



## **Chartwell Tree Consultants Ltd**

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# **Arboricultural Report**

**BS5837 Tree Survey**

**At**

**2-4 Ringers Road  
Bromley  
BR1 1HT**

**Client**

**The Substantia Group**

**By**

**Sam Bateson**

**Date**

**11<sup>th</sup> November 2020**



*Site* 2-4 Ringers Road and 5 Ethelbert Road  
*Inspection Date* 21.10.2020  
*Inspected By* Sam Bateson

### Terms of Reference

- I received instructions from The Substantia Group to undertake a survey of the trees with regards a proposed development at the above address.
- The tree survey and arboricultural impact assessment are to be produced with relevant measurements in line with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction' for all the trees affected by the proposed development.
- An Arboricultural Method Statement (AMS) has not been requested at this stage.
- To make any other observations or recommendations as required based on the survey.
- The tree plans have been overlaid onto the topographical survey and site designs supplied by The Substantia Group.

### Scope of Report

- This preliminary assessment did not include a detailed examination of tree root systems, aerial access, or the use of internal decay detection equipment. A further supplementary Detailed Report may be advised as a result of the findings herein.
- The inspection was carried out with the aid of the following equipment:
  - Sounding mallet
  - Metal probe
  - 30m measuring tape
  - Rounded down diameter tape (Stem diameter measured at 1.5m)
  - Compass
  - TruPulse 200 Laser Clinometer
- The tree data gathered is for the purposes of a development site survey in accordance with BS5837: 2012 and is **not** a detailed tree safety inspection.
- A tree owner is advised to have all trees in their ownership regularly inspected; trees are to be re-inspected after strong winds.
- The information contained in this report should be considered valid for a period of 12 months from date of issue.
- Shrubs have not been included.

- Only trees potentially affected by the proposed building have been included in this survey.
- If noted during the site survey the presence of a visible Invasive Weed will be highlighted, however this report is in no way considered an Ecological or Invasive Weed survey and CTC does not offer any advice in regards identification, 'Duty of Care' and or treatment and in all such cases a recommendation to seek specialist advice will be given.
- The information contained in this report is provided without prejudice and is based upon the authors knowledge, experience, qualifications and public research. The author cannot be held responsible for the consequences of a difference of opinion for example, from the Local Planning Authority or the Planning Inspectorate.

### **Third Party Disclaimer**

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by Chartwell Tree Consultants Ltd at the instruction of, and for the use by, our client named within the report, the architect of the proposed development and the Local Authority Planning Department. This report does not in any way constitute advice to any third party who is able to access it by any means. Chartwell Tree Consultants Ltd excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage arising from reliance on the content of this report.

### **Site Information**

- Consists of residential and commercial buildings.
- Access can be gained from Ringers Road and Elthelbert Road.
- The DBH (Diameter measured at 1.5m off the ground) for trees within hedgerows or private properties has been estimated and these trees have not been inspected for defects.

### **Rooting Zone**

- The soil level to the North and West of the Sycamore T1 has been lowered recently, suspect significant rooting zone damage as is evident by the previous planter position shown in the photos below.



## Arboricultural Impact Assessment (AIA)

- **Description of the Proposed Development**

Demolition of existing buildings and construction of a mixed-use development comprising residential units, ancillary residents' facilities (including co-working space) and commercial floor space (Use Class E) across two blocks, along with associated hard and soft landscaping, amenity spaces, cycle and refuse storage.

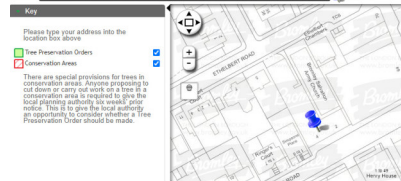
- **Legal Constraints**

The site is not within a Conservation Area and there are no Tree Preservation Orders (Bromley Council website checked 26.10.20)

**Tree Preservation Orders in Bromley**

Find your nearest Protected Trees

Location: **24 RINGERS ROAD BROMLEY BR1 1HT**



## **Impact of the Proposed Development on the Amenity Value of the Trees**

- **Direct Loss of Trees**

- I would recommend the removal of the Sycamore (T1) in order to incorporate the new design and as a **Category C** tree it should not therefore be considered as a constraint to the development.
- It is my opinion that the loss of the above tree will not have a significant detrimental impact on visual amenity of the area as its long-term viability is considered poor and it is not significantly visible from the wider area.
- The loss of the above tree can be mitigated by the planting of good quality, heavy standard trees as shown in a Landscaping Plan.

