, this will require measures to ensure no material/chemical run-off or leaching into soils, i.e. polythene layer beneath.

Thereafter, it is important to ensure that delivery, storage, material preparation, access etc. are all located entirely outside of retained trees' RPAs and crowns, i.e. not within the areas enclosed by PBF as per the TPP.

3.8 Summary of Construction Restrictions

- 3.8.1 The following restrictions apply for tree protection purposes: as illustrated on the Tree Protection Plan (TPP/220653_23/01):
- a) No additional tree works are permitted unless further agreed in writing by the council.
 - b) PBF is to be installed prior to site works commencing, i.e. the delivery of materials, site set up, site preparation and/or construction as per the TPP (appended) and T1's hard surfaced RPA is to be sprayed on the grounds and remain until construction completion
 - c) Once the PBF is in place the enclosed areas are to act as Construction Exclusion Zones (no access is permitted); the site cabins and materials are to be delivered using the existing access and ensure all storage is clear of tree crowns and RPAs.
 - d) No chemicals or materials are to be transported or stored or used or mixed within an exposed 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 within a RPA or CEZ.
 - f) During construction processes RPAs / CEZs may not be breached, i.e. no surface work, without the consultant's prior advice and council consent; this is with the exception of pedestrian access for sensitive landscape works within the rear garden section.
 - g) No mechanical digging or scraping is permitted within a RPA / CEZ.
 - h) When all construction is complete the retained hard surfaces within T1's RPA can be sensitively excavated and remaining hard landscape works completed elsewhere.
 - i) Only following hard landscaping completion can the PBF be removed and any remaining soft landscaping/tree planting works be undertaken.

3.11 Additional Recommendations

3.11.1 This report is released to the client for them to distribute at their discretion. The consultant is available via telecom and/or email (via the methods on the title page) for any queries relating to this report and/or any other matter relating to arboriculture.

3.11.2 This AMS and the TPP are to be approved by the council as a means of authorised tree protection measures of which all site personnel are to have access to a copy and the details herein are to be inspected as per s.3.2 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 report is limited to the observations made on the date of inspection as detailed herein and any deletion, editing or alteration will result in the report being null and void in its entirety. | This report 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 report. | This report 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 report 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 report 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.



Evergreen Developments (Formby) Limited | **CLIENT**
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"Tree protection plan" - a scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures.



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Appendix III

Data Table: As appended (BS5837 Tree Survey Key & Table)

Tree Protection Plan: As appended (22653_23/TPP/01)

