BRIDGES
Fund Management

Bridges Healthcare (Richmond) Limited

RICHMOND INN

Tree Survey & AIA

Greengage

Greengage

Brighter strategies
for greener projects

Client: Bridges Healthcare (Richmond) Limited

Project: Richmond Inn Hotel

Report: BS5837 Tree Survey and Arboricultural Impact Assessment

QUALITY ASSURANCE

Issue/Revision:	Draft	Final
Date:	April 2022	May 2022
Comments:		
Prepared by:	Dan Perlaki	Dan Perlaki
Authorised by:	Mitch Cooke	Mitch Cooke
File Reference:	551829mc10Apr22FV03_AIA.docx	551829mc10Apr22FV03_AIA.docx

CONTENTS

Tables

Figures

1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd was commissioned by Bridges Healthcare (Richmond) Limited to undertake a Tree Survey and prepare an Arboricultural Impact Assessment and Arboricultural Method Statement at a site located at 50-56 Sheen Road in London Borough of Richmond Upon Thames (hereafter LB Richmond), to the BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations[1] methodology.

This document presents the findings of the tree survey and has been produced to support a planning submission for the site which seeks the partial demolition and extension of Richmond Inn for Class C2 visitor accommodation providing care and physiotherapy-led rehabilitation, highways works, car and cycle parking, refuse storage, landscaping and other associated works.

The purpose of this survey is to provide an assessment of the arboricultural value of the trees based on their current quality and to provide recommendations, to help inform any initial design and site layout considerations.

A visit was made to the site on 2nd February 2022 to survey trees, hedges and vegetation following guidance in BS5837. The crowns and stems were inspected from the ground using the 'Visual Tree Assessment' (VTA) method; no invasive techniques were used at this stage.

During the survey, (comment on number of trees and category mix recorded). See Table 1.1 below.

Table 1.1 Category mix

Category	Individual Trees	Tree Group/Hedge	Total
A	0	0	0
B	1	0	1
C	3	0	3
U	0	0	0
Total	4		4

An assessment of the potential below and above ground impacts of the proposed development and recommendations to help avoid, minimise or compensate for these impacts is outlined within this report.

Through this assessment it has been confirmed that 1no. tree (T1 Horse-chestnut Category B) will require removal based on the evolved proposed development. All other trees are sought for retention.

2.0 INTRODUCTION

2.1 OVERVIEW

Greengage was commissioned by Bridges Healthcare (Richmond) Limited to undertake a BS5837 tree survey and prepare an Arboricultural Impact Assessment (AIA) report for a site located in at 50-56 Sheen Road in LB Richmond.

This document has been produced to support a planning application for partial demolition and extension of Richmond Inn for Class C2 visitor accommodation providing care and physiotherapy-led rehabilitation, highways works, car and cycle parking, refuse storage, landscaping and other associated works.

A site visit was made by Greengage on 2nd February 2022 to survey all trees within and adjacent to the site following the approach set out in BS5837.

As required by the British Standard, an Arboricultural Impact Assessment has been undertaken to evaluate the constraints to the development from the existing trees both on and adjacent to the site using information gained from the BS5837 Tree Survey.

The methodology followed to complete the survey and prepare this report is provided in Appendix A. Full details of the surveyed trees can be found in the Tree Schedule (Appendix B). The Tree Constraints Plan (Appendix C) presents the locations, crown spreads, root protection areas (RPAs) and BS5837 Categories of the surveyed trees against proposed layout.

2.2 SITE DESCRIPTION

The assessment site covers an area of approximately 0.13 hectares (ha) and is centred on National Grid Reference TQ1818574846.

The site comprises the existing Richmond Inn hotel, which is a 44-bed hotel which has been vacant since its closure in March 2020.

The Richmond Inn is located on the corner of Sheen Road and Church Road in Richmond. The site extends to 0.13ha in total and comprises the hotel building (with ancillary meeting rooms and lounges) as well as a central courtyard area and surface car park for customers, which is accessed from Sydney Road. The main visitor entrance is provided at Sheen Road.

The Sheen Road frontage comprises four storeys in total, whilst the Church Road and Sydney Road frontages provide three storeys of accommodation.

The site is situated within the Sheen Road Conservation Area and, whilst the building is not statutorily listed, it is identified as a locally listed building (reference 82/00850/BTM) under the Council's local list (also known as a 'Building of Townscape Merit'). The site is considered to mark the important junction of Sheen Road and Church Road, which are two key routes through this part of the borough.

In terms of accessibility, the site has a PTAL of 6a (excellent), being a four minute walk from the rear entrance of Richmond Station and in close proximity to bus stops on Sheen Road and Church Road.

3.0 TREE SURVEY METHODOLOGY

3.1 DESK REVIEW

Tree Legal Protection

Trees within LB Richmond may be protected under the Town & Country Planning Act[2] by a Tree Preservation Order (TPO) or by virtue of being within a Conservation Area.

A TPO makes it an offence to wilfully damage or destroy a protected tree and written permission from the Council must be obtained prior to undertaking any works to the tree. Similarly, if any stem on any tree in a Conservation Area is larger than 75mm diameter when measured at 1.5 metres above ground level it is automatically protected and required by law to notify the Council of any proposed works.

To determine whether any of the trees are protected by TPOs a search of the readily available data on was undertaken.

Additionally, the interactive map was reviewed to identify any local Conservation Areas that would add additional protection to the trees.

Geological Conditions

A review of the readily available Geology of Britain interactive map by the British Geological Society[3] was undertaken to identify the bedrock geology and superficial deposits at the site.

Site Visit

A site survey was undertaken on 2nd February 2022 to survey trees, hedges and vegetation following guidance in the British Standard.

The crowns and stems were inspected from the ground using the 'Visual Tree Assessment (VTA)' method; no invasive techniques were used at this stage.

The survey followed the methodology outlined in BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

The site visit was undertaken in mild weather conditions with trees in the winter bud stage. Full details on the methodology can be found at Appendix A.

Limitations

This report includes information on only the trees that were inspected and the condition they were observed in at the time of survey. The condition of trees can change, and as such any findings from this report should be held valid to inform for purposes of development for no longer than 12 months from the survey date. No guarantee can be given for the structural integrity of any trees on site as a full hazard assessment has not been made.

There were no significant constraints to the assessment; all areas of the site were fully accessible to survey. The survey was completed at a suitable time of year for species identification and condition assessment. Any constraints over winter identification techniques are not applicable in this instance.

4.0 RESULTS OF SURVEY

4.1 DESK REVIEW

Tree Legal Protection

A review of Council's TPO data for the site (provided via the design team) has confirmed there are a number of TPO trees indicated on site. However, these are not reflected in the existing tree cover and only T1 Horse-chestnut remains with the other having been removed since the original TPOs were instigated. A copy of the plan indicating those trees covered by the TPOs is contained in Appendix B.

Furthermore, the area under assessment is within Sheen Road Conservation Area that also afford additional protection to the trees.

Geological Conditions

The BGS interactive map indicates the underlying geology to be London Clay Formation- Clay and Silt which is generally considered to contain shrinkable clay.

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 foundation design. The design of any new planting and landscape proposals should be based upon a soil analysis which considers the pH and nutrient composition of localised conditions.

Site Visit

During the site survey, 4no. individual trees were identified within the scope of this report. The Category mix includes 1no. Category B, 3no.Category C specimens. The Tree Schedule (Appendix B) provides all relevant details of trees within the scope of the survey.

The tree stock is generally of poor quality with some planted and self seeded trees along the boundary with the adjacent property. A large horse chestnut is located in the rear courtyard in a raised bed, which has been managed over many years, resulting in a generally poor formed canopy, with some un-sympathetic pruning, presumably as a result of conflict with the existing building. Whilst covered by a TPO and within a conservation area it is generally surrounded by hard standing / block paving and the tree shows extensive signs of epicormic growth indicating the unfavourable growing conditions and constrained nature of its location and has suffered from leaf miner damage.

See Figure 4.1 below.

Figure 4.1 Tree T1

5.0 ARBORICULTURAL IMPACT ASSESSMENT

5.1 INTRODUCTION

The purpose of this Arboricultural Impact Assessment (AIA) is to assess the potential below and above ground impacts to existing trees from the proposed development, and to highlight the need for the pruning, removal or retention and protection of specific trees during construction.

Works associated with development of this type can damage trees, threatening the survival of those that are to be retained. The following actions can have negative impacts upon tree health:

- Soil compaction;
- Root damage (e.g. severance);
- Soil coverage with impermeable material;
- Alterations in ground level;
- Leaks and spillages from stored materials; and
- Vehicle and heavy plant collision.

As such, where possible, the RPAs and canopies that are defined in Appendix C should be protected and considered throughout works to prevent risks to the health of the trees.

5.2 SITE LAYOUT

Proposals and existing drawings provided for the assessment of the potential constraints that exist include:

- Existing layout (drawing ref. 888-011 Existing Ground Floor Plan);
- Landscaping Plan (drawing ref SY685-100-0001); and
- Proposed layout (drawing ref. 888-1-- Proposed Lower Ground Floor Plan).

