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## structural letter report

**1 Hillman Cl  
Uxbridge  
UB8 1QA**

**ref# 24092-DVP-R01**

<b>prepared by</b>	Dan Vidrascu MEng, MSc, CEng MIStructE
<b>revision</b>	first issue (P1)
<b>date</b>	25/06/2024



Ref: 24092

18/03/2024

Mrs Rohini Verma  
1 Hillman Cl  
Uxbridge  
UB8 1QA

Dear Rohini,

**Re: 1 Hillman Cl, Uxbridge UB8 1QA**

On 18th June 2024, DVP Structures conducted a site visit to assess the structural condition of a detached two-storey house (c. 1950s) and evaluate the impact of an existing tree on the existing structure and surroundings, hereafter referred to as T002.

**Property Description**

The external walls of the property comprise load-bearing masonry cavity wall construction, with a total wall thickness of 280mm. The ground floor is made up of a suspended or ground-bearing concrete floor. The first floor comprises timber floor joists. The roof is a traditional duo-pitched design, supported by purlins which are in turn supported on the gables and struts.

The property benefits from a garage comprising solid wall masonry construction, 215mm thick, and a ground-bearing concrete slab. The garage is approximately 4m away from the existing tree, whereas the main building is approximately 11m away.

**Neighbouring Structures**

The tree is 6m away from the neighbouring side extension, built in 2020. The structure comprises load-bearing masonry cavity wall construction. Being a recent construction, it is assumed that the foundations were designed to account for the two large trees in its proximity.

**Geological Survey**

The British Geological Survey (BGS) publicly available borehole data was consulted to determine the types of ground likely to be found in the vicinity of the property. The property is situated within the LONDON CLAY geological formation (clay, sand, and silt) and the superficial deposits comprise BLACK PARK GRAVEL (sand and gravel). According to nearby borehole extracts from BGS, the superficial ground levels are likely to comprise made ground and clay soils.

## **Arboricultural Impact Assessment**

An arboricultural impact assessment was conducted by MMM Arboriculture, the report of which is attached in the appendix. Tree T002 is a Lawson Cypress, standing at 8 meters tall with a 4-meter spread in all directions and a crown clearance of 2 meters. The tree is in a semi-mature stage with an estimated remaining contribution of over 30 years. The arboricultural report categorizes this tree into Retention Category C1,3, referring to trees of lower quality and value with an estimated remaining life expectancy of at least 10 years.

## **Structural Assessment**

### **Main Building**

Very minor cracks were noted internally around door and window lintels. These cracks are likely affecting the finishes only and attributed to thermal contraction and expansion forces, moisture, and temperature fluctuations. Given that T002 is approximately 11m away from the face of the main building, it is unlikely to affect the existing foundations or structure.

### **Neighbouring Extension (186A Harefield Rd.)**

No cracks were noted on the external walls. The extension is in very close proximity to a large tree T001 and about 6m away from T002. According to publicly available information, the extension was built in 2020. In the context of the proximity to the existing trees, the existing foundations were likely designed to current NHBC regulations and founded at an adequate depth to account for the proximity to the existing trees.

### **Garage**

T002 is located approximately 4m from the face of the existing garage. No cracks were noted on the face of the garage walls that may indicate structural movement induced by the tree roots. Minor cracks were noted on the garage concrete floor, which were likely affected by the existing tree to some extent.

## **Risks Posed by T002**

T002 is multi-stemmed and growing at an angle, leaning precariously over the garage. This structural inclination poses a significant risk of splitting and falling onto the garage. The risk of splitting is heightened by the tree's multi-stemmed nature and the visible inclusion at the base where the stems converge, which can weaken the overall structural integrity, especially under the strain of adverse weather conditions (such as heavy snow or winds) or the weight of the tree itself. The tree's sparse crown and fair physiological and structural condition further suggest that it is not thriving, which may contribute to its vulnerability. Given its position and current health, the future risks include potential structural failure, leading to substantial damage to the garage and surrounding property, and possibly posing a safety hazard to the occupants.

## **Risks of Tree Removal**

Removing the existing tree may pose a risk of heave, which could affect the garage structure by causing additional cracks in the existing concrete slab and walls. The exact extent of this risk is challenging to estimate quantitatively, as it depends on various factors, including the depth of the existing foundations, the precise soil type and its properties, the spread and extent of the tree's root system, and the water absorption capacity of nearby trees.

## Recommendations

Given the significant risks associated with Tree T002, including its precarious lean over the garage, multi-stemmed structure, and visible base inclusion that increases the likelihood of splitting, it is recommended that the tree be removed. The removal of Tree T002 will mitigate the substantial risk of structural failure, which could result in severe damage to the garage and surrounding property, as well as potential safety hazards to the occupants. Proactively removing the tree will prevent future maintenance challenges and eliminate the ongoing threat posed by its compromised structural integrity. This recommendation should be discussed and agreed upon with the arboriculturist to ensure all considerations are addressed.

It's important to note that the information contained in this report is based on a visual inspection of the building and no specialist testing or inspections of other parts of the construction were performed. Therefore, no responsibility can be accepted for any hidden, latent, or inherent defects that a more detailed examination might reveal.

If you have any questions or concerns, please do not hesitate to contact us.  
Regards,

Dan Vidraşcu  
Chartered Structural Engineer MEng MSc CEng MIStructE





## **APPENDIX 1**

## **SITE PHOTOS**



FIG. 1  
GOOGLE EARTH PHOTO  
(2023)

