HAYDEN'S
Arboricultural Consultants

# Tree Survey and Arboricultural Impact Assessment
# In Accordance with BS 5837:2012

| | | | |
|---|---|---|---|
| **Project No. 10872** | **Avalon House, 72 Lower Mortlake Road, Richmond, TW9 2JY** | | |
| Applicant: | | Barings Real Estate | |
| Date of Report: | 22nd May 2024 | Revision: | Original |

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Fornham All Saints, Bury St Edmunds Suffolk. IP28 6JY

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# Summary

In this instance the proposed development entails the removal of the the existing roof and erection of a roof extension at fourth floor and rear extensions to floors ground – four to accommodate additional commercial floorspace (Class E), provision of rear and rooftop terraced amenity spaces, alterations to the ground floor entrance, recladding and remodelling of the façade, landscaping improvements to the rear carparking area, provision of end of journey and cycle parking facilities, associated building servicing and sustainability improvements, and other associated works. The arboricultural related implications of the proposal are summarised in Tables 1 and 2 below, and detailed where necessary within the report.

All trees and landscape features that are to remain as part of the development should suffer no structural damage provided that the findings within this report are complied with in full.

**Table 1 - Construction and ongoing constraints from an arboricultural perspective (subject to necessary tree surgery being completed):**

| Potential Design/Build Constraints | Arboricultural Impact? | Comments/Solution |
|---|---|---|
| Construction Access | Yes | Temporary load bearing surface to be installed where scaffolding to be erected in RPA of T006 and T007, as discussed at item 4.1. |
| Demolition | No | See item 4.2 |
| New Structures | No | See item 4.3 |
| New Hard Surfaces | No | See item 4.4 |
| Compound | No | See item 4.5 |
| Phasing | Yes | See item 4.6 |
| Services | No | See item 4.7 |

**Table 2 - Tree surgery a to facilitate the proposal:**

| Feature No | Surgery or Fell | Reason for Works | BS Category |
|---|---|---|---|
| H001 | Fell. | To permit reconfiguration of the car park, landscaping and installation of a cycle store. | C |
| T003 | Tip back crown on southern aspect by 1.5m, as shown on drawing no. 10872-D-AIA. | To facilitate installation of scaffolding. | A |
| T006 | Tip back crown on northern aspect by 1.5m, as shown on drawing no. 10872-D-AIA. | To facilitate installation of scaffolding and construction of rear stairwell. | C |

**Given the above, there are no overt or overwhelming arboricultural constraints that can be reasonably cited to preclude the proposed construction.**

# Contents

# 1.0 Introduction

## 1.1 Purpose

1.1.1 As part of the United Kingdom planning process, applicants are required to supply Local Planning Authorities (LPA) with a detailed evaluation of how their proposals will impact trees. The nationally recognised procedure for doing this is laid out in *BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations".* In summary, this must include the following information as a minimum: -

- A Tree Survey and Tree Constraints Plan.
- An Arboricultural Impact Assessment of sufficient detail to confirm the feasibility of the design from a tree perspective.
- A scaled Tree Retention and Removal drawing showing retained trees and their root protection area on the proposed layout.

1.1.2 This report has been prepared to ensure that this information is provided to the LPA in a straightforward and clear way so that they can make an informed decision about how (if at all) trees are affected.

1.1.3 When planning permission is granted it is typically the case that the LPA will require specific conditions to be fulfilled. This means that a subsequent detailed Arboricultural Method Statement and Tree Protection Plan may be required. This will be detailed on the LPA's decision notice.

## 1.2 Scope

1.2.1 In accordance with the above, Barings Real Estate have commissioned Hayden's Arboricultural Consultants to prepare a Tree Survey and Constraints Plan, Arboricultural Impact Assessment and scaled Tree Retention and Removal drawing for the existing trees at Avalon House, 72 Lower Mortlake Road, Richmond, TW9 2JY.

1.2.2 Unless stated within the survey, all trees were inspected from ground level with no climbing inspections undertaken. As such, the findings are of a preliminary nature. It is not always possible to access every tree and therefore some measurements may have to be estimated.

1.2.3 The trees were inspected on the basis of "*Visual Tree Assessment" (Mattheck & Breloer - 1994)* and *"Common Sense Risk Management of Trees" National Tree Safety Group guidance – 2011*.

1.2.4 Whilst this is an arboricultural report, comments relating to non arboricultural matters are given, such as built structures and soil data. Any opinion thus expressed should be viewed as provisional and confirmation from an appropriately qualified professional sought. Such points are clearly identified within the body of the report.

1.3 **Documentation**

1.3.1 The following documentation was provided prior to the commencement of the production of this report:

- Email of instruction from Tim Fleming dated 11th March 2024
- Definition of site boundary - drawing no. 143-ANO-P0-XX-DR-A-02002
- Topographical survey – drawing no. 46686_01_07_PES_rev0
- Demolition plans – drawing no. 143-ANO-P0-00-DR-A-03101/5
- Proposed site layout – drawing no. 143-ANO-P0-00-DR-A-0501/6

# 2.0 The Site

2.1 **Overview**

2.1 The Site comprises a three-storey commercial office building known as 'Avalon House' constructed in the early 2000's and accommodates 3,076sqm (GIA) of Commercial (Class E) floorspace. The building is a multi-tenanted office building, with a shared central reception and core facilities accessed from the primary pedestrian entrance from Lower Mortlake Road. The Site benefits from access to a shared internal vehicular road, which also provides access to the residential properties to the south, known as Tersha Street accessed from a driveway to Lower Mortlake Road. This road provides access to two car parks with a combined 33 spaces to the rear of the building. A small area with capacity for three visitor car parking spaces is also provided to the west of Tersha Street closer to the vehicular entrance point. An external substation is located within the eastern boundary of the Site.

2.1.1 The trees surveyed are located within and adjacent to the Site's curtilage. They were found to be of mixed age and condition and to provide a variety of benefits. A prominent linear belt of London Plane are located on highway land to the north of the building that make a significant contribution to the visual amenities of the locality. Sight of the trees to the rear of the building is largely restricted to the adjoining residents.

2.2 **Soils**

2.2.1 The soil type commonly associated with this site are generally freely draining slightly acid loams. They are of low fertility and typically support neutral and acid pastures, and deciduous woodland type habitats. This soil type constitutes approximately 15.5% the total English land mass.

2.2.2 The data given was obtained from a desktop study which provides indications of likely soil types. By definition, this information is not comprehensive and therefore any decisions taken with regards the management, usage or construction on site should be based on a detailed soil analysis.

2.2.3 Further to item 2.2.2, this report provides no information on soil plasticity. It may be necessary for practitioners in other disciplines (e.g. engineers considering foundation design) to obtain this data as required.

2.3 **Statutory Tree Protection**

2.3.1 Information on any LPA or Forestry Commission controlled statutory tree protection (Tree Preservation Orders, Conservation Areas and Felling Licenses etc) is recorded on the attached drawing no. 10872-D-AIA.

2.3.2 Further details regarding any existing Statutory Tree Protection is recorded at Appendix B.

# 3.0 Tree Survey

3.1 The tree survey was carried out on 27/03/2024 in accordance with *BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations"*, the relevant qualitative and quantitative tree data was recorded in order to assess the condition of the existing trees and their constraints upon the proposed development.