Due to the proposed use of the building (visitor accommodation which will provide care and physiotherapy / rehabilitation facilities), internal access arrangements need to be of the highest level of accessibility for guests and therefore substantial works would be required to the existing building in order to ensure compliance and ensure usable floor to ceiling heights. The revised proposals for the Site therefore comprise the demolition of the non-original elements of the existing building, including the 1990s extension on Church Road. This will be replaced with a new build element on Church Road and Sydney Road which responds to previous comments raised by Officers in order to achieve a more subservient relationship between this element and the existing building on Sheen Road. The Building of Townscape Merit would be retained, with minor internal alterations.

The TCP can be found at Appendix C.

5.3 DIRECT TREE LOSS

T1 is proposed for removal to facilitate the scheme.

Facilitation Pruning

No requirement for facilitation pruning is anticipated.

5.4 LANDSCAPE PROPOSALS

A landscaping strategy has been developed that sets out a comprehensive approach to integrating soft landscaping to the rear of the proposed development. This courtyard is shown in the landscaping plan (Appendices) and changes the current hardstanding arrangements to a courtyard garden that forms part of the health and wellbeing offering for the proposed development. Further planting is shown to the frontage along Sheen Road, and adjacent on Church Road.

The proposed landscaping should be subject to a 5-year management plan to ensure long-term deliverance of the proposals which may be secured through planning condition. Any trees or shrubs that die, are removed or severely damaged within the first 5-years should be replaced with a similar specimen.

5.5 SUMMARY AND RECOMMENDATIONS

Whilst the site has several TPOs for trees on the site only 1no. (T1 Horse-chestnut) of these original trees remain. However, the presence of the conservation area status essentially provides additional protection as if the rest of the trees were covered by a TPO.

Only T1 of the existing trees are of arboricultural merit. The only other tree (T2 Copper beech) within the ownership boundary is a Category C tree, planted close to the boundary fencing and is not of high arboricultural value. The other trees included in the survey are those within boundary of the adjacent car parking area and are Category C trees.

T1 tree has epicormic growth showing that its location is causing distress. Un-sympathetic pruning over the years also indicates that they tree has been conflicting with the existing building and would continue to do so.

The retention of the tree within the proposed development has been assessed, although due to the operational requirements of the proposed this cannot be retained. During the pre-application discussions original layouts kept the extent of the existing building down Church Road, although feedback through the design process was that the original building features to the front of the site along Sheen Road had heritage value and the proposals had to change to accommodate this. As such the more recent elements of the existing buildings along Church Road could not accommodate hydrotherapy pools, and minimum corridor width needed for access and the design required the sizing of this element of the proposed scheme to extend outwards into the existing courtyard. The extent of the development into the courtyard area extended into the RPA of T1, as well as direct conflict with the canopy such that it could not be accommodated with the scheme requirements.

Further details of the operational requirements of the hydrotherapy pools is given in Appendix E Operational Requirements and Tree Loss Justification Note.

Whilst the loss of T1 is significant in arboricultural terms the feedback and heritage requirements of LB Richmond on the original proposals, meant the location of the hydrotherapy pools from their original proposed location at the front element of the building, to the proposed new build along Church Road, was necessary.

The proposed landscaping introduces new trees and new courtyard areas that will deliver a much greater level of soft landscaping where currently this is generally devoid of useful green space. It is also proposed that 3no. trees (species to be confirmed through condition but with a fastigiate form) will be included at the front of the development along Sheen Road. Whilst this is acknowledged that it will not fully mitigate the impact of the loss of T1, it has been designed to create a useable green space where previously this was not present and will mitigate some loss of T1. In addition, suitable mitigation for the loss of the tree by way of a CAVAT contribution could be secured via the s106 agreement'

Trees T2-T4 can be fully retained within the proposed layout if protected in accordance with BS58378 recommendations. The exact methodology and approach to protection should be specified within an Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) which may be secured through planning.

6.0 ARBORICULTURAL METHOD STATEMENT

This Arboricultural Method Statement (AMS) is an outline AMS makes a number of recommendations for the site. A full AMS can be produced as necessary through a planning condition. However, for convenience, all of the recommendations in this report have been listed in Table 6.1.

In order to ensure a successful tree retention and development it is critical that all of these recommendations are carried out in a similar order to that outlined below.

Table 6.1 Works phasing

Recommendation	Phase / Timing	Arboricultural Consultant Input
Appoint Arboricultural Clerk of Works (ACoW) to oversee all arboricultural issues on site.	Pre-commencement	NA
On-site meeting(s) to discuss and mark out tree protection measures/ any site issues with construction team, site manager, (Tree Officer) etc.	Pre-commencement	Site attendance Liaison with team
Undertake facilitation pruning and felling (contractor).	Pre-commencement	Site attendance to oversee works
Erect tree protection fencing to BS5837:2012 specifications as appropriate.	Before plant machinery enters the site	Site attendance to sign off
Implement reporting progress for all unforeseen arboricultural incidents.	During Construction	Prepare reporting document to keep on-site
Implement use of progress sheet to build up evidence base of good practice on site.	During Construction	Complete/check during site attendance
Monitoring site visits (i.e. monthly) by ACoW to ensure continued compliance.	During Construction	Regular site attendance, production of file notes and circulation to team / LPA – every month
Works within the RPA of retained trees will be observed.	During Construction	Site attendance to oversee key site activities
Post development inspection/ completion meeting to identify	Post Construction	Site attendance and recommendations

Recommendation	Phase / Timing	Arboricultural Consultant Input
any required remedial actions. Invite Tree Officer to attend.		
General maintenance/ remedial tree works if necessary.	Post Construction	NA

6.1 ARBORICULTURAL CLERK OF WORKS

A suitably qualified arboriculturalist will be appointed to act as an Arboricultural Clerk of Works (ACoW). The ACoW will be engaged to monitor and oversee the implementation of the works required in this method statement.

The role of the ACoW is a formal one with onsite presence and site visits to make decisions to be implemented quickly. In the case of this development the following occasions are where the ACoW will be required:

- Initial meeting (usually the pre-commencement meeting) – to ensure all required tree protection is in place, and to discuss any required amendments with the Site Manager to which the local planning officer or Tree Officer will be invited to attend;
- Monitoring visits – Regular informal inspections to ensure that all tree protection measures are being maintained, and to inform the Site Manager where appropriate measures are not in place;
- Supervision during works within the RPAs of retained trees as detailed within the tree protection plan; and
- Completion meeting – To inspect trees to assess for any required works and to confirm that the development has been sufficiently completed, and the tree protection measures can be removed.

The ACoW will also be the first contact for arboricultural advice for any issues that arise which are not detailed in this report, such as extra tree works, any required work within the Root Protection Areas (RPAs) of the trees onsite, any damage that has occurred to any of the trees or any breach of the tree protection measures onsite.

Pre-Commencement Site Meeting

A pre–commencement site meeting will be undertaken prior to any onsite works commencing. This meeting will enable the Site Manager and the ACoW to review the tree works undertaken and the tree protection fencing to ensure all parties are satisfied that the proposals will not impact the trees to be retained onsite and that the measures are feasible with the construction works. The Tree Officer will be invited to attend the meeting if desired. Once the tree protection measures have been confirmed as acceptable, they can be “signed off” on the progress sheet.

Monitoring Visits

Regular informal site visits will then be undertaken following this by the ACoW to ensure protective measures are in place and file notes will be prepared and filed. It is recommended these monitoring visits are completed on a monthly basis for the duration of the construction process.

On each visit, the ACoW will conduct a site walkover to check the maintenance of the tree protection measures and to assess the condition of the trees. These visits will also give the opportunity for the Site Manager/construction staff to discuss any arboricultural issues with the ACoW.

Following each visit, a short file note will be produced by the ACoW and circulated to the team for a record of best practice.

Reporting Process

If during the construction any damage to either the tree or the RPA is sustained, this should be reported to the Site Manager immediately. At the earliest possible time the Site Manager will inform the ACoW, who will undertake a site visit to assess the impact on the tree and make recommendations for any required works.

Possible damage to the tree or RPAs could be: collision damage to crowns of retained trees by site vehicles; excavation within RPA; dumping of soil / materials within the RPA; Chemical / cement spillage into Root Protection Area or fire damage to the crown / stem of the trees. See Appendix F for example.

Progress Sheet

During the various stages of the development a record of the completion of the tree protection works will be updated by the Site Manager (or ACoW if present onsite). This will then provide the planning officer / Tree Officer with sufficient evidence that all practicable steps have been taken to prevent damage to the trees should any issues arise.

A separate progress sheet will be completed for each completed operation. The original will be kept by the Site Manager alongside a copy of this AMS report in the site office for the duration of construction works. Once completed, a copy will be sent to the ACoW and the planning officer / Tree Officer. See Appendix G for example.

6.2 PRE-DEVELOPMENT WORKS

All tree works are to be undertaken in accordance with BS3998:2010 'Tree work - Recommendations[4].