## **Retained Trees**

- Providing that adequate tree protection is implemented, the amenity value of the trees on the site will be preserved. Retained trees will be protected from soil compaction and impact damage where necessary by protective barriers and / or systems and methods of ground protection. Protective barriers will be fit for purpose, complying with BS5837: 2012 unless otherwise agreed with the Local Planning Authority (LPA). Such alternatives may include the use of temporary buildings or existing hard surfaces as part of tree protection or alternative fencing specification for areas of lower risk e.g. areas for future planting.

### **Above and Below Ground Constraints**

- The British Geological Survey Map Sheet 271 (Solid & Drift Edition) indicates the underlying geology to be Harwich Formation which is not generally considered to contain shrinkable soils. It is recommended that a geotechnical specialist / structural engineer undertake a detailed soil investigation to determine the actual underlying geology and Plasticity Index which may then inform the foundation design.
- The design of any new planting and landscape proposals should be based upon a soil analysis which considers the pH and any nutrient deficiencies or imbalances.
- The building will require an incursion into the Root Protection Area of the Yew (T4) of 4% which is negligible along with an insignificant incursion for T2.
- It is my professional opinion that the development will not result in the significant loss of rooting area and will not result in any significant root damage. This is based upon:
  - Precautions (e.g. manual excavation within RPA's for ground preparation) and site supervision to ensure that any roots encountered are dealt with appropriately. Roots over 2.5cm diameter are only to be severed after consultation with an arboriculturist.
  - Leaf fall in the autumn months can be mitigated by the use of non-slip paving areas and guards/grilles on the gutters and gullies.
  - Shading areas are already a known constraint due to the existing residential properties and have only been shown for trees that are to be retained. As these are deciduous trees the canopy will be more permeable in the winter months when solar gain is more valuable (BRE Document 209).
  - Tree protection fencing and ground protection during the duration of the development.
  - No changes to ground level with RPA's of trees to be retained without arboricultural approval.
  - Sufficient distances (in accordance with BS5837: 2012 Table A1) should be allowed between young trees / new planting and built structures to minimize the impact of future growth.
  - It is important that the foundation design of the new building gives consideration where relevant to the underlying soil type, retained and removed trees (heave potential) and new planting. Further information can be obtained from NHBC Chapter 4.2 'Building Near Trees'.
- As long as the above is followed then the overall rooting environment will not be significantly altered from that already encountered.

## **Construction of the Proposed Development**

- **Ground Level Changes**

There are no significant ground level changes within the RPA's of the trees to be retained.

- **Planning of Construction Operations**

The proposed design layout makes allowance for the following:

- Access for underground utilities without the need to enter any RPA's
- Location for delivery and storage of materials, welfare facilities and contractors' car parking
- A moderate intensity, moderate impact build programme.

- **End Use of the Space**

The proposed layout offers a good degree of space for the intended use of the site.

- **Conclusion**

The adoption of a detailed Arboricultural Method Statement should ensure there are no adverse effects as the result of any excavations and construction operations.

- **Arboricultural Method Statement (AMS)**

- **Purpose**

An Arboricultural Method Statement (AMS) will be required where any demolition or construction operations, including access, are proposed within the RPA (or crown spread where this is greater) of any retained trees. This applies to trees within the scope of the proposed development.

The intention of the method statement is to minimise the risk of any adverse impact on the trees to be retained (especially damage caused by excavation and soil compaction) and to clearly demonstrate how relevant operations will be undertaken. It should also specify appropriate tree and ground protection measures in accordance with BS5837 which will be detailed on a Tree Protection Plan (TPP).

