



**Tree Survey, Arboricultural Impact Assessment
Preliminary Arboricultural Method Statement & Tree Protection Plan
In Accordance with BS 5837:2012**

Proj. No 8567	Brunel Walk and Turner Avenue, St Ann's, London, N15 5DG		
Client:		Madlins	
Date of Report:	05/10/2022	Revision:	Original

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Summary

The purpose of this report is to provide a preliminary consideration of the arboricultural implications created by the proposed development. In accordance with the feasibility and planning sections of BS5837:2012 *“Trees in relation to design, demolition and construction – Recommendations”*, trees deemed to be within the influencing distance of the projected construction have been evaluated for quality, longevity, and initial maintenance requirements. Where trees do not have to be removed for health and safety reasons, a detailed and objective assessment has been made of the consequences of the intended layout.

In this circumstance it is intended to undertake the redevelopment of Brunel Walk to provide 45 new Council rent homes in four buildings ranging from 3 to 4-storeys high including 39 apartments and 6 maisonettes. Provision of associated amenity and play space, cycle, and refuse/recycling stores and 4 wheelchair parking spaces. Reconfiguration and enhancement of existing parking areas and outdoor communal areas and play spaces on the Turner Avenue Estate. As a result, forty-eight individual trees and nine groups of trees were inspected. The arboricultural related implications of the proposal are as follows:

- 1 It is necessary to fell twelve individual trees and one group of trees to achieve the proposed layout. Additionally, seven trees and two groups of trees require minor surgery to permit construction space or access.
- 2 Four trees have been identified for removal irrespective of any development proposals. The removal of these items has been recommended due to their poor structural and/or physiological condition.
- 3 Hayden's understands that since the tree survey was performed, that three trees have been removed by UK Power Networks, though have been unable to perform an updated site visit to confirm this. These trees are T024, T028 & T030.
- 4 The alignment of new structures nominally intrudes within the Root Protection Areas of four individual trees and one group of trees to be retained. This has only a minor influence on the Root Protection Areas and as such it is considered appropriate to undertake linear root pruning, thus obviating the need for specialist construction techniques at these locations.
- 5 Where the alignment of new structures does not encroach within the Root Protection Areas of any trees that are to be retained, and as assessed in accordance with BS5837:2012, no specialist foundation designs, or construction techniques will be required to prevent damage to tree roots. Specialist foundations may still be required for other reasons, including mitigating the influencing distance of tree roots, and as such expert advice should always be sought from a structural engineer.



- 6 The alignment of new hard surfaces encroaches within the Root Protection Areas of twelve individual trees and three groups of trees that are to be retained but given the use of modern “no dig” construction techniques this is not considered to be a substantial issue.
- 7 The alignment of new hard surfaces nominally intrudes within the Root Protection Areas of one individual tree and one group of trees to be retained. This has only minor influence on the Root Protection Areas and as such it is considered appropriate to undertake linear root pruning, thus obviating the need for specialist “no dig” construction techniques at this location
- 8 Eleven trees within this survey are understood to lie on neighbouring land and may be affected by works to a sewer, which is currently under investigation by Meinhardt and Thames Water regarding alignment, depth, and potential for diversion. Furthermore, the proposal requires the removal of an earth gradient within the RPA of one tree to be retained. It is proposed to undertake exploratory root investigation using an Air Spade, to inform the design regards to this aspect. As such, the relevant recommendations are yet to be clear, or finalised, and must be communicated to the owners as soon as these details are available.
- 9 New underground surface water and foul water drainage infrastructure pass through the Root Protection Area of trees to be retained. The proposed lengths infringing the RPA will be installed using hand dug 'broken trenches' (NJUG 4 paragraph 4) and assisted by Air Spade, to ensure the maximum protection of the trees' roots. The services may also be installed using trenchless technology, which can only be employed if this methodology is considered appropriate by the relevant service company (thus allowing services to pass below and through the roots without the need for traditional excavation). If it is necessary to cut any small roots as part of any of these processes, they should be severed in such a way as to ensure that the final wound is as small as possible and free from ragged, torn ends. The entire process within the RPA of retained trees will be supervised and guided by an Arboricultural Consultant.
- 10 This report recommends that specialist advice is obtained by expert practitioners in other disciplines. Such input should always be sought prior to the submission of this report in support of a planning application to demonstrate that the techniques and methods hereby proposed are achievable. In this circumstance it is necessary to contact the following:
 - Structural Engineer (foundation design and impact on neighbouring structures, item 4.4.1)
 - Civil Engineer (“no dig” surfacing, item 4.4.2)
- 11 All trees and landscape features that are to remain as part of the development should suffer no structural damage provided that the findings with this report are complied with in full. This includes ensuring that protective fencing is erected as detailed at items 4.6 and 5.1 of this report.
- 12 Post Planning Permission – Subject to achieving Planning Permission, a detailed Arboricultural Method Statement and Tree Protection Plan will be required. This will include the following: fencing type, ground protection measures, “no dig” surfacing, access facilitation pruning specification, phasing, and an extensive auditable monitoring schedule.



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1.0 Introduction

1.1 Terms of Reference

- 1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Madlins to prepare a Tree Survey, Arboricultural Impact Assessment, Preliminary Arboricultural Method Statement and Preliminary Tree Protection Plan for the existing trees at Brunel Walk and Turner Avenue, St Ann's, London, N15 5DG.
- 1.1.2 The site survey was carried out on 19/01/2021. The relevant qualitative tree data was recorded to assess the condition of the existing trees, their constraints upon the prospective development and the necessary protection and construction specifications required to allow their retention as a sustainable and integral part of the completed development.
- 1.1.3 Information is given on condition, age, size, and indicative positioning of all the trees, both on and affecting the site. This accords with BS5837:2012 *Trees in relation to design, demolition, and construction - Recommendations*.

1.2 Scope of Works

- 1.2.1 The survey of the trees and any other factors are of a preliminary nature. The trees were inspected based on the Visual Tree Assessment (VTA) method as developed by Mattheck and Breloer (1994). The trees were inspected from ground level with no climbing inspections undertaken. It is not always possible to access every tree and as such some measurements may have to be estimated. Trees with estimated measurements are highlighted in the schedule of trees. No samples have been removed from the site for analysis. The survey does not cover the arrangements that may be required in connection with the removal of existing underground services.
- 1.2.2 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.
- 1.2.3 An intrinsic part of tree inspection in relation to development is the assessment of risk associated with trees near persons and property. Most human activities involve a degree of risk with such risks being commonly accepted if the associated benefits are perceived to be commensurate. In general, the risk relating to trees tends to increase with the age of the trees concerned, as do the benefits. It will be deemed to be accepted by the client that the formulation of the recommendations for all tree management will be guided by the cost-benefit analysis (in terms of amenity), of the tree work.

1.3 Documentation

- 1.3.1 The following documentation was provided prior to the commencement of the production of this report;
- Email of instruction.
 - Definition of site boundary, description of requirements/deadlines.
 - Topographical survey (SES drawing no. 11243-001 01).
 - Site Plan (OOBE drawing. 5350-OOB-ZZ-00-DR-L-0001-P013).
 - Services & Drainage Plan (Meinhardt drawing. 2844-CV-BG-100 P02).



2.0 The Site

2.1 Overview

- 2.1.1. The site is the dwellings, garden spaces, communal open spaces, and car parking of Brunel Walk, between Turner Avenue to the north, Braemar Road, Kirton Road and Morland Place to the east, Seaford Road to the south and Elmar Road to the west.

2.2 Soils

- 2.2.1 The soils type commonly associated with this site are slowly permeable and seasonally wet, slightly acid but base-rich loams and clays. They are of moderate fertility and mainly support seasonally wet pastures and woodlands type habitats. This soil type constitutes approximately 19.9% the total English land mass.
- 2.2.2 The data given was obtained from a desk top study which provides indications of likely soil types. 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 shrinkability. 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 Tree Preservation Order(s)

The local planning authority London Borough of Haringey Council have deemed it appropriate to provide statutory protection to trees neighbouring this site through the serving of a Tree Preservation Order (TPO), Ref no TPO/2014/2279 and various. The effect of this on the owners, managers or any persons wishing to undertake work on preserved trees is to require them to obtain written permission from London Borough of Haringey Council prior to actioning any surgery or felling etc. The purpose of this process is to try to ensure that the works are appropriate, proportionate, and in keeping with the long-term aims of the TPO (as expressed in the original TPO statement) but, given that trees are living organisms, and the locality within which they are set is liable to change, it is often the case that local planning authority decisions relating to TPO applications require regular review to reflect the current situation rather than the historical perspective of the original date of protection.

There are certain circumstances where written permission from the local planning authority may not be necessary before undertaking works. These include;

- Making a tree safe if it is an imminent threat to people or property.
- Removing dead wood, or a dead tree.

Owners, managers or any persons wishing to undertake work as an exemption to the written permission process **are required** to provide the local planning authority with 5 days' notice prior to attending to a tree which they deem as being dead or dangerous; unless such works are required in an emergency. It is the tree owner's responsibility to provide proof that the tree was indeed dead or dangerous should this exception be challenged; hence, it is advisable always to request an inspection by the Local Planning Authority prior to carrying out such operations.



Furthermore, and even in the event of an emergency, there is still a duty to notify the local planning authority that work has been completed including supplying an explanation of the necessity. Failure to comply with the requirements of TPO legislation can lead to a maximum fine of up to £20,000 per tree in the Magistrates Court. Fines in the Crown Court are unlimited.

This information was sourced using the Local Planning Authority's Online Mapping System (as instructed by them) and to our best knowledge was current and accurate at the time the information was accessed. We would advise it prudent that before any tree work commences, this is checked directly with the Local Planning Authority to confirm that their online mapping system is definitive.

2.3.2 Felling Licence

All trees within the United Kingdom are protected under the Forestry Acts. In general, anyone felling more than 5 cubic metres of timber in any calendar quarter requires a Felling Licence from the Forestry Commission. There are exemptions however and these are as follows:-

A Felling Licence is not required in the following instances:

- To fell trees in a garden, an orchard, a churchyard, or a designated open space (Commons Act 1899).
- To carry out surgery operations such as pruning, reduction, dead wooding or pollarding.
- To fell less than 5 cubic metres in a calendar quarter. (Please note that not more than 2 cubic metres in a calendar quarter may be sold).
- To fell trees that are 8 centimetres or less in diameter when measured 1.3 metres from the ground. Trees removed for thinning may have a diameter of up to 10 centimetres and trees managed under a coppice regime may have a diameter of up to 15 centimetres.
- To fell trees previously approved for removal under a Dedication Scheme, or where Detailed Planning Permission has been granted.