Enabling Felling

All trees identified for removal shall be removed by a suitably qualified tree surgeon prior to any demolition or construction traffic entering the site.

The ACoW will meet with the contractor and Site Manager to ensure all parties are fully informed on the enabling felling and retention strategy.

Tree Protection

Following the proposed tree works and prior to any demolition/construction or vehicular movement, tree protective measures will be in place around all retained trees. The ACoW will check this prior to the commencement of works. It shall be set out as per the detail on the Tree Protection Measures located at Appendix H

These protective measures ensure suitable protection of trees and associated soils. The key method of tree protection is through the use of fencing and ground protection.

Tree protection shall be set out as per the detail on the tree protection measures, it shall be identified as such using signage (Appendix I).

Fencing

The tree protection fencing is shown at Appendix H.

The tree protection fencing will primarily comprise 2.0m weldmesh panels around site trees secured in place with uprights driven into the ground. Once erected, this will not be moved or relocated without prior approval from the ACoW, or unless specified in this report.

The tree protection area behind the tree protection fencing (the Construction Exclusion Zone) will remain sacrosanct throughout development and no access will be allowed to this area including for example the storage of or moving of materials or machinery.

In the Construction Exclusion Zone, there will be no excavations or increases in soil level unless specified in this report or agreed with the AcoW or Council.

The fencing will be secured with uprights driven into the ground to prevent movement of the protective fencing and ensure its rigid installation.

There will be clear and visible signs attached to the protective fencing (see Appendix) and the area will be regarded as sacrosanct by everyone. This will be checked prior to the commencement of work by the ACoW and throughout the course of development during regular informal monitoring visits.

The tree protection fencing denotes the Construction Exclusion Zone. Therefore, the following must be carefully considered when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banks person to ensure that adequate clearance from trees is maintained at all times.

Material that will contaminate the soil such as concrete mixing, diesel oil and vehicle washing should not be discharged within 10m of the tree stems.

No fire shall be lit, or liquids disposed of within 10m of an area designated as being fenced off or otherwise protected in the scheme.

At the end of the project the fencing will be removed on completion of site works and after confirmation by the ACoW.

A detailed TPP will be located within the site cabins throughout the course of development. This will include details of the fencing specification and location for which the fence will be erected. This plan will be printed at no less than A1 in size to ensure easy reading of all the detail contained within.

Ground Protection

No requirements for temporary ground protection as a protection measure at the site have been identified within this method statement as all trees can be fully protected by fencing described above.

Avoiding Crown and Stem Damage

Care and vigilance must be taken to avoid crown and stem damage when working with machinery near the retained trees, both on and offsite. Plant machinery with booms, jibs and counterweighs/ tall or wide loads should be controlled by banksman to maintain adequate clearance. Machinery will remain outside of the Construction Exclusion Zone as denoted by fencing and signage.

6.3 CONSTRUCTION PHASE

Construction Management and Site Logistics

A Construction Management Plan (CMP) has been produced as part of the planning submission. This document gives details on several matters that are key in ensuring the protection of trees, including site construction access, storage of materials and location of site offices. These items are discussed below with recommendations from an arboricultural perspective as outlined in the CMP.

Site Construction Access

In accordance with section 5.5.6 of the BS5837, all site access routes will be outside of the RPAs of retained trees and all tree protection measures will remain in place throughout the construction phase.

Storage of Materials

An area outside of the RPAs of any on and offsite trees will be allocated for storage of materials. Materials will only be stored in the designated areas and there will be no storage of materials within the RPAs of retained trees. Tree protection measures will remain in place throughout the construction phase.

Site Offices and Welfare

In accordance with section 5.5.6 of the BS5837, all site offices and welfare facilities will be located outside of the RPAs of retained trees.

Services and Utilities

The majority of proposed utilities networks are outside of the RPAs of retained trees, in line with BS5837. The guidance set out by the National Joint Utilities Group (NJUG)[5] will be followed. Trenches close or within the RPA of retained trees will be excavated under watching brief of the ACoW.

Proposed Works Within Root Protection Areas

Road and Hard Standing Construction and New Soft Landscaping

New hard surfacing and soft landscaping is proposed adjacent to all retained trees. The new hard surfacing will either replace existing hard surfaces or be constructed of brick paving for pedestrian use only. Accordingly, there will be no impact upon water availability, gaseous exchange or soil compaction, assuming the following methods are adhered to.

Ground preparations and installation of the hard surfacing will need to be carried out in a sensitive way with regards to the adjacent trees. This will be performed under watching brief of the appointed ACoW to ensure any potential impacts upon the trees are avoided.

Tree protection fencing will be temporarily moved to allow works to be completed within the construction exclusion zone.

In line with section 7.3.6 of BS5837, existing hard surfaces will be broken up manually (using hand tools or a ground breaker), working backwards over the RPAs so that the machine is not moving over exposed ground.

There will be no excavation into the sub materials or reduction in levels; if levelling to the ground is required, this will be achieved through filling in gaps with up to 100mm of good quality topsoil and levelling with hand tools.

Any roots over 25mm that have grown above the existing/final floor level will be considered for removal by the ACoW. If appropriate, the roots will be cleanly severed with a sharp tool (e.g. pruning knife).

In the event that there is a delay to installing the new landscaping, any exposed roots will be protected from desiccation by damp hessian and the tree protection barriers must be re-aligned outside of the RPA until works are complete.

Landscape Management

A comprehensive landscaping strategy has been designed for the scheme which includes extensive new tree planting, as described in the previous chapter.

All new tree planting shall be implemented following appropriate guidance in the *BS8545: 2014 Trees: from necessary to independence in the landscape – Recommendations*[6]. We recommend any new trees that fail within the first 5 years following development are replaced to ensure the long-term maintenance of the planting strategy.

7.0 SUMMARY AND CONCLUSIONS

Greengage was commissioned by Bridges Healthcare (Richmond) Limited to undertake a BS5837 tree survey and prepare a report relating to the arboricultural impact of the proposed development located at 50-56 Sheen Road in London Borough of Richmond Upon Thames.

Greengage undertook the site visit on 2nd February 2022 to survey the trees on and adjacent to the site. The survey identified 4no. trees that have the potential to be affected by the proposed development, of which 1no. (T1 Horse-chestnut) is identified for removal due to the changes to the buildings on site required to deliver the proposals. The other trees can be accommodated in the design are being retained.

Trees to be retained will be protected through measures described within the Arboricultural Method Statement and Tree Protection Plan.

If the recommendations within this report are adhered to, a positive contribution to local amenity will be delivered through incorporation of new tree planting and other green infrastructure elements in line with local policy.

APPENDIX A TREE SURVEY METHODLOGY

Trees, tree groups and woodlands have been considered following evaluation into one of four categories (U, A, B, C) based on tree quality as outlined in British Standard 5837 (2012) which has been followed. Categorisation of trees, following the British Standard, gives an indication as to the trees' importance in relation to the site and the local landscape and also, the overall value and quality of the existing tree stock on site. This allows for informed decisions to be made concerning which trees should be removed or retained, should development occur.

For a tree to qualify under any given category it should fall within the scope of that category's definition. In the categories A, B, C which collectively deal with trees that should be a material consideration in the development process, there are three sub-categories which are intended to reflect arboricultural, landscape and cultural values respectively. Category U trees are those which would be lost in the short-term for reasons connected with their poor physiological or structural condition. They are, for this reason, not usually considered in the planning process.

In assigning trees to the A, B or C categories the presence of any serious disease or tree related hazards are taken into account. If the disease is considered fatal and / or irremediable, or likely to require sanitation for the protection of other trees it may be categorised as U, even if they are otherwise of considerable value.

Category (A) – trees whose retention is most desirable and is of high quality and value. These trees are considered to be in such a condition as to be able to make a lasting contribution (a minimum of 40 years) and may comprise:

- Trees which are particularly good examples of their species especially rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue);
- Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups); and
- Trees or groups or woodlands of significant conservation, historical, commemorative or other value (e.g. Veteran or wood-pasture trees).

Category (B) – are trees whose retention is considered desirable and are of moderate quality and value. These trees are considered to be in such a condition as to make a significant contribution (a minimum of 20 years) and may comprise:

- Trees that might be included in the high category but because of their numbers or slightly impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage), are downgraded in favour of the best individuals;
- Trees present in numbers such that they form distinct landscape features and attract a higher collective rating than they would as individuals. Individually these trees are not essential

components of formal or semi-formal arboricultural features, or trees situated mainly internally to the site and have little visual impact beyond the site; and

- Trees with clearly identifiable conservation or other cultural benefits.

Category (C) – are trees that could be retained and are considered to be of low quality and value. These trees are in an adequate condition to remain until new planting could be established (a minimum of ten years) or are young trees with a stem diameter below 150mm and may comprise:

- Trees not qualifying in higher categories;
- Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value and or trees offering low or only temporary screening benefit; and
- Trees with very limited conservation or other cultural benefits.