3.2 A topographical survey was provided which showed the position of the trees on site. However, it should be noted that topographical surveys are not always comprehensive and sometimes it is considered appropriate to record details of trees and landscape features omitted from or beyond the scope of the plan. If this circumstance occurs, the location of the individual tree or landscape feature is estimated. The position of each tree is shown on the attached drawing no. 10872-D-AIA.

3.3 To provide a systematic, consistent and transparent evaluation of the trees included within this survey, they have been assessed and categorised in accordance with the method detailed in item 4.3 of *BS5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations"*. For further information, please see the attached Explanatory Notes.

3.4 The detailed assessment of each tree and its work requirements with priorities, if required, are listed in the attached Schedule of Trees included at Appendix C.

3.5 In accordance with item 4.2.4 (c) of BS5837:2012, the items inspected and detailed within this report have been selected for inclusion due to the likely influence of any proposed development on the trees, rather than strictly adhering to the curtilage of the site. However, it must be understood that there may be trees beyond the site and not included in this survey which may exert an influence on the development. Where works for cultural, health and safety, quality of life or development purposes have been recommended on trees outside the ownership of the site, these can only progress with the agreement of the owner except where it involves portions of the trees overhanging the boundary.

# 4.0 Arboricultural Impact Assessment (Additional or Specific Comments)

## 4.1 Construction Access

4.1.1 Construction access via Tersha Street is unencumbered by the Root Protection Areas (RPA) of any trees to be retained. From a purely arboricultural perspective, it will therefore not be necessary to install a temporary load bearing road to protect tree roots.

4.1.2 Access to facilitate installation of scaffolding on the building's northern aspect is encumbered by the RPA of retained trees T001, T002, T003, T004 and T005. In this case the RPA is safeguarded by existing hard surfaces, as shown on the attached drawing no. 10872-D-AIA. From a purely arboricultural perspective, it will therefore not be necessary to install a temporary load bearing surface to protect tree roots.

4.1.3 Access to facilitate installation of scaffolding on the building's southern aspect is encumbered by the RPA of retained trees T006 and T007. It will therefore be necessary to install a temporary load bearing surface to prevent compaction damage to tree roots, as shown on the attached drawing no. 10872-D-AIA. This must be installed as a first stage of development, immediately after the completion of the necessary tree surgery and the installation of protective fencing.

## 4.2 Demolition

4.2.1 The demolition to be undertaken is shown on drawing no. 143-ANO-P0-00-DR-A-13101 to 13015 and 143-ANO-P0-XX-DR-A-03400 to 03402, prepared by Anomaly Architects.

4.2.2 Demolition does not impact on the RPA of any retained trees. Therefore, other than the provision of protective fencing and ground protection, no additional specialist protection measures are required.

## 4.3 New Structures

4.3.1 Construction of the rear extension's foundations or structural supports do not encroach within the RPA of any trees to be retained. From an arboricultural perspective, no specialised construction or foundation techniques will therefore be required to protect tree roots. However, dependent on the soil type, species and topography, trees may have an influence on the soil beyond their calculated RPA. Given the proximity of the proposed construction to the trees to be retained, it is recommended that a Structural Engineer is consulted to assess the implications of the tree retention on the required foundation design.

## 4.4 New Hard Surfaces

4.4.1 Installation of new hard surfaces does not encroach within the RPA of any retained trees. From a purely arboricultural perspective, it will therefore not be necessary for these items to be of specialist design.

## 4.5 Compound

4.5.1 The site provides adequate internal space to locate a construction compound outside the RPA of any trees and landscape features that are to be retained.

## 4.6 Services

4.6.1 New service routes are not available. However, whilst it is most likely the case that existing services will be utilised and connected to, should any new services be required it is important to establish the principle that wherever possible all underground service runs will be placed outside the retained RPA of the trees. Where it is not possible to do this, any infringement must be addressed by hand digging or trenchless technology. Similarly, all routes for overhead services will aim to avoid the trees and where this is not possible, any necessary tree work must be agreed with the LPA.

## 4.7 Phasing

4.7.1 The proposal involves the integration of several aspects that affect tree protection (e.g. – but not exclusively – movement of materials and the erection of scaffolding). For this reason, the project must be carefully phased to ensure the highest level of protection is maintained for retained trees. As part of the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden's Arboricultural Consultants will produce an in-depth phasing recommendation to cover the salient operations on site as they affect retained trees.

# 5.0 Limitations & Qualifications

Tree inspection reports are subject to the following limitations and qualifications.

**General exclusions**

Unless specifically mentioned, the report will only be concerned with above ground inspections. No below ground inspections will be carried out without the prior confirmation from the client that such works should be undertaken.

The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available prior to and during the inspection process. No checking of independent third-party data will be undertaken. Hayden's Arboricultural Consultants Limited will not be responsible for the recommendations within this report where essential data are not made available or are inaccurate.

This report will remain valid for one year from the date of inspection subject to the recommendations specified within being adhered to. It must also be appreciated that recommendations proposed within this report may be superseded by extreme weather, or any other unreasonably foreseeable events.

Tree surgery should be completed as detailed in the Schedule of Trees. Where this has been identified for reasons other than to permit development, this work should be completed within the advised timescales irrespective of any development proposals.

Tree surgery works may also be proposed as part of this Survey to mitigate any identified problems that may be caused by trees in close proximity to the proposed development. To this end, should these recommendations be overruled, this Survey stands as the opinion of Hayden's Arboricultural Consultants Limited, and therefore any damage or injury caused by trees recommended by this practice for felling or tree surgery works, to which the proposed schedule of works has been altered or the tree has been requested to be retained by the Local Planning Authority, cannot be the responsibility of this practice.

Moreover, if any additional alterations to the property or soil levels are carried out and/or further tree works undertaken other than specified within the report, it will become invalid and a new tree inspection required.

It will be appreciated, and deemed to be accepted by the client and their insurers, that the formulation of the recommendations for the management of trees will be guided by the following: -

1. The need to avoid reasonably foreseeable damage.
2. The arboricultural considerations - tree safety, good arboricultural practice (tree work) and aesthetics.

The client and their insurers are deemed to have accepted the limitation placed on the recommendations by the sources quoted in the attached report. Where sources are limited by time constraints or the client, this may lead to an incomplete quantification of the risk.

**Signed:**

**May 2024**
**For and on Behalf of Hayden's Arboricultural Consultants Limited**

# 6.0 References

British Standards Institute. (2010). *Recommendations for Tree Work BS3998:2010* BSI, London.

British Standards Institute. (2012). *Trees in Relation to Design, Demolition and Construction – Recommendations BS5837:2012* BSI, London.

Mattheck & Breloer, H. (1994). *Research for Amenity Trees No.4: The Body Language of Trees*, HMSO, London.

NHBC Standards (2007) *Chapter 4.2 'Building Near Trees'.* National House-Building Council.

NJUG 4 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Issued 16 November 2007.

Lonsdale, D. (1999). *Research for Amenity Trees No 7: Principles of Tree Hazard Assessment and Management*, HMSO, London.

National Tree Safety Group (2011). *Common Sense Risk Management of Trees.* Forestry Commission.