- **Heads of Terms**

Areas of relevance to the proposed development to be addressed in the detailed Arboricultural Method Statement include:

**Pre-development tree works**

All works will be carried out in accordance with BS3998: 2010 'Recommendations for Tree Work' and in line with a schedule of works agreed by the Local Planning Authority as part of any approved planning permission.

**Tree protective barriers and ground protection measures (specification, location and dimensions)**

Protective fencing will be fit for purpose, complying with Figures 2-4 in BS5837:2012 or any other specification agreed in writing with the Local Planning Authority. For example, site huts or temporary buildings may be used as part of the protective barriers (BS5837 section 6.2.2.3). They shall be erected prior to any demolition or construction

(excluding pre-development tree works) taking place at distances specified within the approved plans and remain in place until completion of the construction phase. Removal is only to take place following the approval of the Local Planning Authority / Local Authority Tree Officer.

#### **Site access, parking and site facilities**

To be in accordance with the plans agreed by the Local Planning Authority and outside of the Root Protection Areas of any retained trees unless appropriate ground protection measures are in place and approved by the LPA.

#### **Works programme / phasing**

The phasing and timing of any works likely to impact on the Root Protection Area of any retained trees is to be clearly identified to ensure that adequate protection, precautions and supervision are in place.

#### **Storage of spoil and building materials**

No spoil or building materials are to be stored within the Root Protection Areas of any retained tree unless specifically agreed by the Local Planning Authority. Details of the Construction Exclusion Zones can be seen on the Tree Protection Plan.

#### **Demolition of the existing building(s) and removal of hard surfacing**

In accordance with detailed method statement to avoid unauthorised incursions into the Root Protection Areas of any retained trees.

#### **Changes to ground levels**

Changes to ground levels are only to be made in accordance with the approved plans and where a detailed method statement has been produced to minimise the impact on the rooting systems of the retained trees. Where this necessitates the lowering of existing ground levels then this should only be undertaken with the use of hand tools and care taken not to damage any structural roots. Treatment of any exposed roots is to be in accordance with BS5837:2012.

#### **Details of construction works within the Root Protection Areas**

As per 'Changes to ground levels'.

#### **Details of 'Special Engineering' methods**

Where relevant, specifications relating to special engineering methods will be included as an annex to the Arboricultural Method Statement.

#### **Location and installation method for drainage and other utilities**

The use of overhead utilities is not anticipated for this development. Where possible, existing underground utility runs will be re-used. Where new services runs are required, these will be routed outside of the Root Protection Area of any retained trees unless specifically agreed by the Local Planning Authority and subject to a detailed method statement.

#### **Upgrade or installation of new hard surfacing within Root Protection Areas**

In order to minimise the impact on the rooting area and tree root function the design and construction of a new surface should adequately consider and allow for the following factors:

- Allow gaseous exchange (horizontally and vertically)
- Water permeable
- Preserves the soil structure at a suitable bulk density

- Prevention of contaminants entering the rooting area
  - Allows for future growth of the root system
  - Prevents damage to the roots during demolition or construction
  - Recognises that the majority of roots are found in the top 600mm of soil
- New surfaces should be installed with 'low invasive' techniques using hand tools and the utilization of a cellular confinement system as part of the sub-base.

**Removal of boundary / retaining walls and installation of new fencing within Root Protection Areas**

To be accompanied by a detailed method statement to ensure minimal damage to existing roots.

**Site responsibilities and the role of the pre-commencement meeting**

Unless otherwise agreed in writing, it will be the responsibility of the Site Manager to ensure that the content of the Arboricultural Method Statement is adhered to. The main contractor and any sub-contractors are to be briefed by the Site Manager on the relevant sections of this prior to commencing any work. The Site Manager is responsible for contacting the LPA at any time issues relating to the trees on site are raised.

**Prohibited activities and general precautions**

In line with BS5837:2012.

