Sharon Hosegood
ASSOCIATES

ARBORICULTURAL METHOD STATEMENT REPORT

BS 5837:2012 '*Trees in relation to design, demolition, and construction' - recommendations*

PURSUANT TO DISCHARGE CONDITION 24

SITE:

Emminster and Hinstock, Abbey Co-operative Community Centre, Belsize Priory Health Centre, Belsize Road, London NW6 4DX (Abbey Road Phase 3)

CLIENT:

London Borough of Camden

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DATE: November 2022

OUR REF: SHA 1032 AMS

OUR CONTACT DETAILS: 01245 210 420

Executive summary

This report provides information in accordance with the tree related planning condition 24 of planning permission reference 2022/2542/P, which comprises the following works: '*Demolition and redevelopment of Emminster and Hinstock blocks including Belsize Priory Health Centre, Abbey Community Centre, public house and commercial units to provide new residential accommodation (Use Class C3) and ground floor commercial space (Use Class E) to be used as flexible commercial units, across three buildings ranging from 4 to 11 storeys, along with car and bicycle parking, landscaping and all necessary ancillary and enabling works'* at Emminster and Hinstock, Abbey Co-operative Community Centre, Belsize Priory Health Centre, Belsize Road, London NW6 4DX (Abbey Road Phase 3). All information provided is in accordance with BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*'.

This report follows a detailed Arboricultural Impact Assessment reference *SHA 1032 AIA* dated April 2022 (the 'AIA'), that was submitted as part of the planning application (reference 2022/2542/P). There are no changes to tree retention and removal, or the principles within the AIA. This report has been produced following extensive design team and client liaison to minimise the impact on trees.

The purpose of this report is not only to provide information in relation of planning condition 24, but importantly, to provide clear recommendations during demolition, construction and external works. The key areas of information are the following:

- The tree protection plans (appendix 2) which show areas where method statements apply
- The tree surgery schedule (appendix 4)
- The discussion sections at 3.0 and Method Statements at 5.0.

Arboricultural site supervision is recommended at the following key stages:

- During the demolition of the building extent of raised bed near trees.
- During the construction of the building near trees.
- During installation of drainage
- During changes of surfaces near trees.

Visits will be recorded and the site supervision notes will be sent to via the client, as an audit trail.

Contents

Appendices

1.0 Introduction

1.1 This report is for the purpose of providing information to comply with the requirements of planning condition 24 of planning permission reference 2022/2542/P for '*Demolition and redevelopment of Emminster and Hinstock blocks including Belsize Priory Health Centre, Abbey Community Centre, public house and commercial units to provide new residential accommodation (Use Class C3) and ground floor commercial space (Use Class E) to be used as flexible commercial units, across three buildings ranging from 4 to 11 storeys, along with car and bicycle parking, landscaping and all necessary ancillary and enabling works* at Emminster and Hinstock, Abbey Co-operative Community Centre, Belsize Priory Health Centre, Belsize Road, London NW6 4DX (Abbey Road Phase 3).

1.2 This report follows the approved Arboricultural Impact Assessment reference *SHA 1032 AIA* April 2022, that was submitted as part of planning permission reference 2022/2542/P. There are no deviations from the intentions set out in that report. Following design team input, potential impact to trees to be retained has been minimised.

1.3 This report is intended for submission to London Borough of Camden and for use by the contractor on site. Technical words are described in the glossary at appendix 9.

2.0 Statement of instructions and issues discussed

2.1 I was instructed by London Borough of Camden to carry out the following:

- Work with the team to discuss the tree issues
- An Arboricultural method statement required by condition 24 of planning consent
- A tree protection plan and tree protection specification
- A site supervision schedule to ensure ease of compliance of this report

All works are to BS 5837:2012 '*Trees in relation to design, demolition and construction – recommendations*' (BS).

2.2 The issues discussed are the condition of the trees on site, the impact from the approved development and the long term view of the treescape for the site.

3.0 The trees:

3.1 *Generally*: There are 36 individual trees, 18 of which are offsite. This includes a line of trees along the frontage with Abbey Road which provide collective amenity. Of these 4 will be retained; T3 -B (moderate value cherry), T4 -A and T6-A (high value London planes) and

T13-B (moderate value whitebeam). T5 -C (low value false locust) is a street tree near T6 and will be retained.

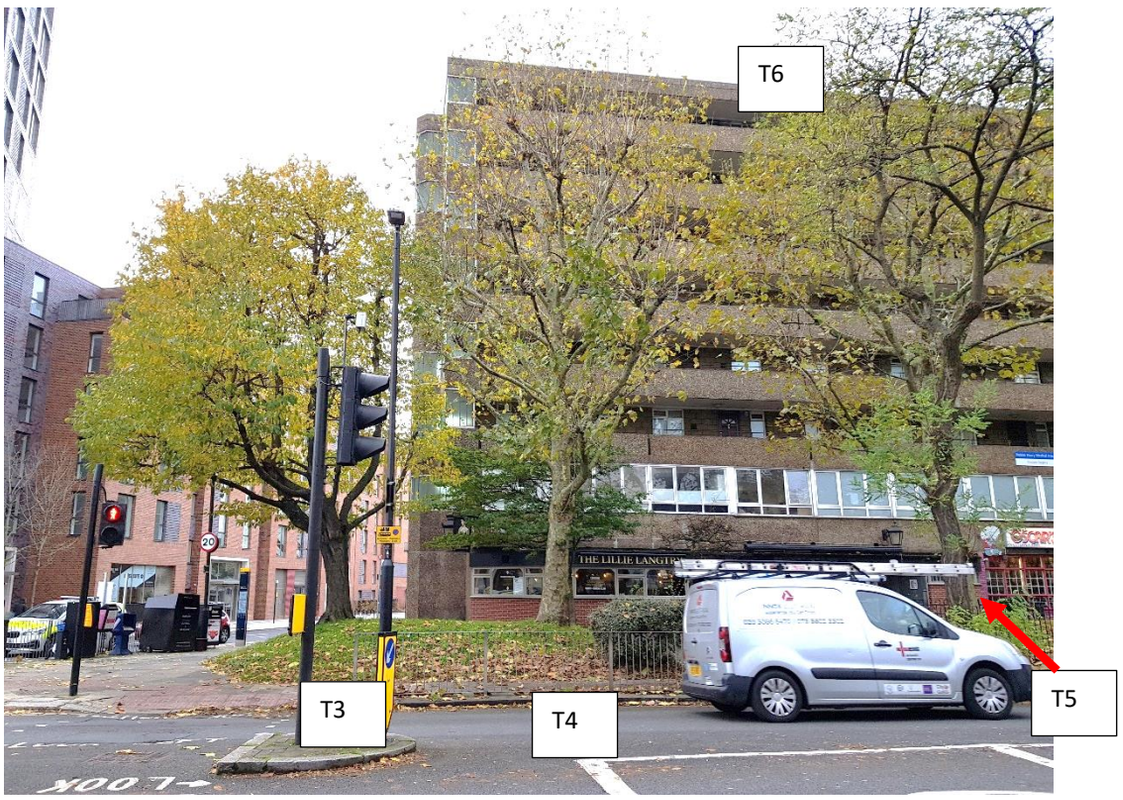
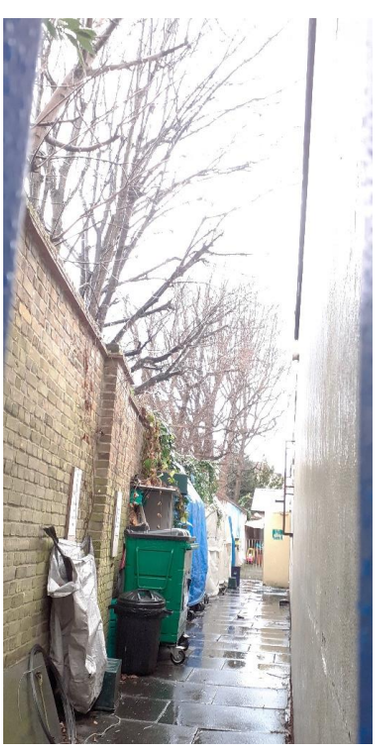


Photo 1 of T3, T4 and T6 looking south. November 2019.

3.2 Adjacent to the western boundary is a substantial wall, behind which is a line of mixed trees and shrubs (T18, T20 – T29). The wall is likely to have deep foundations and will be acting as a root barrier, at least to the depth of its foundations, or a total root barrier.



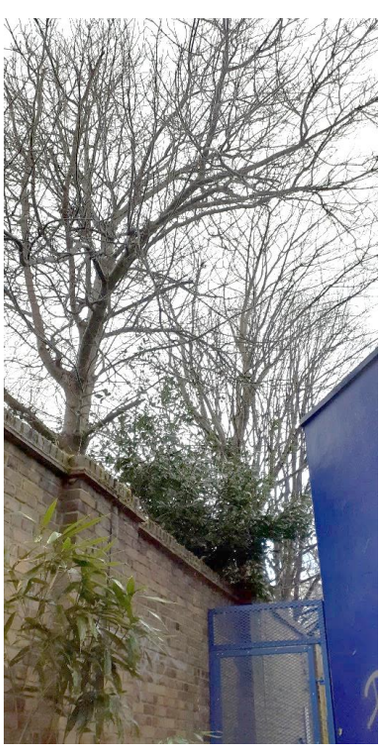


Photo 2 of T29 - T26 looking north. February 2022

Photo 3 of T25 (foreground) and T30 looking north before the entrance. February 2022.

3.3 Full details of the trees are found in the tree tables at appendix 1 of the Arboricultural Impact Assessment and the information is not repeated here.

3.4 *Legislation:* The trees are not protected by a Tree Preservation Order and the site is not in a Conservation Area, although the offsite trees to the west are. See appendix 7.

3.5 *Tree retention and removals:* There are no changes to tree surgery requirements from the AIA. The impact on trees is summarized below (note this excludes trees remote from the application site boundary):

Tree with BS categorisation	Retained	Removed	Pruned	Specialist work requirements
T1 – C2		Yes		
T2- C2		Yes		
T3-B2	Yes		Crown lifting	Tree protection measures. Change in hard surfacing. Soft landscaping. Change to wall appearance.
T4-A2	Yes		No	Tree protection measures. Installation of drainage. Change in hard surfacing. Soft landscaping. Change to wall appearance.
T5-C2	Yes		No	Tree protection measures. Installation of drainage. Change in hard surfacing. Change to wall appearance.
T6-A2	Yes		No	Tree protection measures. Removal of bank to the west of the Root Protection Area (RPA). Installation of drainage. Change in hard surfacing.

				Soft landscaping.
T7-C2		Yes		
Tree with BS categorisation	Retained	Removed	Pruned	Specialist work requirements
T8-B2		Yes		
T9-B2		Yes		
T10-B2		Yes		
T11-C2		Yes		
T12-B2		Yes		
T13-B2	Yes		Yes, pruning to clear piling rig and crown lifting	Tree protection measures. Installation of piling mat. Installation of drainage. Change in hard surfacing. Change to boundary treatment.
T14-B2		Yes		
T15-B2		Yes		
T16-C2		Yes		
T22-C2		Yes		
T23-C2		Yes		
T24-C2		Yes		
T25-B2	Yes		Light	None as wall is a root barrier.
T26-B2	Yes		Light	None as wall is a root barrier.
T27-B2	Yes		Light	None as wall is a root barrier.
T28-C2	Yes		Light	None as wall is a root barrier.
T29-B2	Yes		Light	None as wall is a root barrier.
T30-B2	Yes		Light	None as wall is a root barrier.