Category (U) – trees for removal are those trees in such a condition that any existing value would be lost within 10 years and which should in the current context be removed for reasons of sound arboricultural management. Trees within this category are:

- Trees that have a serious irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees;
- Trees that are dead or are showing signs of significant, immediate or irreversible overall decline; and
- Trees infected with pathogens of significance to the health and or/safety of other trees nearby trees or very low quality trees suppressing adjacent trees of better quality.

Species has been recorded by common name and recorded as such in the Tree Schedule. Height has been estimated in metre and stem diameters have been measured at 1.5 metres above ground level and recorded in millimetres (unless otherwise stated). Crown spreads have been measured in half metres and taken to the point of greatest spread unless the crown has presented a pronounced asymmetrical form and therefore measurements have been taken for the four cardinal points. The measurements have always been considered in the following sequence, North, East, South, and West, and therefore appear as such within the Tree Schedule.

In the assessment particular consideration has been given to the following when deciding the most appropriate British Standard Category and Sub-Category allocation:

a. the health, vigour and condition of each tree;
b. the presence of any structural defects in each tree and its life expectancy;
c. the size and form of each tree and its suitability within the context of the proposed scheme; and
d. the location of each tree relative to existing site features, e.g. its value as a screen or as a skyline feature.

Age class is assessed according to the age class categories referred to in BS 5837.

- Y: Young trees up to five years of age;

- SM: Semi-mature, trees less than 1/3 life expectancy;
- EM: Early mature, trees 1/3 – 2/3 life expectancy;
- M: Mature trees over 2/3 life expectancy;
- OM: Over mature – declining or moribund trees of low vigour; and
- V: Veteran - characteristics have been noted where a tree exhibits certain characteristic features of veteran trees.

The overall condition of the tree, or group of trees, has been referred to as one of the following. A more detailed description of condition has been noted in the Tree Schedule and discussed in the main text of the report.

- Good: A sound tree, trees, needing little, if any, attention;
- Fair: A tree, trees, with minor but rectifiable defects or in the early stages of stress, from which it may recover;
- Poor: A tree, trees, with major structural and physiological defects or stressed such that it would be expensive and inappropriate to retain; and
- Dead: A tree, trees, no longer alive. However, this could also apply to those trees that are dying and will be unlikely to recover, or are / have become dangerous.

Major defects or diseases and relevant observations have also been recorded under Structural Condition. The assessment for structural condition has included inspection of the following defects:

- The presence of fungal fruiting bodies around the base of the tree or on the stem, as they could possibly indicate the presence of possible internal decay;
- Soil cracks and any heaving of the soil around the base indicating possible root plate movement;
- Any abrupt bends in branches and limbs resulting from past pruning, as it may be an indication of internal weakness and decay;
- Tight or weak 'V' shaped unions and co-dominant stems;
- Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994);
- Cavities as a result of limb losses or previous pruning;
- Broken branches;
- Storm damage;
- Canker formations;
- Loose bark;
- Damage to roots;
- Basal, stem or branch / limb cavities;

- Crown die-back;
- Abnormal foliage size and colour;
- Any changes to the timing of normal leaf flush and leaf fall patterns; and
- Other pathological diseases affecting any part of the tree.
- Major defects or diseases and relevant observations have also been recorded. Dead wood has been defined as the following:
    - Twigs and small branch material up to 5cm in diameter;
    - Minor dead wood 5cm to 10cm in diameter; and
    - Major dead wood 10cm in diameter and above.

The survey was completed from ground level only, aerial inspection of trees was not undertaken. Investigations as to the internal condition of a tree have not been undertaken. Further investigations of this type can be made and have been recommended where it has been considered necessary, within the report although these investigations are beyond the scope of this report.

Evaluation of the trees condition given within this assessment applies to the date of survey and cannot be assumed to remain unchanged. It may be necessary to review these within 12 months, in accordance with sound arboricultural practice.

The individual positions of trees and groups of trees recorded in the Tree Schedule have been shown on the Tree Constraints Plan. The positions of trees are based on a topographical / land survey supplied by the client in dwg. format for the purpose of plotting the trees.

The Root Protection Areas (RPA) to be required by the individual and groups of trees are indicated by the Tree Constraints element of the above plans. The Root Protection Areas are formulated as described below.

Below ground constraints to future development is represented by the area surrounding the tree that contains sufficient rooting volume to ensure survival of the tree, which need protecting in order for the tree to be incorporated into any future scheme, without adverse harm to the tree or structural integrity of buildings. This is referred to as the RPA and is shown as a circle of a given radius.

The circle may be modified in shape to maintain a similar total area depending on the presence of surrounding obstacles. Where groups of trees have been assessed, the RPA has been shown based on the maximum sized tree in any one group and so would automatically exceed the RPA's required for many of the individual specimens within the group. The RPA is equivalent to a circle with a radius 12x the stem diameter for single stem trees and 10x the basal diameter for trees with more than one stem arising less than 1.5 meters above ground level.

APPENDIX B TREE DATA TABLE

Tree No	Species	Height (m)	DBH Notes	Stem Diame	RPA Radius	Canopy N	E	S	W	1st Branch H	1st Branch Direction	Crown Clearance	Ages Class	Phys	Strc	General Notes/ Prelim Mgmt	Remaining Contribution	Category
T1	*Aesculus hippocastanum*	26		980	11.76	6	5	6	5	2	N	12	M	F	F	Poor management, unsympathetic pruning, leaf miner, within raised bed and shows epicormic growth	30>	B
T2	*Fagus sylvatica f. purpurea*	12		350	4.2	6	4	5	4	2.2	W	2.2	SM	F	F	Landscape tree close to site boundary, nothing remarkable but fair	<30	C
T3	*Acer pseudoplatanus*	16	multi-stem	550	6.6	4	5	5	5	2	S	2.2	SM	F	F	Self seeded in adjacent car park area	<30	C
T4	*Sorbus aria*	14		320	3.84	3.5	1	2.5	2	3	E	4	SM	F	F	In adjacent car parking area, unremarkable tree	<30	C

APPENDIX C TREE CONSTRAINTS PLAN

Tree Constraints Plan showing proposed layout against BS5837:2012 tree categories & Root Protection Areas

Existing Tree
- Canopy measured at 4 cardinal points
- RPA showing incursion e.g. from building footprint
- Category denoted by RPA and stem colour
- Tree ref - tag

Tree to be removed

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 expectancy of at least 20 years.

Category C — Trees of low quality with an estimated remaining life expectancy of at least 10 years, or a stem diameter below 150mm.

Category U — Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use beyond 10 years.

Project Name and Address
Richmond Inn Hotel
50-56 Sheen Rd,
Richmond,
TW9 1UG

Project: **Richmond Inn Hotel**
Sheet and Orientation: **1 of 1**
Client: **Bridges Healthcare (Richmond) Limited**
Scale: **1 to 120 at A1**
Drawn By: **MCr**
Checked By: **MAC**

No	Revision / Issue	Date
1	551829MCrMay22FV01_TCPpr	04/05/22

Greengage
www.greengage-env.com
9 Holyrood Street SE1 2EL
Tel: 0203 544 4000
@GreengageEnv

APPENDIX D SITE PHOTOS

Photo 1 - Showing T2 and T3 in context of site boundary.

Photo 2 T1 showing pruning scars and epicormic growth

T4 in adjacent car parking area

APPENDIX E OPERATIONAL REQUIREMENTS AND TREE LOSS JUSTIFICATION NOTE

Rachel Crick
Avison Young
65 Gresham Street
London EC2V 7NQ

9 Holyrood St
London SE1 2EL
T: 0203 544 4000
E: info@greengage-env.com

26 April 2022

Our ref: 551829mc26Apr22LF3

Dear Rachel,

RICHMOND INN HOTEL - TREE IMPACTS

Further to our pre-application meeting with London Borough of Richmond and the request for further details on the options for retention of the Horse-chestnut tree (T1) to the rear of the existing buildings at the Richmond Inn Hotel site, we set out the details of the evolution of the scheme. In particular, this includes how the scheme designs have changed based on feedback from the pre-application meetings, the operational requirements and associated structural requirements of these, and the implications on seeking to retain T1.

BACKGROUND

A tree survey was undertaken on 2nd February 2022 and identified those trees within the site boundary and those in adjacent areas that had the potential to be affected by the proposals for the redevelopment of the former Richmond Inn Hotel, Sheen Road, London Borough of Richmond. A separate tree survey and arboricultural impact assessment report (ref.551829mc10Apr22FV1_AIA) has been produced for the planning application which provides the categorisation of the trees and those that are retained or lost. In summary and based on the final scheme details 3no. trees are sought for retention and 1no. tree (T1) will be lost due to the proposed redevelopment of the buildings along Church Road and Sydney Road.

T1 is protected by a TPO and the Sheen Road Conservation Area and is a mature horse-chestnut situation in a part raised bed, within a paved carparking area to the rear of the existing buildings. Whilst it still has 30+ years life expectancy, it has been unsympathetically pruned, with epicormic growth indicating some stress resulting from its location and setting. Nonetheless it is a Category B tree and has presence in its location although it has limited visibility from Sheen Road and Church Road.