**Arboricultural Supervision, reporting and audit process**

Day-to-day supervision will be the responsibility of the Site Manager. Supervision by a qualified arboriculturist at key stages of the development is to be coordinated by the Site Manager and comments forwarded to the Local Planning Authority.

**Emergency procedures**

Clearly defined emergency procedures e.g. for fuel spillages or unauthorised incursions into Construction Exclusion Zones to be prepared and communicated to all site personnel.



**TREE SURVEY SCHEDULE**

Client: The Substantia Group  
 Site: 2-4 Ringers Road  
 Date of Survey: 21st October 2020  
 Arboricultural Consultant / Surveyor: S Bateson  
 Weather: Clear  
 Tagged: No

Notes:  
 See attached KEY

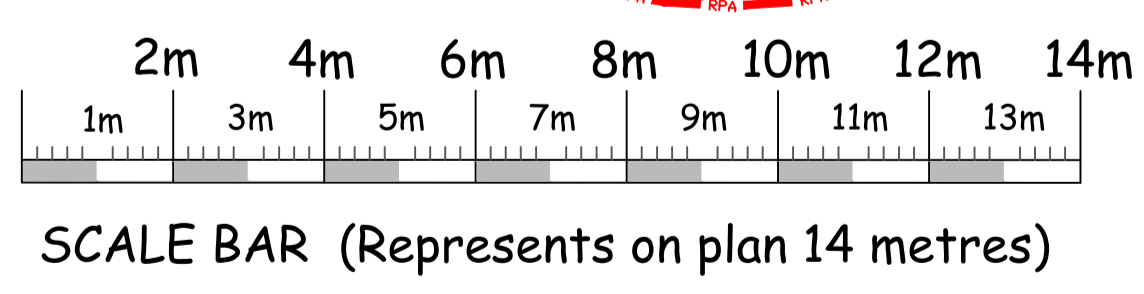
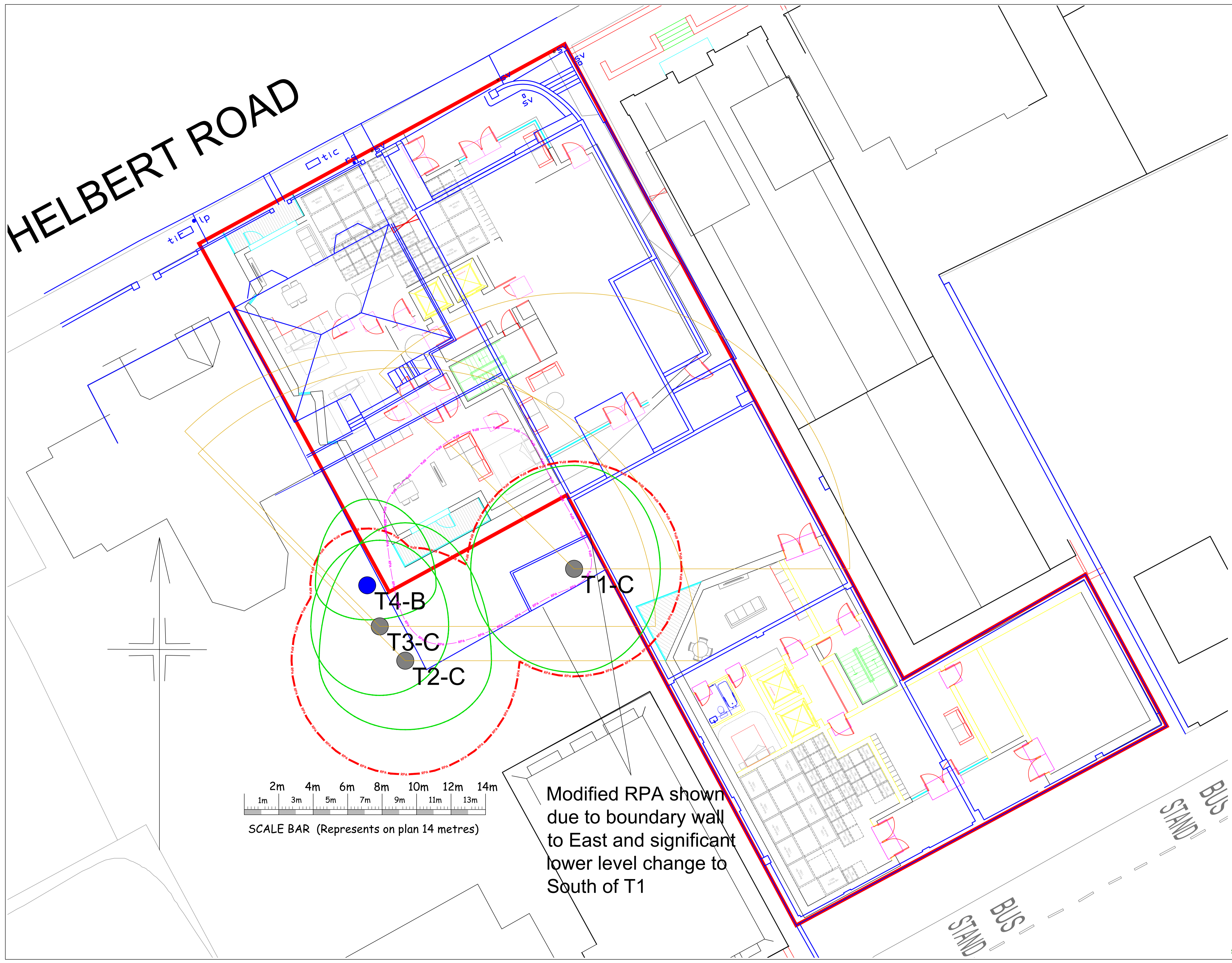
| Tree ID # | Species                        | Height (m) | Branch spread (m) |   |   |   | Diameter at breast height (mm) | Root Protection Area Radius (m) | Root Protection Area (m <sup>2</sup> ) | Age class | Physiological Condition | Structural Condition  | Preliminary Management Recommendations   | Remaining Contribution (Years) | Category Grading |
|-----------|--------------------------------|------------|-------------------|---|---|---|--------------------------------|---------------------------------|--|-----------|-------------------------|---|--|--------------------------------|------------------|
|           |                                |            | N                 | S | E | W |                                |                                 |  |           |                         |   |  |                                |                  |