Substantial fines exist for not complying with the requirements of a Felling Licence.

3.0 Tree Survey

- 3.1 As part of this survey a total of forty-eight individual trees and nine groups of trees have been identified. These have been numbered T001 – T048 and G001 – G009 respectively.
- 3.2 A topographical survey was provided which showed the position of the trees on site. It should be noted however 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. 8567-D-AIA.
- 3.3 In order 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 *BS 5837:2012 "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 are listed in the attached Schedule of Trees.
- 3.5 Several items would benefit from tree surgery or additional investigation, be it for health and safety, cultural, aesthetic, or structural reasons as detailed in the attached Schedule of Trees. Including the trees recommended for felling, the items requiring the **most urgent** intervention are as follows:

As soon as possible:

T018	Fell to ground level.
T019	Fell to ground level.
T038	Fell to ground level.

- 3.6 Over and above the general and prudent recommendation that all trees are inspected on an annual basis, the following items have been identified as requiring enhanced monitoring to assess any changes in faults and weaknesses etc as detailed in the Schedule of Trees:

T043	Monitor tight unions for cracks or splitting, and to observe if natural strengthening growth is forming.
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- 3.7 In accordance with item 4.2.4 (c) of BS 5837:2012, 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

4.1 The Proposal

- 4.1.1 The proposal is to undertake the redevelopment of Brunel Walk to provide 45 new Council rent homes in four buildings ranging from 3 to 4-storeys high including 39 apartments and 6 maisonettes. Provision of associated amenity and play space, cycle, and refuse/recycling stores and 4 wheelchair parking spaces. Reconfiguration and enhancement of existing parking areas and outdoor communal areas and play spaces on the Turner Avenue Estate within the curtilage of the site.

4.2 Access

- 4.2.1 Where possible, the construction site access, site compound, welfare facilities, materials stored, turning and parking space will all be sited outside the RPA of trees to be retained. Where this is not possible, and subject to further feedback and confirmation from an Arboricultural Consultant, it will be necessary to install a proprietary temporary load bearing road or working platform to prevent compaction and contamination damage to tree roots. 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.



4.3. Demolition

- 4.3.1 Demolition of existing structures and surfaces affects, or is close to, the theoretical RPA and/or crown spread of the following retained trees – G001, G003, G005, T003, T004, T008, T009, T010, T011, T014, T015, T016, T017, T020, T032, T034, T036, T043, T046 and T048. To prevent damage to these specimens works must only be completed with appropriate machinery or by hand within the calculated RPA and may only commence once protective fencing has been erected. In the proximity of the retained trees, all walls and material must be demolished inwards into the footprint of the building and away from the stems (often referred to as “top down, pull back”). Additionally, all plant and vehicles engaged in demolition should either operate outside the theoretical RPA or should run on a temporary load bearing surface to protect the underlying soil structure. All foundations or hard surfaces within the theoretical RPA are to be broken out with extreme care, either manually or with a breaker and small mini digger (operating outside the RPA, or on the temporary load bearing surface). Any exposed roots must either be covered by damp hessian or covered by fresh imported topsoil, including a layer of sharp sand if needed as a sub-base for replacement hard surfacing.
- 4.3.2 Removal of an earth gradient affects the theoretical Root Protection Area of one off-site tree to be retained – T048. It is proposed to undertake exploratory root investigation using an Air Spade, carried out under Arboricultural supervision, to document the roots unearthed prior to backfilling, and to use this information to inform the design thereafter.

4.4 Construction

- 4.4.1 Construction of foundations or structural supports marginally encroach within the calculated RPA of the following trees to be retained – G001, T008, T011, T017 and T020. Given the minor extent of the intrusion at this location it is considered appropriate to undertake linear root pruning as part of the access facilitation pruning (AFP) works. This operation will obviate the need for arboriculturally imperative specialised foundation construction methods in this situation. 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.
- 4.4.2 Installation of new hard surfaces encroach within the RPA of the following items to be retained – G001, G003, G005, T008, T009, T011, T014, T015, T016, T017, T020, T032, T034, T036 and T043. Provided that these work with finished levels and required load bearings without cutting into the ground, the surfaces should be attended to using “no dig” construction methods. In the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden’s Arboricultural Consultants will supply a sample design of “no dig” surfacing. However, the exact specification (adhering to the principles of the sample design) must be designed by a Civil Engineer who can confirm that the finished levels and load bearings are achievable with this type of design without cutting into the ground. To protect the RPA of the affected trees, these areas should be constructed as a first phase of the development – i.e., immediately after the necessary tree surgery has been completed and protective fencing erected. It is recognised that the final top dressing of the hard surfaces could be added at the completion of the project, however during the construction phase the permeable surface must be sealed and protected to prevent contamination and compaction. Whatever method of sealing and protection is used, this must be removed at the completion of construction to allow for moisture penetration and gaseous exchange.



Alternatively, the protective fencing could be re-sited to the edge of the RPA of these trees and the “no dig” construction completed as a final phase of development.

- 4.4.3 Installation of new hard surfaces encroach within a small portion of the RPA of the following trees to be retained – G001 and T036. Given the minor extent of the intrusion at this location it is considered appropriate to undertake linear root pruning as part of the access facilitation pruning (AFP) works. This operation will obviate the need for “no dig” construction methods in this situation.
- 4.4.4 The proposed plans to remove an earth gradient within the RPA of T048 will require some investigative works to establish the extent of rooting within the earth gradient. It is recommended a slip trench is opened along the width of the RPA at the boundary fence using an Air Spade, under supervision of an Arboricultural Consultant, who will guide the process and document the roots unearthed prior to backfilling. This information will be used to alter the design, if the currently proposed design cannot be implemented without adverse effect on T048.
- 4.4.5 New underground surface water and foul water drainage infrastructure pass through the Root Protection Area of the following trees to be retained – G003, T015, T020 and T048. The proposed lengths infringing the RPA will be installed using hand dug 'broken trenches' (NJUG 4 paragraph 4) and assisted by Air Spade, to ensure the maximum protection of the trees' roots. The services may also be installed using trenchless technology, which can only be employed if this methodology is considered appropriate by the relevant service company (thus allowing services to pass below and through the roots without the need for traditional excavation). If it is necessary to cut any small roots as part of any of these processes, they should be severed in such a way as to ensure that the final wound is as small as possible and free from ragged, torn ends. The entire process within the RPA of retained trees will be supervised and guided by an Arboricultural Consultant.

4.5 Implications of Sloping Ground

- 4.5.1 The arboricultural implications of the proposed assumes that level changes will not occur within the RPA of trees that are shown to be retained. If groundworks other than those discussed above cannot be excluded from the calculated RPA of retained trees, a reappraisal of the arboricultural implications will be required.

4.6 Requirement for Tree Barrier Fencing

- 4.6.1 Prior to the commencement of demolition and the required re-alignment prior to the subsequent construction, and immediately after the completion of the necessary tree surgery and felling work, protective fencing will be erected on site. This must be fit for purpose (including any ground protection if necessary) in full accordance with the requirements of BS 5837:2012 and positioned as shown on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing. Full details of fencing will be supplied by Hayden's Arboricultural Consultants in the detailed Arboricultural Method Statement & Tree Protection Plan.

4.7 Compound

- 4.7.1 The site provides limited internal space to locate a construction compound outside the RPA of any trees that are to be retained. As such the project will require careful phasing to manage the storage of materials.



4.8 Phasing

- 4.8.1 The proposal involves the integration of several complex aspects that affect tree protection (e.g. – but not exclusively – access, movement of materials and the installation of services). For this reason, the project must be carefully phased to ensure the highest level of protection 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 major operations on site as they affect retained trees.

4.9 Monitoring

- 4.9.1 In accordance with item 6.3 of BS 5837:2012, the site and associated development should be monitored regularly by a competent Arboriculturalist to ensure that the arboricultural aspects of the planning permission are complied with. As part of the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden's Arboricultural Consultants will produce an extensive auditable monitoring schedule to assess the progress of key site events/activities.

4.10 Cultural Implications for Retained Trees

- 4.10.1 In order to enable the proposed development it will be necessary to undertake the following tree surgery works to retained trees: -

Feature No	Description of Works Required	BS Category*
G001	Undertake root pruning along footpath and covered shelter/store as shown on drawing 8567-D-AIA.	C
G003	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision.	B
T008	Undertake root pruning along foundation line of structure as shown on drawing 8567-D-AIA.	C
T011	Undertake root pruning along footpath and covered shelter/store as shown on drawing 8567-D-AIA.	C
T015	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision.	C
T017	Undertake root pruning along slightly expanded foundation line of structure than existing structure as shown on drawing 8567-D-AIA.	C
T020	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision. Undertake root pruning along foundations of covered shelters/stores and enclosed bin stores as shown on drawing 8567-D-AIA.	C
T023	Undertake root pruning along footpath as shown on drawing 8567-D-AIA.	B
T036	Undertake root pruning along footpath as shown on drawing 8567-D-AIA.	U



4.11 Landscape Implications

- 4.11.1 In addition to trees and landscape features necessitating removal for health and safety, cultural or quality of life reasons, (as detailed in the attached Schedule of Works - Irrespective of Development) the items listed in the table below require felling to permit the proposed development to proceed: -

Feature No	Reason for Removal	BS Category*	Visual Amenity Assessment*
G009	Conflict with new building and childrens play area.	C	Low
T001	Conflict with new building and necessary construction space.	C	Low
T002	Conflict with new building and necessary construction space.	C	Low
T006	Conflict with childrens play area.	U	Low
T007	Conflict with childrens play area.	C	Low
T012	Conflict with childrens play area.	B	Moderate
T013	Conflict with new building and necessary construction space.	B	High
T022	Conflict with new building and necessary construction space.	C	Moderate
T033	Within car parking bay.	C	Low
T035	Conflict with cycle store.	C	Low
T044	Within footprint of new building.	C	Low
T045	Within footprint of new building.	U	Moderate
T047	Conflict with new building construction space and disabled parking bay.	B	High

* Please see definitions in the Explanatory Notes attached to this report.