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

CLIENT: KDP

PROJECT REF: 220653

SITE: Land to Rear College Ave, Formby

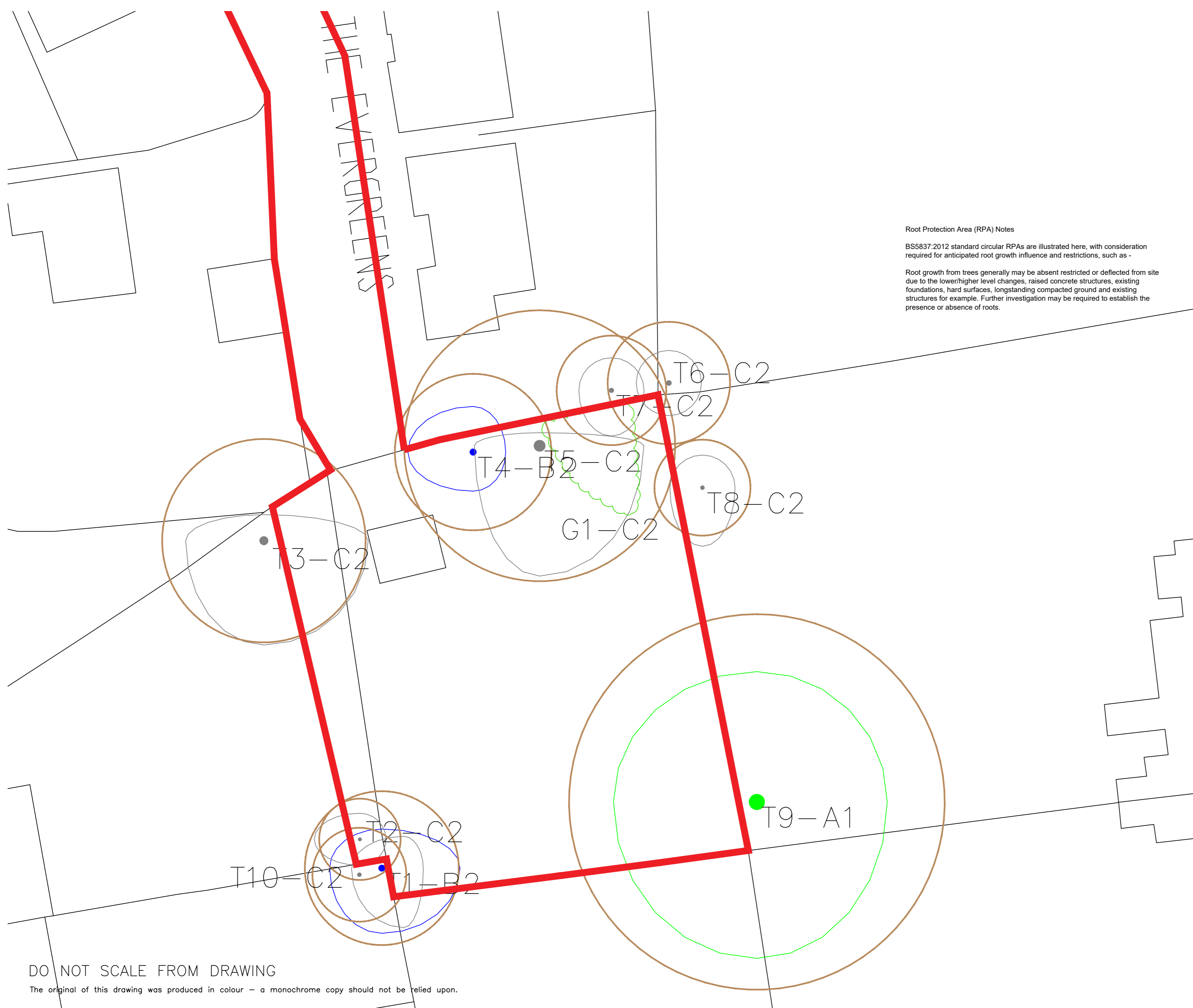
CONTACT: /

SURVEY DATE: 13 September 2022

ARB CONSULTANT: Rod Benzies ND Arb BSc Forestry

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	Sycamore; Acer psuedoplatanus; Aceraceae	EM/M	18	3	5	6	4	, 250, 300, 300	5.9	3	3.5NW	Norm	20-40	Managed by crown lifting. Multistemmed tree 3 stems. Behind new fence. Limited VTA due to access	B	2	
T2	Common Ash; Fraxinus excelsior; Oleaceae	SM/EM	18	2	2	2	3.5	260	3.1	8	8 All round	Norm	20-40	Managed by crown lifting. Self seeded tree. Minor ADB symptom. Stem shape due to growth within group setting	C	2	
T3	Hybrid Poplar; Populus x canadensis; Salicaceae	M	18+	2	8	8	6	650*	7.8	4	4 All round	Norm	20-40	Managed by crown reduction. Stem shape due to growth within group setting. Lower branch failure wound. Limited VTA due to access. Situated in adjacent property	C	2	
T4	Sycamore; Acer psuedoplatanus; Aceraceae	M	15+	3.5	3	2.5	5	500*	6.0	3	2.5 All round	Low/ Norm	20-40	Managed by crown reduction. Ivy on stem and in crown limiting VTA. Some stems removed	B	2	
T5	Sycamore; Acer psuedoplatanus; Aceraceae	M	18+	1	10	8	5	, 450, 350, 350, 550*	10.4	3	2.5 All round	Low/ Norm	20-40	Managed by crown reduction. Ivy on stem and in crown limiting VTA. Some stems removed. Pruning up to boundary from neighbouring side to abate nuisance	C	2	
T6	Sycamore; Acer psuedoplatanus; Aceraceae	SM/EM	15+	2.5	2.5	2.5	2.5	, 300, 250	4.7	0	2.5 All round	Low/ Norm	20-40	Self seeded stems. Adjacent. Managed by crown reduction	C	2	
T7	Sycamore; Acer psuedoplatanus; Aceraceae	SM/EM	15+	2.5	3.5	2.5	2.5	350*	4.2	4	4 All round	Low/ Norm	20-40	Adjacent. Managed by crown reduction. Situated in adjacent property. Managed by crown lifting	C	2	
T8	Sycamore; Acer psuedoplatanus; Aceraceae	SM/EM	15+	2.5	4.5	2.5	2.5	, 160, 170, 200*	3.7	2	3.5 All round	Low/ Norm	20-40	Adjacent. Managed by crown reduction. Situated in adjacent property. Limited VTA due to access. Ivy on stem and in crown limiting VTA	C	2	
T9	Common Beech; Fagus sylvatica; Fagaceae	M/OM	20+	10	12	10	11	1200+	14.4	2	3.5 All round	Norm	40+	Situated in adjacent property. Limited VTA due to access. Co-dominant branch structure with crossing branch inclusions. Possibly an old pollard	A	1	
T10	Sycamore; Acer psuedoplatanus; Aceraceae	SM/EM	14	2.5	4.5	1.5	4	300*	3.6	4	3.5 All round	Norm	10_20	Situated in adjacent property. Managed by crown lifting. Group grown tree affecting growth and appearance	C	2	
G1	Sycamore; Acer psuedoplatanus; Aceraceae; Hybrid Holly; Ilex alterclarensis; Aquifoliaceae	EM	15+	n/a	n/a	n/a	n/a	160	0.9	0	0	Low/ Norm	20-40	Self seeded stems	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;										
	IST 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.