| T1        | Acer pseudoplatanus (Sycamore) | 16         | 6                 | 6 | 5 | 6 | 520                            | 6.24                            | 122.3                                  | M         | Fair                    | Tree located within raised bed. Cavity on stem. Epicormics on stem. Low bud/leaf density. Minor deadwood <2.5cm. Co-dominant stems. Evidence of recent trenching or resurfacing. Recent construction damage. Recent surface root damage, recent root severance. | To remove tree, grind out stump and re-plant with more suitable species.                 | 10+                            | C                |
| T2        | Acer pseudoplatanus (Sycamore) | 17         | 8                 | 4 | 5 | 5 | 550                            | 6.6                             | 136.9                                  | M         | Good                    | No significant defects visible. Unable to inspect stem due to Ivy. Minor deadwood <2.5cm. Co-dominant stems. Third party owned tree.  | To prune branches growing towards the proposed building by 3.5m and to the East by 2.5m. | 10+                            | C                |
| T3        | Acer pseudoplatanus (Sycamore) | 16         | 5                 | 4 | 4 | 4 | 300                            | 3.6                             | 40.7                                   | MA        | Good                    | No significant defects visible. Unable to inspect stem due to Ivy. Minor deadwood <2.5cm. Co-dominant stems. Third party owned tree.  | To prune branches growing towards the proposed building by 3m.                           | 10+                            | C                |
| T4        | Taxus baccata (Yew)            | 6          | 5                 | 2 | 4 | 3 | 275                            | 3.3                             | 34.2                                   | MA        | Good                    | No significant defects visible. Unable to inspect stem due to Ivy. Minor deadwood <2.5cm. Co-dominant stems. Third party owned tree.  | To prune branches back towards the boundary line by 3m.                                  | 20+                            | B                |