# 7.0 Appendices

| | | |
|---|---|---|
| Appendix | **A** | Species List & Tree Problems |
| Appendix | **B** | Statutory Tree Protection Advice & Tree Preservation Order Enquiry/Response |
| Appendix | **C** | Schedule of Trees |
| Appendix | **D** | Preliminary Schedule of Works to Allow Development |
| Appendix | **E** | Explanatory Notes |
| Appendix | **F** | Advisory Information & Sample Specifications |

1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care
2. European Protected Species and Woodland Operations Checklist (v.4)
3. BS 5837:2012 Figure 2 - Default specification for protective barrier
4. BS 5837:2012 Figure 3 - Examples of above-ground stabilising systems

| | | |
|---|---|---|
| Appendix | **G** | Drawing no. 10872-D-AIA |

# Appendix A - Species List & Tree Problems

**Species List:**

| | |
|---|---|
| Cherry | *Prunus sp* |
| Eucalyptus | *Eucalyptus sp* |
| London Plane | *Platanus sp* |
| Stag Horn Sumach | *Rhus sp* |
| Whitebeam | *Sorbus sp* |

**Tree Problems:**

This gives a brief description of the problems identified in the attached Tree Survey.

| **Name: Deadwood** | |
|---|---|
| **Symptoms/damage type and cause:** | This relates to dead branches in the crown of the tree. In most cases, this is caused by the natural ageing process of the tree or shading due to its close proximity to neighbouring trees. However, in some situations, it may be related to fungal, bacterial or viral infection. |
| **Consequence:** | Depending upon the location and mass of dead wood removal of the affected tissue may be necessary to prevent harm to persons or property as the wood will become unstable as it decays and in some circumstances is likely to fall from the tree with little or no warning. |
| **Control:** | Detailed monitoring should be undertaken on those trees showing signs of excessive deadwood production to identify the underlying cause. |
| **Species affected:** | Most tree species. |
| **Images:** |   |

# Appendix B - Statutory Tree Protection Advice & Tree Preservation Order Enquiry/Response

**Statutory Tree Protection Advice**

Hayden's Arboricultural Consultants Limited have been informed that at the *date of the tree inspection* the trees concerned were not located within a Conservation Area or the subject of a Tree Preservation Order. As such, no written permission would be required from the LPA prior to commencing works to trees located within the Site's curtilage. However, it should be noted that the LPA have the power to serve Tree Preservation Orders very rapidly and it is therefore incumbent upon anyone wishing to undertake work to any trees to contact the LPA prior to commencing works to ensure that the situation has not changed.

# TPO Response

## Anne Heathfield

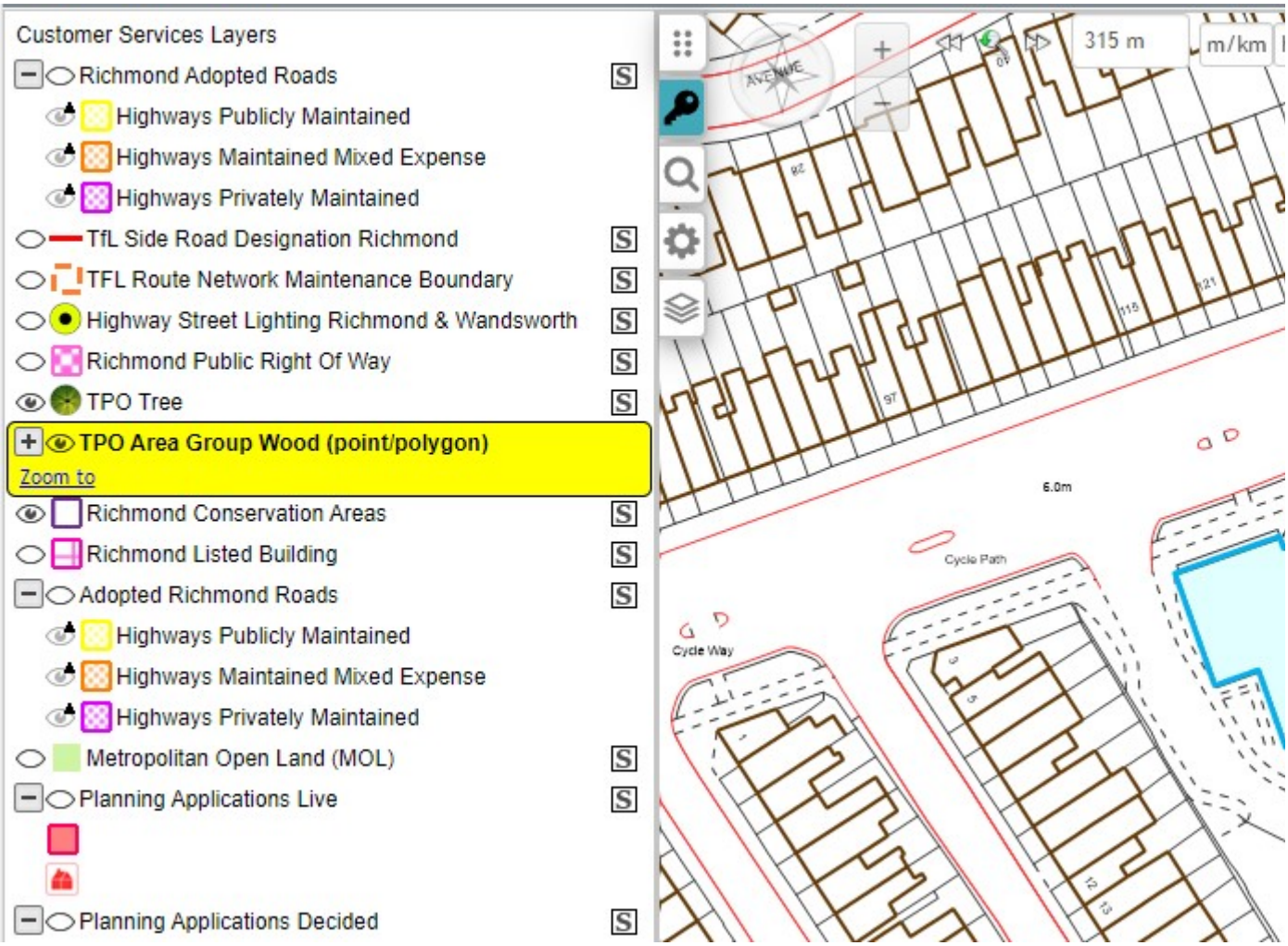
**From:** trees&parks@richmond.gov.uk
**Sent:** 04 April 2024 10:17
**To:** Anne Heathfield
**Subject:** RE: 10872 - Information request for TPO & Cons Area in Richmond

Dear Anne Heathfield

Thank you for your email.

I can confirm your address is not in a conservation area and does not have any TPO's.

You are free to complete any works without consulting the council.




We are conducting a Customer Experience Survey to gather customer feedback to help improve our services. The survey only takes 5 minutes and can be completed by using the link below.
www.richmond.gov.uk/customer_feedback

Kind regards

Amber Theobalds

Corporate Customer Services
Serving Richmond and Wandsworth Councils

TPO Response
Tel: 0208 891 1411
www.richmond.gov.uk / www.wandsworth.gov.uk

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*Newsletter: www.richmond.gov.uk/news*
*Twitter/X: @LBRUT_help*

***There is now a new way to log your report!***
*Did you know you can now log any reports directly on the* ***My Richmond App****?*
***My Richmond App is linked directly to many of our services and creates a request directly to resolve issues that you have raised.***
*You can also view your Council Tax account, get a virtual version of your Richmond Card, see local planning applications, and check everyday information personal to your address through the app.*
*You can download the My Richmond App on the App store or through Google Play. Find out more on our website - My Richmond App*

Whilst you await for your query to be dealt with, you may find information on the following webpages useful: **Richmond.gov.uk**

**Richmond Cost of Living Hub**
Support available in the borough to help with the cost of living.
You can also find out what you can do to help.