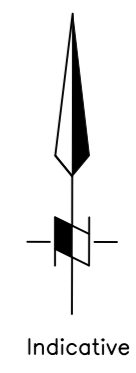
KEY

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

Tree Condition Category

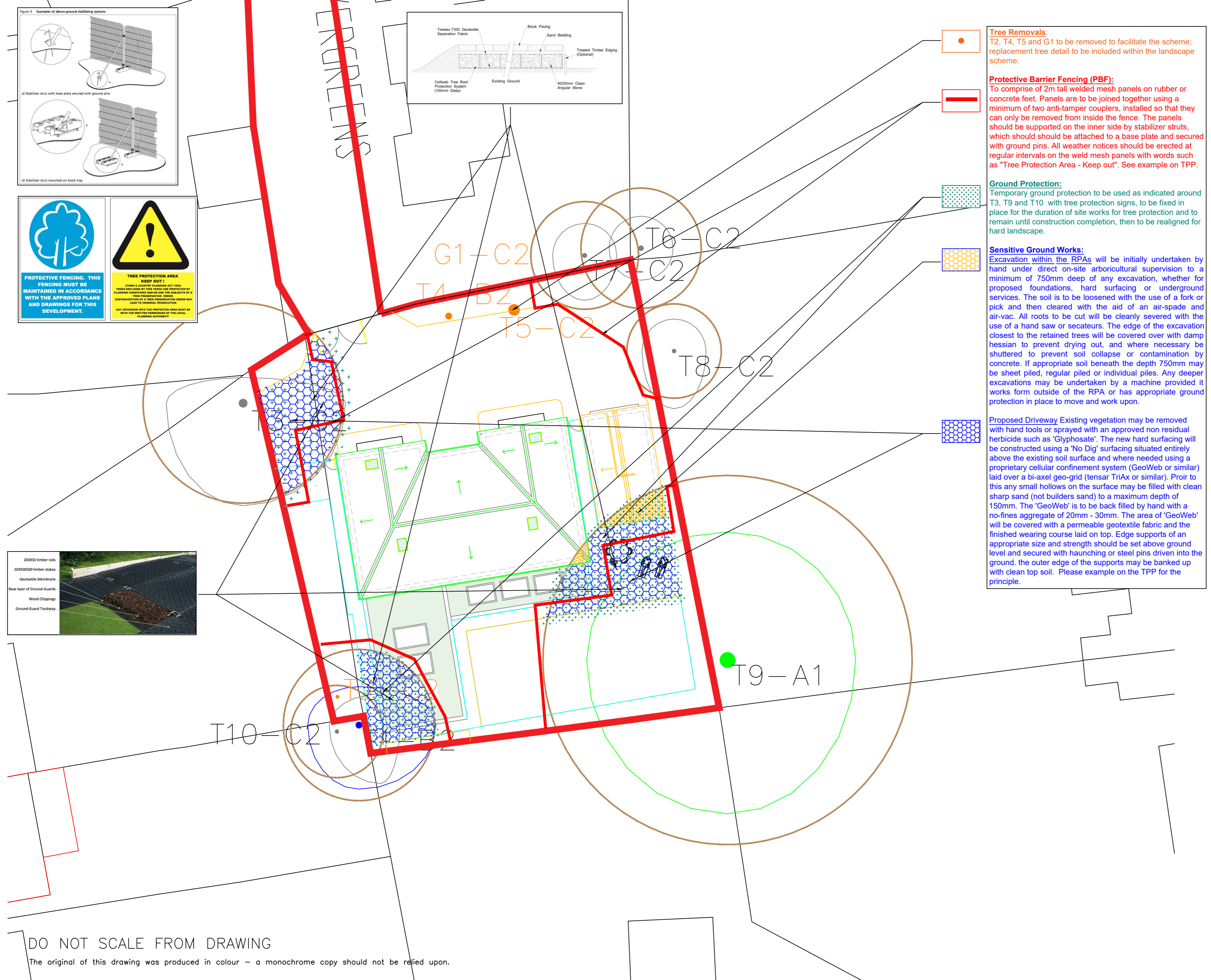
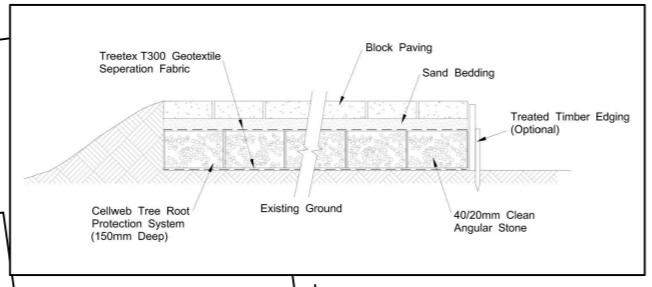
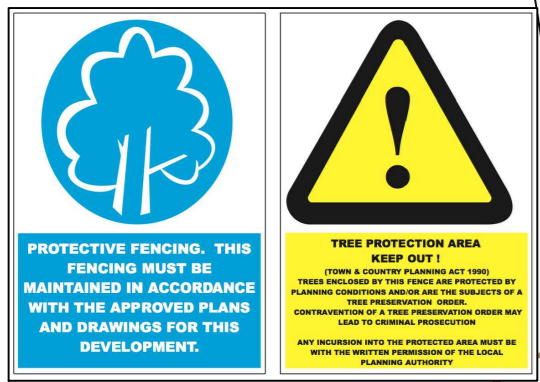
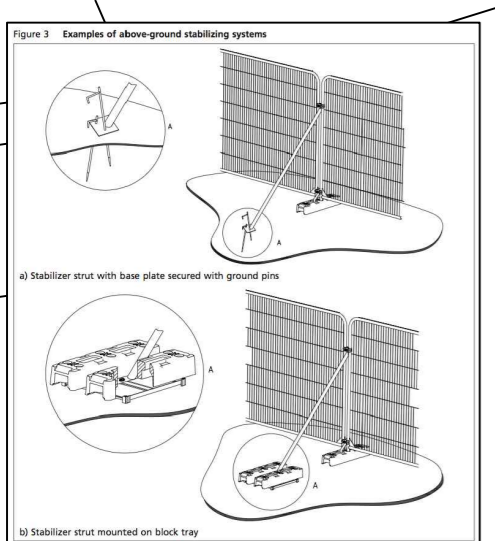
- A
- B
- C
- U