4.12 Post Development Implications

- 4.12.1 No adverse arboricultural implications are considered reasonably foreseeable for the trees that remain provided that the recommendations of this report are complied with in full. It is understood that this scheme is being supplemented by a robust landscaping scheme to mitigate for tree losses necessary for the processes of demolition and construction.
- 4.12.2 Due to the dynamic nature of trees and their interaction with the environment, their health and structural integrity is liable to change over time. Because of this it is recommended that all trees on or adjacent to the site be inspected on an annual basis.
- 4.12.3 As stated in BS 5837:2012, regular maintenance of newly planted trees is of particular importance for at least three years during the critical post-planting period and might, where required by site conditions, planning requirements or legal agreement, be necessary for five years or more. Therefore, the designer of the new landscaping should, in conjunction with the landscape design proposals, prepare a detailed maintenance schedule covering this period, and appropriate arrangements made for its implementation.



5.0 Design Advice, Preliminary Arboricultural Method Statement & Tree Protection Plan

5.1 Securing of Tree Structure and Root Protection Areas (RPA)

- 5.1.1 The trees to be retained will be protected using stout barrier fencing erected in the positions indicated on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing no. 8567-D-AIA. This fencing will be in accordance with the requirements of BS 5837:2012 including any necessary ground protection.
- 5.1.2 All fencing provided for the safeguarding of trees will be erected prior to any demolition or development commencing on the site, therefore ensuring the maximum protection. This fencing, which must have all weather notices attached stating "Construction Exclusion Zone – No Access" will be regarded as sacrosanct and, once erected, will not be removed, or altered without the prior consent of the Local Planning Authority.
- 5.1.3 Where footpaths, access drives, or parking bays are constructed within the RPA of retained trees, careful attention will be paid to the type of surface treatment used in these areas, details of which are given in item 5.8, below. If possible, these should be installed as a final phase of the project, thereby protecting the RPA throughout the major construction phase of the proposed development.
- 5.1.4 Where fencing is impractical, consideration must be given to other forms of effective above ground tree structure protection. An example of this would be a combination of Barksavers to secure the stems and a temporary load bearing surface to shield the ground.

5.2 Location of Site Office, Compound and Parking

- 5.2.1 The position of the office, compound and parking will be agreed in writing with the Local Planning Authority prior to commencement of any permitted development works. Any proposed re-location of these items through the various phases of development will be agreed prior to re-siting with the Local Planning Authority.

5.3 On Site Storage of Spoil and Building Materials

- 5.3.1 Prior to and during all construction works on site, no spoil or construction materials will be stored within the RPA of any tree on, or adjacent to the site, even if the proposed development is to be within the RPA. This is to reduce to a minimum the compaction of the roots of the trees. Details of the RPA for each tree where no spoil or building materials will be stored are indicated on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing no. 8567-D-AIA. Any encroachment within this protected area will only be with the prior agreement of the Local Planning Authority.
- 5.3.2 Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bund compound shall be at least equivalent to the capacity of the tank plus 10%. If there is a multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges, and sight glasses shall be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land, or underground strata.



Associated pipework shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund.

- 5.3.3 All material storage facilities and work areas must consider the effects of sloping ground on the movement of potentially harmful liquid spillages towards or into protected areas.

5.4 Programme of Works

- 5.4.1 All tree surgery works, once approved by the Local Planning Authority, will be carried out prior to any other site works. Once completed, the proposed protective fencing will be erected along the lines indicated above. All of this will be carried out prior to commencement of any development works on the site. Outline details of the proposed programme are given in the Design and Construction and Tree Care flow chart attached (Appendix G-1).

5.5 Tree Surgery

- 5.5.1 All tree work will be agreed with the Local Planning Authority and will be carried out in line with BS 3998:2010 (Recommendations for Tree Works). An appropriately qualified, experienced, and insured arboricultural contractor will carry out the work. Any alterations to the proposed schedule of works will be agreed with the Local Planning Authority prior to commencement of works.

5.6 Levels

- 5.6.1 Other than for any specific exception which may be referred to at item 4.0, no alterations to soil levels within the RPA of retained trees are envisaged. However, if it is necessary for these to occur, appropriate measures must be taken to prevent or minimise any detrimental effects on the affected root systems as detailed in 5.6.2 and 5.6.3 below.
- 5.6.2 If it is necessary to excavate so close to trees that roots greater than 50mm diameter are likely to be encountered, particular care will be taken to avoid damage. Excavation in these areas will be undertaken by hand or using an air spade, avoiding any damage to the bark. The roots will be surrounded with sharp sand prior to the replacing of any soil or other material in the vicinity.
- 5.6.3 If it is necessary to raise levels, it is essential that adequate supplies of water and oxygen pass through the soil to the trees' roots. Therefore, where necessary, a granular material will be used which will not inhibit gaseous diffusion. Possible options are no-fines gravel, cobbles or Type 2 road-stone. All hard surfaces will be of suitable specification to allow such gaseous diffusion, e.g., brick pavers.

5.7 Services

- 5.7.1 At the time of writing this report, no details on proposed services were available. However, the following principles should be adhered to when planning for their installation.
- 5.7.2 It is proposed that all underground service runs will be placed outside the RPA of the trees on or adjacent to the site. Where it is not possible to do this, the proposed length infringing the RPA will be hand dug 'broken trenches' (NJUG 4 paragraph 4) to ensure the maximum protection of the trees' roots.



The trenches may also be excavated using an air spade, or trenchless technology can be employed if this methodology is considered appropriate by the relevant service company (thus allowing services to pass below and through the roots without the need for traditional excavation). If it is necessary to cut any small roots as part of any of these processes, they should be severed in such a way as to ensure that the final wound is as small as possible and free from ragged, torn ends.

- 5.7.3 All routes for overhead services will aim to avoid the trees. Where this is not possible, any tree work will be agreed prior to commencement with the Local Planning Authority.
- 5.7.4 All service providers (Statutory Authorities) will be consulted prior to commencement of works with the aim of minimising the number of services runs on the site.
- 5.7.5 All service runs/trenches where they encroach within the RPA of retained trees will be agreed with the Local Planning Authority prior to commencement of works.

5.8 Hard Surface Types & Construction within the Root Protection Area

- 5.8.1 Where it is necessary to construct footpaths, driveways, non-adoptable roads, and other hard surfaces within the RPA as calculated in accordance with BS 5837:2012 (item 4.6.1), it is proposed that the design will comply with the 'no-dig' principles of the Arboricultural Advisory Information Services (AAIS) Practice Note 12 "*Through the Trees to Development*" - the only difference being that instead of a geo-grid, a geo-textile base is provided, and the no-fines road stone is incorporated in and retained by a geo-web cellular confinement system. Given the individual requirements of each site, it is essential that a specialist engineer is consulted to specify the construction detail. Where it is necessary to remove any existing hard surface, or lower the ground level within the RPA, this may expose roots. This operation must be undertaken using hand tools or an air spade. Any roots found should be treated with the greatest care and surrounded by sharp sand to provide a level base. Please note that 'no-dig' surfaces are not always considered acceptable for adoption.
- 5.8.2 Where it is shown that the construction of a boundary wall or dwelling encroaches within the RPA of a retained tree, the foundations of the wall or dwelling will be designed in such a manner to minimise the detrimental effect of the construction on the tree's roots. In these situations, any excavations within the RPA of an affected tree will only be undertaken following exploration of the existing root system with an air spade (or by hand digging if soil conditions preclude) and the necessary root pruning undertaken to allow excavation without unnecessary pulling and tearing of the roots to be retained. This will ensure minimal damage to tree roots where pad and beam or cantilever foundations are considered appropriate. Should a piling rig be required to create piles, any access facilitation pruning or felling necessary to allow access must be undertaken before the commencement of works and only with prior consent of the Local Planning Authority.
- 5.8.3 If boundary fencing is to be erected within the RPA of retained trees, it is proposed that the fence posts will be secured using "Met-Posts" or similar design in order to keep the disturbance and damage of the roots of the trees to a minimum.



5.9 Reporting and Monitoring Procedures

- 5.9.1 In accordance with item 6.3 of BS 5837:2012, the site and associated development should be monitored regularly by a competent arboriculturalist to ensure that the arboricultural aspects of the planning permission (e.g., the installation and maintenance of protective measures and the supervision of specialist working techniques) are implemented. Furthermore, regular contact between the Site Manager and the Arboriculturalist allows them to effectively deal with and advise on any tree related problems that may occur during the development process. This system should be auditable. Should any issues arise during the arboricultural monitoring of the development the Arboriculturalist will contact the Local Planning Authority and appropriate action taken only with the prior permission of Madlins and the Local Planning Authority.

6.0 Recommendations

- 6.1 It is recommended that the measures outlined in this report are implemented in full to provide retained trees with the highest level of protection during the process of demolition and construction.
- 6.2 Subject to achieving Planning Permission, it is recommended that a detailed Arboricultural Method Statement & Tree Protection Plan should be provided. This will include the following: fencing type, ground protection measures, “no dig” surfacing, access facilitation pruning specification, project phasing and an extensive auditable monitoring schedule.
- 6.3 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.
- 6.4 The tree surgery works proposed as part of this Survey are recommended to mitigate any identified problems that may be caused by trees near 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.



7.0 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.

However, 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 strongly recommended.

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:



October 2022.....

For and on Behalf of Hayden's Arboricultural Consultants Limited



8.0 References

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9.0 Appendices

Appendix	A	Species List & Tree Problems
Appendix	B	Schedule of Trees
Appendix	C	Schedule of Works - Irrespective of Development
Appendix	D	Preliminary Schedule of Works to Allow Development
Appendix	E	Explanatory Notes
Appendix	F	Tree Preservation Order Enquiry/Response
Appendix	G	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	H	Drawing No 8567-D-AIA



Appendix A - Species List & Tree Problems

Species List:

Ash	<i>Fraxinus excelsior</i>
Cherry	<i>Prunus sp</i>
Cherry Plum	<i>Prunus cerasifera</i>
Cotoneaster	<i>Cotoneaster sp</i>
Cypress	<i>Cupressus sp</i>
Elder	<i>Sambucus nigra</i>
European Lime	<i>Tilia x europaea</i>
False Acacia	<i>Robinia pseudoacacia</i>
Fig	<i>Ficus carica</i>
Hornbeam	<i>Carpinus betulus</i>
Horse Chestnut	<i>Aesculus hippocastanum</i>
Jaquemont's Birch	<i>Betula utilis var. jacquemontii</i>
Leyland Cypress	<i>X Cuprocyparis leylandii</i>
London Plane	<i>Platanus x hispanica</i>
Oriental Plane	<i>Platanus orientalis</i>
Pear	<i>Pyrus sp</i>
Purple Plum	<i>Prunus cerasifera 'pissardii'</i>
Rowan	<i>Sorbus aucuparia</i>
Silver Birch	<i>Betula pendula</i>
Silver Maple	<i>Acer saccharinum</i>
Swedish Whitebeam	<i>Sorbus intermedia</i>
Sycamore	<i>Acer pseudoplatanus</i>
Whitebeam	<i>Sorbus Aria</i>
Wild Cherry	<i>Prunus avium</i>