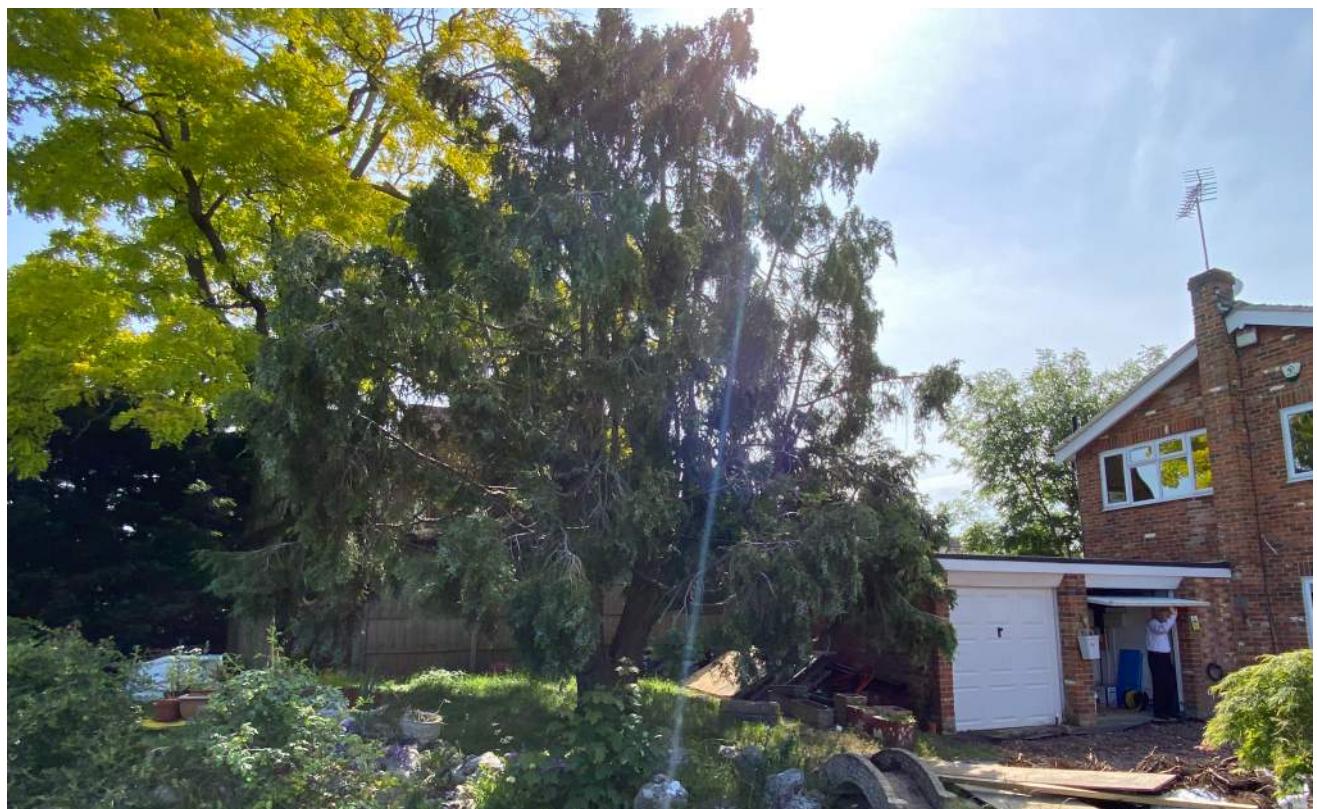


FIG. 2

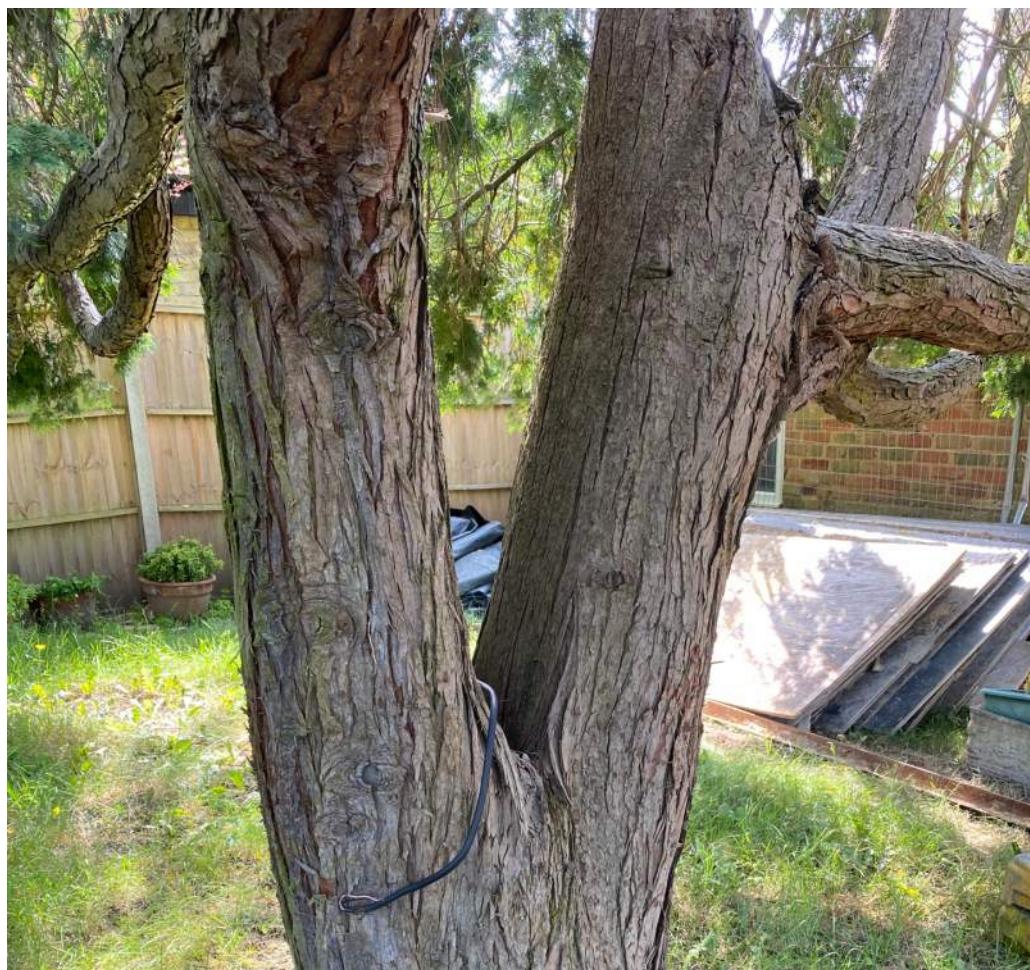


FIG. 3

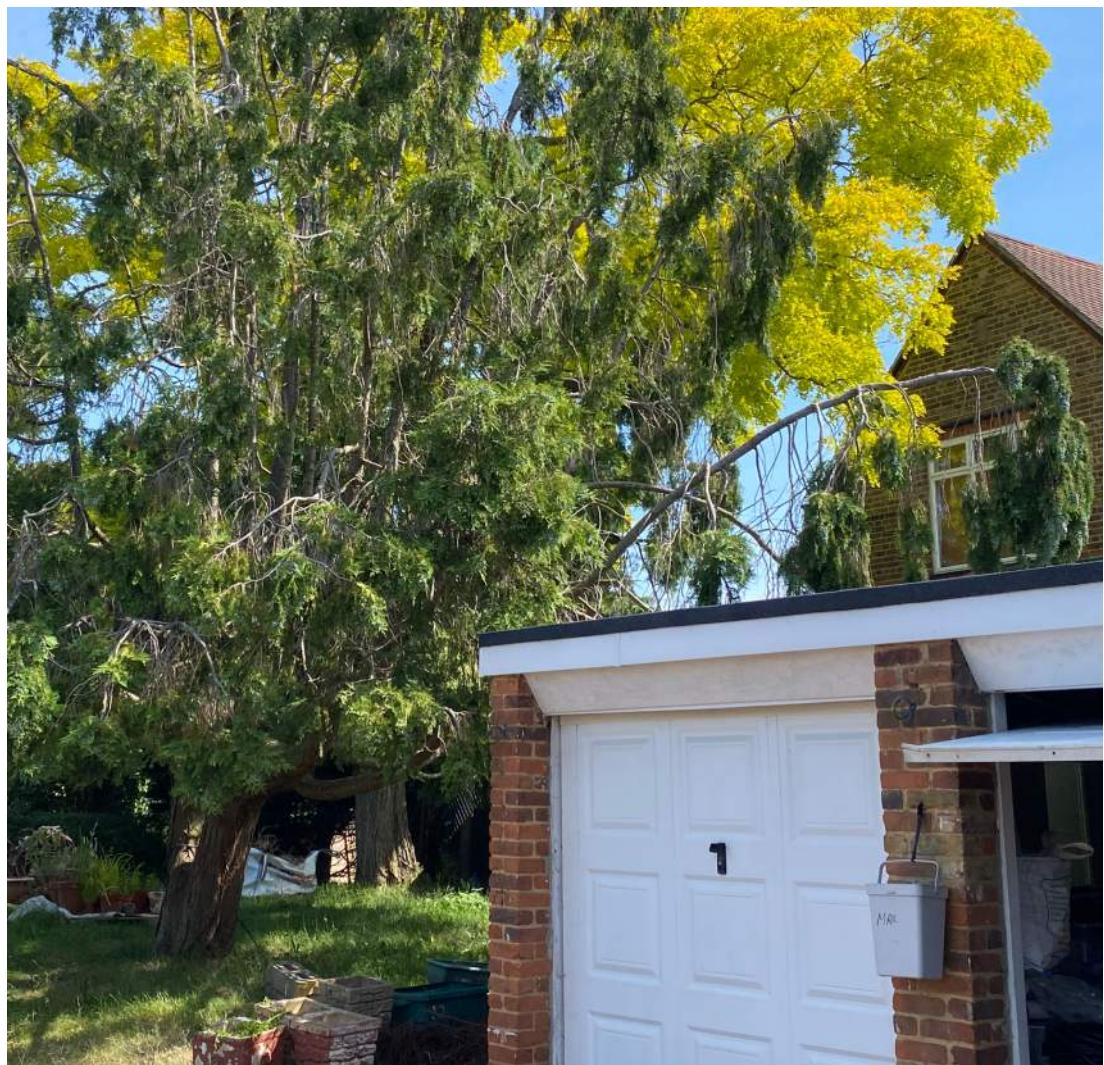
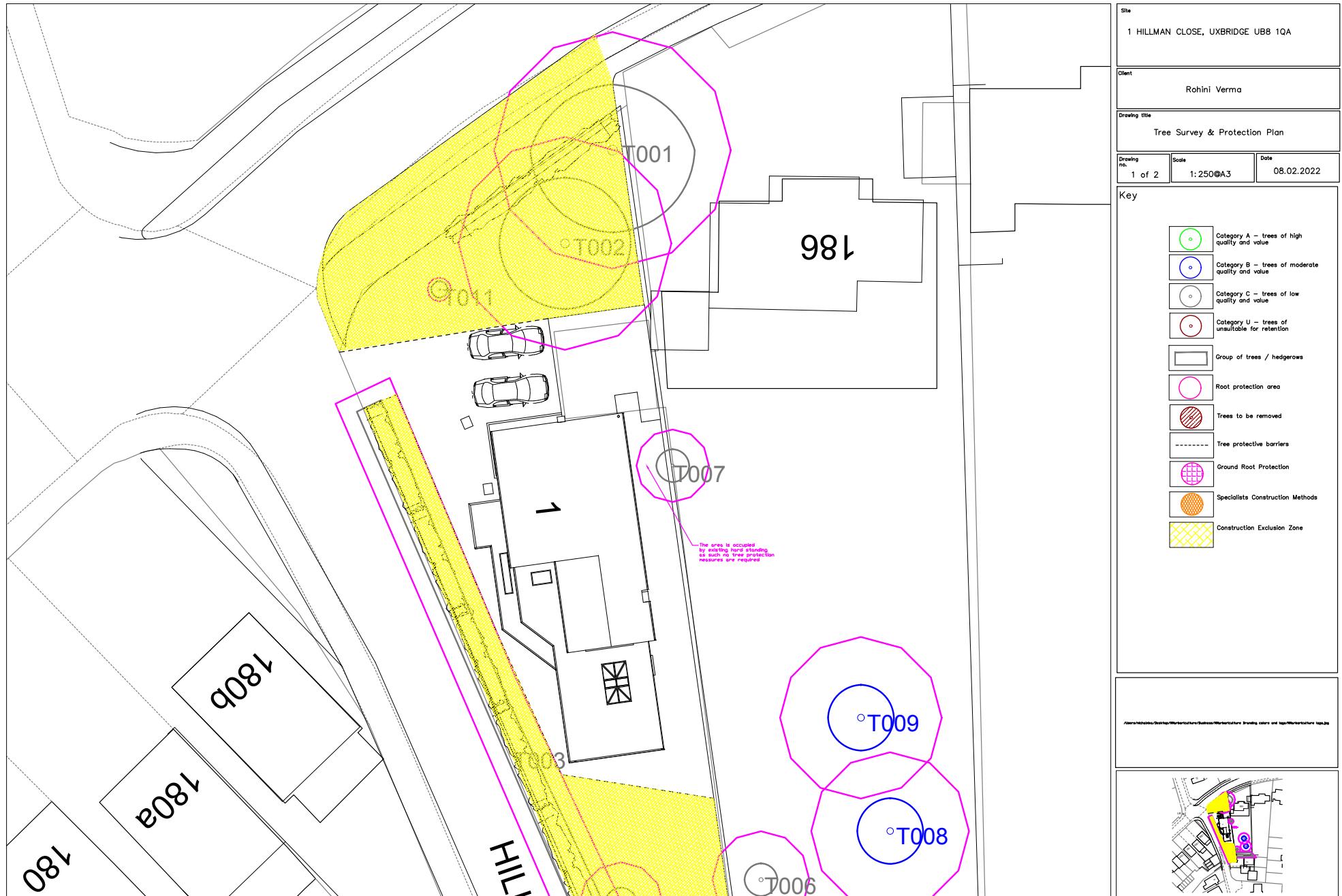


FIG. 4



# ARBORICULTURAL IMPACT ASSESSMENT AND METHOD STATEMENT

1 Hillman Close, Uxbridge UB8 1QA

Report by

Michal Mixa FdSc.

*FdSc. Arboriculture*

On the instructions of Rohini Verma

*8<sup>th</sup> February 2022*

<b>1</b>	<b>REPORT SUMMARY</b>	<b>3</b>
<b>2</b>	<b>INTRODUCTION AND REPORT BACKGROUND</b>	<b>4</b>
<b>3</b>	<b>THE SITE VISIT AND OBSERVATIONS</b>	<b>6</b>
<b>4</b>	<b>ARBORICULTURAL IMPACT STATEMENT</b>	<b>7</b>
<b>5</b>	<b>SEQUENCE OF WORKS</b>	<b>8</b>
<b>6</b>	<b>ARBORICULTURAL METHOD STATEMENT</b>	<b>9</b>
<b>7</b>	<b>CONCLUSION AND RECOMMENDATIONS</b>	<b>14</b>
	<b>APPENDIX 1 - REFERENCES AND COPYRIGHT</b>	<b>15</b>
	<b>APPENDIX 2: TREE SCHEDULE</b>	<b>16</b>
	<b>APPENDIX 3: TREE PROTECTION PLAN</b>	<b>19</b>

## 1 Report summary

- 1.1.1 This report has been prepared to accompany the planning application for the site at 1 Hillman Close, Uxbridge UB8 1QA.
- 1.1.2 None of the tree will require tree works or removal in order to accommodate the proposed development.
- 1.1.3 All retained trees will require tree protection around all retained trees as per Tree Protection Plan (Appendix 3).
- 1.1.4 Provided precautions to protect the identified trees are specified and implemented through the measures included in this report; the development proposal will have a little or negligible impact on the retained trees or their wider contribution to an area amenity and character if the methods detailed in this report will be followed.