4.0 **The approved development and construction programme**

4.1 Planning consent references condition 24 of planning permission reference 2022/2542/P for '*Demolition and redevelopment of Emminster and Hinstock blocks including Belsize Priory Health Centre, Abbey Community Centre, public house and commercial units to provide new residential accommodation (Use Class C3) and ground floor commercial space (Use Class E) to be used as flexible commercial units, across three buildings ranging from 4 to 11 storeys, along with car and bicycle parking, landscaping and all necessary ancillary and enabling works*' at Emminster and Hinstock, Abbey Co-operative Community Centre, Belsize Priory Health Centre, Belsize Road, London NW6 4DX (Abbey Road Phase 3)

4.2 Planning condition 24 requires the following pre-commencement information:

Tree protection

Prior to the commencement of construction/demolition works on site, tree protection measures shall be installed in accordance with the approves Arboricultural Method Statement and Tree Protection Plan. The protection shall then remain in place for the duration of works on site and recommendations made in the method statement followed, unless otherwise agreed in writing by the local authority.

Reason: To ensure that the development will not have an adverse effect on existing trees and in order to maintain the character and amenity of the area in accordance with the requirements of policies A2 and A3 of the London Borough of Camden Local Plan 2017.

4.3 This report analyses the impact of the approved development and recommends measures for tree protection to ensure that condition 24 is complied with.

5.0 **Arboricultural method statement**

5.1 Generally

Development can harm trees if not carried out carefully. Tree's crowns and trunks can be damaged by machinery or scorched by fire or chemicals. Tree roots can be asphyxiated and die if the rooting zone becomes compacted and the soil structure damaged. This can happen very easily, particularly on clay soils such as found on this site, even with the passage of light vehicles. Tree roots can be damaged by raising or lowering the ground level. In some cases, it can take several years for the damage to become apparent. This report details how the

approved development will take place whilst ensuring that the trees shown for retention can be protected, and for the protection of the soil in the areas for new planting.

5.1.1 *Fires:* Fires on site should be avoided if possible. If unavoidable, they should be situated far enough so that there is no risk of damage to the trees, taking into consideration the wind direction.

5.1.2 *Site and fuel storage, cement mixing and washing points:* All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside root protection areas unless otherwise agreed with the Local Planning Authority. No discharge of potential contaminants should occur within 10m of a retained tree stem or where there is a risk of run off into Root Protection Areas.

5.1.3 *Protection of tree canopies:* Piling rigs and cranes are often used close to trees. Work must be carefully planned so that there is sufficient room to avoid hitting the canopy during transportation or operation. Any access facilitation pruning required is detailed in the tree surgery schedule. There will be two cranes in the centre of the site and there are no conflicts with trees to enable use of the cranes as the crane swing will be over the tree canopies. The bases are shown indicatively on the plan *SHA 1032 TPP2 C* following a review of the Construction Management Plan by Wates. Allowance as been made for pruning T13 to clear the piling rig.

5.2 Tree surgery

5.2.1 Recommendations for tree works can be found in the tree surgery schedule in Appendix 4. All works shall be in accordance with BS 3998:2010 '*Tree work. Recommendations'*. The use of a competent tree surgery contractor is necessary to comply with this. The main contractor and tree surgery contractor must ensure that any necessary consents have been received from the local authority and that no protected species are harmed whilst carrying out site clearance or tree surgery works. Within root protection areas, stumps, shrubs and other vegetation must be removed by hand or using stump grinding machinery to minimize root damage of retained trees. Where poisoning of stumps is specified, this must be carried out by competent operatives. Only chemicals approved for this purpose and used in accordance with the manufacturer's instructions will be used.

The following information must be sought:

- Current employers, public and product liability insurance

- Waste carriers licence
- Qualification and experience of key personnel, including relevant NPTC certificates
- COSHH assessment
- Tool and task based risk assessment, including a Working at Height Risk Assessment
- Site specific risk assessment
- Emergency procedure plan
- Method Statement

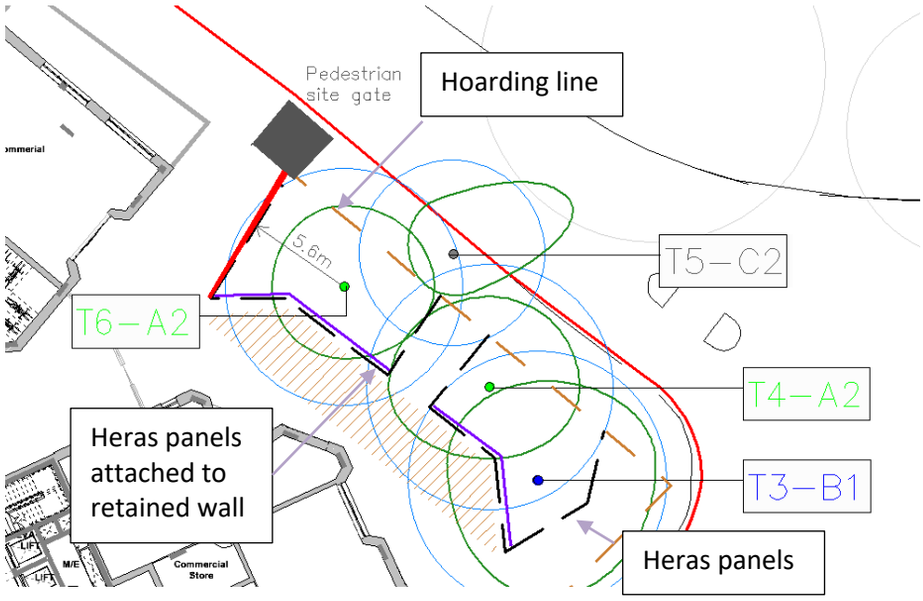
A list of suitable tree surgeons is found at: http://www.trees.org.uk/find-a-professional/Directory-of-Tree-Surgeons

Bio security measures are important and found at https://www.forestry.gov.uk/biosecurity

5.3 Tree protection during works including hoarding and site set up

5.3.1 **Above ground protection**

This is to be erected in the locations shown on the tree protection plans (appendix 2) to a specification found at appendix 3. The fencing is to be erected before any machinery enters site and be regarded as sacrosanct, and, once installed will not be removed or altered without prior recommendation by the projected arboriculturist and where necessary approval from the local planning authority. Site hoarding is to be erected in the areas marked with brown dashed lines on plan *SHA 1032 TPP2 Rev C* preferably by above ground support such as stillages (see plan extract overleaf). Only where this is not possible will the hoarding be installed by hand digging, and shifting the hole slightly if there is a root with a diameter greater than 25mm. The holes are to be lined with impermeable plastic sheeting to prevent the alkalinity of concrete from scorching the end of roots and locally raising the PH.



Plan 1 – extract from SHA 1032 TPP2 Rev C. Do not scale, north is vertical.

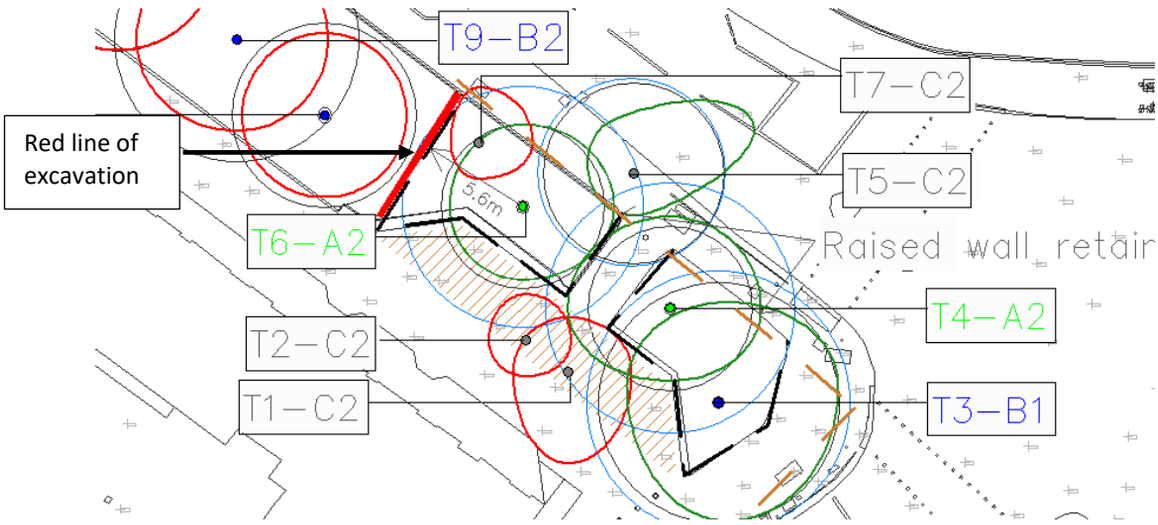
5.3.2 T3 and T4 will be protected along the line of the existing wall and T6 partially along the wall, and also along the raised bed. Heras panels are preferred to hoarding as these will allow rain to fall into the planter freely, whereas hoarding will create a rain shadow and drought conditions (the author has seen this on development sites to the detriment of the trees' condition). There is no preference to whether T13 is protected by hoarding or Heras panels as it is surrounded by hard surfacing. Wall retention around T3, T4 and part of T6 is essential as roots will be growing up to the inside of the wall, using it as a support.

5.3.3 **Ground protection**

The existing surface near T3 – T6 and T13 will be retained during demolition and construction to act as ground protection to continue to protect the soil structure and roots space below the sub base. In the case of T3 – T6, the civil engineer will determine if further strengthening is needed on top to prevent the deformation of the soil below. This should be made clear in the demolition contract. The engineer is to determine the loading capacity of the existing surface to see if it is sufficient to support demolition and construction machinery without causing deformation. If it is not strong enough, metal road plates or proprietary ground protection (as found at appendix 3) will be used over the tarmac to achieve loading. The hard surfacing should then only be removed before the external works phase in accordance with the method statement at 5.7.

5.3.4 **Lowering of raised soil bank to the west of T6**

T6 is growing on a slightly raised mound enclosed by a wall to the south. The removal of the trees and mound to its west will be on the edge of the RPA, at 5.6m from the trunk as shown on the plan extract below by a thick red line.



Plan 2 – extract from SHA 1032 TPP1. Do not scale, north is vertical.

This will take place by hand digging the earth along the line under arboricultural supervision and pruning any roots found with bypass secateurs. The bank edge will be covered with a double layer of hessian and then an impermeable sheet of plastic to be staked and secured in place during construction to prevent dessication and exposure of pruned roots. Braced Heras panels will be erected along this line.

Photo 4 of T6 looking north east. Area for excavation shown red. Retained walls shown yellow.

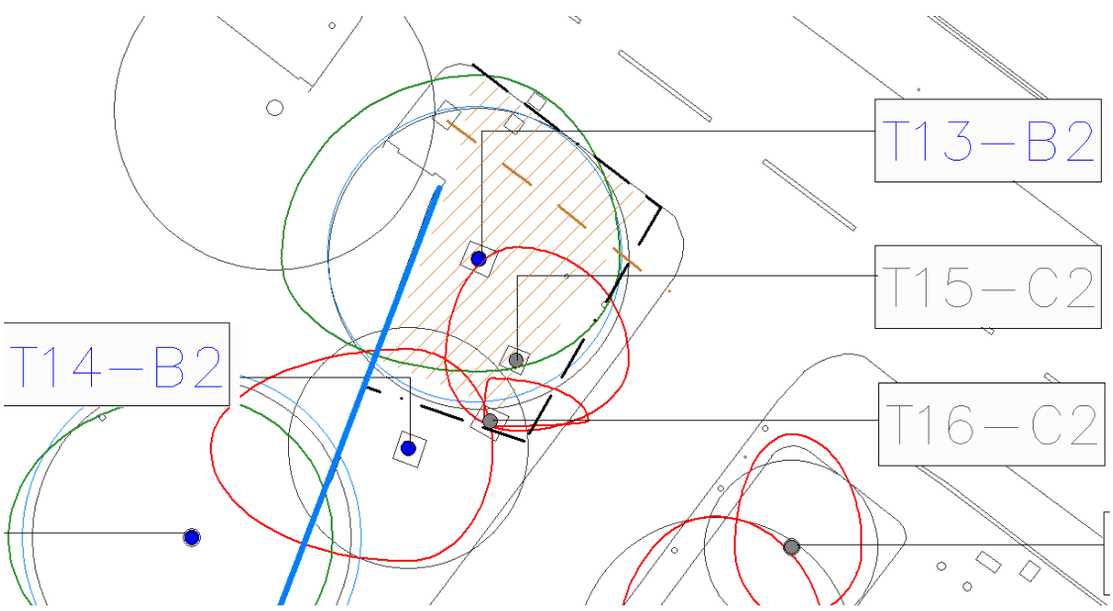
5.4 Demolition of buildings

It is **essential** that the tree surgery works have been carried out first.