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 the majority of 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:	 

Name: Epicormic growth	
Symptoms/damage type and cause:	This is the production of numerous shoots on the main stem and branches of the tree. They are produced by the bursting into life of otherwise dormant buds. It is commonly associated with elevated levels of stress on the tree.
Consequence:	Whilst epicormic growth is usually symptomatic of an issue elsewhere within the tree, heavy proliferation can cause the trees resources to become depleted or may mask significant structural weaknesses within the framework of the tree.
Control:	Pruning off epicormic growth may be necessary to improve the visual amenity of the tree or prevent the development of a hazard or obstruction. No direct means of prevention are available other than therapeutic measures to alleviate stresses on the tree.
Species affected:	Most tree species, including European Lime, Willow species, Sweet Chestnut, and Silver Maple.
Images:	  



Name: <i>Hedera helix</i> (Ivy)	
Symptoms/damage type and cause:	Ivy may grow to varying degrees on all areas of a tree from the base to the upper crown. It is possible that in doing so it will out-compete the host tree for available light thereby suppressing the host.
Consequence:	This is generally only harmful to the tree on already unhealthy specimens which may be constricted by large ivy stems around the trunk or may have their top growth suppressed by a mass of flowering shoots in the crown. Ivy can also mask potentially dangerous faults on a tree.
Control:	Ivy should only be removed if absolutely necessary because it provides abundant cover to wildlife and then by severing twice close to the ground and removing a length of stem thereby causing the gradual dying away of the aerial parts of the plant providing extended benefit to wildlife whilst relieving the pressure on the tree.
Species affected:	Most trees can be affected.
Images:	 

Name: <i>Laetiporus sulphureus</i> (Sulphur fungus or Chicken in the Woods)	
Symptoms/damage type and cause:	In the early stages of decay, a yellow or red discolouration develops in the wood, and this changes to a rich red-brown as the decay advances. In advanced decay, the wood develops cubical cracking and is very brittle. A yellowish or whitish leathery sheet of fungal mycelium often fills the cracks. Decay is usually confined to the heartwood, which it enters via pruning wounds or broken branches. In some cases, it is found in the stem base and in major roots. The fruiting bodies appear in the stem as a series of vivid yellow-orange soft flattened brackets stacked on top of each other along the area of infection.
Consequence:	Predominantly a saprophyte with a weak parasitic action causing cubical brown rot of the heartwood. In the early stages of decay, a yellow or red discolouration develops in the wood, and this changes to a rich red-brown as the decay advances. In advanced decay, the wood develops cubical cracking and is very brittle. A yellowish or whitish leathery sheet of fungal mycelium often fills the cracks. Decay is usually confined to the heartwood, which it enters via pruning wounds or broken branches. In some cases, it is found in the stem base and in major roots. The fungus develops slowly and may persist for many years in hardy trees such as Yew or Oak leading to hollowing of the stem and potential stem breakage.
Control:	Depending on the degree or distribution of decay it may be necessary to fell the host tree. Full assessment of decay should be undertaken in order to inform management prescriptions as many trees survive for a considerable time following infection.
Species affected:	Fungus can infect both broadleaved and coniferous trees, but is particularly common on <i>Fraxinus</i> , <i>Quercus</i> , <i>Castanea</i> and <i>Taxus</i> species as well as <i>Robinia</i> , <i>Malus</i> , <i>Salix</i> , <i>Prunus</i> and <i>Pyrus</i> .
Images:	 



Name: <i>Phellinus pomaceus</i> (Cushion Fungus)	
Symptoms/damage type and cause:	Fungus causing heart rot to the stems and branches on rosaceous trees. The fungus causes white rot with wood becoming brittle and then later soft.
Consequence:	The consequence will often be a brittle stem fracture, usually near the fruiting body.
Control:	Affected tissues may be removed by pruning where the location of infection allows.
Species affected:	<i>Prunus spp.</i>



Appendix B

Schedule of Trees

SCHEDULE OF TREES (AIA) Brunel Walk and Turner Avenue, St Ann's, London,

Surveyed By: Alex Garnham Date: 19/01/2021

Managed By: Alex Garnham

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						
G001	Leyland Cypress	650	16		Moderate	N4, E4, S4, W4	Row of mixed age off site Leyland Cypress forming an evergreen screen. Canopy overhangs site and is close to the balcony of a block of dwellings. Other than the screen between sites, these are unremarkable trees of limited merit.	C2	No work required.	4	Undertake root pruning along footpath and covered shelter/store as shown on drawing 8567-D-AIA.	0
		7.8	2.2		M	High						
No		191.1			10+ years	Mixed soft/hard surface						
G002	Cherry Spp	180	6		Low	N2.5, E2.5, S2.5, W2.5	Group of approximately three off-site Cherry in the garden south of the concrete boundary wall.	C2	No work required.	4		
		2.16	1.8		SM	Moderate						
No		14.7			10+ years	Off-site/no access						
G003	Lime Spp	500	14		High	N5.5, E5.5, S5.5, W5.5	Group of three Lime located in communal amenity space north of the footpath of Brunel Walk. Good structural and physiological condition, and part of a wider group of trees to the north. Some historic pruning, but each tree has responded well. High visual amenity.	B2	No work required.	4	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision.	0
		6	2.5		SM	Moderate						
No		113.1			20+ years	Mixed soft/hard surface						
G004	Lime Spp	850	25		High	N4.5, E4.5, S4.5, W4.5	Group of three Lime in public open space south of wood green road. There is a retaining wall immediately south onto the highway and footpath of Wood Green Road. The central specimen is smaller and has been pollarded at approx. 4.5 metres, regrowing a new principal stem and other smaller ones. The eastern specimen has been pollarded at approx. 16 metres and has regrown a new crown. The western specimen is the largest and has not been pollarded. Together, they form an attractive feature of trees on a busy route.	B2	No work required.	4		
		10.2	6.5		EM	Moderate						
Yes		326.9			40+ years	Mixed soft/hard surface						

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						
G005	Lime Spp	550	18		Moderate	N7, E7, S7, W7	Group of approximately ten Lime trees, two of which are beyond the garden fence to the north. This group is formed of two rows and is located in a communal garden between an apartment block to the west and terraced houses to the east. Many trees are covered in Ivy which scales the stem and limits inspection. Some evidence of selected branch removal and some minor deadwood. Crowns overhang private domestic gardens to the east. Overall an attractive feature, though of very limited public amenity.	B2	No work required.	4		
		6.6	3		SM	Moderate						
Yes		136.8			40+ years	Mixed soft/hard surface, Grass						
G006	Cypress Spp	110	6		Low	N1.2, E1.2, S1.2, W1.2	Four off-site Cypress located beyond concrete boundary wall. Limited access prevents full assessment. Unremarkable specimens of limited merit.	C1	No work required.	4		
		1.32	1.7		Y	High						
No		5.5			10+ years	Off-site/no access						
G007	Ash	50	6		Low	N1.5, E1.5, S1.5, W1.5	Trees are located within the garden of a residence so all dimensions are estimated due to lack of access. Young trees becoming established and growing in a linear north-south feature. Stems are abrading where they have grown too close together. Fair form and condition.	C1	No work required.	4	Hayden's understands that this group of trees has already been removed.	0
		0.6	2		Y	Moderate						
Yes		1.1			10+ years	Block paving, Light undergrowth						
G008	Leyland Cypress	200	7		Moderate	N2.5, E2.5, S2.5, W2	Trees are located within the garden of a residence so all dimensions are estimated due to lack of access. Trees form linear north-south feature. Fence impedes visual inspection but crown appears healthy. Fair form and condition.	C1	No work required.	4		
		2.4	1.2		SM	High						
Yes		18.1			10+ years	Block paving						
G009	Elder, Ash	70	5		Low	N2.5, E2.5, S2.5, W2.5	Group of five trees - two elder and three ash. Trees form loose group. Average dimensions provided. Fair form and condition.	C1	No work required.	4	Fell to allow development	0
		0.84	1		Y	Moderate						
Yes		2.2			10+ years	Block paving, Grass						

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						
T001	Sycamore	150	7.5		Low	N2.5, E2.5, S2.5, W2.5	Young to semi mature Sycamore growing beyond a brick wall. Ownership unclear. Extra urban growing environment. Limited access prevents full assessment. An unremarkable specimen of limited merit.	C1	No work required.	4	Fell to allow development	0
		1.8	2		SM	Moderate						
Yes		10.2			10+ years	Mixed soft/hard surface						
T002	Cypress Sp	100	3.5		Low	N1, E1, S1, W1	Young ornamental Cypress in garden space but immediately adjacent to a brick wall. An unremarkable specimen of limited merit.	C1	No work required.	4	Fell to allow development	0
		1.2	0.5		Y	High						
Yes		4.5			10+ years	Grass						
T003	Elder	290	6		Low	N3, E3, S3, W3	Mature Elder located beyond a concrete boundary wall. Limited access prevents full assessment. Appears to be a maturing shrub. Overhangs boundary. Unremarkable specimen of limited merit.	U	No work required.	4		
		3.48	1.6		M	High						
Yes		38			<10 years	Mixed soft/hard surface						
T004	Sycamore	300	9.5		Low	N2.5, E3, S4, W3	Semi mature Sycamore growing beyond a concrete boundary partition. Unknown growing environment. Limited access prevents full assessment. Fair physiological condition. An unremarkable specimen of limited merit.	C1	No work required.	4		
		3.6	1.6		SM	Moderate						
No		40.7			10+ years	Off-site/no access						
T005	Jaquemont's Birch	170	10		Low	N3, E3, S3, W3	Semi mature Utility Birch growing beyond a concrete boundary partition. Unknown growing environment. Limited access prevents full assessment. Good physiological condition and good future potential. Landscape value limited to immediate surroundings only. An unremarkable specimen of limited merit.	C1	No work required.	4		
		2.04	1.5		SM	Low						
No		13.1			20+ years	Off-site/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 (m²)	Aspect	Aspect	SULE	Ground Cover						
T006	Cherry Plum	800	9.5		Low	N6, E6.5, S6.5, W6.5	Mature multi-stemmed Cherry Plum located in a grass amenity space surrounded by dwellings. Poor structural form, fair physiological condition. Bark included stem unions. Limited remaining life expectancy owing to late life stage and structural form. Landscape amenity limited to immediate surroundings only.	U	No work required.	4	Fell to allow development	0
		9.6	2		M	Low						
Yes		289.5			<10 years	Bare earth						
T007	Pear Sp	380	6		Low	N2.5, E0.5, S1.5, W1.5	Early mature Pear located in amenity space but close to the gable end of a block of dwellings. Specimen has been subject to unsympathetic pruning, resulting in the splitting of the crown into two small pockets. Good growth response, however the long term health of the tree may be compromised.	C1	No work required.	4	Fell to allow development	0
		4.56	4		EM	Low						
Yes		65.3			10+ years	Bare earth						
T008	Ash	550	16		Moderate	N5, E4.5, S6, W4.5	Early mature Ash located beyond a concrete boundary wall. Limited access and dense Ivy prevents full assessment. Specimen is twin stemmed from approx. 2 metres, with the dominant stem leaning north towards a block of dwellings. The specimen has been previously topped and has regrown. Fair to poor structural form, good physiological condition.	C1	No work required.	4	Undertake root pruning along foundation line of structure as shown on drawing 8567-D-AIA.	0
		6.6	4		EM	Moderate						
No		136.8			10+ years	Mixed soft/hard surface						
T009	Horse Chestnut	450	14		Moderate	N3.5, E6, S5.5, W2	Semi mature Horse Chestnut located beyond a concrete boundary wall. Limited access prevents full assessment. Specimen has grown to the east due to competition with an adjacent Ash. Fair structural form, good physiological condition.	C1	No work required.	4		
		5.4	4		SM	Moderate						
No		91.6			10+ years	Mixed soft/hard surface						