Notes:  
Do not scale from this drawing  
All dimensions to be checked on site

### TREE SURVEY & CONSTRAINTS PLAN

- T1 Tree Number
- A Category
- B Category
- C Category
- U Category
- Root protection area
- Modified Root protection area
- Branch spread
- Shade arc
- Existing property footprint
- Proposed property footprint

# HELBERT ROAD



Modified RPA shown due to boundary wall to East and significant lower level change to South of T1

Title Tree Survey & Constraints Plan  
Job 2-4 Ringers Road  
Scale 1:100 @ A1  
Date 11.11.2020  
Dwn SB  
Dwg No 001

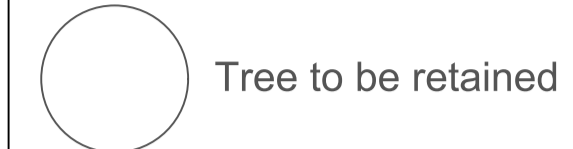


Chartwell Tree Consultants Ltd  
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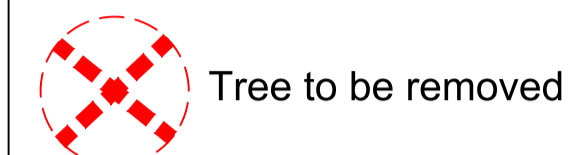
Tel: 01959 569 280  
sam@chartwelltreeconsultants.co.uk