We'd love to hear your feedback. Please click the link to answer a short survey:

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**From:** anneh@treesurveys.co.uk
**Sent:** 03/04/2024 16:07:01
**To:** trees&parks@richmond.gov.uk
**Subject:** 10872 - Information request for TPO & Cons Area in Richmond

> Some people who received this message don't often get email from anneh@treesurveys.co.uk. Learn why this is important

Good Afternoon

**Avalon House, 72 Lower Mortlake Road, Richmond, TW9 2JY**

Could you please tell me if the above mentioned site is covered by any TPO's or is situated within a Conservation Area?

I have attached a site map for your use.

I look forward to hearing from you.

Kind Regards

Anne Heathfield
Administrator

(Please note my working days are Wednesday, Thursday & Friday)

HAYDEN'S
Arboricultural Consultants

Tel: 01284 765391 info@treesurveys.co.uk **www.treesurveys.co.uk**

# TPO Response

Head Office: 5 Moseley's Farm Business Centre, Fornham All Saints, Bury St. Edmunds, Suffolk, IP28 6JY
Southern Office: Unit 6, Enterprise House, Cherry Orchard Lane, Salisbury, Wiltshire, SP2 7LD

**FACEBOOK TWITTER LINKEDIN INSTAGRAM**

# Appendix C

Schedule of Trees

## SCHEDULE OF TREES (AIA)

Avalon House, 72 Lower Mortlake Road, Richmond,

Surveyed By: Nick Hayden Date: 27/03/2024
Managed By: Nick Hayden

| TreeNo | Species | DBH | Height | | Visual | Crown Spread | Problems / Comments | BS Cat | Work Required (TS) | Priority (TS) | Work Required (AIA) | Priority (AIA) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min Dist | Crown Base | Lowest Branch | Age | Water Demand | | | | | | |
| On site | | RPA (m²) | Aspect | Aspect | SULE | Ground Cover | | | | | | |
| **H001** | New Zealand Pittosporum | 50 | 1.5 | | Moderate | N0.5, E0.5, S0.5, W0.5 | Well maintained hedge. | C2 | No work required | 4 | Fell. | 0 |
| | | 0.6 | 0-2m | | SM | Moderate | | | | | | |
| **Yes** | | 1.1 | | | 10+ years | Bare earth | | | | | | |
| **T001** | London Plane | 200 | 10 | | High | N4, E4.5, S3, W4 | Located in a landscaped bed between the highway and cycle path. No evidence of any fungal fruiting bodies around base or on lower stem. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Reasonable vigour. Not plotted on TOPO. | A2 | No work required | 4 | | |
| | | 2.4 | 2.1-4m | | SM | Moderate | | | | | | |
| **No** | | 18.1 | | | 40+ years | Bare earth, Shrub bed, Tarmac | | | | | | |
| **T002** | London Plane | 400 | 15 | | High | N4, E5.5, S5, W3 | Located in a landscaped bed between the highway and cycle path. Service hatch to west of stem. Slight stem lean to east. No evidence of any fungal fruiting bodies around base or on lower stem. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Old pruning wounds show good occlusion. Historically topped / pollarded at circa. 11m above ground level (agl), dense regrowth at reduction points. Lamp column in crown on north aspect. Not plotted on TOPO. | A2 | No work required | 4 | | |
| | | 4.8 | 4.1-6m | | EM | Moderate | | | | | | |
| **No** | | 72.4 | | | 40+ years | Bare earth, Shrub bed, Tarmac | | | | | | |

| TreeNo | Species | DBH | Height | | Visual | Crown Spread | Problems / Comments | BS Cat | Work Required (TS) | Priority (TS) | Work Required (AIA) | Priority (AIA) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min Dist | Crown Base | Lowest Branch | Age | Water Demand | | | | | | |
| On site | | RPA ($m^2$) | Aspect | Aspect | SULE | Ground Cover | | | | | | |
| **T003** | London Plane | 360 | 15 | | High | N5, E5.5, S5.5, W6 | Located in a landscaped bed between the highway and cycle path. Slight stem lean to east. No evidence of any fungal fruiting bodies around base or on lower stem. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Old pruning wounds show good occlusion. Minor bark inclusions at some stem / branch unions but risk managed by cyclical reduction. Historically topped / pollarded at circa. 11m agl, dense regrowth at reduction points. Branches almost in contact with structure to south. Not plotted on TOPO. | A2 | No work required | 4 | Tip back crown on southern aspect by 1.5m, as shown on drawing no. 10872-D-AIA. | 0 |
| | | 4.32 | 2.1-4m | | EM | Moderate | | | | | | |
| **No** | | 58.6 | | | 40+ years | Bare earth, Shrub bed, Tarmac | | | | | | |
| **T004** | London Plane | 190 | 11 | | High | N3.5, E3, S3.5, W5 | Located in a landscaped bed between the highway and cycle path. Service hatch to west. No evidence of any fungal fruiting bodies around base or on lower stem. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Reasonable vigour. Not plotted on TOPO. | A2 | No work required | 4 | | |
| | | 2.28 | 2.1-4m | | SM | Moderate | | | | | | |
| **No** | | 16.3 | | | 40+ years | Bare earth, Shrub bed, Tarmac | | | | | | |
| **T005** | London Plane | 280 | 12 | | High | N3.5, E3.5, S4, W4.5 | Located in a landscaped bed between the highway and cycle path. Slight stem lean to north. Exposed surface roots and localised compaction. No evidence of any fungal fruiting bodies around base or on lower stem. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Historically topped / pollarded at circa. 9m agl, dense regrowth at reduction points. Lamp column to west, branchtips in contact. Not plotted on TOPO. | A2 | No work required | 4 | | |
| | | 3.36 | 2.1-4m | | SM | Moderate | | | | | | |
| **No** | | 35.5 | | | 40+ years | Bare earth, Shrub bed, Tarmac | | | | | | |