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						
T010	Cherry Plum	180	6		Low	N2, E3.5, S2.5, W1	Semi mature Cherry Plum located beyond a concrete boundary wall. Limited access and dense Ivy prevents full assessment. Specimen has grown to the east due to competition with an adjacent Horse Chestnut. Fair structural form, fair physiological condition. An unremarkable specimen of limited merit.	C1	No work required.	4		
		2.16	3		SM	Low						
No		14.7			10+ years	Off-site/no access						
T011	Ash	400	15		Moderate	N5, E6, S6, W5.5	Semi mature Ash growing in space between a concrete boundary wall. Stem initially grows to the east before correcting to vertical growth. Appears to be in good physiological condition. Restricted stem expansion space may limit safe useful life expectancy.	C1	No work required.	4	Undertake root pruning along footpath and covered shelter/store as shown on drawing 8567-D-AIA.	0
		4.8	2.5		SM	Moderate						
		72.4			10+ years	Mixed soft/hard surface						
T012	False Acacia	500	16		Moderate	N5, E6, S5.5, W6	Semi mature Robinia growing in a patio and soft landscape amenity space between two blocks of dwellings. Specimen has been subject to crown lifting surgery to clear the roof line of the block of dwellings to the east. Good structural condition and good physiological condition. A tree of moderate quality. Specimen may be visible from distance to surrounding apartments, but much less so to any public highways.	B1	No work required.	4	Fell to allow development	0
		6	4		SM	Moderate						
Yes		113.1			20+ years	Mixed soft/hard surface						
T013	False Acacia	940	15.5		High	N8, E8, S9.5, W8	Mature multi-stemmed Robinia located in rear gardens, south of a block of dwellings. Limited access prevents full assessment. Specimen is broad spreading, and overhangs the block of dwellings to the north. Appears to be in good physiological condition, however no assessment of the structural condition could be made.	B1	No work required.	4	Fell to allow development	0
		11.28	2		M	Moderate						
Yes		399.7			20+ years	Mixed soft/hard surface						

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						
T014	False Acacia	390	13		Moderate	N4, E3, S4, W4.5	Semi mature Robinia located south of the boundary wall. Specimen has been topped at approximately 8 to 10 metres but has responded well. Crown overhangs garden space and a balcony. Good physiological condition. Limited access and dense Ivy prevents full assessment.	C1	No work required.	4		
		4.68	2		SM	Moderate						
No		68.8			10+ years	Mixed soft/hard surface						
T015	Sycamore	570	8		Low	N2.5, E2.5, S2.5, W2.5	Semi mature Sycamore located south of the boundary wall. Specimen has been pollarded at approximately 4 metres but has responded well. Good physiological condition, fair structural condition. Limited access prevents full assessment.	C1	No work required.	4	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision.	0
		6.84	2.5		SM	Moderate						
No		147			10+ years	Mixed soft/hard surface						
T016	Sycamore	420	9.5		Low	N4, E3.5, S4, W4	Semi mature Sycamore located south of the boundary wall. Specimen has a suppressed crown and grows to the south due to competition with a Robinia. Limited access prevents full assessment.	C1	No work required.	4		
		5.04	0.5		SM	Moderate						
No		79.8			10+ years	Mixed soft/hard surface						
T017	False Acacia	720	14		Moderate	N3.5, E5, S6, W7	Mature Robinia located within rear garden space south of a block of dwellings. Specimen is engulfed in Ivy, preventing full assessment. The northern half of the crown has recently been pruned clear of the dwellings. The southern half shows good vigour. Limited growth space is clearly an issue.	C1	No work required.	4		
		8.64	3		M	Moderate						
Yes		234.5			10+ years	Bare earth						
T018	Purple Leaved Cherry Plum	380	9		Low	N3.2, E4.5, S4.5, W2.5	Early mature Cherry Plum in grass meridian between hard surfaces paths. The stem grows with a substantial lean to the east. There are fruiting bodies of Phellinus pomaceous on the stem, as well as a large, semi healed wound. Historic pruning of major limbs on north side has better balanced the crown. Lower stem is clearly decayed. Specimen will fail into the footpath to the north-east.	U	Fell to ground level.	1		
		4.56	3		EM	Low						
Yes		65.3			<10 years	Mixed soft/hard surface						

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						
T019	Purple Leaved Cherry Plum	380	9		Moderate	N3, E5.5, S4, W3	Early mature Purple Plum in grass meridian between hard surfaces paths. The stem bifurcates at approx. 1.3 metres into two stems. The union between the stems is bark included and weak. One stem grows out at an acute angle, further worsening the structural issue. Fruiting bodies of Phellinus pomaceous on the stems. The crown has recently been reduced and is responding. Poor and unsustainable structural condition.	U	Fell to ground level.	1		
		4.56	3.5		EM	Low						
Yes		65.3			<10 years	Mixed soft/hard surface						
T020	Sycamore	720	14		Moderate	N6, E5, S5, W5	Early mature to mature twin stemmed Sycamore in a corner of a bin store. Appears to be growing slowly, based on the shoot extension growth. This is likely due to it's tough growing environment. Poorly suited to its surroundings, thus it's safe useful life expectancy is limited, however no major defects have been observed.	C1	No work required.	4	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision. Undertake root pruning along foundations of covered shelters/stores and enclosed bin store as shown on drawing 8567-D-AIA.	0
		8.64	3		EM	Moderate						
Yes		234.5			10+ years	Concrete, Block paving						
T021	Fig	80	3		Low	N1.5, E2, S2, W1.8	Young to semi mature Fig growing on north side of boundary wall, and overhanging a grass meridian to the south.	C1	No work required.	4		
		0.96	1		Y	Low						
No		2.9			10+ years	Mixed soft/hard surface						
T022	Ash	750	16		Moderate	N6.5, E6.5, S6.5, W6.5	Mature multi-stemmed Ash located in grass amenity space near apartment blocks. Possibly an old coppice. Poor structural form, fair to good physiological condition. Crown abrades structures.	C1	Prune branches to provide approximately 1.5 metre clearance from building(s).	3	Fell to allow development	0
		9	2		M	Moderate						
Yes		254.5			10+ years	Grass						
T023	London Plane	210	9.5		High	N3, E3, S3, W3	Semi mature London Plane in grass amenity space. Specimen in excellent condition. Good future potential. Good growth space.	B1	No work required.	4	Undertake root pruning along footpath as shown on drawing 8567-D-AIA.	0
		2.52	1		SM	Moderate						
Yes		20			40+ years	Grass						
T024	Silver Birch	160	8		High	N2.5, E2.5, S2.5, W2.5	Semi mature Silver Birch in grass amenity space. Specimen in excellent condition. Good future potential. Good growth space.	B1	No work required.	4	Hayden's have been informed this tree has been felled by UK Power Networks	0
		1.92	0.5		SM	Low						
Yes		11.6			40+ years	Grass						

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							
T025	Horse Chestnut	940	19		High	N7, E6.5, S5, W5.5		Mature Horse Chestnut in public open space adjacent to Wood Green Road. There is a retaining wall down to the footpath to the north, another path to the east and two manholes to the west. The specimen has Epicormic growth at the base and poor shoot extension growth in the apex of the crown, indicating physiological stress. The stem bifurcates into two at approx. 4.5 metres with a strong naturally formed union. Overall a fine example of a mature urban Horse Chestnut and a tree with material conservation value.	B1	No work required.	4		
		11.28	4.5		M	Moderate							
Yes		399.7			20+ years	Mixed soft/hard surface							
T026	Hornbeam	80	4.5		Moderate	N2.5, E2.5, S2.5, W2.5		Young Hornbeam in public open space south of Wood Green Road. Excellent form and condition give good future potential. Still features stake, tie and guard.	C1	No work required.	4		
		0.96	1.5		Y	Moderate							
Yes		2.9			40+ years	Grass							
T027	Oriental Plane	1000	22		High	N9.5, E11.5, S8, W10		Mature Oriental Plane in public open space south of Wood Green Road and north of a block of apartments. Specimen is a fine example of the species and of high amenity value. No major defects observed.	A1	No work required.	4		
		12	2.5		M	Moderate							
Yes		452.4			40+ years	Grass							
T028	London Plane	310	12.5		High	N5, E4.5, S3.5, W4		Semi mature London Plane in public open space south of Wood Green Road. Specimen is of excellent form and condition and of good future potential.	B1	No work required.	4	Hayden's have been informed this tree has been felled by UK Power Networks	0
		3.72	1.6		SM	Moderate							
Yes		43.5			40+ years	Grass							
T029	Swedish Whitebeam	130	4		Low	N1.2, E1.2, S1.2, W1.2		Semi mature Swedish Whitebeam in grass area to the south of Wood Green Road and east of Elmar Road. Specimen is ostensibly a good quality tree, however close inspection reveals a substantial bark wound around the base that almost fully girdles the stem. This is likely to curtail future growth and may ultimately result in death. The stem leans slightly north. A tree with limited future potential.	U	No work required.	4		
		1.56	1.6		SM	Low							
Yes		7.6			<10 years	Grass							