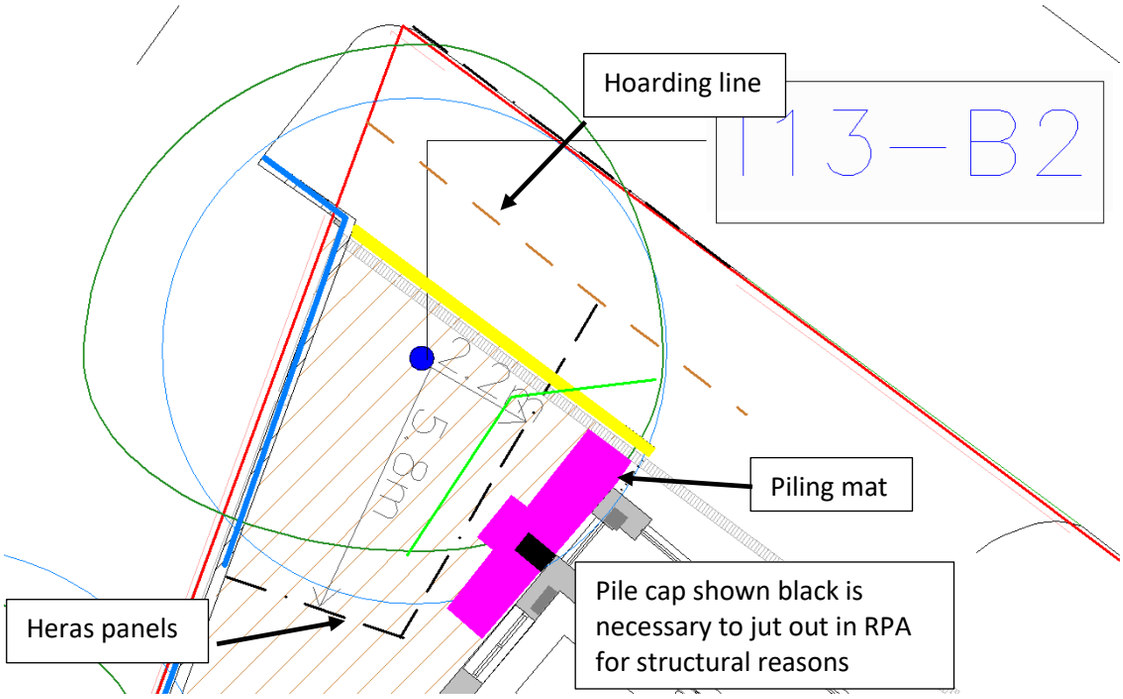
- Install temporary ground protection/retain hard surfacing (see brown hatching on plan *SHA 1032 TPP1*) suitable for vehicular use (see appendix 3). All existing hard surfacing near trees to be retained will be kept until the external works phase.
- Install tree protection fencing using braced Heras panels (see black dashed line on the tree protection plan *SHA 1032 AMSTPP1*) to a specification at appendix 3.
- Carry out the internal and soft strip
- Pull back the building from top down and pulling back working from outside the root protection area where possible. Remove debris away from the root protection area.
- Remove bollards near T13
- If this creates dust, and the trees are in leaf, hose down until dust is no longer visible.

5.5 Foundation installation with piling mat

5.5.1 This applies to T13. Due to the presence of T14, T15 and T16 which will be removed, there is a low possibility of tree roots from T13 growing in the area where the piling mat is needed (see plan 3 below). As precaution the method statement overleaf applies.



Plan 3 – extract from SHA 1032 TPP1. Do not scale, north is vertical. Red trees to be removed.



Plan 4 – extract from SHA 1032 TPP2 C. Do not scale, north is vertical.

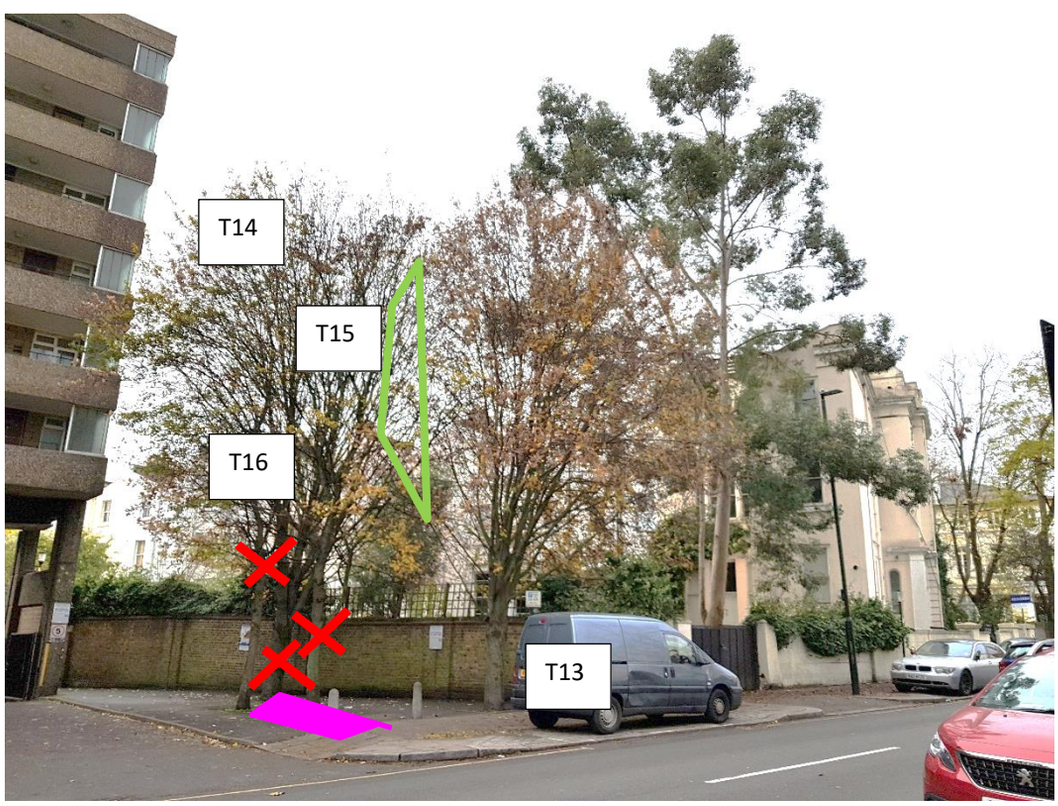


Photo 5 of T13 looking west. Approximate area for piling mat shown pink, crown pruning shown green

5.5.2 Method Statement for installing piling mat

- Mark the area where the method statement applies with spray paint
- Under **arboricultural supervision** remove hard surface using a small smooth bucket. The depth of the excavation will be determined by the piling contractor, but will be discussed with the arboriculturist to ensure that the depth and width is minimised. A spade/smooth bucket digger will continue until the shallowest root with a diameter greater than 25mm, or a matt of fine fibrous tree roots, are encountered.
- The roots will be pruned cleanly with bypass secateurs by the arboricultural consultant.
- The trench will be dug down to the minimum and all roots within this depth will be pruned.
- A record will be made of the number, location, diameter and depth of the roots.
- The tree side edge of the trench will be faced with a double vertical wall of damp hessian, pegged in place with pins. This is to prevent desiccation of the roots and act as a soft barrier. See photo 4.

Photo 6 taken of a different site supervised by SHA after root pruning, and showing hessian

- An impermeable plastic sheet will be placed next to the hessian and pegged at the top to keep in place. This is to prevent the alkalinity of the crush forming the piling mat from leaching through the hessian onto the cut roots.

Photo 7 taken of a different site supervised by SHA after root pruning, and showing plastic sheeting weighted with soil. The piling mat will be installed up to this point and the tree protection fencing will be reinstated along the line.

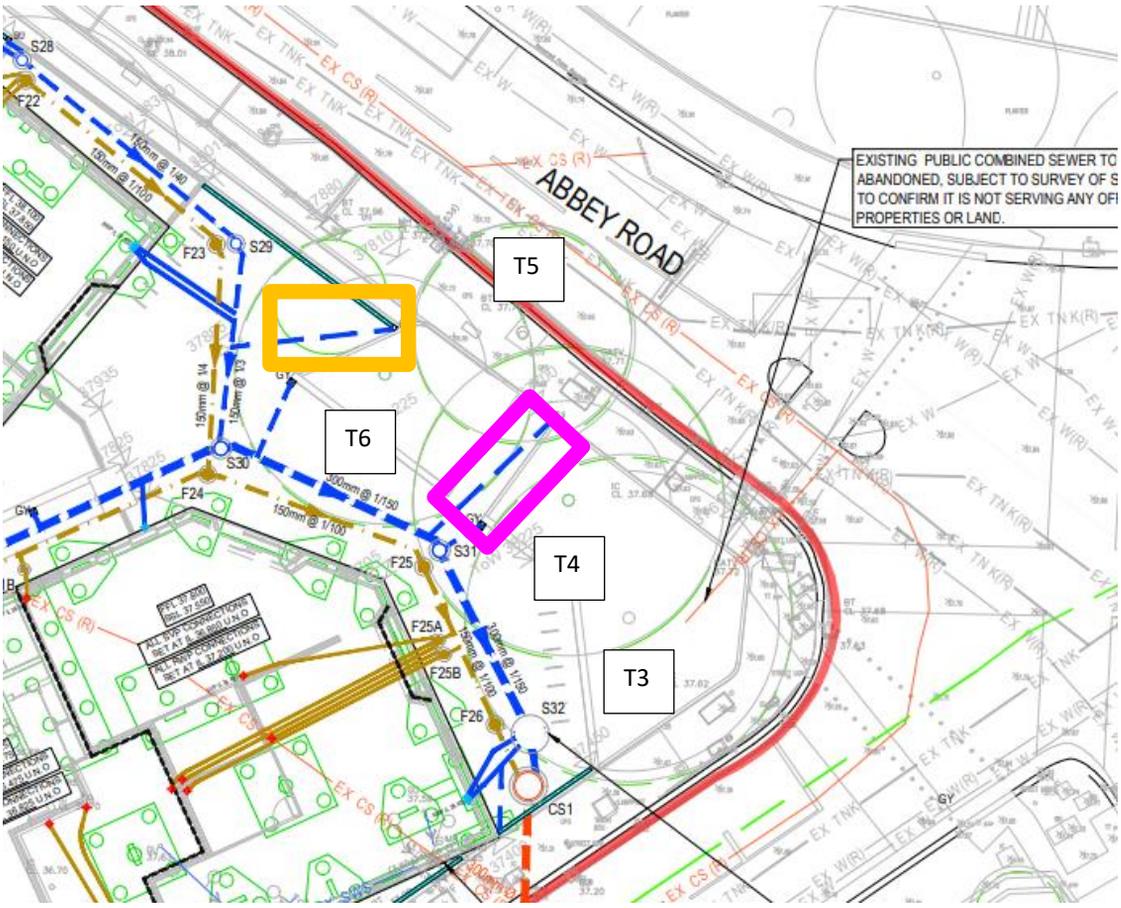
- Tree protection fencing to be re-erected
- The piling mat crush to be installed in the normal way.

The clayboard/polystyrene anti-heave measures will prevent the poured concrete from touching the soil.