| TreeNo | Species | DBH | Height | | Visual | Crown Spread | Problems / Comments | BS Cat | Work Required (TS) | Priority (TS) | Work Required (AIA) | Priority (AIA) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min Dist | Crown Base | Lowest Branch | Age | Water Demand | | | | | | |
| On site | | RPA (m²) | Aspect | Aspect | SULE | Ground Cover | | | | | | |
| **T006** | Staghorn Sumac | 170 | 6 | | Moderate | N2.5, E2, S3.5, W3 | One of three maturing as companions. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Bifurcates at circa. 1.6m agl, union appears stable. Branchtips almost in contact with structure to north. Reasonable vigour. | C2 | No work required | 4 | Tip back crown on northern aspect by 1.5m, as shown on drawing no. 10872-D-AIA. | 0 |
| | | 2.04 | 2.1-4m | | EM | Moderate | | | | | | |
| **Yes** | | 13.1 | | | 10+ years | Bare earth, Shrub bed, Woodchip | | | | | | |
| **T007** | Staghorn Sumac | 170 | 5 | | Moderate | N2.5, E3, S2.5, W0.5 | One of three maturing as companions. Suppressed specimen with stem lean and heavily asymmetric crown bias to east. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Bifurcates at circa. 0.6m agl, union appears stable. Reasonable vigour. | C2 | No work required | 4 | | |
| | | 2.04 | 2.1-4m | | EM | Moderate | | | | | | |
| **Yes** | | 13.1 | | | 10+ years | Bare earth, Shrub bed, Woodchip | | | | | | |
| **T008** | Staghorn Sumac | 180 | 6 | | Moderate | N2.5, E2, S2.5, W2 | One of three maturing as companions. Girdling roots. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Bifurcates at circa. 1.6m agl, union appears stable. Reasonable vigour. | C2 | No work required | 4 | | |
| | | 2.16 | 2.1-4m | | EM | Moderate | | | | | | |
| **Yes** | | 14.7 | | | 10+ years | Bare earth, Shrub bed, Woodchip | | | | | | |
| **T009** | Whitebeam | 210 | 6 | | Moderate | N3, E3, S3, W3 | Helical ribbing. Tapping lower stem with a sounding hammer did not reveal presence of notable decay. Multi-stemmed from circa. 1.6m agl, minor bark inclusions. Congested crown. Crossing, rubbing branches. Reasonable vigour. | B2 | No work required | 4 | | |
| | | 2.52 | 0-2m | | EM | Moderate | | | | | | |
| **Yes** | | 20 | | | 20+ years | Shrub bed | | | | | | |
| **T010** | Cherry | 90 | 6 | | Low | N3, E0.5, S2, W1.5 | Located offsite between building and substation. Restricted access impeded a detailed inspection. Reasonable vigour. Not plotted on TOPO. Undesirable for long term retention given proximity to adjacent structure and substation. | U | No work required | 4 | | |
| | | 1.08 | 2.1-4m | | Y | Moderate | | | | | | |
| **No** | | 3.7 | | | <10 years | Unknown (offsite/no access) | | | | | | |
| **T011** | Cider Gum | 450 | 12.5 | | High | N3.5, E3.5, S3.5, W3.5 | Offsite. Restricted access impeded a detailed inspection. All dimensions therefore estimated. Pollard. Reasonable vigour. Not plotted on TOPO. Plotted for reference. | C2 | No work required | 4 | | |
| | | 5.4 | 2.1-4m | | M | High | | | | | | |
| **No** | | 91.6 | | | 10+ years | Unknown (offsite/no access) | | | | | | |

| TreeNo | Species | DBH | Height | | Visual | Crown Spread | Problems / Comments | BS Cat | Work Required (TS) | Priority (TS) | Work Required (AIA) | Priority (AIA) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min Dist | Crown Base | Lowest Branch | Age | Water Demand | | | | | | |
| On site | | RPA ($m^2$) | Aspect | Aspect | SULE | Ground Cover | | | | | | |
| **T012** | Cider Gum | 450 | 12.5 | | High | N4, E4.5, S4.5, W4 | Offsite. Restricted access impeded a detailed inspection. All dimensions therefore estimated. Multi-stemmed. Topped at circa. 6m agl. Reasonable vigour. Not plotted on TOPO. Plotted for reference. | C2 | No work required | 4 | | |
| | | 5.4 | 2.1-4m | | EM | High | | | | | | |
| **No** | | 91.6 | | | 10+ years | Unknown (offsite/no access) | | | | | | |

# Appendix D

Schedule of Works to Allow Development

## SCHEDULE OF WORKS (AIA)

Avalon House, 72 Lower Mortlake Road, Richmond,

Surveyed By: Nick Hayden
Surveyed: 27/03/2024
Managed By: Nick Hayden

| Tree No. | Species | Work required | Priority |
|---|---|---|---|
| **H001** | New Zealand Pittosporum | Fell. | **0** |
| **T003** | London Plane | Tip back crown on southern aspect by 1.5m, as shown on drawing no. 10872-D-AIA. | **0** |
| **T006** | Staghorn Sumac | Tip back crown on northern aspect by 1.5m, as shown on drawing no. 10872-D-AIA. | **0** |

# Appendix E

Explanatory Notes

# Explanatory Notes

## Categories

| | |
|---|---|
| **No** | Identifies the tree on the drawing. |
| **Species** | Common names are given to aid understanding for the wider audience. |
| **BS 5837 Main Category** | Using this assessment (BWS 5837:2012, table 1), trees can be divided into one of the following simplified categories, and are differentiated by cross-hatching and by colour on the attached drawing.<br><br>**Category A** - Those of high quality with an estimated remaining life expectancy of at least 40 years;<br><br>**Category B** - Those of moderate quality with an estimated life expectancy of at least 40 years;<br><br>**Category C** - Those of low quality with an estimated remaining of at least 10 years, or young trees with a stem diameter below 150 mm;<br><br>**Category U** - Those trees in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. |
| **BS 5837 Sub Category** | Table 1 of BS 5837:2012 also requires a sub category to be applied to the A, B, C, and U assessments. This allows for a further understanding of the determining classification as follows:<br><br>**Sub Category 1** - Mainly arboricultural qualities;<br><br>**Sub Category 2** - Mainly landscape qualities;<br><br>**Sub Category 3** - Mainly cultural values, including conservation.<br><br>Please note that a specimen or landscape feature may fulfil the requirements of more than one Sub Category. |
| **DBH (mm)** | Diameter of main stem in millimetres at 1.5 metres from ground level. Where the tree is a multi-stem, the diameter is calculated in accordance with item 4.6.1 of BS 5837:2012. |
| **Height** | Recorded in metres, measured from the base of the tree. |
| **Crown Base** | Recorded in metres, the distance from ground and aspect of the lowest branch material. |
| **Lowest Branch** | Recorded in metres, the distance from ground and aspect of the emergence point of the lowest significant branch. |

| | |
|---|---|
| **Age** | Recorded as one of seven categories:<br><br>**Y** Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH.<br><br>**S/M** Semi-mature. An established tree, but one which has not reached its prospective ultimate height.<br><br>**E/M** Early-mature. A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread.<br><br>**M** Mature. A mature specimen with limited potential for any significant increase in size, even if healthy.<br><br>**O/M** Over-mature. A senescent or moribund specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications.<br><br>**V** Veteran. A tree considered a 'survivor' having endured injury, disease and/or decay, developing important habitat features such as decay, trunk hollowing, deadwood, fungal fruiting bodies (plus others) not solely as a consequence of time. Veteran trees are afforded additional protection within the planning system where they may be influenced by change.<br><br>**A** Ancient. A tree that has the features of a Veteran tree but has also surpassed the typical lifespan for its species. These trees may differ in appearance from a Veteran tree, such as having a thick/wide trunk and a small crown. Ancient trees are usually considered to have exceptional cultural significance. Ancient trees are afforded additional protection within the planning system where they may be influenced by change. |
| **Safe Useful Life Expectancy (SULE)** | Relates to the prospective life expectancy of the tree and is given as 4 categories:<br><br>1 = 40 years+;<br><br>2 = 20 years+;<br><br>3 = 10 years+;<br><br>4 = less than 10 years. |
| **Crown Spread** | Indicates the radius of the crown from the base of the tree in each of the northern, eastern, southern and western aspects. |
| **Minimum Distance** | This is a distance equal to 12 times the diameter of the tree measured at 1.5 metres above ground level for single stemmed trees and 12 times the average diameter of the tree measured at 1.5 metres above ground level tree for multi stemmed specimens. (BS 5837:2012, section 4.6). |
| **RPA** | This is the Root Protection Area, measured in square metres and defined in BS5837:2012 as "a 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". The RPA is shown on the drawing.. Ideally this is an area around the tree that must be kept clear of construction, level changes of construction operations. Some methods of construction can be carried out within the RPA of a retained tree but only if approved by the Local Planning Authority's tree officer. |
| **Water Demand** | This gives the water demand of the species of tree when mature, as given in the NHBC Standards Chapter 4.2 "Building Near Trees". |