## 2 Introduction and report background

### 2.1 Instruction

- 2.1.1 I have been instructed by Rohini Verma to carry out a tree survey and produce the Arboricultural report in support of a planning application for the site at 1 Hillman Close, Uxbridge UB8 1QA.
- 2.1.2 The purpose of the survey is to cover trees within the site boundary and its immediate curtilage to assess the impact of the development on trees and the impact of retained trees on the development. The Section 5 Arboricultural Method Statement (Section 5 of this report) specifies the principles, which need to be adopted during the demolition and construction of the development. Although any specific activities proposed in RPAs may require agreement by LPA if requested in the reserved matters stage. The report produced on the survey data allows the Local Planning Authority (LPA) to assess information about trees as part of the planning submission following principles of British Standard BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

### 2.2 Methodology

- 2.2.1 The methodology of Visual Tree Assessment (VTA), described by Mattheck (2007), was followed. The survey covers trees with a trunk diameter of 75mm or above and any significant vegetation on the development site.
- 2.2.2 The best intentions were made to produce accurate measurements; however, some dimensions were estimated due to the limitation of the access, dense undergrowth e.g.
- 2.2.3 Data collected for each tree includes the following information:
  - Sequential reference number, i.e. T1, T2, T3 etc.
  - Species (Botanical Name in Latin)
  - Height (in meters).
  - Stem diameter recorded in mm
  - Branch Spread, recorded in meters at the extents of the 4 Cardinal Points, i.e. North, East, South & West.
  - Ground clearance, representing a level of first significant branching or canopy
  - Life stage: Y – Young, SM – Semi Mature, M – Mature
  - Condition comment: structural and/or physiological condition.

- Overall condition: Good, Moderate, Poor, In decline
- Estimated remaining contribution: >10 years, 10 + years, 20 + years, 30+ years, 40 + years.
- BS 5837:2012 Category 'U' or 'A' to 'C' grading with the subcategory 1, 2 or 3
- Tree Work recommendations in the context of the site current use, during the development and after the development.

2.2.4 Trees were categorized into 'A', 'B', 'C' and 'U' category graded in the guidance of BS5837: 2012.

- Category **A** – trees of high quality and value, with an estimated life expectancy of at least 40 years.
- Category **B** – trees of moderate quality and value. An estimated life expectancy of at least 20 years.
- Category **C** – trees of lower quality and value. An estimated life expectancy of at least 10 years, and with a stem diameter of up to 150mm measured at 1.5m from ground level.
- Category **U** – dead, dying or unsuitable for retention. Life expectancy of less than 10 years

### 2.3 Limitation

2.3.1 The survey was undertaken from the ground level using basic tools without detailed investigations. The data collected can be found in the tree schedule in Appendix 2.

2.3.2 The tree condition can rapidly change due to unpredictable factors, such as climatic and manmade events. The risk assessment is based on the factors apparent at the time of the site visit. The re-inspection of trees for health and safety condition should be made on an annual basis.

2.3.3 The soil assessment has not been conducted and detailed soil analysis should be undertaken, or data about the soil assessment should be provided.