5.6 Installation of services

5.6.1 **Drainage**

Following the design team meeting, minor changes will be carried out to the drainage layout at the time of production of this report to move them further out from the trees. The only trees potentially affected are the trees on the Abbey Road frontage; T3, T4, T6 and T13. T13 is less sensitive as the drain will be moved to within the excavated area for the piling mat. The offsite trees to the west are unaffected due to the presence of the wall's foundations. The drainage to the west of T3, T4, T6 will be adjusted to be as close to the building as practically possible. The drainage in the yellow box on the plan extract overleaf will be reviewed to be removed outside of the RPA of T6. The drainage route between T4 and T6 cannot be moved but will be installed under arboricultural supervision by broken trench or trenchless method, from the National Joint Utilities Council Volume 4. The excavations within the root protection area will be observed by the arboricultural consultant.



Plan 5 extract from ARP3-STN-XX-XX-DR-C-2 by Stantec. Blue dashed lines are surface water drainage. Do not scale, north is vertical. Annotated by SHA.

5.6.2 **Broken Trench** from http://streetworks.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf

'This technique combines hand dug trench sections with trenchless techniques if excavation is unavoidable. Excavation should be limited to where there is clear access around and below the roots. The trench is excavated by hand with precautions taken as for continuous trenching as in (c) below. Open sections of the trench should only be long enough to allow access for linking to the next section. The length of sections will be determined by local conditions, especially soil texture and cohesiveness, as well as the practical needs for access. In all cases the open sections should be kept as short as possible and outside of the Prohibited Zone'.

5.6.3 **Trenchless** http://streetworks.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf

'Wherever possible trenchless techniques should be used. The launch and reception pits should be located outside the Prohibited or Precautionary Zones.

In order to avoid damage to roots by percussive boring techniques it is recommended that the depth of run should be below 600mm. Techniques involving external lubrication of the equipment with materials other than water (e.g. oil, bentonite, etc.) must not be used when working within the Prohibited Zone. Lubricating materials other than water may be used within the Precautionary Zone following consultation and by agreement.'

An example is found here: https://www.chilternmains.co.uk/directional-drilling/

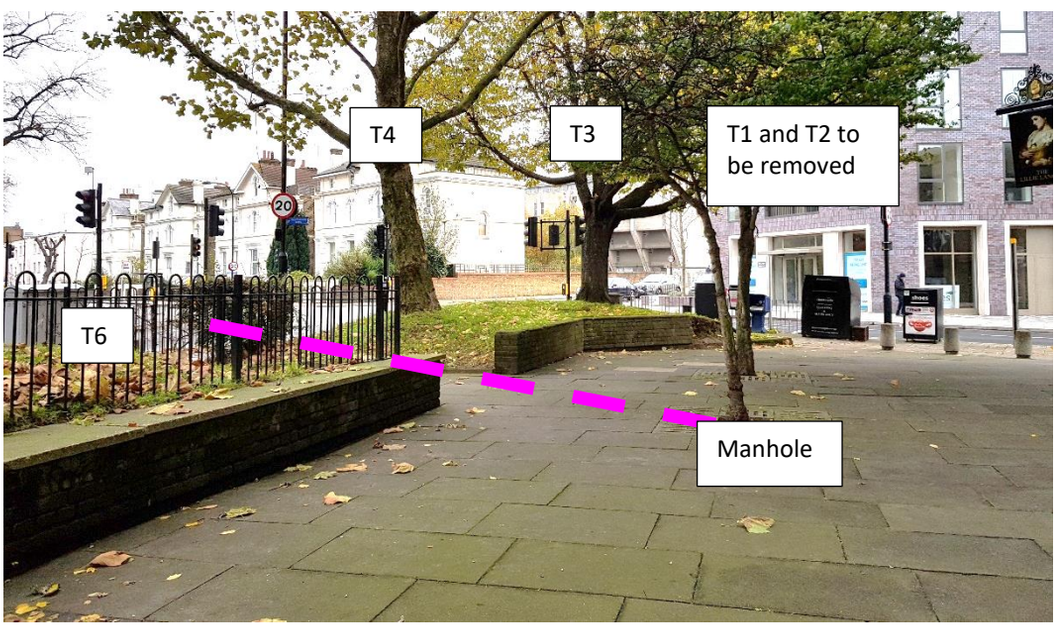


Photo 7 looking east showing area of sensitive work in pink

5.6.4 **Electric and other cables**

The plan has been reviewed and there are no conflicts.

5.7 Removal of hard surfacing within the root protection areas

5.7.1 **The hard surfacing will remain in place during works and lifted at the external works stage.**

This applies to T3, T4, T6 and T13. The following method statement will be observed:

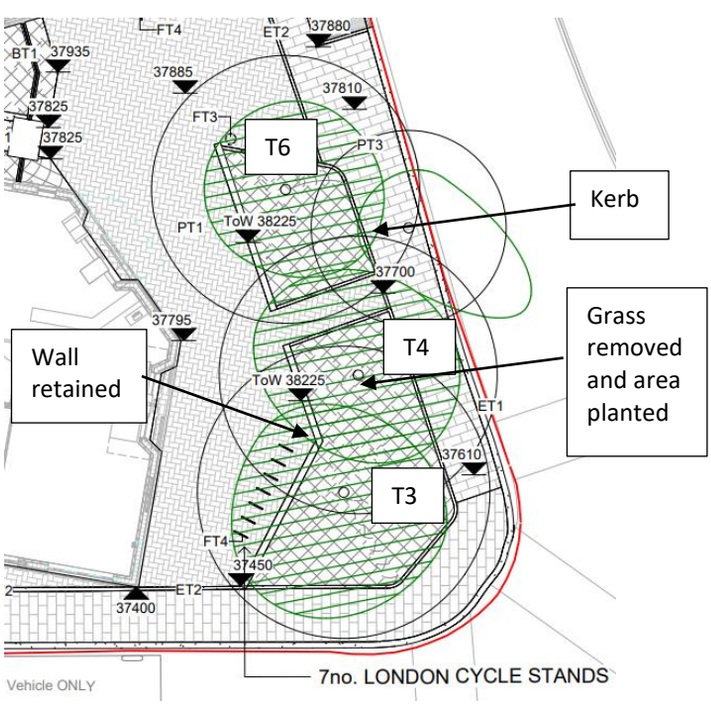
Lift the slabs using handheld tarmac spade or a digger pulling backwards to lift the hard surfacing whilst keeping the ground underneath intact. In my experience, using a smooth bucket digger carefully can lift large slabs relatively easily without disrupting the ground beneath. There may be a sheath of fine feeder roots and main structural roots beneath the concrete. Great care must be taken to avoid scuffing and damaging these roots. Once removed, the exposed soil must be immediately covered with a suitable backfill medium such as good quality top soil.

5.7.2 The works should not take place in frosty or hot sunny dry weather as this can harm fine roots. If roots are accidentally damaged, then the arboricultural consultant must be contacted immediately.

5.7.3 Note that T13 benefits from the removal of hard surfacing and the replacement with soft surfacing providing greater soil health and potential for the tree roots to flourish.

5.8 Installation of hard surfacing within the root protection areas

The areas to which this apply are shown on the tree protection plan *SHA 1032 TPPC* at appendix 2 by brown dashed shading. The principle is that the roots will be unaffected by level changes and lack of opportunities for gaseous exchange and water infiltration. All hard surfacing within the site boundary adjacent to trees to be retained will be porous. Existing subbase levels will be retained with no requirements to dig down deeper. New surfaces will be porous. The kerb edge detail will be minimal dig and any haunching required will be sleeved with plastic sheeting to prevent the alkalinity of concrete from scorching any fine roots. The base of the cycle stands will be hand dug and the concrete settings for these (if required) will be sleeved with plastic.



Plan 6 extract from D2857-FAB-S1-XX-DR-L-9100 P2 by Fabrik. Annotated by SHA. Do not scale, north is vertical.

5.9 Installation of soft landscaping

Within the root protection areas of trees to be retained, the preparation of soil for planting will be carried out by hand. The Stantec Civil and Structural Engineering Stage 3 Report dated 15 July 2022 states that the '*significant contamination risk to be low*' (section 3.1.6), therefore soil remediation around the trees is unlikely to be required, however if this changes, this report will be updated. The existing grass around T3, T4 and T6 will be removed by lifting the turf by a shallow a dig as possible. Cultivation will be kept to a minimum and new topsoil must not exceed 100mm in depth, with no increase within 300mm of the stem. Enriched biochar to supplier's recommendations (typically 5% of soil volume) is advised to assist the establishment of new planting. Top soil and other materials will be transported by wheelbarrow on running boards when working near trees. Small holes will be dug and tree roots will be retained by either moving the hole or moving bundles of fine roots. The area will be mulched, but a halo of 300mm will be kept clear around the stem.

6.0 **Conclusions**

6.1 This report provides information in accordance with the requirements of condition 24 of consent and follows consultation with design team members

6.2 The site will be supervised at key stages of development as detailed in the site supervision schedule at appendix 1 and reported to London Borough of Camden within 5 days of the site visit.

7.0 **Recommendations**

7.1 That a copy of this report, including the site specific method statements and tree protection plans are kept on site at all times, is part of the site induction, and is sent to the relevant contractors.

7.2 That the arboricultural method statements are observed by all site personnel and supervised at key stages by the project arboricultural consultant. Short supervision reports are to be written after each inspection as a record of compliance and audit trail to the Local Authority.

7.3 That the foundation design takes into account trees to be retained, trees to be removed and trees to be planted.

7.4 That there are no ground level changes with the area shown on the plan by tree protection fencing.

7.5 That the tree protection fencing is installed before machinery enters the site for demolition, and remains in place until the soft landscaping stage.

7.6 That the management company are aware that any future pruning to trees overhanging the western boundary will require a Section 211 Notice as they are within a Conservation Area. This is not required for the works listed in this report to facilitate planning consent. A prune back every 2 years is a likely scenario based on rate of growth.

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Director
Sharon Hosegood Associates Ltd

Appendix 1

Site supervision schedule in detail
Handy pull out sheets – What You Need Know

1. Key personnel

Wates will be carrying out the contract and the work will be supervised at key stages by Sharon Hosegood Associates (SHA). I am a suitably qualified chartered arboriculturist (see appendix 10), and will be carrying out the work. The tree officers will be kept informed of progress and any deviations or variations from this schedule and the method statement.

2. Arboricultural input and site supervision schedule

Stage and likely date	Activity and who is involved	Reference documents
Pre-commencement meeting	**Tool box talk** Main contractor Demolition contractor Tree surgeon Arboricultural consultant	This document; in particular SHA 1032 TPP1 and 2 C, section 5.2 - .4 and the tree surgery schedule at appendix 4. Demolition management plan
Check on tree protection measures prior to demolition and observe removal of bank near T6	**Tool box talk** Main contractor Demolition contractor Arboricultural consultant	This document; in particular SHA 1032 TPP1 and section 5.1 – 5.4
Installation of piling mat	**Tool box talk** To observe installation of piling mat near T13	This document; in particular SHA 1032 TPP2 and section 5.5
Installation of drainage	**Tool box talk** To observe installation of drainage between T4 and T6	This document; in particular SHA 1032 AMSTPP2 C and section 5.6
Removal of surfaces	**Tool box talk** To observe surface removal near trees.	This document; in particular SHA 1032 AMSTPP 3 and section 5.7

Routine visits	These will take place every 8 weeks, coinciding with the stages above where possible. A tool box talk will be carried out to any new staff and contactors where necessary	These may be carried out virtually where no active supervision of a specific task is required, and reported to the tree officer

3. How this will be communicated

3.1. The site office will contain the following:

- Arboricultural impact assessment *SHA 1032 AIA* dated April 2022 and this method statement *SHA 1032 AMS* dated November 2022. The tree protection plans within the report are to be kept with other site plans.
- The handy pull out sheets '*What you need to know about trees and Site Supervision Schedule (edged turquoise)*

3.2. The availability and summarised contents of this information will be part of site induction for new personnel.

3.3. During each site supervision, the arboricultural consultant will carry out a tool box talk to the relevant personnel. This will be hand written and signed by relevant parties.

3.4. After each site supervision, a short report will be sent to Wates, London Borough of Camden tree officers and the planning case officer. This creates a useful audit trail for both parties.