Notes:  
Do not scale from this drawing  
All dimensions to be checked on site

### TREE PROTECTION PLAN



Tree to be retained

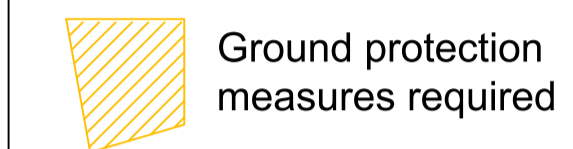


Tree to be removed



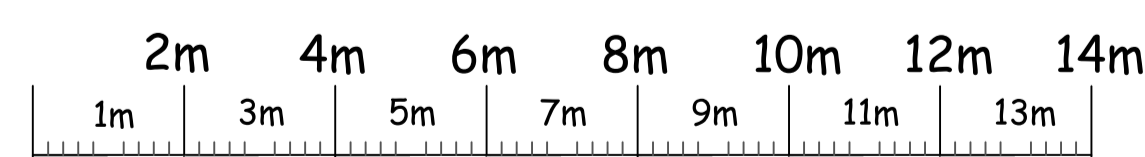
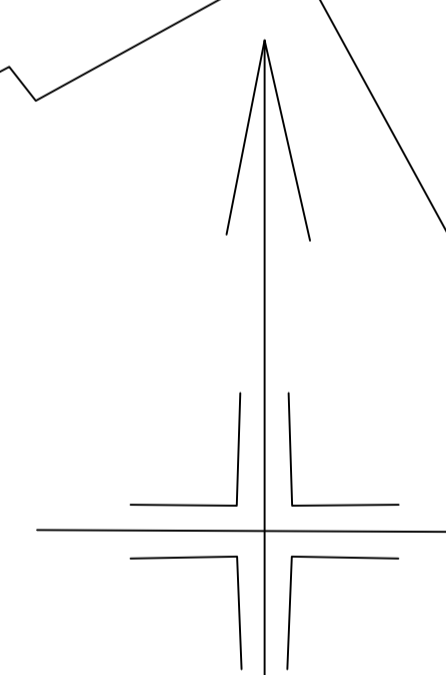
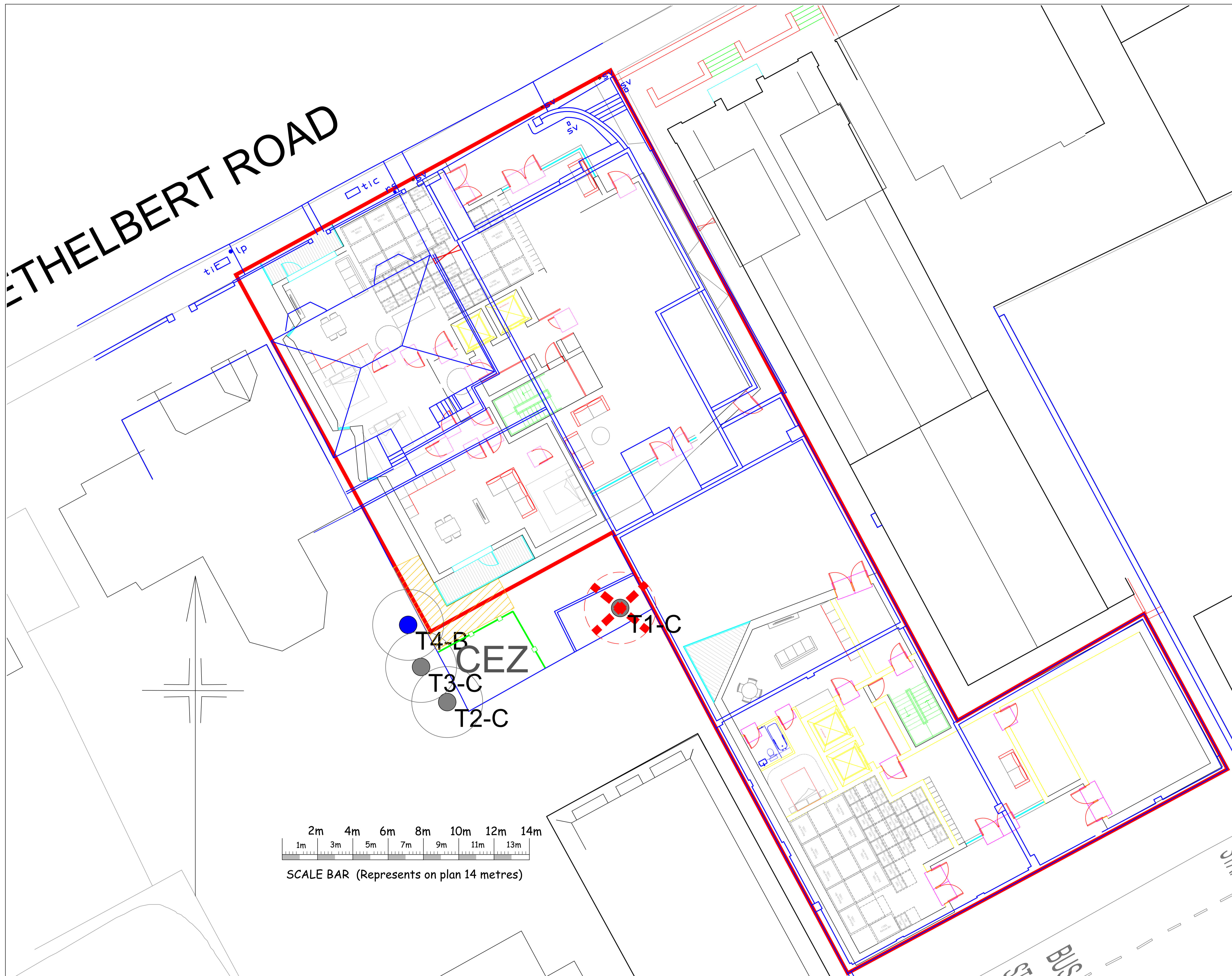
Tree protection fencing

**CEZ** Construction Exclusion Zone



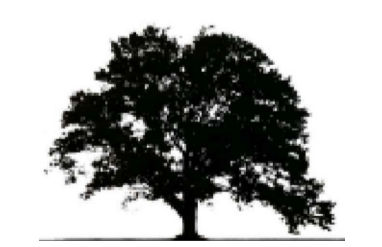
Ground protection measures required

# ETHELBERT ROAD



SCALE BAR (Represents on plan 14 metres)

Title **Draft Tree Protection Plan**  
Job **2-4 Ringers Road**  
Scale **1:100 @ A1**  
Date **11.11.2020**  
Drm **SB**  
Dwg No **002**