### 3 The site visit and observations

#### 3.1 The site

3.1.1 A site visit was conducted on 7<sup>th</sup> February 2022 to carry out the survey.

#### 3.2 Tree population summary

3.2.1 The tree survey identified total of 43 individual trees graded in accordance with BS5837:2012 (Table1).

Retention Category	No. trees
B	2
C	41
Total	43

*Table 1 Survey retention category summary*

3.2.2 All trees data are summarized in Appendix 2 and the Tree Protection Plan indicating trees location in Appendix 3.

## 4 Arboricultural impact statement

### 4.1 The proposal

#### 4.1.1 The latest proposal seeks development of the residential building (Figure 1).

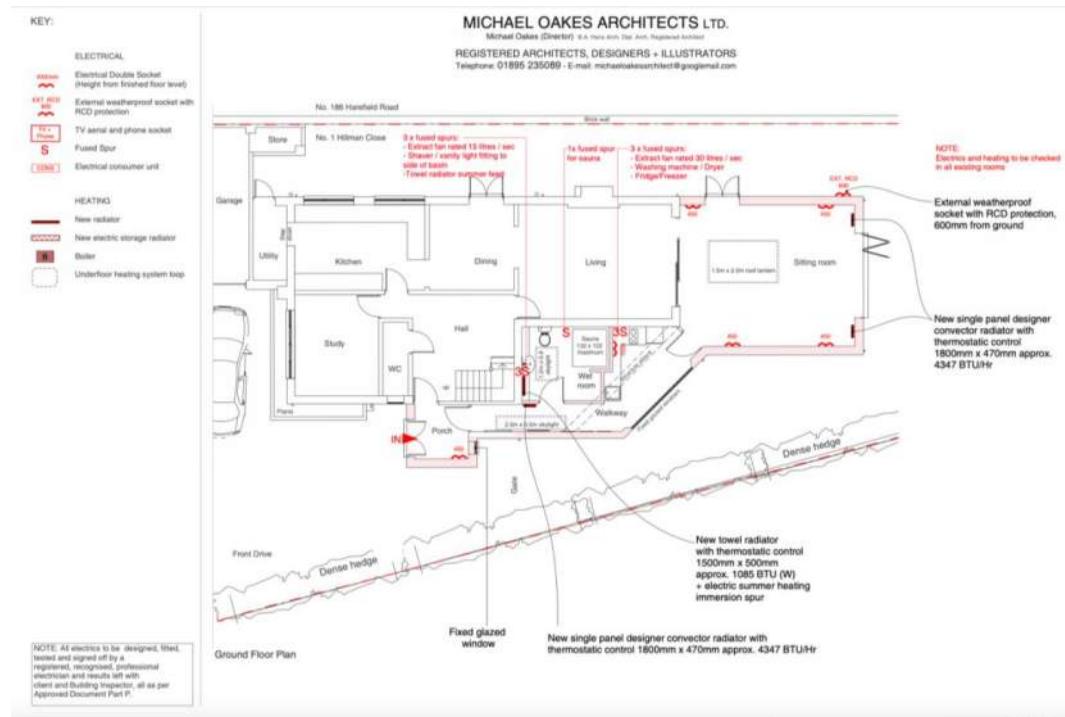


Figure 1 Proposed design scheme

### 4.2 Tree works

#### 4.2.1 No tree works will be required.

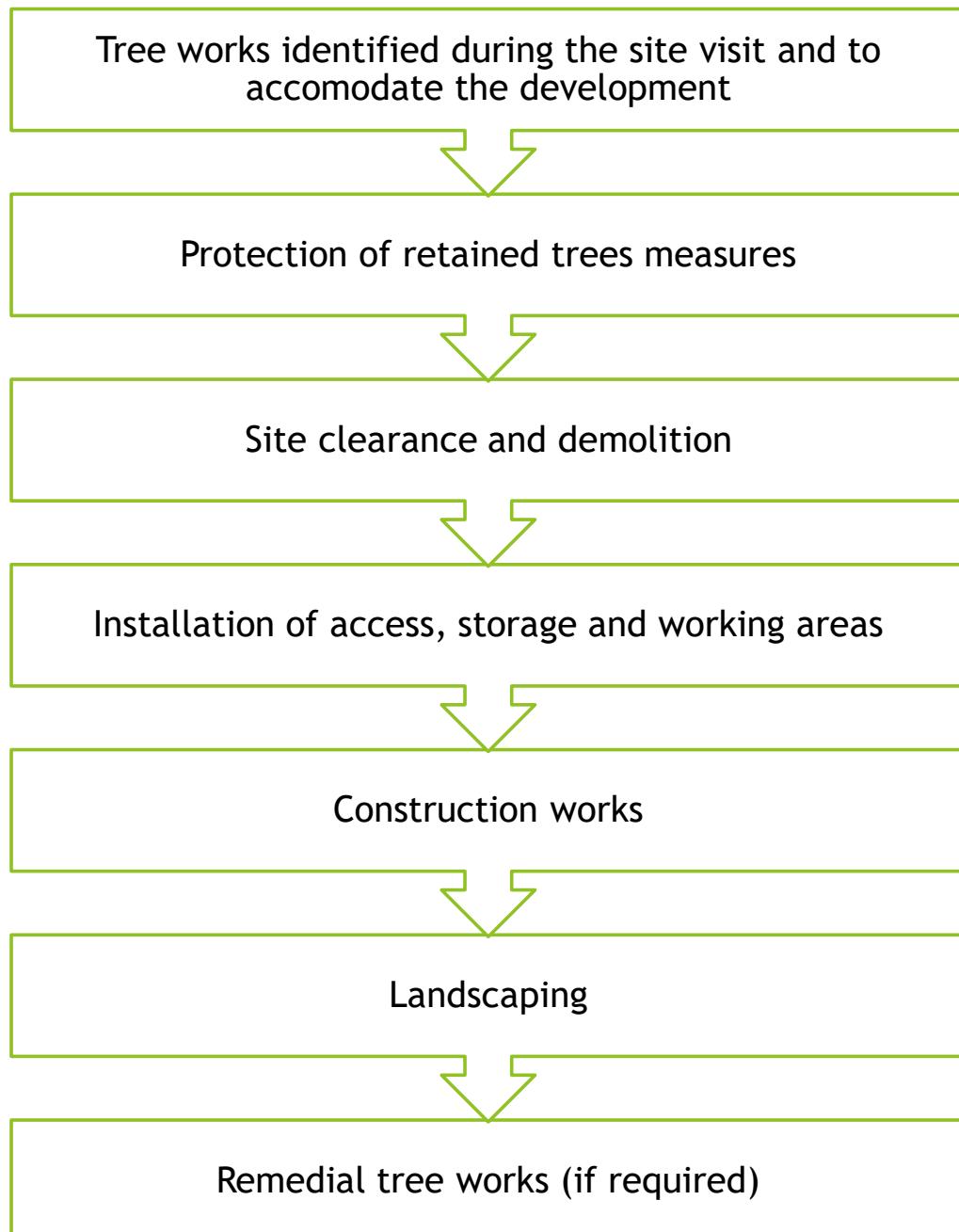
### 4.3 Incursions and works within Root Protection Area

#### 4.3.1 No incursions to RPAs of retained trees will be impacted.

### 4.4 Tree protection measures

#### 4.4.1 All retained trees will require tree protection around all retained trees.

## 5 Sequence of works



## 6 Arboricultural method statement

### 6.1 Tree Protection Plan

6.1.1 The attached plan (at Appendix 4) is based on the provided information and reflects the measurements and site boundaries. The plan is only relevant for dealing with tree issues. Trees to be retained have coloured centres and outlines, whilst trees removed have dashed hatching.

- The protection barriers placement is shown by dashed line.
- The purple hatching indicates areas of ground protection within RPA.
- The orange hatching indicates areas of specialist construction methods within RPA such as pile and beam foundation, micro drilling, changes of levels e.g. (as per related sections of the report and annotation on the TPP)
- The yellow hatching indicates areas of Construction Exclusion Zone (CEZ), and such any construction activity must be avoided within the zone.

## 6.2 Tree protection

6.2.1 Tree protection barriers location is indicated in the Tree Protection Plan (TPP). The barriers must be clearly marked by all-weather signs “Keep Out”(Figure 5) (Figure 4 and Figure 5 BS5837: 2012 default specification for barriers type).

6.2.2 The barriers shall be minimum of 2m high with vertical and horizontal scaffold frameworks. The vertical tubes should be spaced at least 3 m interval and driven securely into the ground. The welded mesh should be securely fixed on the framework. (Figure 4)