| | |
|---|---|
| **Visual Amenity** | Concerns the planning and landscape contribution to the development site made by the tree, hedge or tree group, in terms of its amenity value and prominence on the skyline along with functional criteria such as the screening value, shelter provision and wildlife significance. The usual definitions are as follows:<br><br>Low — An inconsequential landscape feature.<br><br>Moderate — Of some note within the immediate vicinity, but not significant in the wider context.<br><br>High — Item of high visual importance. |
| **Problems/ Comments** | May include general comments about growth characteristic, how it is affected by other trees and any previous surgery work; also, specific problems such as deadwood, pests, diseases, broken limbs, etc. |
| **Works Required (TS)** | Identifies the necessary tree work to mitigate anticipated problems and deal with existing problems identified in the “Problems/comments” category. |
| **Work Required (AIA)** | Identifies the tree work specifically necessary to allow a proposed development to proceed. |
| **Priority** | This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey.<br><br>1 Urgent – works required immediately;<br><br>2 Works required within 6 months;<br><br>3 Works required within 1 year;<br><br>4 Re-inspect in 12 months,<br><br>0 Remedial works as part of implementation of planning consent. |

# BS 5837:2012 Terms and Definitions

| | |
|---|---|
| **Access Facilitation Pruning** | One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site. |
| **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. |
| **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. NOTE - a competent person is expected to be able to advise on the best means by which the recommendations of this British Standard may be implemented. |
| **Construction** | Site-based operations with the potential to affect existing trees. |
| **Construction Exclusion Zone** | Area based on the root protection area from which access is prohibited for the duration of a project. |
| **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. |
| **Service** | Any above or below ground structure or apparatus required for utility provision.<br>**NOTE** - examples include drainage, gas supplies, ground source heat pumps, CCTV and satellite communications. |
| **Stem** | Principal above ground structural component(s) of a tree that supports its branches. |
| **Structure** | Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork. |
| **Tree Protection Plan** | 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. |

**Veteran/Ancient Tree Buffer**

A diagrammatic representation of the additional protection measures afforded to Veteran and Ancient Trees by the imposing of a geographical 'buffer' space between the Veteran/Ancient Trees and any potential activity such as construction, that may affect the trees. The buffer zones are calculated as follows:

*For ancient woodlands, the proposal should have a buffer zone of at least 15 metres from the boundary of the woodland to avoid root damage (known as the root protection area). Where assessment shows other impacts are likely to extend beyond this distance, the proposal is likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic.*

*For ancient or veteran trees (including those on the woodland boundary), the buffer zone should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5 metres from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter. This will create a minimum root protection area.*

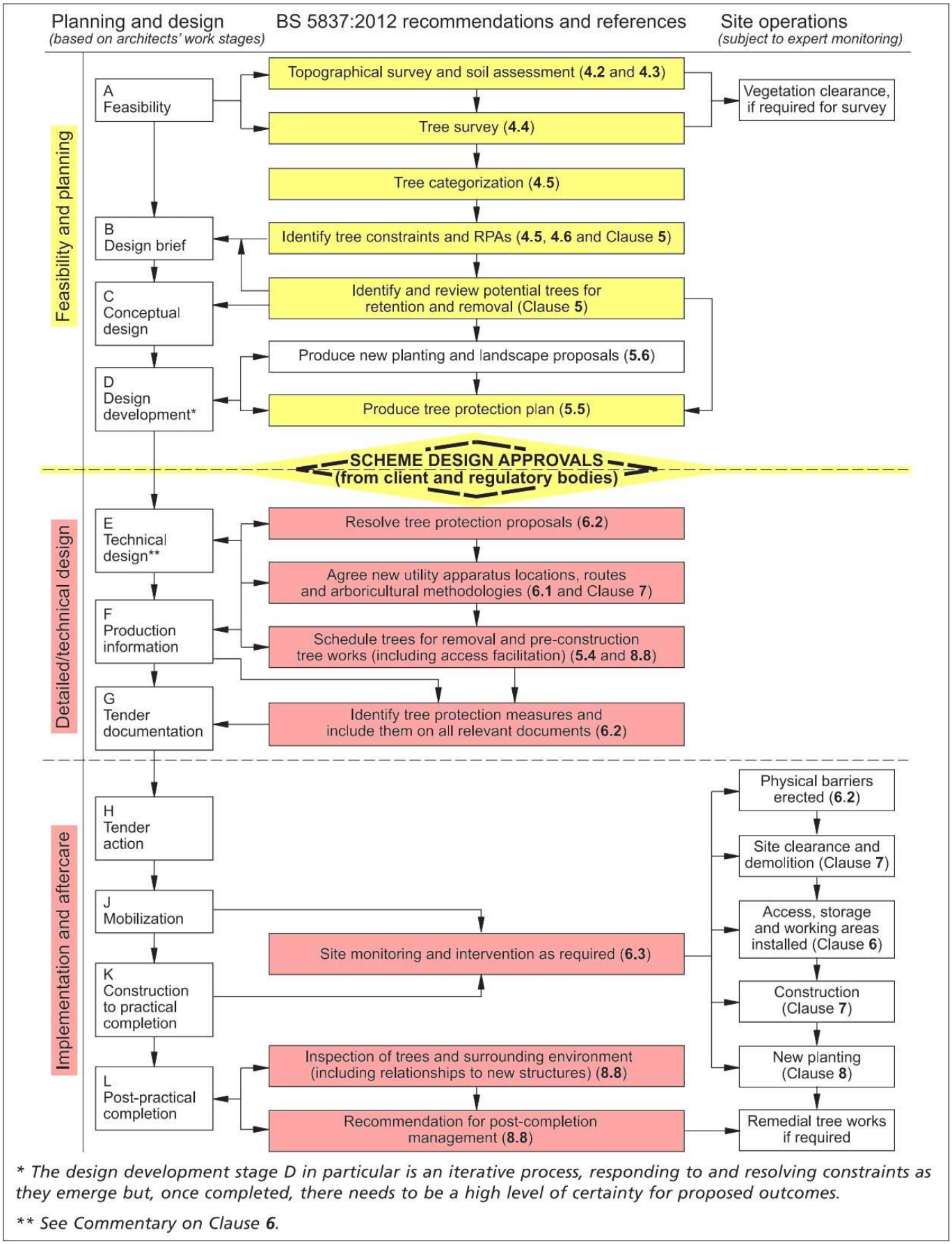
*Where assessment shows other impacts are likely to extend beyond this distance, the proposal is likely to need a larger buffer zone.*

Source: Natural England; The Forestry Commission; The UK Government Dept. for The Environment.

# Appendix F

Advisory Information & Sample Specifications

## 1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care




** The design development stage D in particular is an iterative process, responding to and resolving constraints as they emerge but, once completed, there needs to be a high level of certainty for proposed outcomes.*

*** See Commentary on Clause **6**.*

2.