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						
T030	London Plane	390	14		High	N7, E5, S5.5, W5.5	Semi mature London Plane in public open space south of Wood Green Road and east of Elmar Road. Specimen is of excellent form and condition and of good future potential. Crown in close proximity to apartment block to the east.	B1	No work required.	4	Hayden's have been informed this tree has been felled by UK Power Networks	0
		4.68	1.6		SM	Moderate						
Yes		68.8			40+ years	Grass						
T031	Horse Chestnut	280	6		Low	N2.5, E3, S2.5, W2.5	Semi mature Horse Chestnut in small domestic garden and close to structures to the north and west. Evidence of previous pruning to curtail growth. Specimen has responded well. Poorly suited to its limited growth space. An unremarkable specimen of limited merit.	C1	No work required.	4		
		3.36	1.5		SM	Moderate						
Yes		35.5			10+ years	Mixed soft/hard surface						
T032	Whitebeam	130	5		Low	N3, E3, S3, W2	Semi mature Whitebeam or Crab Apple in small domestic garden and close to structures to the south and west. Evidence of previous pruning to curtail growth. Specimen has responded well. Poorly suited to its limited growth space. An unremarkable specimen of limited merit.	C1	No work required.	4		
		1.56	0.8		SM	Low						
Yes		7.6			10+ years	Mixed soft/hard surface						
T033	Rowan	80	4.5		Low	N1.2, E1.2, S1.2, W1.2	Young Sorbus in raised planting pit surrounded by tarmac car park. Long term prospects are poor given restricted growth environment, but is an attractive specimen at present. Located in gated car park with low public amenity.	C1	No work required.	4	Fell to allow development	0
		0.96	1.8		Y	Low						
Yes		2.9			10+ years	Tarmac						
T034	Cherry Sp	440	5.5		Low	N2, E2, S3, W3.5	Mature specimen of Cherry in small domestic rear garden. Specimen is twin stemmed from approx. 0.5 metres, with a weak union and no natural braces. The western stem has a large lesion/canker across one half of the stem but retains live growth in the crown. Both stems have been reduced in height and the east stem has been further reduced from the apartments to the east. A poor quality tree with a limited remaining lifespan.	U	No work required.	4		
		5.28	1.6		M	Moderate						
Yes		87.6			<10 years	Mixed soft/hard surface						

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						
T035	Whitebeam	110	5		Low	N2, E2, S2, W2	Young Sorbus in concrete planting pit surrounded by tarmac car park and hard standing. Long term prospects are poor given restricted growth environment, but is an attractive specimen at present. Located in car park and courtyard area with low public amenity.	C1	No work required.	4	Fell to allow development	0
		1.32	1.6		Y	Low						
Yes		5.5			10+ years	Concrete						
T036	Silver Maple	850	13.5		Low	N3.5, E4.5, S4, W4	Mature Silver Maple growing in a rectangle of grass immediately west of an apartment block to the east. Specimen has been finger pollarded at approx. 10 metres and has vigorously regrown. The crown is growing through scaffolding attached to the structure. The specimen is multi-stemmed, however inspection of the unions is hampered by Ivy. Overall poorly suited to its environment and of poor long term value as it is a rapid growing but short live species which has already reached maturity and has already required clearance pruning.	U	Prune branches to provide approximately 2 metres clearance from building(s).	3	Undertake root pruning along footpath as shown on drawing 8567-D-AIA.	0
		10.2	3		M	Moderate						
Yes		326.9			<10 years	Mixed soft/hard surface						
T037	Ash	280	12.5		Low	N7, E5, S5, W3.5	Semi mature Ash located in small courtyard garden immediately east of an apartment block and south of a single storey brick ancillary structure. Specimen is tall and slender, which is a result of the restricted growth space. Branches encroach into balconies on all three stories and abrade the brickwork. Stem bifurcates at approx. 4 metre. Poorly suited to long term retention and in need of some clearance pruning.	U	Prune branches to provide approximately 2 metres clearance from building(s).	3	Hayden's understands that this tree has already been removed.	0
		3.36	1.6		SM	Moderate						
Yes		35.5			<10 years	Mixed soft/hard surface						

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						
T038	Wild Cherry	600	14		Low	N7.5, E8.5, S5, W2.5	Large tree with strong eastern lean. Possible past stem damage has caused the lean or it is due to close proximity with residential building to the west. Significant stem cracking on eastern aspect from 1.5 metre to 5 metre up the length of the stem. Fungal activity at stem base on eastern aspect. Visible decay and hollowing of stem when viewed from the west. When the tree suffers structural failure in the stem the crown will go towards the adjacent footpath. Significant structural defects. Poor form and condition.	U	Fell to ground level.	1		
		7.2	1.5		OM	Moderate						
Yes		162.9			<10 years	Building, Grass, Block paving						
T039	Sycamore	290	14		Moderate	N5, E2, S4, W6.5	Tree with minimal crown formation on eastern aspect although is unclear. Subordinate branches low in crown have produced vertical off shoots that are growing up into the crown and competing with the main leader. Consideration should be given to remove the entirety of the lowest branch in order to remove verticals; the stem to branch ratio is permissible but the subordinate branch to verticals ratio is too high. Otherwise fair form and condition.	C1	Remove lowest branch.	3		
		3.48	3		SM	Moderate						
Yes		38			10+ years	Concrete, Grass						
T040	False Acacia	780	16		Low	N3.5, E6, S5.5, W6.5	Multi-stemmed form from 1 metre. Tree has been subject to significant height reductions to three of the stems. One stem on the southern aspect has not recovered from the surgery and is dead. Advanced decay is visible in all of the stems. Fungal fruiting body of Laetiporus visible at 1 metre on eastern aspect. Overall poor form and condition.	U	Fell to ground level.	3		
		9.36	1		M	Moderate						
Yes		275.2			<10 years	Grass						

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						
T041	Ash	540	16		High	N8, E6, S3.5, W5.5	Roadside tree located within a raised grassed higher than the hard surfacing to the north. Northern crown extent estimated due to extending over the road and traffic being present. Evidence of past surgery to lift and reduce crown. Slight northern lean in stem. Fair form and condition.	B1	No work required.	4		
		6.48	5		EM	Moderate						
Yes		131.9			10+ years	Grass, Tarmac						
T042	Cherry Sp	150	4		Low	N2.5, E2.5, S2.5, W2.5	Tree is located within the garden of a residence and a fence impedes visual inspection so all dimensions are estimated due to lack of access. Fair form and condition.	C1	No work required.	4		
		1.8	2		SM	Moderate						
Yes		10.2			10+ years	Off-site/no access						
T043	Cherry Plum	470	10		Moderate	N4.5, E3.5, S5.5, W4	Multi-stemmed form from ground level. Tight unions throughout crown: between main stems and where stems further bifurcate. Typical swelling around tight unions is present indicating a complex tension and compression relationship between the stems. Evidence of past surgery. The condition of the unions and potential to split limits the longevity of the tree but they should be monitored for change. Fair form and condition.	C1	Monitor annually tight unions for cracks or splitting, and to observe if natural strengthening growth is forming.	3		
		5.64	1.5		EM	Moderate						
Yes		99.9			10+ years	Grass, Block paving						
T044	Cotoneaster Sp	270	5		Low	N4, E3.5, S2, W3	Multi-stemmed form from 1 metres. Fair form and condition.	C1	No work required.	4	Fell to allow development	0
		3.24	2.5		EM	Low						
Yes		33			10+ years	Bare earth, Block paving, Light undergrowth						
T045	Rowan	120	6.5		Moderate	N1.5, E1.5, S1.5, W1.5	Tree currently appears healthy, though moves slightly on the rootball which indicates a root defect, so is unlikely to survive beyond the short term.	U	No works required.	4	Fell to allow development	0
		1.44	2		SM	Moderate						
Yes		6.5			<10 years	Concrete, Light undergrowth, 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						
T046	Fastigiata Hornbeam	400	13		High	N5, E3.5, S5, W4	Tree is healthy and in good structural condition. There is a large wound at approximately 1 metre on the west side of the stem, though this contains minimal decay.	B1	No works required.	4		
		4.8	3		EM	Low						
Yes		72.4			20+ years	Light undergrowth, Concrete, Tarmac						
T047	Glossy Privet	480	13		High	N5, E5, S5, W6	A healthy tree of multistemmed form but with no significant defects. It has been coppiced in the past.	B1	No works required.	4	Fell to allow development	0
		5.76	2.5		M	Moderate						
Yes		104.2			20+ years	Bare earth, Tarmac, Off-site / No access						
T048	Sycamore	550	13		High	N4.5, E6.5, S5.5, W4.5	Tree appears healthy but its structural condition could not be fully assessed due to its location in a residential garden.	B1	No works required.	4	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision. Supervised Air Spade excavation of earth gradient to assess the viability of removing it entirely and whether this would damage the root network of T048.	0
		6.6	3		M	Moderate						
Yes		136.8			20+ years	Off-site / No access, Bare earth, Tarmac						

Appendix C

Schedule of Works - Irrespective of Development

SCHEDULE OF WORK IRRESPECTIVE OF DEVELOPMENT

Brunel Walk and Turner Avenue, St Ann's, London,

Surveyed By: Alex Garnham

Surveyed: 19/01/2021

Managed By: Alex Garnham

Tree No.	Species	Work required	Priority
T018	Purple Leaved Cherry Plum	Fell to ground level.	1
T019	Purple Leaved Cherry Plum	Fell to ground level.	1
T038	Wild Cherry	Fell to ground level.	1
T022	Ash	Prune branches to provide approximately 1.5 metre clearance from building(s).	3
T036	Silver Maple	Prune branches to provide approximately 2 metres clearance from building(s).	3
T037	Ash	Prune branches to provide approximately 2 metres clearance from building(s).	3
T039	Sycamore	Remove lowest branch.	3
T040	False Acacia	Fell to ground level.	3

Schedule of Enhanced Monitoring

Brunel Walk and Turner Avenue, St Ann's, London,

Surveyed By: Alex Garnham

Surveyed: 19/01/2021

Managed By: Alex Garnham

Tree No.	Species	Work required	Priority
T043	Cherry Plum	Monitor annually tight unions for cracks or splitting, and to observe if natural strengthening growth is forming.	3

Appendix D

Preliminary Schedule of Works to Allow Development

SCHEDULE OF WORKS (AIA)