Figure 2 Default specification for protective barrier

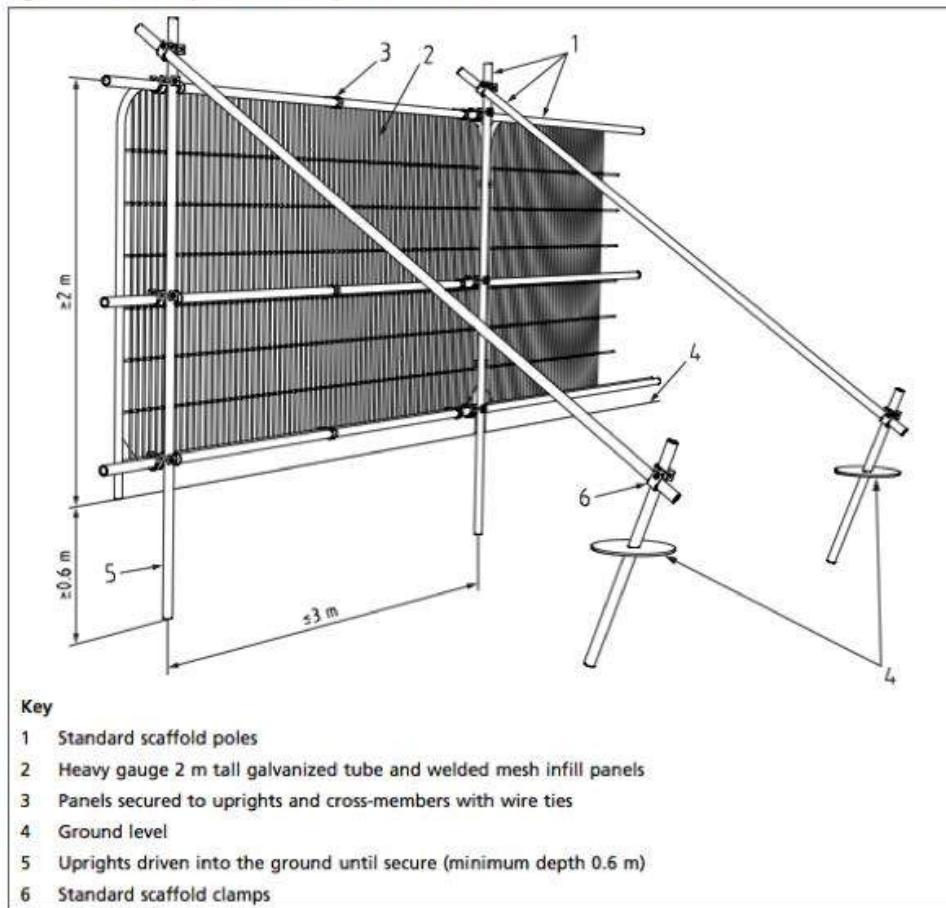


Figure 4 BS5837: 2012 default specification for barriers type

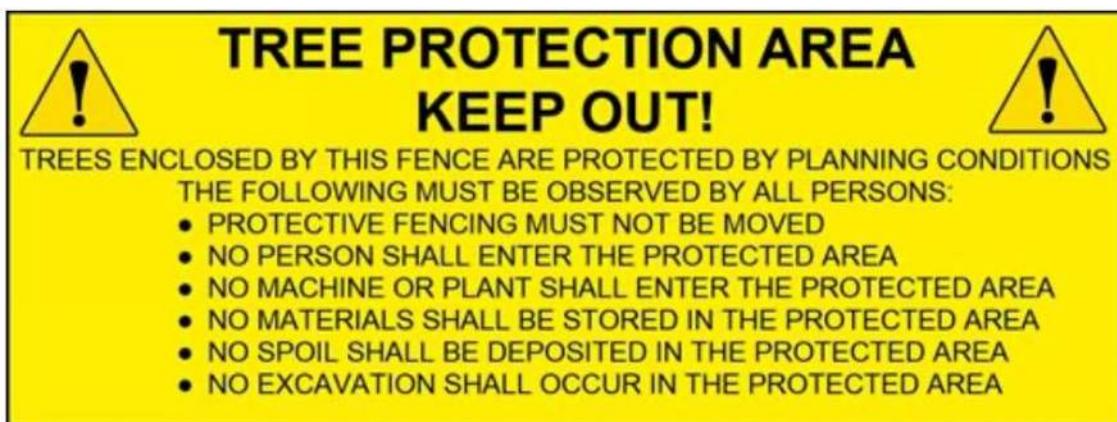


Figure 5 All weather protective sign example

### 6.3 Site set-up, storage and material mixing

- 6.3.1 Space must be allowed outside of RPAs for site machinery and material storage.
- 6.3.2 The material must be stored outside the RPAs, which also applies to cement mixing and washing points. The runoff the potential of the contaminants must be considered to avoid incursion to the RPA of retained trees, refer to TPP (appendix 3).

### 6.4 Landscaping works

- 6.4.1 Soil preparation must be carried out by hand in RPA. The mixing of soil must be carried by the hand. The new soil layer must not exceed 100mm depth within a 1m distance from the tree stem.
- 6.4.2 Material transport must be transported by wheelbarrow on running boards when working within RPA.

### 6.5 Site monitoring and supervision

- 6.5.1 The Project Arboricultural Consultant (PAC) shall attend site prior to the commencement of the development to ensure a satisfactory level of protective fencing and ground protection; ground level alterations; construction of walls, installation of new surfaces within RPAs of retained trees and at least every month during the development works. Where agreed with the L.A. it may be acceptable to supply photographs of the fencing to avoid the necessity for a site visit.

<b>Site visit</b>	<b>Attendees</b>	<b>Timing</b>	<b>Reason</b>
Pre-Commencement Meeting	Site manager, Project Arborist and LPA Arboricultural officer	After completion of the tree works and installation of the tree protective measures. Prior any further actions are not permitted, such as demolition or soil excavation unless agreed in written with LPA.	Check if a tree protection measures satisfy methodology detailed in AMS and LPA expectations. Additional action required for the protection of the trees and comments to the development
Regular site monitoring and reporting	Project Arborist and Site manager	Regular site monitoring of the tree protection measures and in event of unexpected issues during the development. The pictures of the site will be provided every two weeks <sup>1</sup>	To mitigate any potential issues raised during the development, control of protective measures maintenance and monitor site activity which could cause a damage to the retained trees
Post Construction Meeting	Site manager, Project Arborist and LPA Arboricultural officer	After construction completion. Prior to the dismantle of tree protection measures and landscape work.	Check the condition of the retained trees and explain further restrictions if applicable.

<sup>1</sup> LPA may specify different frequency and report requirements. Pictures of the protective measures and site set up provided by a site manager may be acceptable by LPA to lower unnecessary site visits.

6.5.2 All Site monitoring or supervision shall be followed by a report submission with an annotated photographic record and textual commentary on all matters of tree protection to the Local Authority, which by act or omission are in breach of the Arboricultural Method Statement. The initial site visit confirming placement of satisfactory tree protection shall be notified to LA within 5 working days prior to the commencement of the development.

## 7 Conclusion and recommendations

- 7.1.1 This report has been prepared to accompany the planning application for the site at 1 Hillman Close, Uxbridge UB8 1QA.
- 7.1.2 None of the tree will require tree works or removal in order to accommodate the proposed development.
- 7.1.3 All retained trees will require tree protection around all retained trees as per Tree Protection Plan (Appendix 3).
- 7.1.4 Provided precautions to protect the identified trees are specified and implemented through the measures included in this report; the development proposal will have little or negligible impact on the retained trees or their wider contribution to an area amenity and character if the methods detailed in this report will be followed.
- 7.1.5 The impact on retained trees will be negligible, and the scheme should be achievable in Arboricultural terms if the methods outlined in this report are followed.

## Appendix 1 – References and Copyright

1. British Geological Survey (2014). <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>. BGS, Keyworth, Nottingham.
2. G. Mercer, A. Reeves & D. O'Callaghan. 'The Relationship between Trees, Distance to Buildings and Subsidence Events on Shrinkable Clay Soil' AB Academic Publishers 2011. Arboricultural Journal, 33, 229-245.
3. BSI (2010) BS 3998:2010 'Tree Work – Recommendations'. British Standards Institute
4. BSI (2014) BS8545: Trees from nursery to independence in the landscape: Recommendations. British Standards Institute
5. BSI (2012) BS5837: Trees in Relation to Design, Development and Construction: Recommendations. British Standards Institute
6. BSI (2014) BS8545: Trees from nursery to independence in the landscape: Recommendations. British Standards Institute
7. National joint utilities group (2007) NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees
8. The National Archives (2017) Town and Country planning act, 1990, <http://www.legislation.gov.uk/ukpga/1990/8/contents>; Accessed 20.02.2017
9. Trees and design action group (2014) Trees in a hard landscape: Guide for delivery
10. Department for Communities and Local Government (2014) Tree Preservation Orders and trees in conservation areas.