4. What happens when things change, and, in an emergency

If there is a deviation for practical reasons on any matter affecting trees which is not outlined in the method statement or this document, the site manager and/or project team, will contact the arboricultural consultant in the first instance, and then the tree officers will be contacted by phone, followed up by email. Works near trees will stop until the opinion of the consultant and the approval (or otherwise) by the tree officers is given. In an emergency, the site manager will contact his team, the tree officer and the consultant before taking action. The site manager will record any incidences with photographs and a contemporaneous hand written and signed note outlining:

- The date and time
- The location of tree issue

- What happened
- When the tree officers were contacted and their response
- When the consultant was contacted and her response

What you need to know about trees at Emminster and Hinstock, Abbey Co-operative Community Centre, Belsize Priory Health Centre, Belsize Road, London NW6 4DX (Abbey Road Phase 3)

Works on this site near trees are complex and non-standard. Ensure you have the following documents:

- Arboricultural Impact Assessment SHA 1032 AIA
- Arboricultural Method Statement SHA 1032 AMS
- The tree protection plans in colour - SHA 1032 TPP1 and SHA 1032 TPP2 C

The site will be monitored at key stages identified overleaf and at 8 week intervals (coinciding visits where possible or remotely where there is no change to activity near trees).

Key areas of concerns

- Tree surgery to be carried out
- Removal of soil bank to the west of T6
- Installation of piling mat/foundations near T13
- Installation of drainage between T4 and T6
- Removal of hard surfacing to be supervised

The tree protection and ground protection must be installed prior to demolition and be braced and signed. It must not be breached during the project. Any deviation from the method statement could lead to a breach of planning condition.

If in doubt phone (we are here to help):

Sharon Durdant-Hollamby at SHA 07943 853 525 or 01245 210420

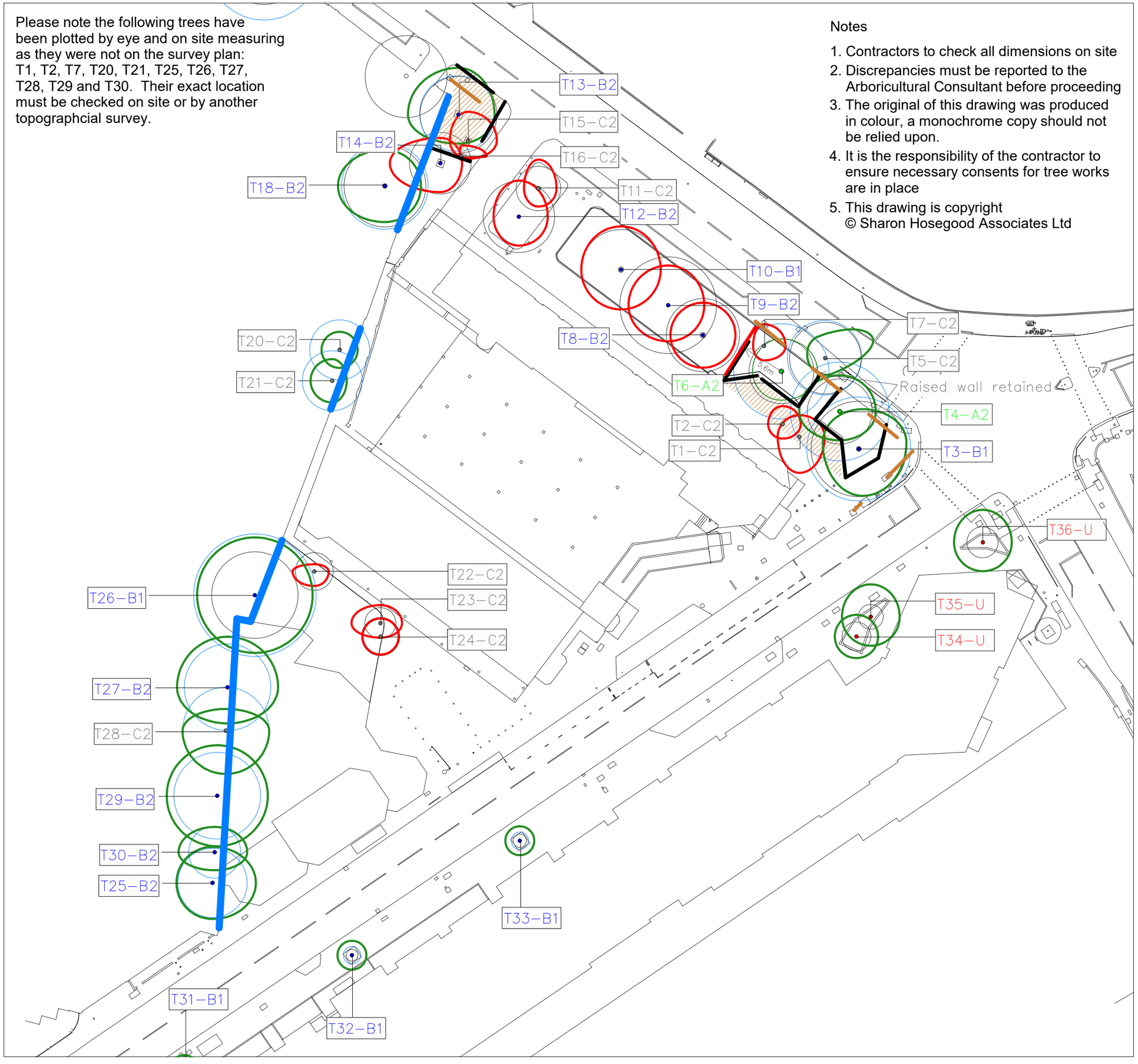
sharon@sharonhosegoodassociates.co.uk

Appendix 2

Tree protection plan SHA 1032 TPP 1 for the demolition phase

Tree protection plan SHA 1032 TPP 2 C for construction

Please note the following trees have been plotted by eye and on site measuring as they were not on the survey plan: T1, T2, T7, T20, T21, T25, T26, T27, T28, T29 and T30. Their exact location must be checked on site or by another topographcial survey.



Notes

1. Contractors to check all dimensions on site
2. Discrepancies must be reported to the Arboricultural Consultant before proceeding
3. The original of this drawing was produced in colour, a monochrome copy should not be relied upon.
4. It is the responsibility of the contractor to ensure necessary consents for tree works are in place
5. This drawing is copyright © Sharon Hosegood Associates Ltd

T1-A Category A - high quality and value

T1-B Category B - moderate quality and value

T1-C Category C - low quality and value

T1-U Category U - unsuitable for retention

Trees to be retained

RPA - root protection area as defined by Table 2 BS 5837:2012

Brick wall and hard surface acting as a root barrier to the depth of its foundations

Trees to be removed

Tree protection comprising braced Heras panels or hoarding 2.5m high.

Existing hard surface retained during demolition and construction. In the case of the hard surface in front of T3, T4 and T6 this should be tested to see if it needs reinfocing during works to protect against deformation by heavy vehicles.

Arboricultural method statement for observation of reducing level of bank

Site hoarding installation method statement

Rev :	Description :	Authorized :

Sharon Hosegood Associates

t: 01245 210420
www.sharonhosegoodassociates.co.uk

Client

Wates for London Borough of Camden

Site Address

Abbey Area Phase 3

Drawing Title	Orientation	Drawn	Authorized
Tree Protection Plan - Demolition		ND-H	SMH

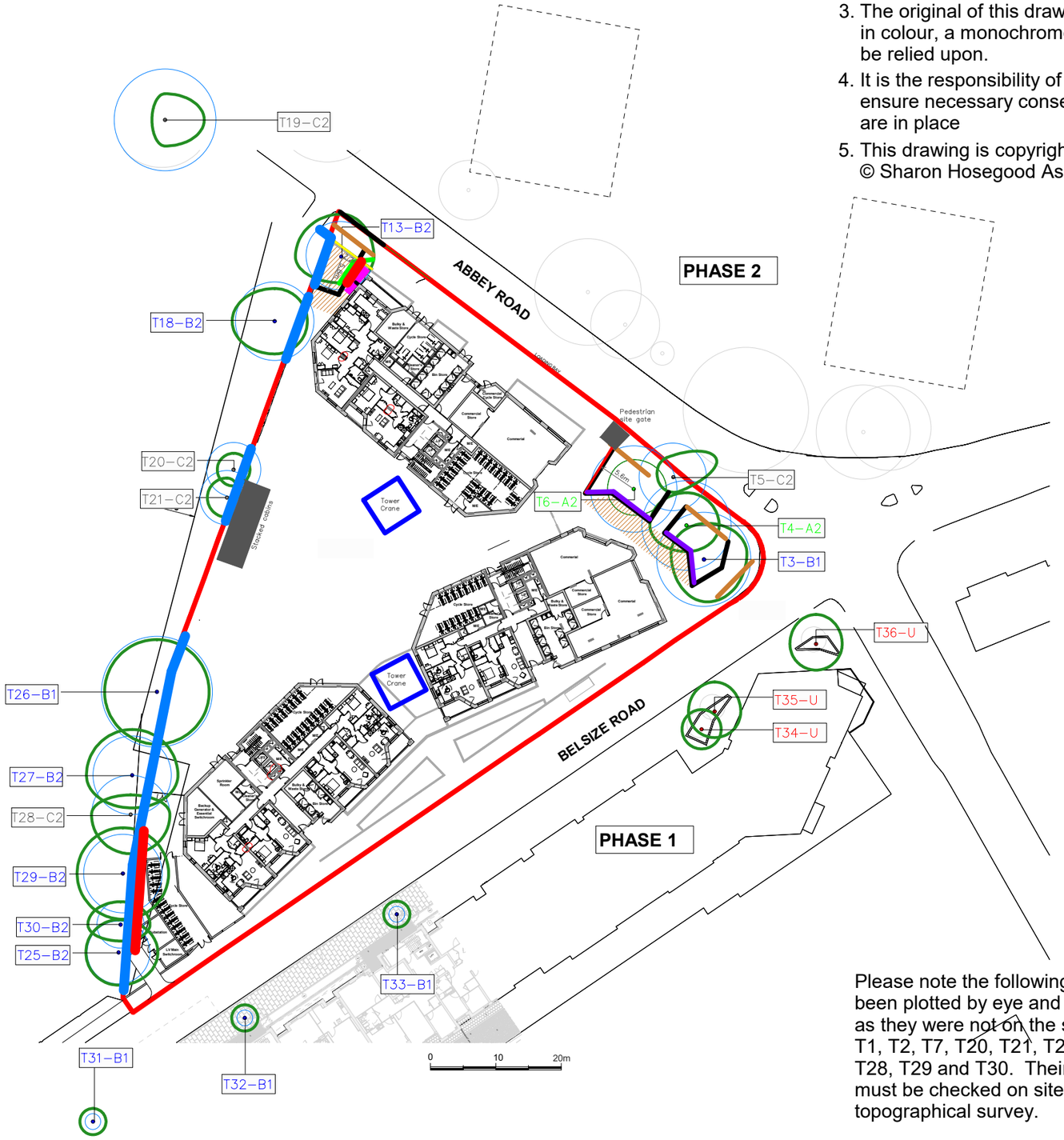
Date	Drawing Number	Scale	Drawing Status
21.03.22	SHA 1032 TPP11:750@A3		For Issue

Revision

-

Notes

1. Contractors to check all dimensions on site
2. Discrepancies must be reported to the Arboricultural Consultant before proceeding
3. The original of this drawing was produced in colour, a monochrome copy should not be relied upon.
4. It is the responsibility of the contractor to ensure necessary consents for tree works are in place
5. This drawing is copyright © Sharon Hosegood Associates Ltd



Please note the following trees have been plotted by eye and on site measuring as they were not on the survey plan: T1, T2, T7, T20, T21, T25, T26, T27, T28, T29 and T30. Their exact location must be checked on site or by another topographical survey.