# European Protected Species and woodland operations. (V4)

Complete all sections of the Checklist

✔

## Checklist

**1** **Are you within, or close to, the known mapped range of any of the protected species OTHER THAN BATS which are potentially everywhere? Tick any that apply.**
See distribution maps in the Good Practice Guidance for each species -

- ☐ Dormice
- ☐ Otters
- ☐ Great crested newts
- ☐ Sand lizards
- ☐ Smooth snakes

YES / NO

**2** **Does your wood contain any of the following habitats? Tick any that apply.**

- ☐ Old trees with holes and crevices which might be used bats
- ☐ Species rich scrub/coppice, early growth stage plantations and forest interfaces
- ☐ Rivers on which otters might be found
- ☐ Ponds which might be occupied by great crested newts
- ☐ Open areas on heathy soils

YES / NO

**3** **Have any of the protected species been recorded in this wood or on adjoining sites? Tick any that apply.**
Indicate which sources of information you have checked:

- ☐ National Biodiversity Network (www.nbn.org.uk)
- ☐ Local Biological Records Centre
- ☐ Local Wildlife Trust
- ☐ Other

*Specify Other:*

YES / NO

**4** **Have your inspections or any expert surveys found any of the following signs or evidence? Tick any that apply.**

- ☐ Signs (e.g. otter spraint, nuts gnawed by dormice, leaves folded by newts)
- ☐ Sightings (or echo-location)
- ☐ Potential breeding or roosting sites (e.g. veteran trees, old trees with crevices, riverside hollow trees, ponds, timber stacks, large fallen deadwood)
- ☐ Confirmed breeding or roosting sites (i.e. evidence of sites actually being used)

*Details:*

YES / NO

## Details

**Name of Wood:**

**Grid Reference:**

**Area: (ha)** . 

**Date of Assessment:**

**Name of Assessor:**

**CHECK POINT**

**If you have answered NO to ALL of the above then only bats need to be considered in your operations.**

**If you have answered YES to any of the above then the species concerned must be considered as well as bats.**

## Notes

**5** **Do the operations comply with Good Practice for bats and any other species found (or likely to be found in your wood) or can the operations be modified to do so?**
*Details: Use reverse of form to expand as required:*

YES — A licence is not required but continue to sections 6 and 7 below

NO — You will need to obtain a licence BEFORE carrying out the work (see EPS Licence Application Forms and Notes)

**6** **Whether or not a licence is required...**
**Has the information been communicated to operators (including the location of breeding sites and sensitive areas)? Tick any that apply.**

- ☐ Included in documentation (e.g. contract, letter of instruction, site assessment or other management plan)
- ☐ Shown to operators and/or their supervisor
- ☐ Marked with paint or hazard tape
- ☐ Shown on the site plan

*Other means:*

YES

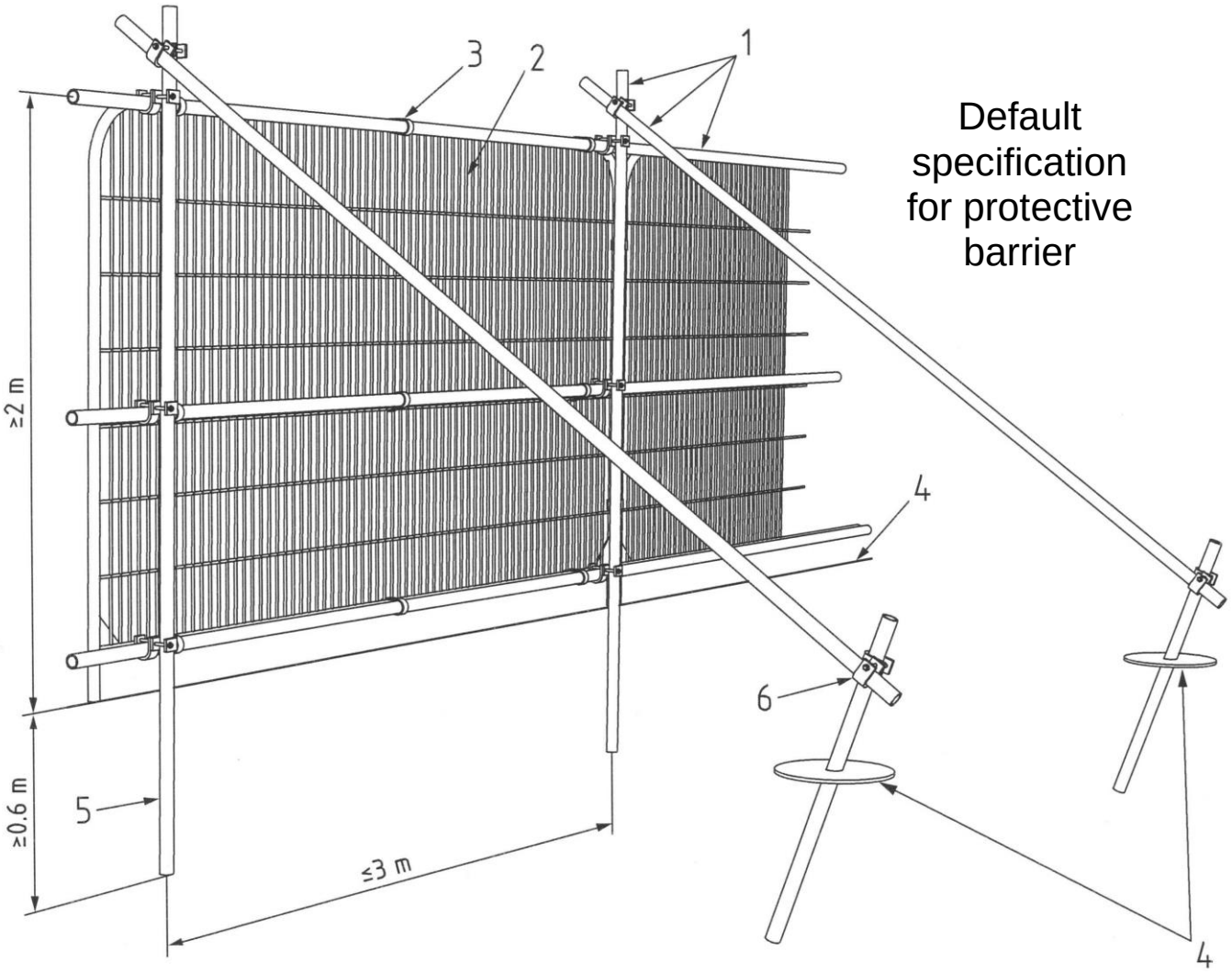
NO — You may commit an offence if you do not tell your operators about the protected species in your wood.

**7** **Have arrangements for supervision been made to ensure Good Practice guidance is complied with during the operations?**
*Details:*

YES

NO — You may commit an offence if you do not take steps to ensure that your operators comply with the Good Practice guidance.