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## KEY TO SURVEY

**T1, T2 etc.** = Individual tree identification numbers (not TPO reference numbers)

**G1, H1, W1, A1 etc** = Grouped trees, hedges, woodland, avenues or shrub areas.

### **Age Class:**

Y = Young (<1/3 life expectancy)

MA = Middle Aged (1/3 – 2/3 life expectancy)

M = Mature (2/3 – full life expectancy)

V = Veteran (High value amenity tree)

**Work Priority:** (informed by *risk rating* based on observed defect(s), probability of failure, severity of impact and targets)

Urgent = <1 Month (unless stated otherwise)

High = <3 Months

Medium = < 6 Months

Low = < 12 Months

Routine = As part of regular grounds maintenance

### Other Comments:

- **NESW** = North, East, South, West
- **Physiological Condition** = based upon the performance of the biological processes of the tree and its overall 'health'. Good = normal vigour, Fair = moderately reduced vigour, Poor = low vigour/decline.
- **Occluded wound** = where a wound has been progressively closed by the formation of new wood and bark around it.
- **Non-occluded wound** = where a wound has not closed (or is in the process of being closed) by the formation of new wood and bark.
- **Est.** = estimated measurement.
- **Av.** = average measurement.
- **Basal** = in or around the base of the trunk.
- **Epicormic** = growth arising from adventitious or dormant buds. In the case of European Lime trees this frequently occurs around the base of the tree.
- **Deadwood** = Minor (<25mm), Moderate (25mm-150mm) and Major (>150mm).
- **Self-set** = naturally established i.e. not intentionally planted tree.

### Survey Range & Limitations:

1. The survey was carried out in the form of a visual assessment from ground level; a rubber mallet and simple probe were used to assess the extent of any decay found. Defects (including potential severity of impact), targets and potential ('likelihood') of failure have been considered and used to inform the risk rating and thereby the recommendations and priorities along with appropriate timescales.
2. Only the trees potentially affected by the proposal have been inspected as per instructions received. It is recommended that the owners of any adjacent trees likely to affect the site have their trees inspected by a qualified and competent arborist.

3. This survey expressly excludes any liability for indirect or direct structural damage that the trees may cause to property including any structural movement, subsidence and heave. Where necessary, the opinion of a structural engineer should be sought e.g. where trees are in close proximity to built structures or have been recommended for removal. With regards drains, the advice of a drainage engineer should be sought.
4. As this survey is preliminary in nature, should any further investigation be required (e.g. using specialist decay detection equipment) then this will be highlighted in the recommendations.
5. All measurements are estimated and tree locations on the maps are approximate.
6. It should be noted that trees are dynamic, living organisms that are subject to an ever-changing environment and that there is no such thing as a 'safe tree' i.e. "...there can be no absolute guarantee of safety" (Mattheck 'The Body Language of Trees', p. 197) where failure can occur without defect or in excessive weather conditions.
7. The Local Planning Authority (Bromley Council) must be consulted prior to any works being carried out to establish whether any Tree Preservation Orders (TPO's) or Conservation Areas apply to the site. No works should be carried out until any necessary permissions have been obtained. Trees marked as 'TPO' on any maps are for information purposes only and should not be considered authoritative. It is the responsibility of the land owner to ensure compliance with any restrictive Covenants that may apply to the land/trees that may be applicable.
8. Full consideration must be given to current legislation by anyone proposing to carry out works to trees, particularly with regards to the presence of European Protected Species (including bats). Arboricultural ('tree surgery') contractors should be adequately trained, experienced and carry adequate insurance. All works should be carried out to the current edition of British Standard BS3998 'Recommendations for Tree Work'.
9. The information contained in this report should be considered valid for a period of 1 year from date of issue (unless otherwise specified in the survey) assuming that any recommendations are carried out. Additional inspection is recommended following exposure to extreme weather, significant wounding or damage (e.g. incursion into rooting zones, impacts, new fungal fruiting bodies, etc.) or any other event giving cause for concern.