### Copyright

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**Appendix 2: Tree Schedule**

Date: 07/02/2022

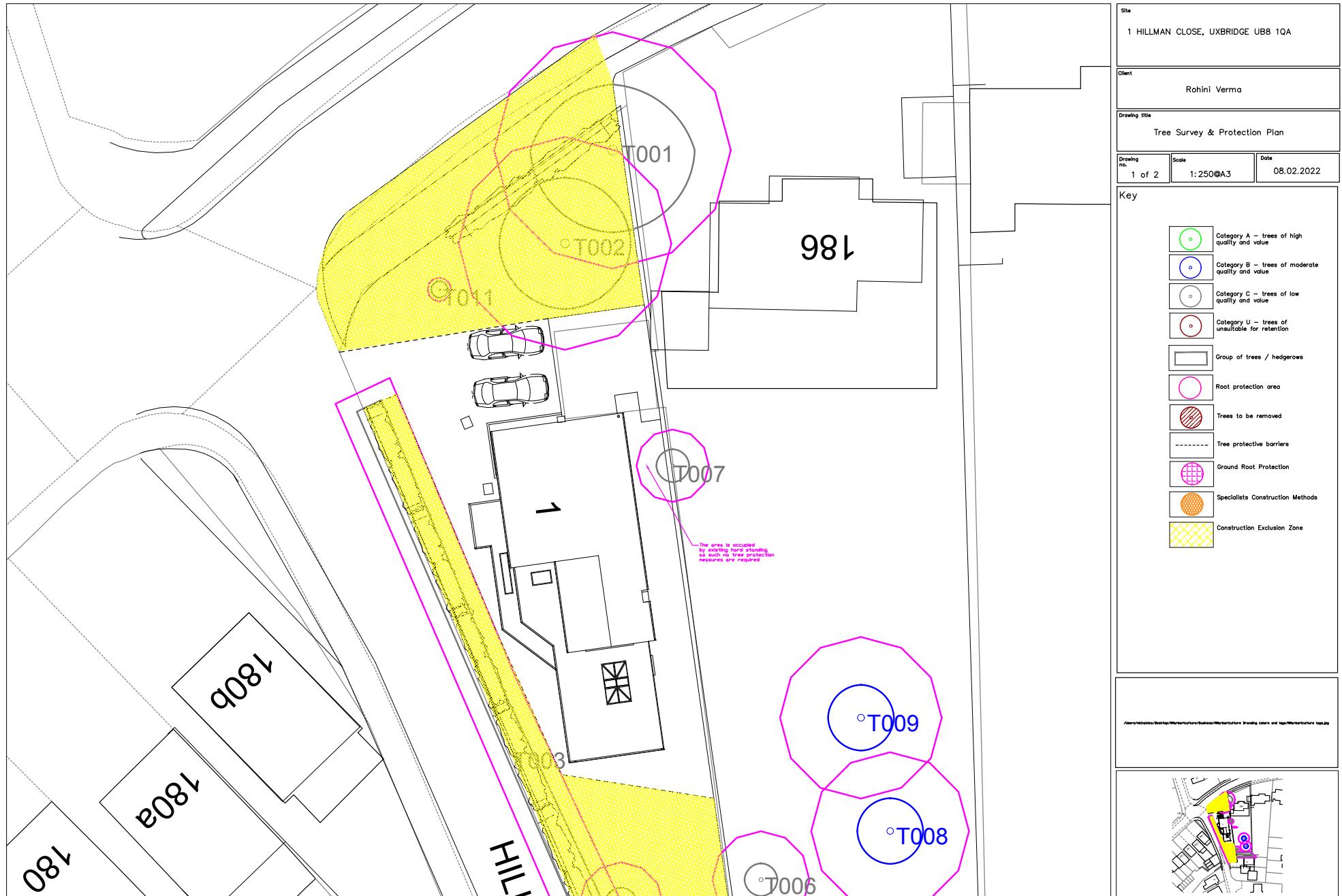
Ref.	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements2
T001	False Acacia ( <i>Robinia pseudoacacia</i> )	Tree	Height (m): 13 Stem Diam (mm): 600 Spread (m): 4N, 5E, 5S, 5W Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 10+ Years	N:4 E:5 S:5 W:5	Deadwood Minor Crown Die Back Forked Stem	C1,3	Radius: 7.2m. Area: 163 sq m.	Other Reference: Distance1: Distance2: Physiological Cond: Fair Structural Cond: Fair
T002	Lawson Cypress ( <i>Chamaecyparis lawsoniana</i> )	Tree	Height (m): 8 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 2 Life Stage: Semi Mature Rem. Contrib.: 30+ Years	N:4 E:4 S:4 W:4	Sparce Crown Nesting Site Multi Stemmed	C1,3	Radius: 6.5m. Area: 133 sq m.	Other Reference: Distance1: Distance2: Physiological Cond: Fair Structural Cond: Fair
T003	Lawson Cypress x25 ( <i>Chamaecyparis lawsoniana</i> )	Group 26 trees	Height (m): 2 26 stems, avg.(mm): 160 Spread (m): 2N, 1.5E, 2S, 1.5W/ Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib.: 30+ Years	N:21 E:1.5 S:21 W:1.5	Maintained Hedge Good Condition	C1,3	Area: 96 sq m, plus a 1m buffer.	Other Reference: Distance1: Distance2: Physiological Cond: Good Structural Cond: Good
T004	Lawson Cypress ( <i>Chamaecyparis lawsoniana</i> )	Tree 7 stems	Height (m): 3 7 stems, avg.(mm): 80 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0 Life Stage: Early Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Good Specimen Planted in a Raised Rockery Multi Stemmed	C1,3	Radius: 2.5m. Area: 20 sq m.	Other Reference: Distance1: Distance2: Physiological Cond: Good Structural Cond: Good