Brunel Walk and Turner Avenue, St Ann's, London,

Surveyed By: Alex Garnham

Surveyed: 19/01/2021

Managed By: Alex Garnham

Tree No.	Species	Work required	Priority
G001	Leyland Cypress	Undertake root pruning along footpath and covered shelter/store as shown on drawing 8567-D-AIA.	0
G003	Lime Spp	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision.	0
G007	Ash	Hayden's understands that this group of trees has already been removed.	0
G009	Elder, Ash	Fell to allow development	0
T001	Sycamore	Fell to allow development	0
T002	Cypress Sp	Fell to allow development	0
T006	Cherry Plum	Fell to allow development	0
T007	Pear Sp	Fell to allow development	0
T008	Ash	Undertake root pruning along foundation line of structure as shown on drawing 8567-D-AIA.	0
T011	Ash	Undertake root pruning along footpath and covered shelter/store as shown on drawing 8567-D-AIA.	0
T012	False Acacia	Fell to allow development	0
T013	False Acacia	Fell to allow development	0
T015	Sycamore	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision.	0
T020	Sycamore	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision. Undertake root pruning along foundations of covered shelters/stores and enclosed bin store as shown on drawing 8567-D-AIA.	0
T022	Ash	Fell to allow development	0
T023	London Plane	Undertake root pruning along footpath as shown on drawing 8567-D-AIA.	0
T024	Silver Birch	Hayden's have been informed this tree has been felled by UK Power Networks	0
T028	London Plane	Hayden's have been informed this tree has been felled by UK Power Networks	0
T030	London Plane	Hayden's have been informed this tree has been felled by UK Power Networks	0
T033	Rowan	Fell to allow development	0
T035	Whitebeam	Fell to allow development	0
T036	Silver Maple	Undertake root pruning along footpath as shown on drawing 8567-D-AIA.	0
T037	Ash	Hayden's understands that this tree has already been removed.	0
T044	Cotoneaster Sp	Fell to allow development	0
T045	Rowan	Fell to allow development	0
T047	Glossy Privet	Fell to allow development	0
T048	Sycamore	Excavation of trenches for services installation to be undertaken in line with NJUG Vol.4, using Air Spade and Hand Tools, under Arboricultural Supervision. Supervised Air Spade excavation of earth gradient to assess the viability of removing it entirely and whether this would damage the root network of T048.	0

Appendix E

Explanatory Notes

Explanatory Notes



Categories

Below is an explanation of the categories used in the attached Tree Survey.

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 (BS 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:

Category A - Those of high quality with an estimated remaining life expectancy of at least 40 years;

Category B - Those of moderate quality with an estimated remaining life expectancy of at least 20 years;

Category C - Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm;

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:

Sub Category 1 - Mainly arboricultural qualities;

Sub Category 2 - Mainly landscape qualities;

Sub Category 3 - Mainly cultural values, including conservation .

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.

Age Recorded as one of seven categories:

Y Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH.

S/M Semi-mature. An established tree, but one which has not reached its prospective ultimate height.

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.

M Mature. A mature specimen with limited potential for any significant increase in size, even if healthy.

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.



D Dead.

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.						
Life Expectancy	Relates to the prospective life expectancy of the tree and is given as 4 categories: 1 = 40 years+; 2 = 20 years+; 3 = 10 years+; 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: <table><tr><td>Low</td><td>An inconsequential landscape feature.</td></tr><tr><td>Moderate</td><td>Of some note within the immediate vicinity, but not significant in the wider context.</td></tr><tr><td>High</td><td>Item of high visual importance.</td></tr></table>	Low	An inconsequential landscape feature.	Moderate	Of some note within the immediate vicinity, but not significant in the wider context.	High	Item of high visual importance.
Low	An inconsequential landscape feature.						
Moderate	Of some note within the immediate vicinity, but not significant in the wider context.						
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.						
Work 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. 1 Urgent – works required immediately; 2 Works required within 6 months; 3 Works required within 1 year; 4 Re-inspect in 12 months, 0 Remedial works as part of implementation of planning consent.



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. <i>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.</i>
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. 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 Tree	Tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. NOTE - these characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem.



Appendix F

Tree Preservation Order Enquiry/Response



Online Planning Services

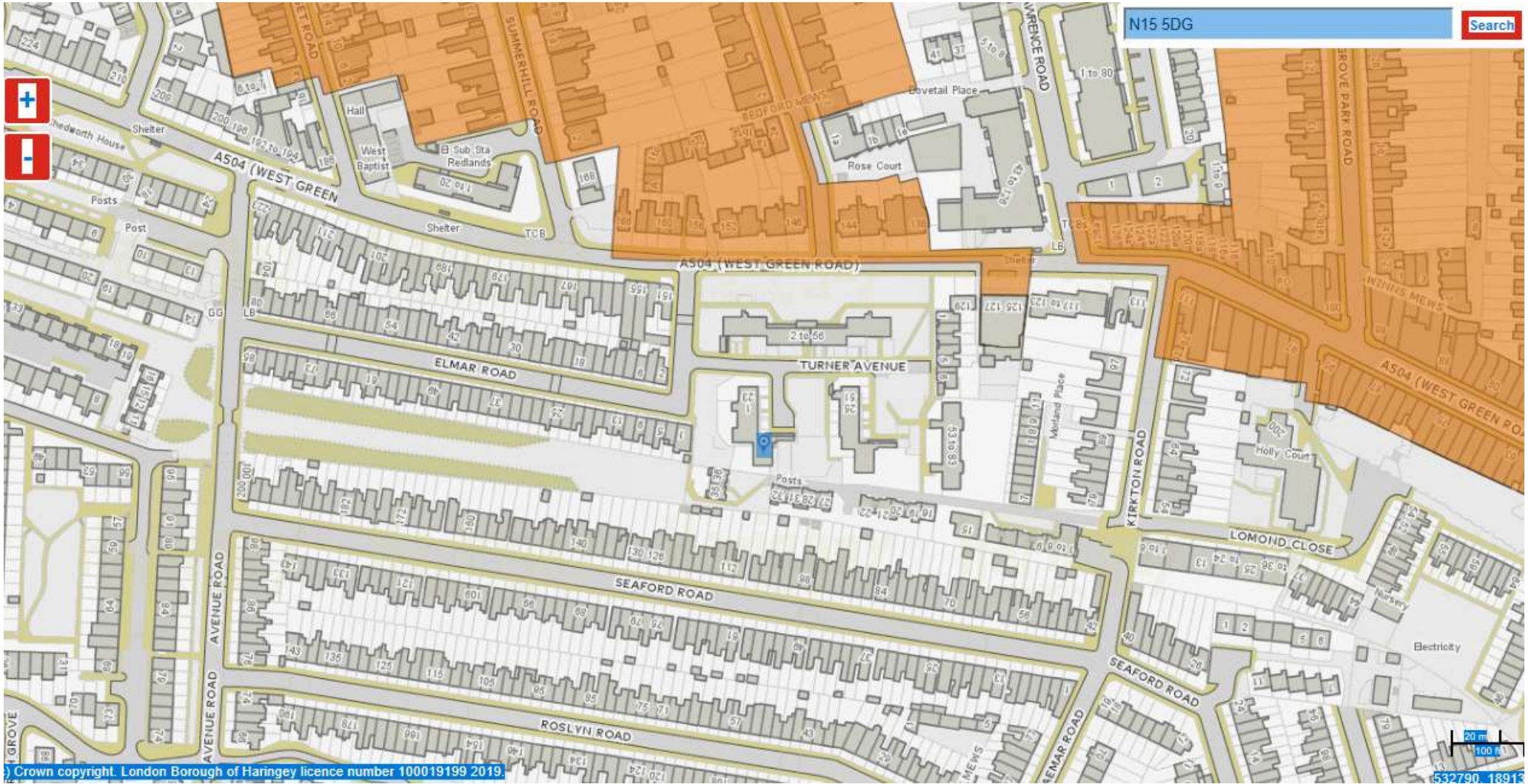
Search Results List

Click the reference number to see more details.

You can filter your results, or change your criteria, using the [Tree Preservation Order search](#).

Reference number	Application Date	Address	Ward
TPO/2014/2279	17/11/2014	, 125-127, West Green Road, , London, N15 5DE	Tottenham Green
TPO/2014/1494	27/10/2014	, 125-127, West Green Road, , London, N15 5DE	Tottenham Green
TPO/2014/1493	27/10/2014	, 125-127, West Green Road, , London, N15 5DE	Tottenham Green
TPO/2014/1497	27/10/2014	, 125-127, West Green Road, , London, N15 5DE	Tottenham Green
TPO/2014/1496	27/10/2014	, 125-127, West Green Road, , London, N15 5DE	Tottenham Green
TPO/2014/1495	27/10/2014	, 125-127, West Green Road, , London, N15 5DE	Tottenham Green
CON/2004/0243	29/11/2004	125-127, West Green Road, , London, N15	
CON/2004/0242	24/11/2004	125-127, West Green Road, , London, N15	