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 Evergreen Developments (Formby) Limited						
PROJECT 220653/A1 Land to Rear College Ave, Formby						
TITLE Tree Constraints Plan						
DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	27/09/2022	AT	27/09/2022			1-200
						
(Mail) Second Floor, 1 Hunter's Walk, Canal Street, Chester, CH1 4EB Telephone: 0333 123 7080 www.indigosurveys.co.uk						
Drawing Number						A2
220653/A1/TCP/01						REV.
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Tree Removals:
T2, 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):
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.

Ground Protection:
Temporary ground protection to be used as indicated around T3, T9 and T10 with tree protection signs, to be fixed in place for the duration of site works for tree protection and to remain until construction completion, then to be realigned for hard landscape.

Sensitive Ground Works:
Excavation within the RPAs will be initially undertaken by hand under direct on-site arboricultural supervision to a minimum of 750mm deep 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. If appropriate soil beneath the depth 750mm may be sheet piled, regular piled or individual piles. Any deeper excavations may be undertaken by a machine provided it works from outside of the RPA or has appropriate ground protection in place to move and work upon.

Proposed Driveway 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-axel geo-grid (tensar 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.

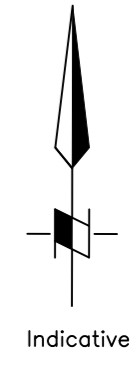
KEY

- 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'



REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT
Evergreen Developments (Formby) Limited

PROJECT
220653_23/A1
Land to Rear College Ave,
Formby

TITLE
Tree Protection Plan

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPBH	18/08/2023	AT	18/08/2023			1-200



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Drawing Number
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