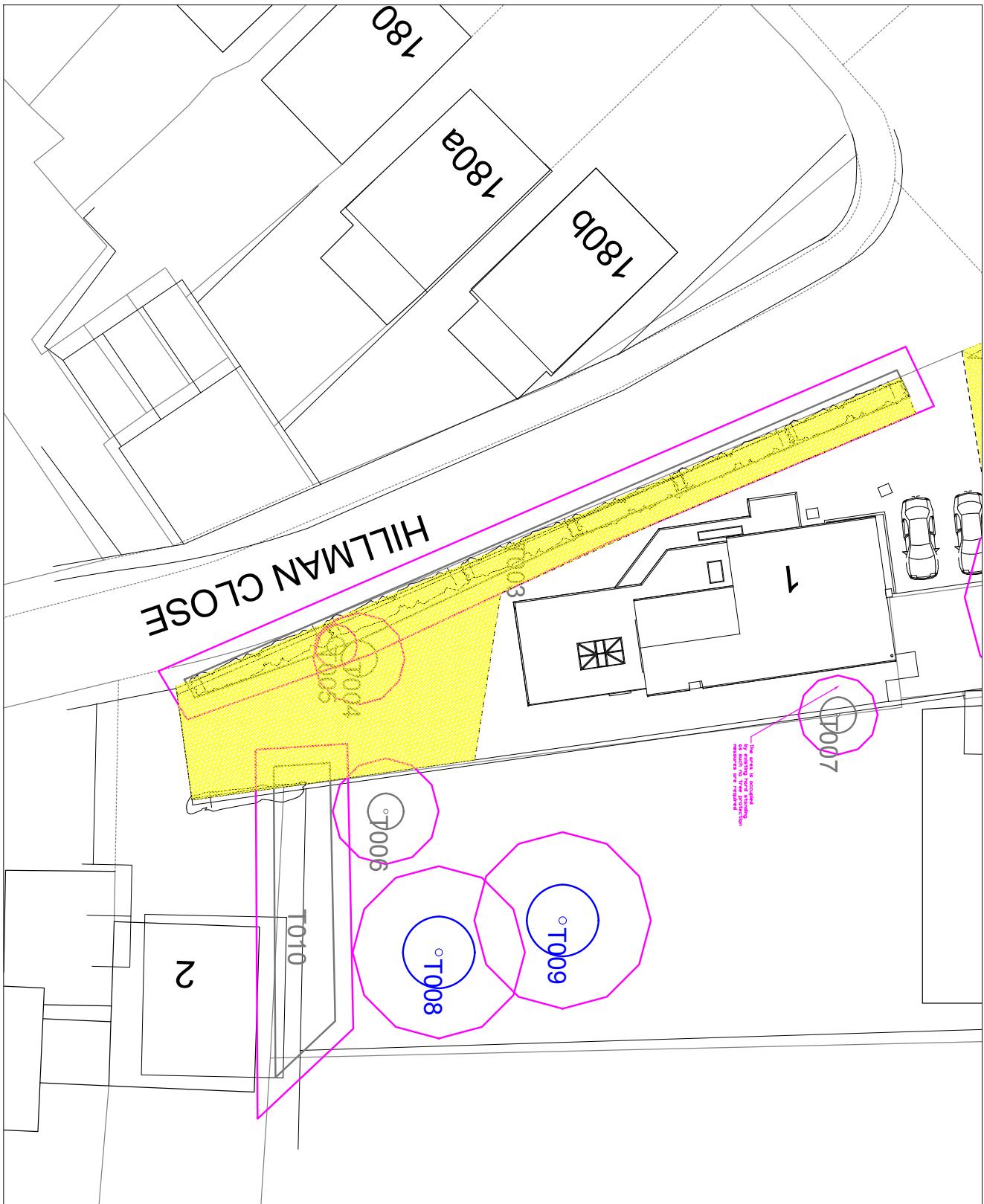


T005	Monterey Cypress ( <i>Cupressus macrocarpa</i> )	Tree	Height (m): 1 Stem Diam (mm): 100 Spread (m): 0.5N, 0.5E, 0.5S, 0.5W/ Crown Clearance (m): 0 Life Stage: Early Mature Rem. Contrib.: 40+ Years	N:0.5 E:0.5 S:0.5 W:0.5	Good Potential for the future Planted in a raised rockery	C1,3	Radius: 1.2m. Area: 5 sq.m.	Other Reference: Distance1: Distance2: Physiological Cond: Good Structural Cond: Good
T006	Common Ash ( <i>Fraxinus excelsior</i> )	Tree 5 stems	Height (m): 4 5 stems, avg.(mm): 110 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 0.5 Life Stage: Young Rem. Contrib.: 30+ Years	N:1 E:1 S:1 W:1	Self Set in Neighbours Garden Multi Stemmed	C1,3	Radius: 3.0m. Area: 28 sq.m.	Other Reference: Distance1: Distance2: Physiological Cond: Fair Structural Cond: Fair
T007	Common Ash ( <i>Fraxinus excelsior</i> )	Tree 2 stems	Height (m): 4 2 stems, avg.(mm): 130 Spread (m): 1N, 1E, 1S, 1W Crown Clearance (m): 2 Life Stage: Early Mature Rem. Contrib.: <10 years	N:1 E:1 S:1 W:1	Self Set in Neighbours Garden Multi Stemmed Growing against Garden Wall	C1,3	Radius: 2.2m. Area: 15 sq.m.	Other Reference: Distance1: Distance2: Physiological Cond: Fair Structural Cond: Fair
T008	Apple ( <i>Malus sp.</i> )	Tree	Height (m): 6 Stem Diam (mm): 400 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 20+ Years	N:2 E:2 S:2 W:2	Potential Wildlife Previously Reduced On the neighbouring property behind perimeter fence data and location established.	B1,3	Radius: 4.8m. Area: 72 sq.m.	Other Reference: Distance1: Distance2: Physiological Cond: Fair Structural Cond: Fair
T009	Apple ( <i>Malus sp.</i> )	Tree	Height (m): 6 Stem Diam (mm): 410 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 20+ Years	N:2 E:2 S:2 W:2	Potential Wildlife Previously Reduced On the neighbouring property behind perimeter fence data and location established.	B1,3	Radius: 4.9m. Area: 75 sq.m.	Other Reference: Distance1: Distance2: Physiological Cond: Fair Structural Cond: Fair

T010	Lawson Cypress x8 ( <i>Chamaecyparis</i> <i>lawsoniana</i> )	Group 8 trees	Height (m): 4 8 stems, avg (mm): 260 Spread (m): 1.5N, 8E, 1.5S, 8W Crown Clearance (m): 0 Life Stage: Semi Mature Rem. Contrib: 20+ Years	N:1.5 E:8 S:1.5 W:8	Maintained as a hedge Hedge in a Neighbours property Some Ivy Clad Stems	C1.3	Area: 52 sq m, plus a 1m buffer.	Other Reference: Distance1: Distance2: Physiological Cond: Fair Structural Cond: Fair
T011	Weeping Pear ( <i>Pyrus</i> <i>salicifolia</i> )	Tree	Height (m): 1 Stem Diam (mm): 60 Spread (m): 0.5N, 0.5E, 0.5S, 0.5W Crown Clearance (m): 0.5 Life Stage: Young Rem. Contrib: 20+ Years	N:0.5 E:0.5 S:0.5 W:0.5	Some Minor Die Back And Deadwood	C1.3	Radius: 0.7m. Area: 2 sq m. Structural Cond: Fair	Other Reference: Distance1: Distance2: Physiological Cond: Fair Structural Cond: Fair

**Appendix 3: Tree protection plan**





Tree Survey & Protection Plan		
Drawing no.	Scale*	Date
2 of 2	1:250@A3	08.02.2022
<p><b>Key</b></p>  <p>Category A – trees of high quality and value</p> <p>Category B – trees of moderate quality and value</p> <p>Category C – trees of low quality and value</p> <p>Category U – trees of unassessable for retention</p> <p>Group of trees / hedge</p> <p>Root protection area</p> <p>Trees to be removed</p> <p>Tree protective barriers</p> <p>Ground Root Protection</p> <p>Specialists Construction Methods</p> <p>Construction Excavation Zone</p>		