- Trees to be retained
- RPA - root protection area as defined by Table 2 BS 5837:2012
- Brick wall and hard surface acting as a root barrier to the depth of its foundations. To be tested by trial pits to the depth of its foundations.
- Tree protection comprising braced Heras panels or hoarding 2.5m high.
- Existing hard surface retained during demolition and construction
- Site hoarding installation method statement
- Arboricultural method statement for wall foundation design and installation
- Arboricultural method statement for piling mat installation
- Arboricultural method statement for observation of reducing level of bank
- Existing walls to be retained/superficially improved

Rev : C	Description : For AMS	Authorized : 02.11.2022
Rev : B	Description : New layout received Mar 22	Authorized :6.3.22
Rev : A	Description : Survey reviewed Feb 22	Authorized : 27.02.22

Sharon Hosegood Associates

Sharon Hosegood ASSOCIATES

t: 01245 210420
www.sharonhosegoodassociates.co.uk

Client

Wates for London Borough of Camden

Site Address

Abbey Area 3

Drawing Title	Orientation	Drawn	Authorized
Tree Protection Plan construction		ND-H	SMH

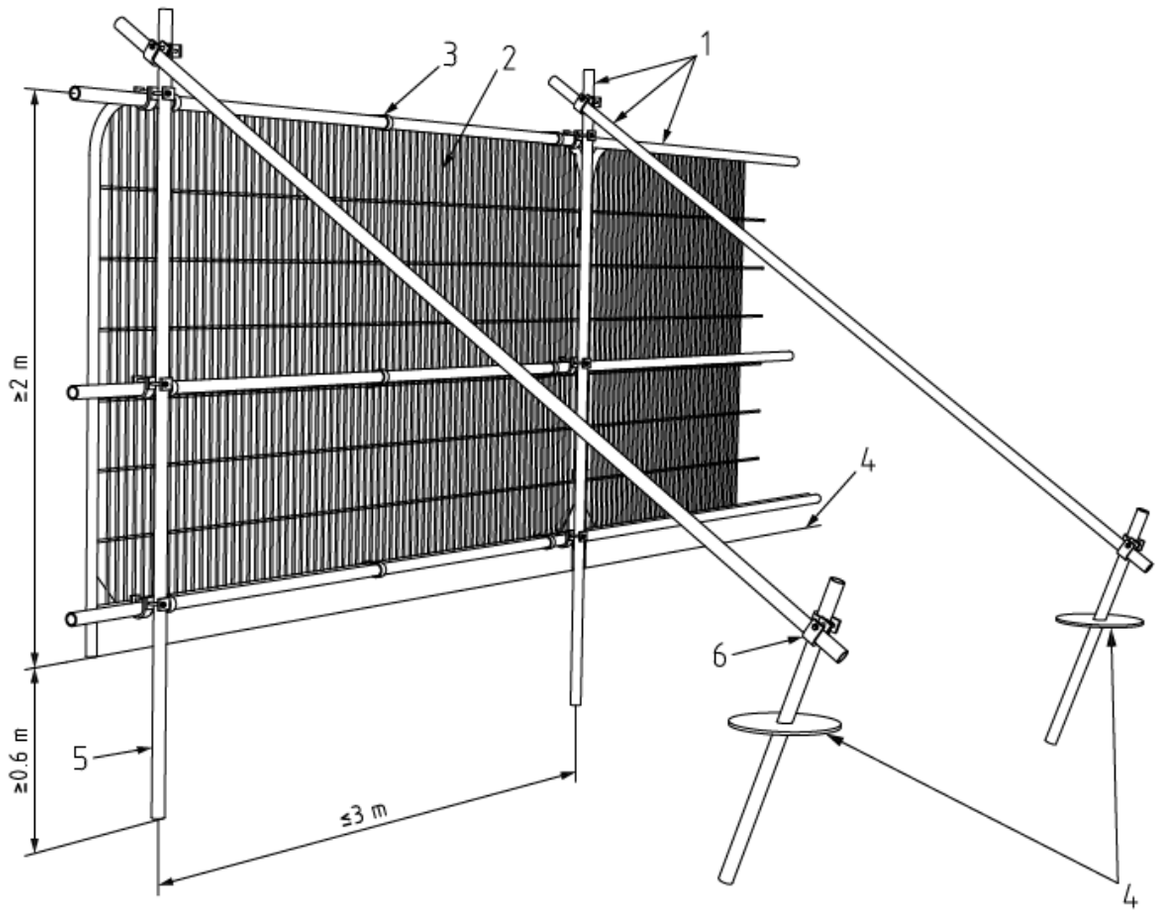
Date	Drawing Number	Scale	Drawing Status
6.8.19	SHA 1032 TPP2 construction	1:750@A3	For Issue

Revision C

Appendix 3

Tree protection specification

Figure 2 Default specification for protective barrier



Key

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

Tree protection fencing specification from BS 5837:2012 Figure 2

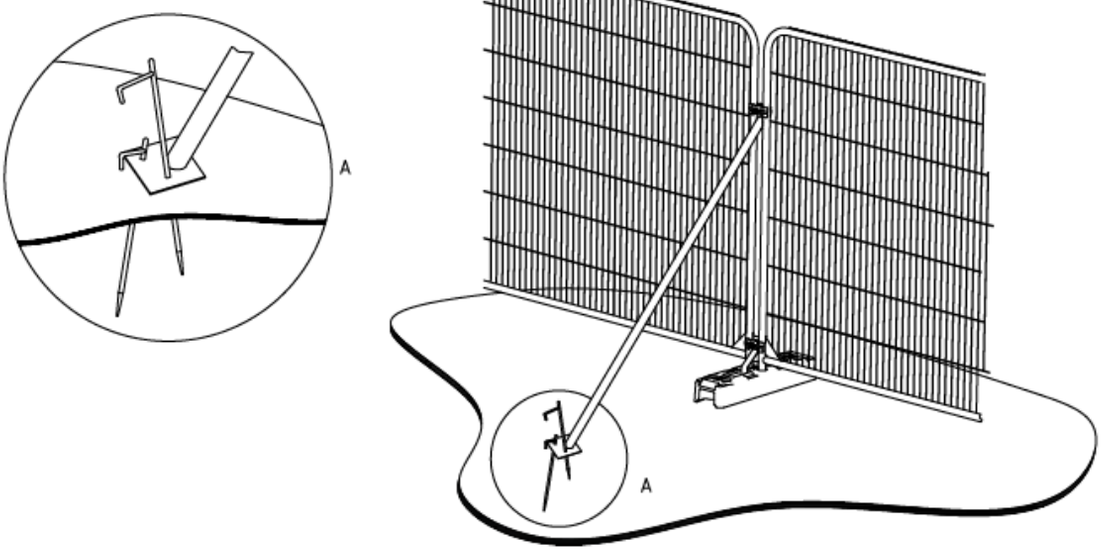
Section 6.2.2 of BS.

Barriers should be fit for purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees(s). Barriers should be maintained to ensure that they remain rigid and complete.

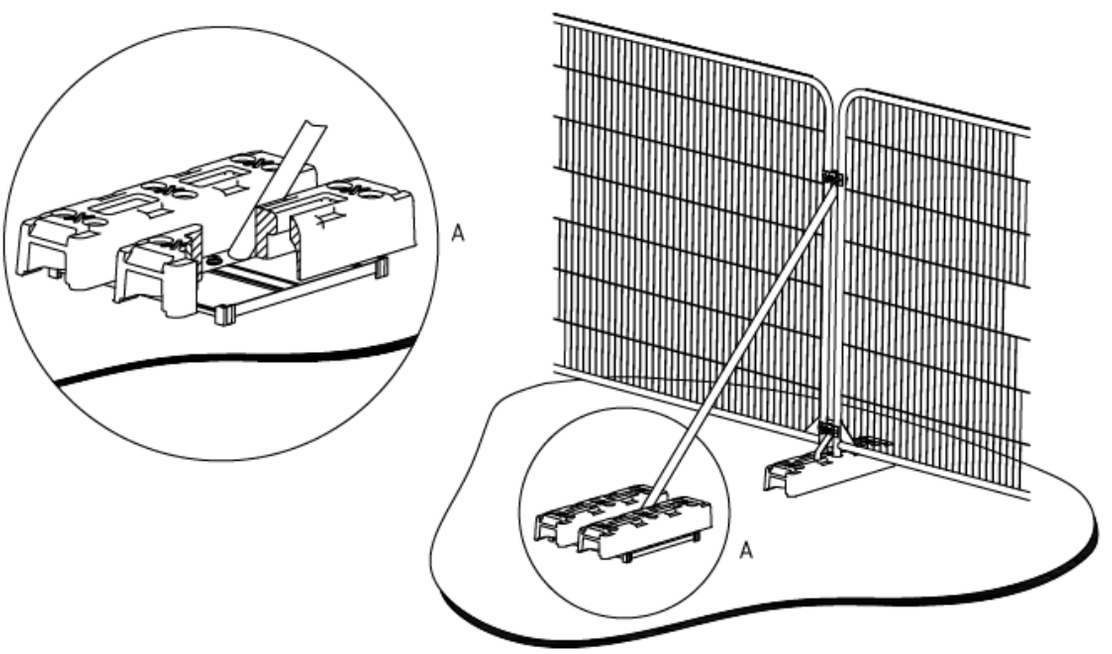
The default specification is shown above at Figure 2. Care should be taken when locating the vertical poles to avoid underground services and structural roots. Where it is not possible to drive a pole into the ground, for example on hard surfacing, figure 3 overleaf, applies.

Heras panels are preferred around T3, T4 and T6 than hoarding to prevent a rain shadow

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

The location for the tree protection fencing is shown on the tree protection plan delineated by a black dashed line. The location of the fencing is out the outer edge of the root protection area and the dimensions from fixed points are shown on the drawings. All weather signs should be affixed to the barriers, no more than 12m apart. This forms the construction exclusion zone.

Suggested site warning sign format

Ground protection during demolition and construction

Where working space temporary access is needed within the root protection area during works, fencing should be set back the minimum amount to achieve the required room. If there is existing hard surfacing in this area, it should remain during the works as ground protection. The suitability of this surfacing for ground protection, and whether it needs to be reinforced to bear the weight of machinery, should be assessed by an engineer and discussed with an arboriculturist.

Where the set back of the fencing exposes unmade ground, the ground must be protected before any works take place on site. This is to prevent root damage and soil compaction. The ground protection might comprise of one of the following: (section 6.2.3.3 of BS)

A) For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;
B) For pedestrian-operated plant up to a gross weight of 2 tonnes, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;
C) For wheeled or tracked construction traffic exceeding 2 tonnes gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

The existing surface to be retained and tested by an engineer to see if it is strong enough for heavy machinery without causing deformation. If not, it is to be top dressed with a strong ground protection system.