SCHEME EVOLUTION

The development team have explored options for T1 retention. However, during the pre-application discussions, where changes to the mansard roof and the original building were discussed, the feedback from the officers was that this was not supported and the heritage value of these features would be affected accordingly. As such the design team took away this feedback as well as feedback on the proportions along Church Road and Sydney Road.

The full feedback and response to these is shown below

FEEDBACK FROM THE OFFICERS	CURRENT PRE-APP RESPONSE TO FEEDBACK
1 - Concerns about the introduction of a mansard roof and how this alters the proportions, form and appearance of the original building, particularly on Sheen Road where this creates one elongated elevation.	**1** - BTM is retained in its proportions and massing. No extra floor is added to the original building on Sheen Road.
2 - The building on Church Road does not appear subservient to the building of townscape merit.	**2** - The new build extension along Church and Sydney Road allows for floor levels to be set down in order to achieve a building more subservient to the BTM.
3 - Whilst Officers acknowledged that there are some examples of mansard roofs in the locality, it is not the dominant roof form, nor is it typical of the area. In addition, it created additional bulk mass and height that Officers did not consider it to be acceptable.	**3** - The proposed roofs in the new build extension are shallow pitched roofs, characteristic of the local area, and set below the eaves level of the BTM.
4 - Concerns regarding the elevations: the proportions of the proposed along Church and Sydney Road do not look coherent within the context.	**4** - The new build extension to be read as 3 distinct pavillions. The introduction of pavillions and bays articulates and breaks up the facade. Recessed link between the BTM and the new build extension helps maintaining a subservient relation with the existing building.
5 - Single storey side extension on Sheen Road was an original element of the building.	**5** - Side extension to be retained.
6 - The ramp on Sheen Road too long and impactful on the street elevation. Accessible entrance on this elevation is not a policy requirement.	**6** - Ramp is omitted.
7 - Corcerns about overlooking caused by extension within courtyard plus concerns over extent and materiality of extension.	**7** - The terrace on top of the extension has been largely removed and replaced with a green roof and the extension reduced in size with materiality predominantly glass.

This resulted in the previous layouts - shown below- being revisited with a review of the requirements of the officers being applied to changes and a new design being evolved.

The revised layouts show that the relocation of certain features that were originally conceived to be within the building along Sheen Road, were now having to be relocated to the building along Church Road and Sydney Road as shown below.

JUSTIFICATION FOR DIMENSIONS

The proposals seek to convert the Richmond Inn into an alternative type of visitor accommodation comprising a best in class, hospitality led, care and rehabilitation centre. The model comprises the facilities and services typically associated with a 4-star hotel (private bedrooms, restaurant, communal areas and spa and wellness treatments) but these are supplemented with a specific focus on providing physiotherapy-led residential rehabilitation for patients recovering from injuries, surgeries or other medical conditions. Visitors would have access to state-of-the-art facilities such as hydrotherapy pools and specialist gym equipment, and

trained staff would be available 24 hours a day to provide care, assistance and physiotherapy as necessary.

In order for this to deliver the care provision as envisaged there are a range of operational requirements needed with respect to sizing of hydrotherapy pools, bedroom, and corridor sizing.

Hydrotherapy aids recovery by increasing joint movement and increasing muscle strength, particularly so in guests who have undergone lower limb surgery that causes them difficulty mobilising and/or are unable to fully weight-bear. The inclusion of hydrotherapy is thus integral to the service offering.

Based on 8 operational hours per day, it has been calculated that the hydrotherapy offering will need to be capable of treating 4 guests simultaneously and thus the pool sizes and access around the pools in the proposed design accommodate for this. Providing this service offering over two pools (2 guests per pool at any one time) is an efficient way of allowing simultaneous sessions whilst also ensuring that the pools provide ample space around the perimeter of the pool for carrying out specialist hydrotherapy treatment.

This figure is based on:

- Peak occupancy of 95% equating to 54 guests
- An uptake of hydrotherapy of 90%; as the services will be tailored to each guest it is recognised that not all guests will benefit from hydrotherapy daily
- 40 minute treatment time per day (equating to c.32 hours of pool time per day)

Further details of these are given in Appendix A of this letter and have been provided by the specialist architects Wood Bagot who are part of the design team. This confirms that changes to the location of these features so as to respond to the feedback from the pre-application process, has necessitated an extension of the new build elements along Church Road and Sydney Road to accommodate these.

ARBORICULTURAL IMPACTS

The extension of the new buildings along Church Road and Sydney Road will remove a significant area of the root protection area as shown in the arboricultural impact assessment report prepared for planning. This is unavoidable and principally results from accommodating the hydrotherapy pools, the corridor connecting the reception area to the front of the building, and accommodation.

Whilst the landscaping introduced as part of the proposals will bring forward usable green space into the courtyard, as well as landscaping to the front of the Sheen Road elements, it is recognised that the loss of T1 is significant, although unavoidable.

Options for relocating the tree have been explored although the age and size of the tree make this unviable. During the application meeting held on 16th March 2022, it was discussed that

options to retain T1 had been explored. It was noted that a CAVAT assessment to mitigate the loss of T1 would only be carried out when it was clear that T1 could not be retained.

SUMMARY AND CONCLUSIONS

We have set out in the sections above how the proposed development had originally anticipated the retention of T1 and that the scheme had been designed accordingly. However, in response to the concerns and feedback on unacceptable impacts on heritage, the scheme was redesigned and features such as the hydrotherapy pools were relocated to the new buildings along Church Road.

Considering the operational needs and the sizing requirements of these features, alongside other provided by Woods Bagot (Appendix A of this letter report), the extension of the original building line will remove a significant proportion of the root protection area of T1 causing its death.

Whilst unavoidable and necessary to accommodate the new layouts, this is a significant impact in arboricultural terms. This is mitigated for by the landscaping scheme, which includes a landscaped courtyard and the planting of three street trees on Sheen Road, and a CAVAT payment which can be secured as part of a s106 legal agreement It is also noted that the scheme brings forward urban greening and the UGF score is 0.37 and the proposals deliver a biodiversity net gain of 389%.

Should you have any questions or queries then please let me know.

Yours sincerely

Mitch Cooke
Director of Sustainability
T: 0203 544 3999
E: mitch.cooke@greengage-env.com
For and on behalf of Greengage Environmental Ltd

Appendix A - Operational Requirement Note - Woods Bagot

APPENDIX A OPERATIONAL REQUIREMENT NOTE

01 Tree Justification Note – Requirements of Proposed Use

01.01 Proposed Use Key Functional Requirements

The proposed use of the new hotel to provide post hospital rehabilitation services is primarily aimed at providing physiotherapy with a focus on hydrotherapy. Alongside these specialist services and therapies, the development must deliver appropriate modern and comfortable hotel rooms, with sizing appropriate for guests who will likely have some limitations on their mobility while staying at the hotel.

The two core elements of the project drive the spatial requirements for the new hotel, with the gym & hydrotherapy pools having specific spatial requirements at lower ground, and the efficient delivery of quality hotel rooms on the upper floors.

01.01.01 Hydrotherapy and Gym Spatial Requirements

The current lower ground floor plan has been developed to deliver the spatial and construction requirements for two large hydrotherapy pools of 5m by 3.5m (internal) in size. Pools of this size provide the necessary operational requirements to support 4 guests in hydrotherapy sessions at the same time. The pools at 5x3.5m are a reduced size from the recommended size to accommodate use by 2 guests each simultaneously (see figure 1. Below) to minimise the building footprint. These pools should be accessible from all four sides to facilitate both therapeutic services as well as ongoing maintenance.
Arranging the two 5x3.5m pools efficiently within the building at lower ground while also providing sufficient space