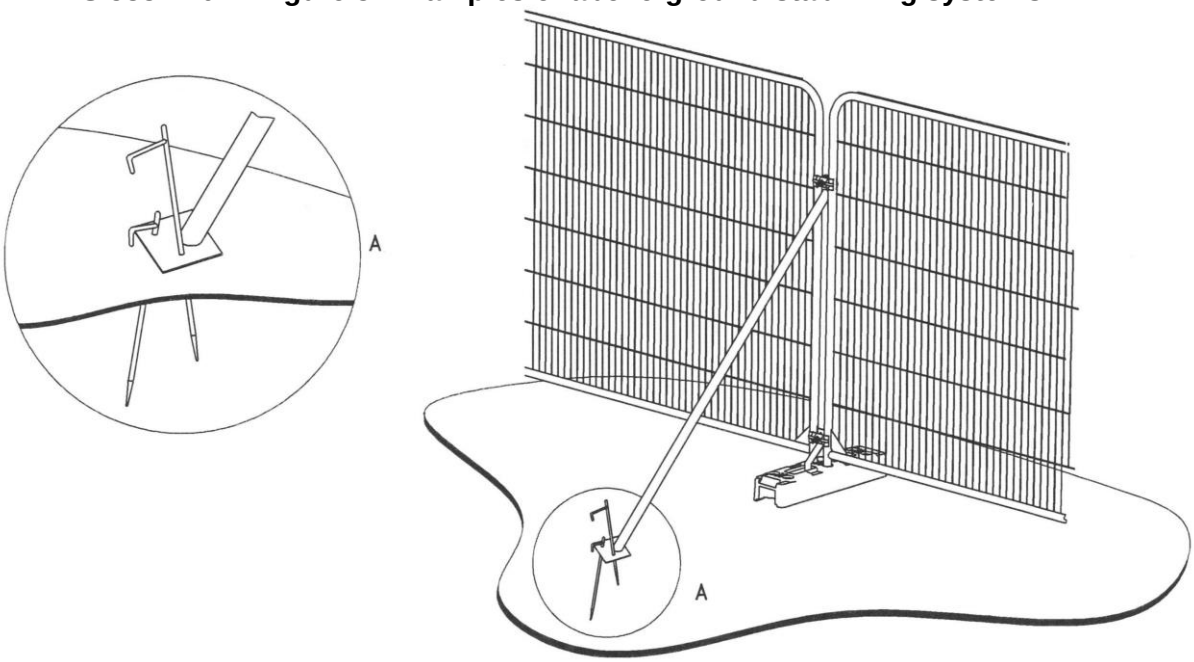
**3. BS 5837:2012 Figure 2: Default specification for protective barrier**



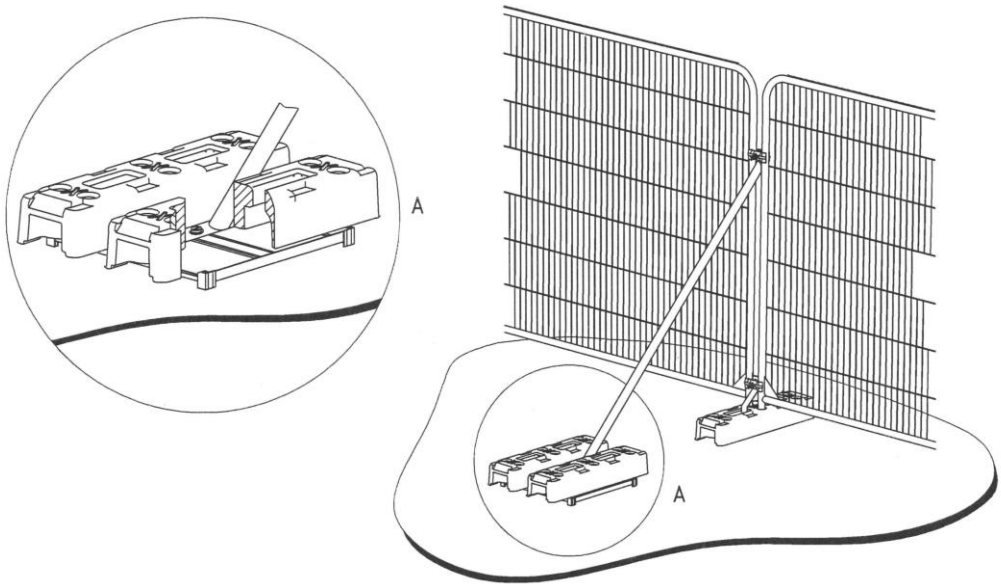

Key

| | |
|---|---|
| 1 | Standard scaffold pole |
| 2 | Heavy gauge 2m tall galvanised tube and welded mesh infill panels |
| 3 | Panels secured to uprights and cross-members with wire ties |
| 4 | Ground level |
| 5 | Uprights driven into the ground until secure (minimum depth 0.6m |
| 6 | Standard scaffold clamps |

**4. BS 5837:2012 Figure 3: Examples of above-ground stabilizing systems**




a) Stabilizer strut with base plate secured with ground pins




b) Stabilizer strut mounted on block tray

## Appendix G

Haydens Drawing

## Existing Site Plan


## TREE PROTECTION STATUS

Hayden's contacted London Borough of Richmond upon Thames Council on 04/04/2024. We were informed that:

- No TPO's are present on site
- The site is not located within a conservation area

## CATEGORY AND DEFINTION

| Trees unsuitable for retention | |
|---|---|
| Category U | Those in such condition that they cannot realistically be retained as living trees in the current land use for longer than 10 years |
| **Trees to be considered for retention** | |
| Category A | **Trees of high quality** with an estimated remaining life expectancy of at least 40 years |
| Category B | **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years |
| Category C | **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm |

## NOTE:

Hayden's Arboricultural Consultants were not provided with a Topographical Survey or Base Plan showing the positions of the trees/landscape features on this site, so their locations have been fixed using GPS. As such the position of the trees/ landscape features should not be taken as exact but gives a fair distribution of their locations on site.

North (Indicative)

## LEGEND

- Existing Tree/Feature BS 5837:2012 Category A
- Trees which require crown reduction to facilitate the prospective development
- Existing Tree/Feature BS 5837:2012 Category B
- Existing Tree/Feature BS 5837:2012 Category C
- Trees which require crown reduction to facilitate the prospective development
- Existing Tree/Feature to be removed to allow for development BS 5837:2012 Category C
- Existing Tree/Feature BS 5837:2012 Category U
- Line of Root Protection Area (RPA) - calculated following guidelines set in BS 5837:2012
- Additional feature which doesn't meet BS 5837: 2012 categorisation but is included for reference
- Additional feature which doesn't meet BS 5837: 2012 categorisation to be removed for development
- Area of temporary Ground Protection
- Line of proposed temporary protective barrier
- Localised stem protection barrier as specified in report to prevent impact injury. If RPA is vulnerable, this must be combined with ground protection
- Existing Hard Surfacing within the RPA

## Proposed Site Plan


| Rev: | Date: | By: | Revision: |
|---|---|---|---|
| - | 22/05/24 | GM | Based on 46686_01-07_PES_rev0 and 143 - Avalon House-Sheet - 05101 - Proposed Plan - Level 00 |

The position, condition, and dimensions of the trees are based on a site survey undertaken on 27/03/24

"The original of this drawing was produced in colour - a monochrome copy should not be relied upon"

Scale 1:200

0m 4m 8m 12m 16m 20m


HAYDEN'S Arboricultural Consultants





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Bury St Edmunds
Suffolk IP28 6JY

Head Office: 01284 765391
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www.treesurveys.co.uk


| Client: | Drawing Title: |
|---|---|
| Iceni Planning | Prelim AIA |

Site: Avalon House, 72 Lower Mortlake Road, Richmond, TW9 2JY

| Date: | Drawn By: | Cad File Ref: | |
|---|---|---|---|
| 22/05/24 | GM | Cli\Pro\10872-D-AIA.dwg | |
| **Scale:** | **Checked By:** | **Drawing No:** | **Rev:** |
| 1:200 (A1) | NH | 10872-D-AIA | - |

- Arboricultural Impact Assessments
- Arboricultural Method Statements
- Tree Constraints Plans
- Arboricultural Feasibility Studies
- Shade Analysis
- Picus Tomography
- Arboricultural Consultancy for Local Planning Authority
- Quantified Tree Risk Assessment
- Health & Safety Audits for Tree Stocks
- Tree Stock Survey and Management
- Mortgage and Insurance Reports
- Subsidence Reports
- Woodland Management Plans
- Project Management
- Ecological Surveys