Photo 8. Paving to be retained during demolition and construction and removed during the external works phase as shown by blue line on the photo and brown hatching on the plan

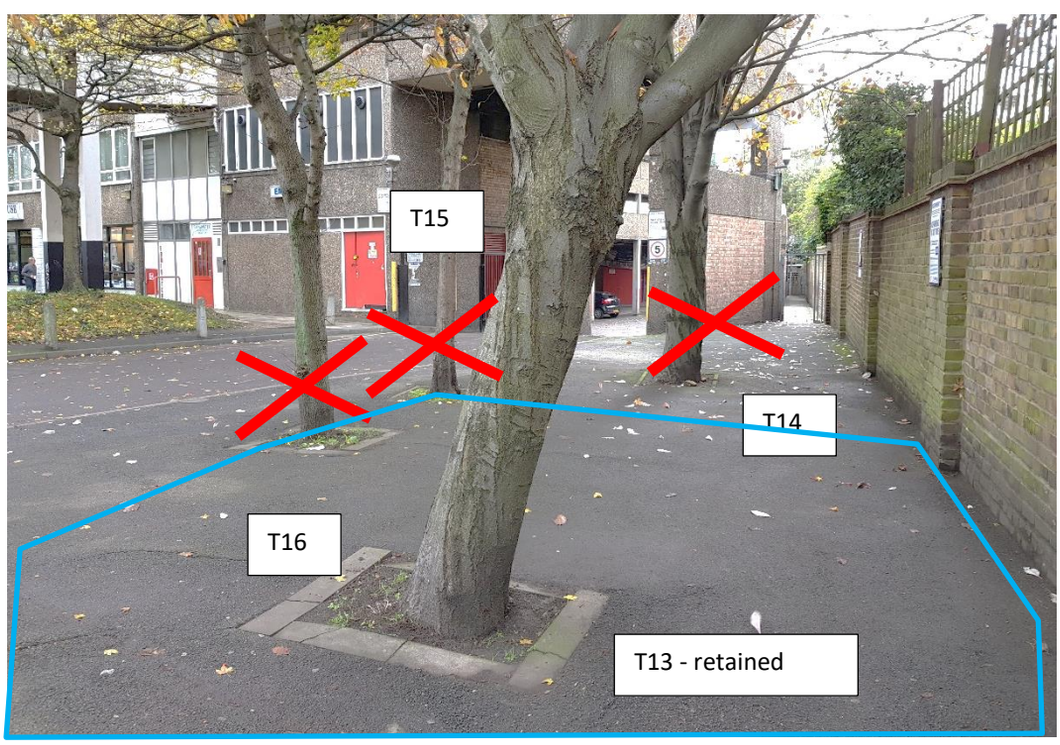


Photo 9 of the base of T13 – T16 looking south. T13 will be retained which has the highest level of visual amenity. Tarmac to be retained during demolition and construction and removed during the external works phase as shown by blue line on the photo and brown hatching on the plan SHA 1032 TPP1

Appendix 4

Tree Surgery Schedule

Tree surgery schedule

All works to be carried out in accordance with BS 3998:2010 'Tree works – Recommendations'. All pruning cuts to be made at suitable growing points in the line with the principles of 'Natural target pruning' to the branch collar. This table is from the Arboricultural Impact Assessment reference SHA 1032 AMS AIA dated xxx.

Tree no.	BS Cat	Species	Proposed works	Reason
T1	C2	Field maple	Fell and grind stump	To facilitate construction
T2	C2	Field maple	Fell and grind stump	To facilitate construction
T3	B2	Cherry	Remove dead wood and damaged branches Carry out a climbing inspection to investigated strength of wood around cankers and to report any other tree defects Improve rooting environment with enriched rooting environment to suppliers' recommendations	For safety and tree health reasons
T4	A2	London plane	No works other than Improve rooting environment with enriched rooting environment to suppliers' recommendations	For tree health benefits
T6	A2	London plane	No works other than Improve rooting environment with enriched rooting environment to suppliers' recommendations	For tree health benefits
T7	C2	Whitebeam	Fell and remove stump	To facilitate construction
T8	B2	Field maple	Fell and remove stump	To facilitate construction
T9	B2	Field maple	Fell and remove stump	To facilitate construction
T10	B1	Field maple	Fell and remove stump	To facilitate construction

Tree no.	BS Cat	Species	Proposed works	Reason
T11	C2	Field maple	Fell and remove stump	To facilitate construction
T12	B2	Field maple	Fell and remove stump	To facilitate construction
T13	B2	Whitebeam	Remove any dead wood with a diameter greater than 20mm Crown reduce on south-eastern side by up to 2m to clear scaffold	For safety reasons and to facilitate construction
T14	B2	Whitebeam	Fell and remove stump	To facilitate construction
T15	C2	Whitebeam	Fell and grind stump	To facilitate construction
T16	C2	Whitebeam	Fell and grind stump	To facilitate construction
T22	C2	Ash	Fell and remove stump	To facilitate construction
T23	C2	Ash	Fell and remove stump	To facilitate construction
T24	C2	Ash	Fell and remove stump	To facilitate construction
T25	B2	Ash	Remove any dead wood over the site and crown lift to 5m	For safety reasons and to ensure clearance under the tree
T26	B2	Sycamore	Remove any dead wood over the site Prune lightly (no more than 1m at the time of writing) on the northern and eastern aspect to clear building for demolition and what will be necessary for scaffold	For safety reasons and to ensure clearance under the tree
T27	B2	Lime	Remove any dead wood over the site Prune lightly (no more than 1m at the time of writing) on the eastern aspect to clear building for demolition and what will be necessary for scaffold	For safety reasons and to ensure clearance under the tree

Tree no.	BS Cat	Species	Proposed works	Reason
T28	C2	Goat willow	Remove any dead wood over the site and crown lift to 5m Prune lightly (no more than 2m at the time of writing) on the eastern aspect to clear building for demolition and what will be necessary for scaffold	For safety reasons and to ensure clearance under the tree
T29	B2	Lime	Remove any dead wood over the site and crown lift to 5m Prune lightly (no more than 2m at the time of writing) on the eastern aspect to clear building for demolition and what will be necessary for scaffold	For safety reasons and to ensure clearance under the tree
T30	B2	Norway maple	Remove any dead wood over the site and crown lift to 5m Prune lightly (no more than 2m at the time of writing) on the eastern aspect to clear building for demolition and what will be necessary for scaffold	For safety reasons and to ensure clearance under the tree

Potential use of timber:

Consideration could be given to the use of timber from trees felled for construction. The following hierarchy ranks from easiest and cheapest to most effort and cost:

- Use of woodchip for ground protection during construction (consult tree surgeon, contractor and arboriculturist for use and storage)
- Use of small branches and logs for habitat piles (consult tree surgeon, contractor and ecologist for use and storage)
- Use of larger logs (either sectioned or entire) for play (consult tree surgeon, contractor and landscape architect)
- Use of larger logs for simple benches (consult tree surgeon, contractor and landscape architect)
- Use of timber for bespoke artwork (consult tree surgeon and commission an artist to work offsite and work with landscape architect/client to determine best location)
- Use of timber for bespoke artwork to be created by the community/school under the guidance of an artist.

Things to consider:

- Durability of timber based on tree species (consult arboriculturist)
- Where it will be stored during construction (consult contractor and artist/other professionals)
- What the community want
- Is there any spin off benefits? PR, working with disadvantaged groups, carbon storage kept on site.

For London based schemes, this accordance with the London Plan Guidance of Whole Life-Cycle Carbon Assessments (sections 3,8,12,13,16) and Circular Economy Statements (2.1.2).

Appendix 5

Statement of methodology and reference material

Statement of methodology

Review of supplied plans and information

Site visit made by Sharon Durdant-Hollamby in November 2019 and reviewed on site in February 2022.

Tree survey using Visual Tree Assessment carried out in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' (BS). All investigations were from ground level only and binoculars were used when necessary. All trees with a trunk diameter of 75mm or above were surveyed. Obvious hedges and shrub masses were identified where appropriate. Information collected is in accordance with recommendations in subsection 4.4.2.5 of BS and include species, height, diameter, branch spread, crown clearance, age class, physiological condition, structural condition and remaining contribution. Each tree was then allocated one of four categories (U, A, B or C).

Design team meeting with engineer, architect and landscape architects and Wates with arboriculturist on Wednesday 19 October 2022.

Received material

Material for the AIA plus Abbey Road Phase 3 - CMP Appendix Log, ARP3-STN-XX-XX-RP-S-0001 - Stage 3b Report, ARP3-STN-ZZ-F1-DR-S-1411 - Site Wide Substructure Detail, ARP3-STN-ZZ-ZZ-DR-S-0100 - Bike Store GA, ARR-PTE-BA-ZZ-DR-A-03001 - Ground & First to Fifth Floor Plan Block A, B and C, ARR-PTE-XX-ZZ-DR-A-03001 - Sub Station & Cycle Store, ARR-PTE-ZZ-00-DR-A-02001 - Site Plan, CMP Abbey Road Phase 3 (P03) 05.05.22., D2857-FAB-S1-XX-DR-L-4100, 4200, 9100 and 9000.

Reviewed documents and text

BSI. BS 3998:2010 *Tree work-Recommendations.*

BSI. BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*

C. Mattheck 'The body language of trees' 2015

Arboricultural Association: The use of Cellular Confinement Systems near trees – Guidance Note 12

Appendix 6

Caveats & Exclusions

Specific report caveats

1. At the time of writing this report, the protected tree status is correct, however, this can change. Therefore, I advise that a further check is made with London Borough of Camden before any works to trees takes place.
2. No internal diagnostic equipment was used other than a sounding mallet and probe and all inspections were from ground level only, with the aid of binoculars where necessary.
3. The survey is concerned solely with arboricultural issues.
4. Any changes in ground level, or excavations near to tree roots not discussed within this report may change the stability and condition of the trees and a further examination would be required.
5. As trees are a dynamic living organism this report is only valid for a period of 12 months, in respect to their health and condition.
6. Only the trees listed in this report have been examined.
7. The measure of offsite trees has been estimated, except any crown within the site overhang which is measured. Where the crown of an onsite tree overhangs the boundary, the crown spread in this direction is also estimated.
8. The base and trunk of the offsite trees could not be examined, and therefore a full assessment of the trees condition could not be made.
9. Dense ivy and undergrowth prevent a full condition survey being carried out. The vegetation may be hiding structural defects.
10. The tree information is from the time of the survey. Some pests, diseases and fungi only appear seasonally, therefore it is possible not all issues that may affect the health of the trees could be observed.

Appendix 7

Tree related legislation affecting the site

Tree preservation orders

The Town and Country Planning (Tree Preservation) (England) Regulations 2012.

No tree preservation orders affect the site.

Conservation Area

The site is not within in a conservation area, although it is adjacent to the Conservation Area on its western aspect.

Plan 2 – extract from Conservation Area plan. Conservation Area marked brown. SHA red line annotation for site area. Do not scale. North is vertical.

The trees on the western boundary are in a Conservation Area. This means that no work can take place to trees (over 75mm at 1.5m) unless 6 weeks' notice of intent to carry out work is sent to the Local Planning Authority (LPA). The LPA can either raise no objection, or if they consider that the proposed works are detrimental to the visual amenity of the area, they will serve a Tree Preservation Order. Works listed in this report do not require separate consent, provided that all the pre-commencement conditions have been discharged from a full planning approval relating to this report.

Ecological considerations

The Wildlife and Countryside Act 1981, as amended, The Conservation of Habitats and Species Regulations 2010 and the Countryside and Rights of Way Act 2000, provide statutory protection to species of flora and fauna including birds, bats and other species that are associated with trees.

Occupiers Liability Act 1957 and 1984

The Occupiers Liability Act (1957 and 1984) places a duty of care to ensure that no reasonably foreseeable harm takes place due to tree defects. Therefore, this report includes recommendations within the tree tables for work required for safety reasons. 'Common sense risk management of tree (National Tree Safety Group 2012)' states that *'The owner of the land on which a tree stands, together with any party who has control over the tree's management, owes a duty of care at Common Law to all people who might be injured by the tree. The duty of care is to take reasonable care to avoid acts or omissions that cause a reasonably foreseeable risk of injury to persons or property'.*

Common law enables pruning back to the boundary line providing the work is reasonable. Other restrictions, such as tree preservation orders/conservation areas still apply.
The owner of a tree is not obliged to trim their trees or hedges to prevent them from crossing over a boundary. Whilst the tree owner is not obliged to cut back the branches, the person whose property is overhung has the right to cut back the branches to the boundary providing there are no planning or legal restrictions on the trees such as Tree Protection Orders or if they are located in a church yard, in which case suitable consent must be obtained. Such pruning works must be undertaken to a suitable standard and must not cause damage to the tree.

The resulting debris remains the property of the tree owner, but you must not cause any damage to their property when returning it back to them and you do not have the right to trespass on the tree owner's property in carrying out the works. In the interests of good neighbourly relations, we would encourage neighbours to discuss their intentions with each other before carrying out such works, providing the work is reasonable and that the trees are not subject to TPO or Conservation Area protection.