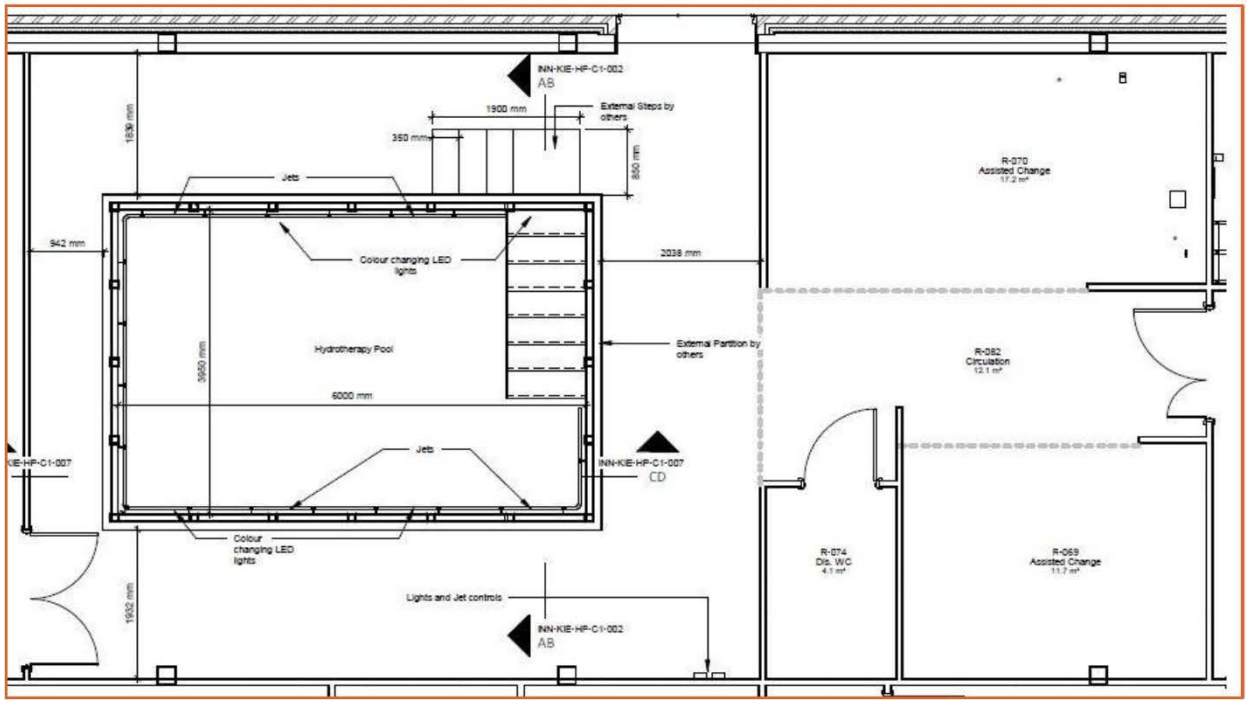


Figure 1. Example plan of a pool room layout – Innova Pools Technical Info

for the adjacent gym has been a critical element of the design, which has driven the overall width of building.

The arrangement of the pools allows for a maintenance access zone of 365mm to the western side of the pools (a bare minimum width for occasional access only) and a 1m circulation space to the eastern side of the pools for both maintenance and therapy access. Between the pools a 1.5m circulation zone has been allowed to provide sufficient space for guests and staff to both access the pools as well as the WCs and changing space below. The pool room is a minimum of 9.865m wide (internal) to accommodate the two pools and provide the necessary access.

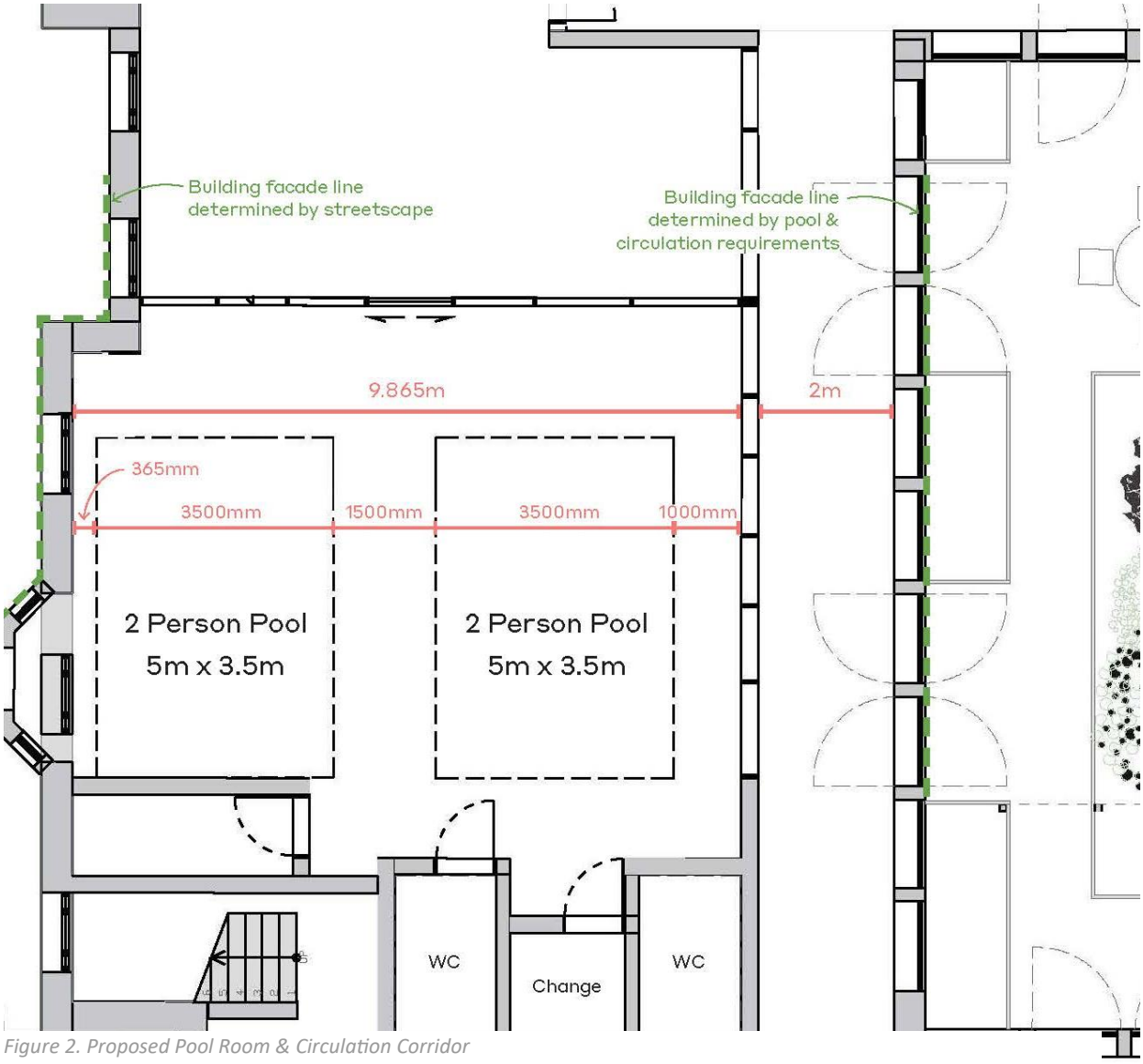


Figure 2. Proposed Pool Room & Circulation Corridor

The external building façade line has been determined by the need to maintain the existing streetscape quality to Church Rd, and so the courtyard facing façade location has then been determined by the spatial requirements to accommodate the pools and circulation spaces.

Due to the stepping nature of the building other arrangements of the pools were studied but demanded either wider buildings or resulted in inefficient spaces which could not accommodate other uses.

Combined with the circulation corridor (see below) the pools have led to the overall internal building width of 12m in the proposed design.

01.01.02 Circulation Corridor

The site constraints and project requirements as a hotel have led to the proposed design with vertical transportation to the floors of the BTM separate from the hotel lobby on Sydney Rd. As such the circulation corridor running on the western side of the courtyard is a key part of the guest arrival journey and access to the hotel facilities.

The circulation corridor has been sized at 2m clear width (see figure 2 above) to provide a suitably comfortable experience for guests, while also accommodating their mobility limitations as they pass throughout the hotel. Under current accessibility requirements, the minimum width of this circulation corridor is 1.5m, however as this corridor will be a heavily used circulation space for guests, this minimum width is inappropriate for this corridor. In addition, the potential 500mm reduction in building width would not bring the building footprint to a point where it does not require the removal of the TPO. While generous compared to absolute minimums, the need for guests to comfortably access the hotel facilities and the connectivity this corridor provides demands a well sized and generous corridor.

01.01.03 Hotel Rooms

The hotel rooms for the project must be of suitable size and quality for guests with mobility limitations to comfortably use, while also being sized appropriate for the market this hotel will serve. A target room size of 20-25m² has been set to provide the quality, space and efficiency required for the project.

Based on our experience hotel rooms dimensioned at 4-5m wide by 5m deep offer an efficient plan form with appropriate access to daylight and well sized rooms. The upper floors of the proposed design have been sized to deliver a minimum 1500mm clear width corridor with 5m deep rooms on either side of the corridor. Including allowances for wall thicknesses which provide suitable acoustic separation, this arrangement sets the overall internal building width to 12m, in line with the lower ground floor width.