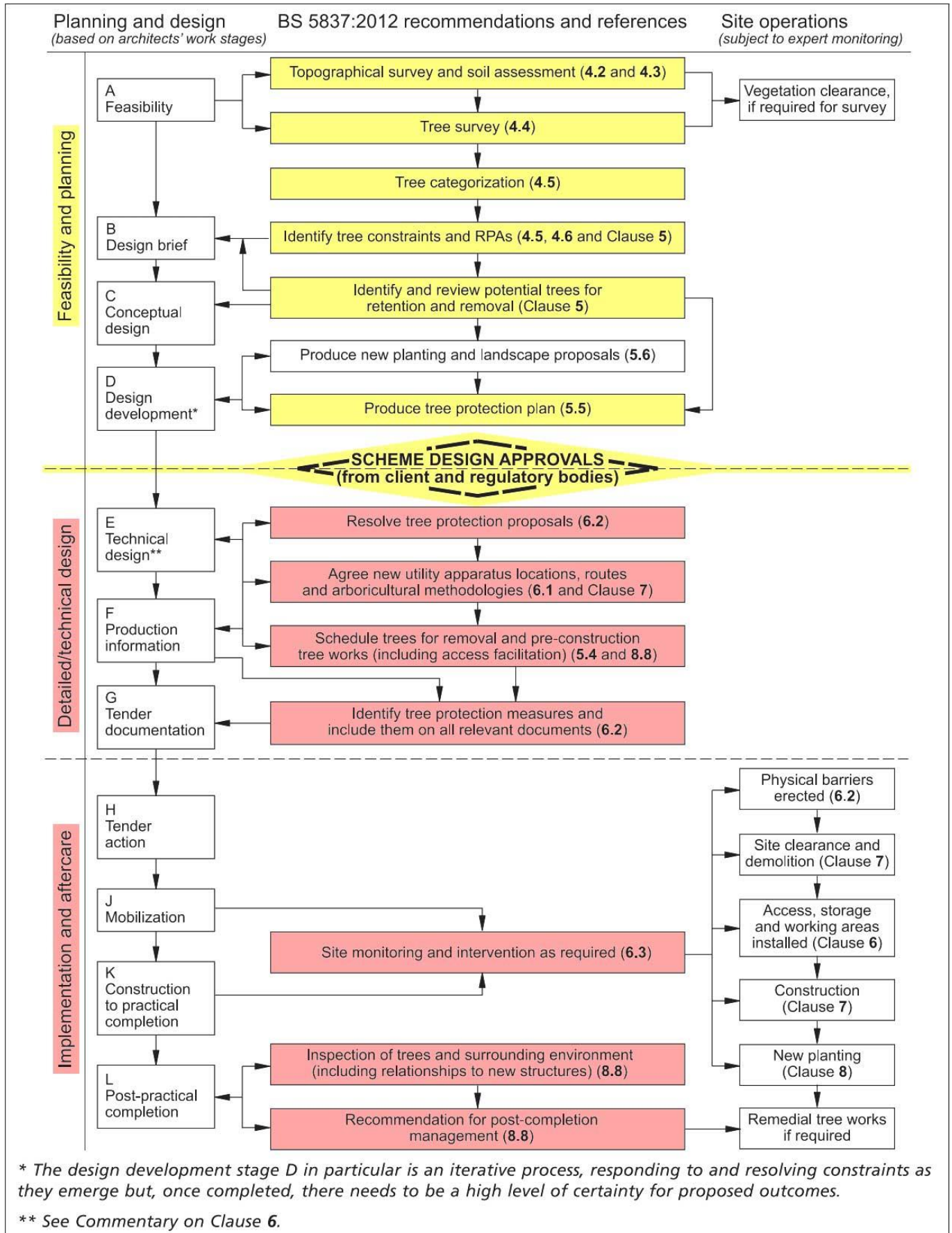




Appendix G

Advisory Information & Sample Specifications

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



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

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

NO

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

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?

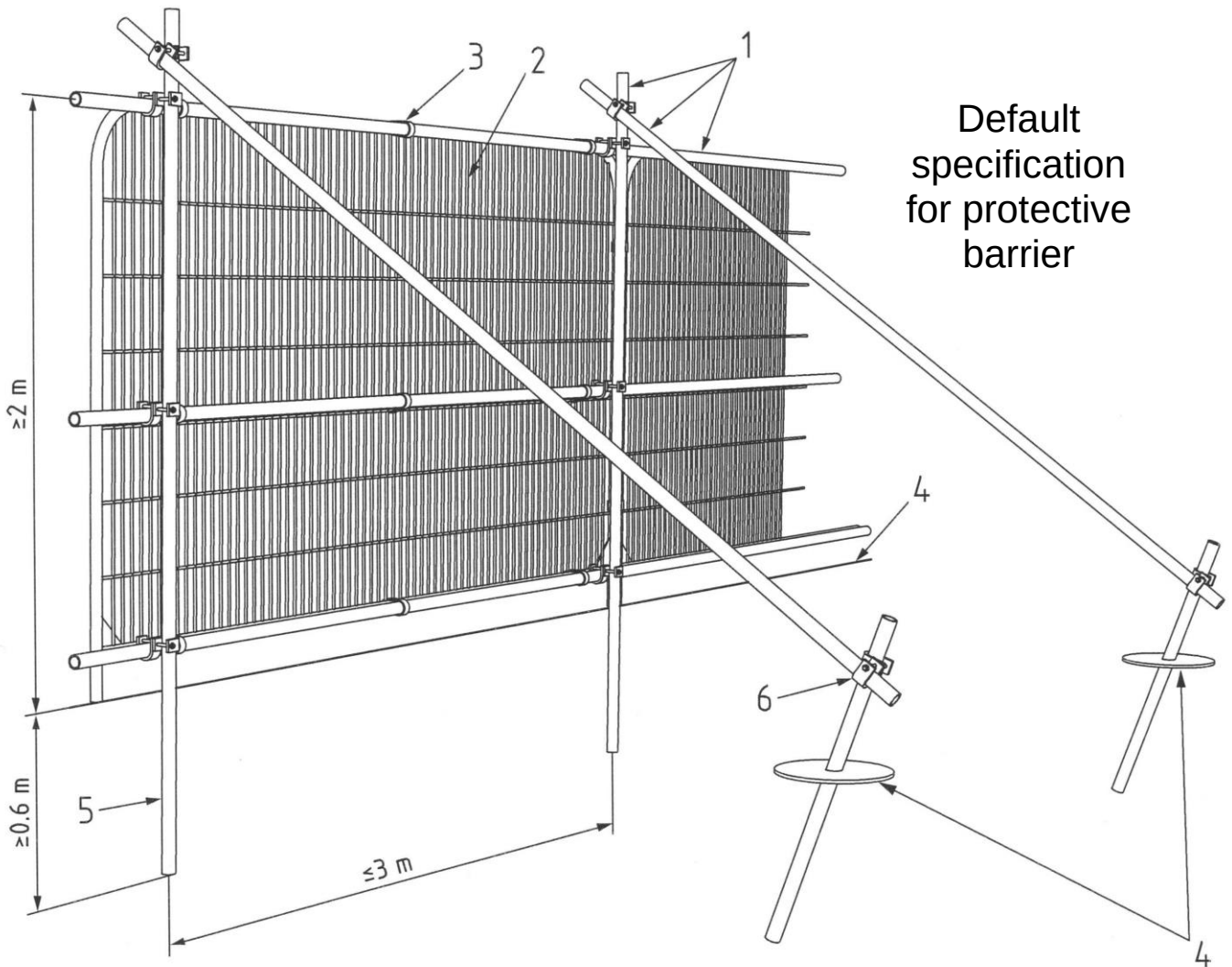
Details:

YES

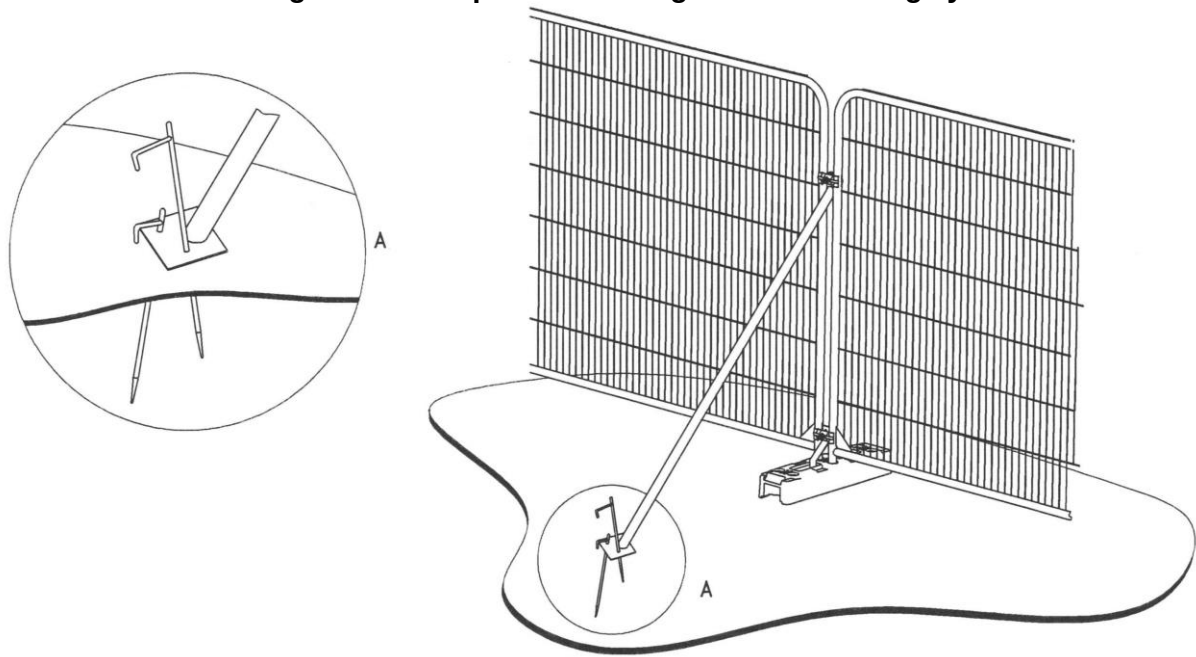
NO

You may commit an offence if you do not take steps to ensure that your operators comply with the Good Practice guidance.

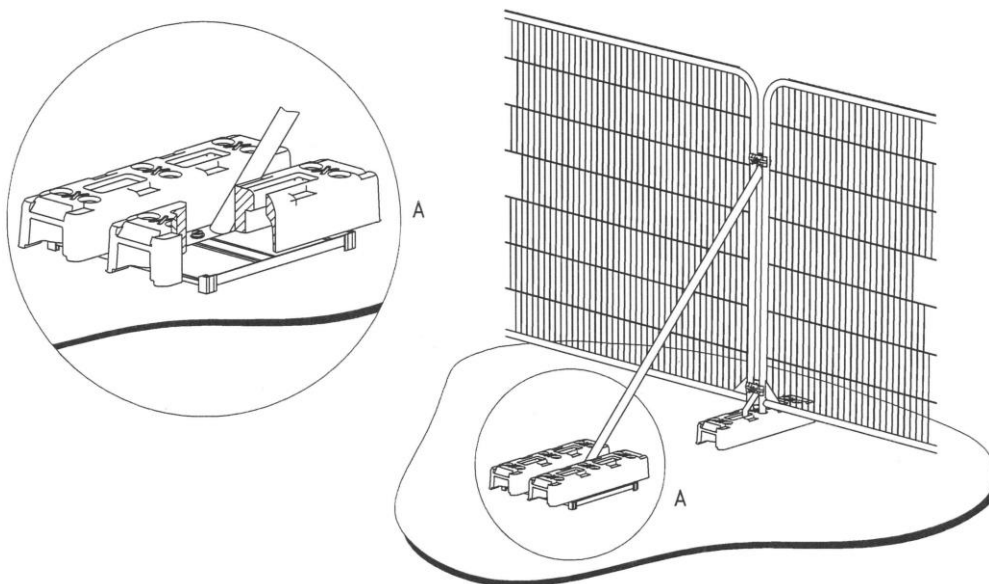
3. BS 5837:2012 Figure 2: Default specification for protective barrier



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 H

Hayden's Drawing

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 ●



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