Health and Safety:

The works will be undertaken in accordance with the following legislative requirements which are within the remit of the main contractor. SHA will adhere to site Risk Assessments and Method Statements and follow site rules. SHA will produce their own Risk Assessment and Method Statement when visiting site and observing works:

- The Health & Safety at Work Act 1974 and associated guidance

- The Management of Health and Safety at Work Regulations 1999 and Management of Health and Safety at Work ACoP (HSE
- L21)
- The Construction (Design and Management) (CDM) Regulations 2015 London Borough of Camden, Managing Health and Safety in Construction (HSE L144)
- and Health and Safety in construction (HS(G)
- The Work at Height Regulations 2005 (as amended), and Work at Height Regulations 2005 (as amended). Brief Guide
- The Environmental Protection Act 1990
- The Highways Act 1980
- The Personal Protective Equipment at Work Regulations 1992 (as amended), and Personal Protective Equipment at Work –
- Guidance (HSE L25)
- The Provision and Use of Work Equipment Regulations 1998 ad Safe Use of Work ACoP (HSE L22)

The National Planning Policy Framework July 2021

Habitats and biodiversity 179.

To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;

b) and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

180. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy

exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

181. The following should be given the same protection as habitats sites:

a) potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites ; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

182. The presumption in favour of sustainable development does not apply where the

plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

The London Plan 2021

Policy G7 Trees and woodlands

A London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.

B In their Development Plans, boroughs should:

1) protect 'veteran' trees and ancient woodland where these are not already part of a protected site[139]
2) identify opportunities for tree planting in strategic locations.

C Development proposals should ensure that, wherever possible, existing trees of value are retained.[140] If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

139 Forestry Commission/Natural England (2018): Ancient woodland and veteran trees; protecting them from development, https://www.gov.uk/guidance/planning-applications-affecting-trees-and-woodland

140 Category A, B and lesser category trees where these are considered by the local planning authority to be of importance to amenity and biodiversity, as defined by BS 5837:2012

Camden Planning Guidance on Trees (March 2019)

This report provides the information required for a Trees and planning application including a Tree Survey, Tree Constraints plan and AIA. The method statements in this report require more information post planning before being finalised. A CAVAT assessment has been carried out and is separate to this report

Appendix 8

Glossary

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 for operations on site.
Anchorage	In trees, the holding of the root system within the soil, involving the flow of forces from the stem through the branches of the roots system to the cohesive root/soil interface.
Arboriculture	Formerly all aspects of the culture of trees, especially for forestry. Latterly, the art and science of cultivating and managing trees as groups and individuals, primarily for amenity and other non-forestry purpose.
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 in the field of trees in relation to construction.
Architecture	In a tree, a term describing the pattern of branching of the crown or root system.
Backfill medium	Material used for refilling an excavated planting hole.
Bark	A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm.
Biochar	The following is taken from http://www.carbongold.com/wp-content/uploads/2016/12/CG-Soil-Improver-info-sheet-1.pdf 'Biochar is highly porous and provides a permanent infrastructure for the colonization of beneficial micro-organisms. Biochar also alters the physical nature of soil to increase the water holding capacity and higher nutrient retention, reducing leaching an irrigation requirement. Other benefits to soil health include reductions in acidity, improvements of the cation exchange capacity; and efficiency of fertilisers – all of which cause an increase in plant productivity. Enriched Biochar Soil Improver contains biochar blended with multiple strains of mycorrhizal fungi and antagonistic trichoderma, along with actinomyces bacteria from wormcasts and trace minerals from seaweed. Apply to sterile, over-worked soils and substrates to improve soil fertility and reduce chemical inputs. (Carbn Gold website).' **Shaffert and Percival: Influence of Biochar, Slow-Release Molasses's and an organic N:P:K fertiliser** **Arboriculture and Urban Forestry 2016.42(2): 102-110**

Biodiversity	The variability among all living organisms of an ecological complex.
Biomechanical	Pertaining to the mechanical functions and properties of living organisms, such as trees.
Body language	In trees, the outward display of growth responses and/or deformation in response to mechanical stresses.
Branch	A limb extending from the main stem or parent branch of a tree.
Branch bark ridge	The raised arc of bark tissues that forms the acute angle between a branch and its parent stem
Branch collar	The swelling or roughened bark often found at the base of a branch which should be left intact if the branch is to be pruned off.
Brown-rot	A type of wood decay in which cellulose is degraded, while lignin is only modified.
Canopy	The topmost layer of twigs and foliage in a tree.
Co-dominant	In trees, a similarity between two or more stems or branches with regard to their size and their position within the canopy.
Column	In the wood or phloem of a tree, an axially elongated zone of tissue that is distinguished form the surrounding tissue; e.g. Live verses dead or decayed versus non-decayed.
Construction exclusion zone	An area based on the root protection area from which access is prohibited for the duration of the project.
Containerised tree	Tree grow using containerizing nursery production system.
Compartmentalise	The confinement of disease or other dysfunction within an anatomically discrete region of plant tissue, due to passive and/or active defenses operating at the boundaries of the affected region.
Crown	In arboriculture, the main foliage-bearing portion of a tree.
Crown lifting	The removal of shortening of the branches that form the lower part of the crown of a tree.
Crown reduction	Pruning in order to reduce the size of the crown of a tree.
Crown thinning	Pruning inside the crown of a tree in order to reduce its density.
Defect	In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.
Dessication	The state of extreme dryness, the drying out of roots.

Dieback	The death of part of a plant, usually starting from a distal point and often progressing proximally in stages.
Direct damage	Direct physical damage to a structure of surface from pressure exerted by the trunk or growing roots.
Epicormic	Pertaining to shoots or roots which are initiated on mature woody stems; shoots can form tin this way from dormant buds or they can be adventitious.
Failure	In connection with tree hazards, a partial or total fracture within woody tissues or loss of cohesion between roots and soil.
Flush cut	A pruning cut close to the parent stem which removes part of the branch bark ridge.
Foreseeable	In hazard assessment, pertaining to failure and associated injury of damage which are predictable on the basis of evidence from a tree and its surroundings.
Fungi	Organisms of several evolutionary origins, most of which are multicellular and grow as branched filamentous cells within dead organic matter or living organisms.
Hazard	A thing, a process or a potential event that has the potential to cause harm.
Included bark	Bark of adjacent parts of a tree (usually forked stems, acutely joined branches or basal flutes) which is in face-to-face contact; i.e. without a woody connection. Such a structure lacks inherent strength but is in many instances strongly reinforced by a surrounding 'shell' of wood.
Independent in the landscape	Point at which a newly planted tree is no longer reliant on excessive or abnormal management intervention in order to grow and flourish with realistic prospects of achieving its full potential contribute to the landscape.
Mulch	Material laid down over the rooting area of a tree or other plant to help conserve moisture, suppress weeds and encourage a beneficial microflora.
Mycorrhizal	Pertaining to an intimate symbiotic association between plant roots and specialised fungi.
Pathogen	A micro-organism that causes disease in another organism.
Pollard	A term for a pollarded tree
Pollarding	The complete or partial removal of the crown of a young tree so as to encourage the development of numerous branches; also, further cutting to maintaining this growth pattern.

Probability	A statistical measure of the chance that a particular event (e.g. a specific failure of a tree or specific kind of harm to persons or property) might occur.
Resistograph	The IML-RESI system is based on the measurement of drilling resistance. The IML-RESI operates in a similar manner to a normal drill. A drilling needle with a diameter of 1.5mm is inserted into the wood under constant drive. While drilling, the resistance is measured as a function of the drilling depth of the needle. The data is printed and stored electronically at a scale of 1:1 simultaneously. Although invasive the relatively small needle diameter causes very little damage, testing is normally only undertaken to confirm the remaining stem wall thickness in decaying trees.
Risks	The likelihood of the potential harm from a particular hazard becoming actual harm.
Root protection area	A layout 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. BS 5837:2012 *'Trees in relation to design, demolition and construction – Recommendations'.*
Root flare	Thickened and expanded base of s tree stem at ground level form which buttress roots form.
Rootplate	The central part of the root system of a tree, consisting of the large-diameter main roots and a dense mass of smaller roots and soil.
SULE	Safe useful life expectancy of a tree (Barrell)
Stress	In plant physiology, a condition under which one or more physiological functions are not operation within their optimum range, for example owing to lack of water, inadequate nutrition or extremes of temperature.
Stub cut	A pruning cut which is made at some length distal to the branch bark ridge.
Target pruning	The pruning of a twig or branch so that tissues recognisably belonging to the parent stem or branch are retained and not damaged.
Tree Preservation Order	In Great Britain, an order made by a local authority, whereby the authority's consent is generally required for the cutting down, topping or lopping of specified trees.
Tree protection plan	Scale drawing, informed by descriptive text where necessary, based upon the finalized proposal, showing trees for retention and illustrating the tree and landscape protection measures.

TreeRadar Inc.	This equipment is ground penetrating radar that scans the ground for objects and records the data from live roots on a field computer.
Utility	An undertaker by statute that has a legal right to provide customer services (e.g. communication, electricity, gas and water).
Vigour	In tree assessment, an overall measure of the rate of shoot production, shoot extension or diameter growth.
Vitality	In tree assessment, an overall appraisal of physiological and biomechanical processes, in which high vitality equates with near-optimal function, in which high vitality equates with healthy function.
Visual Tree Assessment (VTA)	In addition to the literal meaning, a system expounded by Matteck and Breloer (1995) to aid the diagnosis of potential defects through visual signs and the application of mechanical criteria.
Wound	Injury caused to a tree by a physical force.

Appendix 9

My Experience and Qualifications

Sharon Hosegood
ASSOCIATES

Sharon Durdant-Hollamby

FICFor FArbor A BSc (Hons) Tech Cert Arbor A

Cardiff University Law School Bond Solon CIVIL Expert Certificate

Institute of Chartered Foresters
Registered Consultant

Arboricultural Association
Fellow Member

Profile

Sharon is an Expert Witness, chartered arboriculturist and Director of Sharon Hosegood Associates Ltd. Sharon had eleven years' experience as a local government tree and landscape officer before joining DF Clark Contractors as a tree consultant in 2005. In 2007 she formed an environmental practice in Essex with the owner. As managing director, she built up the ecological and arboricultural consultancy to a team of 20. She is a regular presenter. She became President of the Institute of Chartered Foresters in May 2021. She is a committee member of B/213 Trees for the British Standard Institute.

Specialties:	Trees in relation to development, including appeals and planning hearings
	Tree root investigations, including TreeRadar
	Tree hazard evaluation
	Tree preservation orders
	Trees and well-being with community engagement
Professional bodies:	President of the Institute of Chartered Foresters Fellow of the Institute of Chartered Foresters (ICF) Fellow of the Arboricultural Association
Qualifications:	Cardiff University Law School Bond Solon Civil Expert Certificate Arboricultural Associations Technicians Certificate BSc (Hons) Geography and Landscape Studies Managing Safely IOSH (2017)
Awards:	Top student award for the Technician's certificate in 2005
	The Broomfield Hospital Woodland Management project she has managed between 2009 -2015 won the following awards: The Essex Biodiversity Awards (nomination) The Excellent Community Engagement Award (NHS Forest) Green Flag and Green Apple Award Highly commended for the Health Sector Journal Award 2013

Sharon Hosegood
ASSOCIATES

ARBORICULTURAL METHOD STATEMENT REPORT, AND
SITE SUPERVISION SCHEDULE
BS 5837:2012 '*Trees in relation to design, demolition, and construction' - recommendations*

PURSUANT TO DISCHARGE CONDITION 24

SITE:

Emminster and Hinstock, Abbey Co-operative Community Centre, Belsize Priory

Health Centre, Belsize Road, London NW6 4DX (Abbey Road Phase 3)

CLIENT:

London Borough of Camden

Sharon Durdant-Hollamby
FICFor FArborA BSc (Hons) Tech Cert (ArborA)

DATE: November 2022
OUR REF: SHA 1032 AMS

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Company Registration Number: 9361038 Director: Sharon M.Durdant-Hollamby