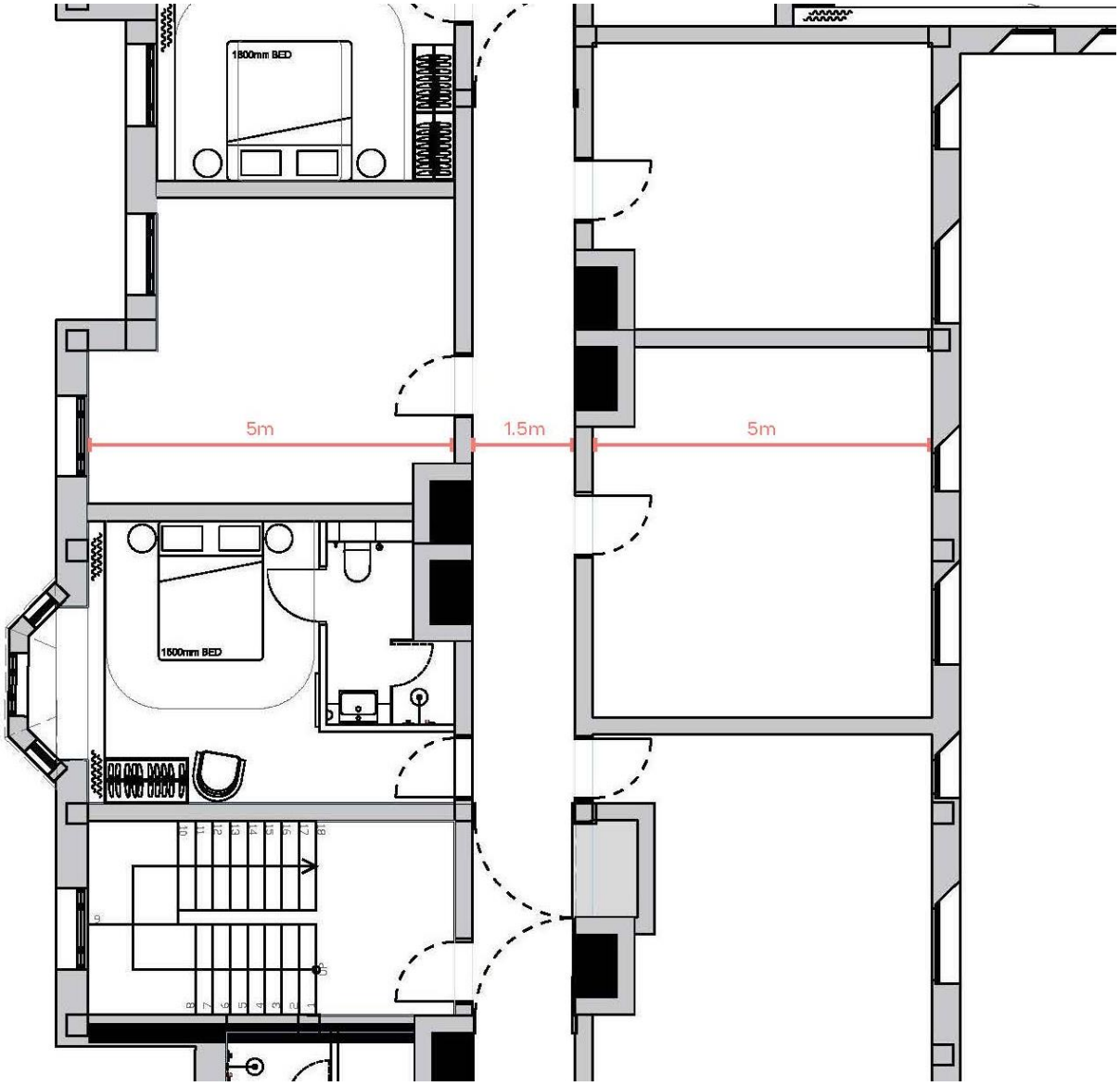


Figure 3. Upper floor plan excerpt

01.02 Alternative Arrangements Tested

Throughout the development of the scheme several alternative arrangements were tested for the location of the pools which are driving the width of the lower ground floor and the impact on the tree.

A range of constraints however have led to the proposed design based on assessing and testing alternative layouts which avoid or minimise impact on the tree, which have been described below.

01.02.01 Option 1 – Pools to Upper Levels

This option was explored at initial study level, however the structural complexity and expense of placing the hydrotherapy pools on upper floors (including ground floor) made this option untenable for further consideration.

01.02.02 Option 2 – Pools to Sydney Rd

Sydney Road provides the only opportunity for vehicular access to the site for both servicing and guests and as such is a key frontage for the operation of the hotel. The spatial requirements of the pool and vehicular access could not be supported by the extent of the site on Sydney Road and so this option was quickly abandoned from consideration.

01.02.03 Option 3 - Pools to the Southern Edge of Courtyard

The initial study for the project included the pools to the southern edge of the courtyard below the building of townscape merit (BTM) in a lower ground floor extension (refer figure 4.). The pools' location in an extension to the BTM was to avoid excessive structural/excavation work within the footprint of the BTM to minimise disturbance or damage to the existing fabric.

Locating the pools within the footprint of the BTM was explored, however the extent of excavation, underpinning and alteration works required to create a space suitable for the pools raised a risk to the integrity of the BTM and so was discarded for further development.

Figure 4. Prior Design with Pool Extension

Locating the pools here required a significant extension of the building at lower ground level to accommodate the spatial requirements, which was considered to alter the BTM aspect and massing to an unacceptable level based on heritage, overlooking and conservation area requirements. The intention for this design was to retain the TPO as shown in figure 5 below, however the lower ground floor extension and existing Church Rd refurbishment works may have intruded on the root zone of the TPO as the detailed construction requirements were developed in any case.

This location for the pools also impacted the servicing and operation of the hotel, using the sub-optimal lower

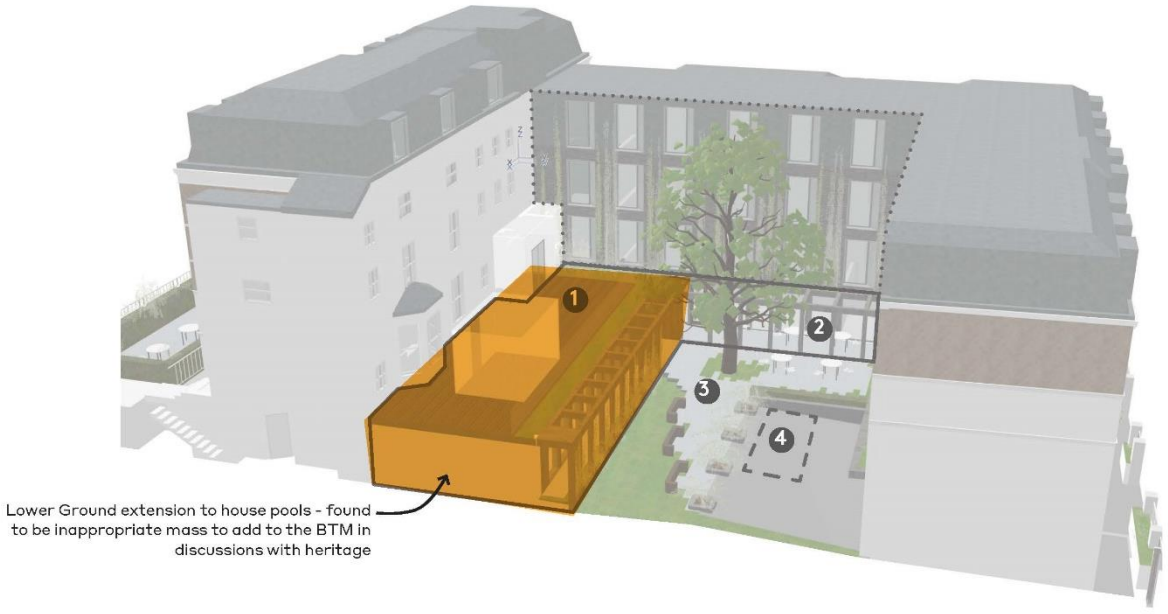


Figure 5. 3D View Showing Pool Extension

ground space to Sheen Rd for habitable guest spaces, moving operational spaces to the corner of Church and Sydney roads.

As such following pre-app discussions with planning and heritage officers, this design option was discarded.

01.02.04 Option 4 – Proposed Design

Following further study of the servicing/operational requirements and the guest experience of the hotel, the proposed arrangement to locate the pools at lower ground in the new build section of the development, to the western edge of the courtyard was adopted. This arrangement provides the benefits of

– minimal additional structural complexity given the demolition and excavation required for the new building works
– spatial arrangements which are developed to suit the requirements of the pools and associated circulation
– central location for the key rehabilitation facilities for all guests, with simplified lift access for rooms in both the BTM and the new build parts of the development

Figure 6. Current Design Proposal

The proposed arrangement however cannot be accommodated while retaining the tree in place, the spatial requirements to house the pools and circulation as well as the rooms above overlap the existing tree location requiring its removal.

The new build portion of the development also requires excavation and re-levelling of the site lower ground level to achieve the necessary accommodation with the roof line of the heritage requirement to maintain the BTM as the dominant building on the site. This requires the lowering of the lower ground floor & courtyard level by approximately 1m which also impacts the ability for the scheme to retain the existing tree.

APPENDIX F TREE DAMAGE REPORTING DOCUMENT

Tree Incident	Date	Remedial Actions	Reported to ACoW and Tree Officer?
e.g. low branch snapped by construction vehicle	1st January 2019	Branch cleanly pruned back to last cut point Reinstated tree protection fencing	Yes

APPENDIX G PROGRESS SHEET

Works phase	Completed date	Signed off by ACoW?	Sent to Tree Officer?
Install tree protection fencing	1st January 2019	Yes – site attendance	Yes

APPENDIX H TREE PROTECTION MEASURES

Prior to any demolition/construction works (including vehicular movements) taking place, all relevant tree protective measures will be in place around all retained trees within the construction vicinity of the site. It shall be set out as per the detail on the Tree Protection Plan.

These protective measures ensure suitable protection of trees and associated soils, with the key method of tree protection being through the use of fencing and ground protection.

Tree protection fencing shall be set out as per the detail on the Tree Protection Plan and identified as such using appropriate signage.

TREE PROTECTION FENCING (BS5837)

The tree protection fencing will comprise 1.8m Heras fencing around retained trees. Once erected, this will not be moved or relocated without approval from the project ACoW (Arboricultural Clerk of Works) or the council tree officer.

The tree protection area behind the Heras fencing (the Construction Exclusion Zone) will be sacrosanct throughout development and no access will be allowed to this area including (for example) the storage of or moving of materials or machinery.

In the Construction Exclusion Zone, there will be no excavations or increases in soil level without prior approval from the ACoW.

The Heras fencing will be secured using footings to prevent movement of the protective fencing and ensure its rigid installation. Details of this are given on the Tree Protection Plan.

There will be clear and visible signage attached to the protective fencing with the wording, "*Tree Protection Area – Keep Out*". This area will be checked prior to the commencement of work by the ACoW or council tree officer and throughout the course of development.

The tree protection fencing denotes the Construction Exclusion Zone. Therefore, careful consideration must be given when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banks person to ensure that adequate clearance from trees is maintained at all times.

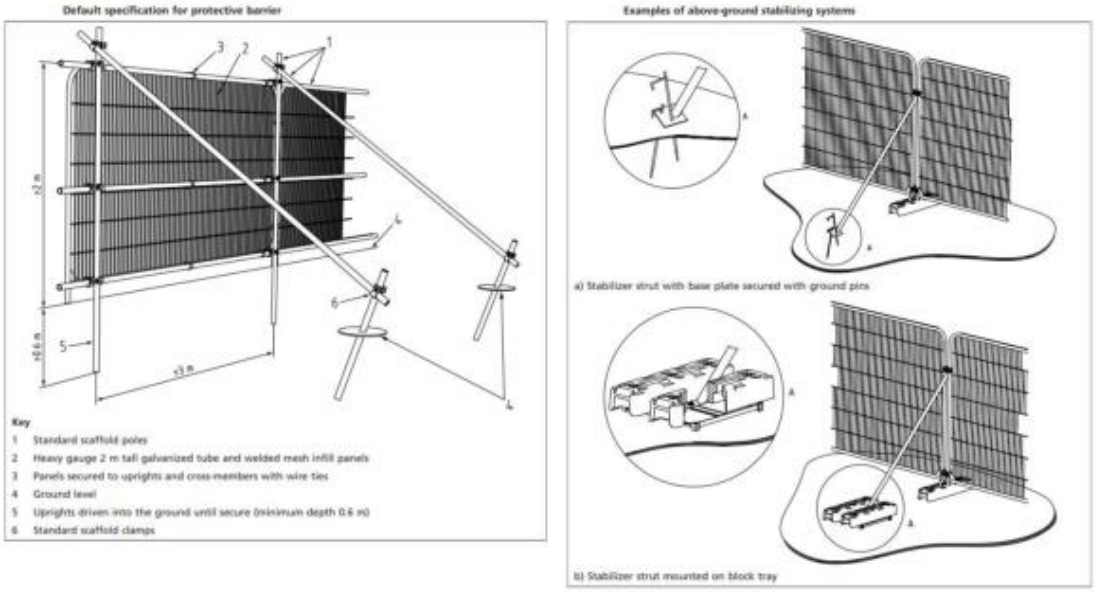
Material that will contaminate the soil such as concrete mixing, diesel oil and vehicle washing should not be discharged within 10 m of the tree stems. Furthermore, no fire shall be lit or liquids disposed of within 10 m of an area designated as being fenced off or otherwise protected in the scheme.

At the end of the project the Heras fencing will be removed only after confirmation by the ACoW or council tree officer.

A copy of the Tree Protection Plan(s) will be located within the site cabins throughout the course of development works. This will include details of the fencing specification and location for which the fence will be erected. This plan will be printed at no less than A1 in size to ensure easy reading of all the detail contained within.

Wherever possible and practical Tree Protection Fencing will be fixed around the calculated RPA for all on site trees to be retained. Where this is not possible, suitably designed ground protection must be installed either as a temporary measure or as part of the proposed construction within the RPA, (as required by the design).

Figure A4.1. Default specification for protective fencing and examples of above ground stabilizing systems.



APPENDIX I TREE PROTECTION SIGNAGE

TREE PROTECTION SIGNAGE (EXAMPLES)

To accompany the tree protection fencing, clear and visible signage must be attached to advise of the need for the fencing to remain sacrosanct and intact throughout the course of the development, subject to advice from the ACoW or council tree officer.

APPENDIX J LEGISLATION AND POLICY CONTEXT

J.1 LEGISLATION

The Town and Country Planning (Tree Preservation) (England) Regulations (2012)[7]

A Tree Preservation Order is an order made by a local planning authority in England to protect specific trees, groups of trees or woodlands in the interests of amenity. An Order prohibits, without the local planning authority's written consent, the following works to trees:

- Cutting down
- Topping
- Lopping
- Uprooting
- Wilful damage
- Wilful destruction

Similarly, trees in a Conservation Area that are not protected by an Order are protected by the provisions in section 211 of the Town and Country Planning Act 1990. These provisions require issue of a section 211 notice six weeks before carrying certain work on such trees. This notice period gives the authority an opportunity to consider whether to make an Order on the tree.

J.2 PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2021[8] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Regional

The London Plan[9]

Policy G1 Green infrastructure

1. London's network of green and open spaces, and green features in the built environment such as green roofs and street trees, should be protected, planned, designed and managed as integrated features of green infrastructure.
2. Boroughs should prepare green infrastructure strategies that integrate objectives relating to open space provision, biodiversity conservation, flood management, health and wellbeing, sport and recreation.
3. Development Plans and Opportunity Area Planning Frameworks should:
    1. identify key green infrastructure assets, their function and their potential function
    2. identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.
4. Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.

Policy G5 Urban greening

1. Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.
2. Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development. (excluding B2 and B8 uses).
3. Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Policy G7 Trees and woodlands

1. London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.
2. In their Development Plans, boroughs should:

a. Protect 'veteran' trees and ancient woodland where these are not already part of a protected site

b. Identify opportunities for tree planting in strategic locations

3. Development proposals should ensure that, wherever possible, existing trees of quality are retained [Category A and B]. If planning permission is granted that necessitates the removal of trees, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

Local

Local Plan

LP 16 Trees and Woodlands

1. resist the loss of trees, including aged or veteran trees, unless the tree is dead, dying or dangerous; or the tree is causing significant damage to adjacent structures; or the tree has little or no amenity value; or felling is for reasons of good arboricultural practice; resist development that would result in the loss or deterioration of irreplaceable habitat such as ancient woodland;

2. resist development which results in the damage or loss of trees that are considered to be of townscape or amenity value; the Council will require that site design or layout ensures a harmonious relationship between trees and their surroundings and will resist development which will be likely to result in pressure to significantly prune or remove trees.

LP16 also states that

where practicable, an appropriate replacement for any tree that is felled; a financial contribution to the provision for off-site trees in line with the monetary value of the existing tree to be felled will be required in line with the 'Capital Asset Value for Amenity Trees' (CAVAT).

REFERENCES

[1] *British Standards Institution. (2012). 5837: Trees in relation to design, demolition and construction - Recommendations. London: BSI.*
[2] *Legislation.gov.uk. (2012). Town and Country Planning Act 1990. [online] Available at: https://www.legislation.gov.uk/uksi/2012/605/contents/made [Accessed 21 Jan 2019].*
[3] *British Geological Society (2019). Geology of Britain [interactive web map]. Available at: http://mapapps.bgs.ac.uk/geologyofbritain/home.html [Accessed 21 Jan 2019].*
[4] *British Standards Institution. (2010) 3998:2010 'Tree work – Recommendations. London: BSI.*
[5] *The National Joint Utilities Group (2007) NJUG Guidelines for The Planning, Installation and Maintenance Of Utility Apparatus In Proximity To Trees*
[6] *British Standards Institution. (2014). 8545: Trees: from necessary to independence in the landscape – Recommendations. London: BSI.*
[7] *Legislation.gov.uk. (2012). Town and Country Planning Act 1990. [online] Available at: https://www.legislation.gov.uk/uksi/2012/605/contents/made [Accessed 21 Jan 2019].*
[8] *GOV.UK. (2021). National Planning Policy Framework. [online] Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed 13 June 2019].*
[9] *Greater London Authority (2021) The London Plan: The Spatial Development Strategy for Greater London (GLA)*