

Arboricultural Method Statement

St Pancras Gardens Ramp, Camley Street, London

Report Reference Number: 201007-1.1-StPG-AMS-AN

On behalf of

London Borough of Camden

16 October 2020

Arboricultural Method Statement

St Pancras Gardens, Camley Street, London



Document Control Sheet

Project Name: St Pancras Gardens Ramp, Camley Street, London

Report Ref: 201007-1.1-StPG-AMS-AN

Report Title: Arboricultural Method Statement

	Name	Position	Date
Prepared by:	Alex Needs	Principal Arboricultural Consultant	16/10/2020
Surveyed by:	Merlyn Woodhouse	Associate Arboricultural Consultant	26-29/10/2018

Revision	Date	Description	Prepared by
1.0	12/10/2020	Final for submission	AN
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Appendix A – Tree Protection Plan

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1 Key Contact Details

Name	Company	Role	Contact Details
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Nick Bell	London Borough Camden	Local Authority Tree Officer	<i>Email:</i> Nick.Bell@camden.gov.uk

2 Background

- 2.1 Treework Environmental Practice was commissioned by the London Borough of Camden on 23/09/2020 To produce an Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) to inform construction contractors on tree protection measures and methods that will be required to safeguard retained trees on site.
- 2.2 The AMS follows best practice guidelines in accordance with BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations* and practical solutions, based on sound arboricultural knowledge and experience of the author.
- 2.3 A meeting via MS Teams was convened on 15/10/2020 between Daniel Bailey, Nick Bell and myself to discuss the proposed construction methodology. This AMS incorporates all the recommendations agreed during this meeting.
- 2.4 The following documents have been reviewed by Treework Environmental Practice to inform this document:

Document Title	Document/Drawing number	Originator
Topographical Survey	St Pancras Gardens	St Pancras Gardens
Proposed Layout	St Pancras Gardens - Ramp	Engineering Service (Camden Council)
Tree Constraints Plan	181026-1.0-CGL-TCP-MM	Treework Environmental Practice

St Pancras Gardens, Camley Street, London

- 2.5 The RIBA Stage 2 'Concept Design' Tree Survey, which informs the Root Protection Areas (RPAs), Construction Exclusion Zones (CEZs) and the position of tree protection fencing and other prescribed technical construction measures, was undertaken by Treework Environmental Practice in 31/10/2018.
- 2.6 This AMS has been produced to fulfil the requirements of planning condition 6 appended to London Borough of Camden planning permission ref. 018/5713/P. It provides a set of task tables with detailed methodology, which are to be complied with at all times. Any proposed works within Construction Exclusion Zones (CEZs) that are not covered within this AMS are to be 'agreed' with the Local Planning Authority and/or the Arboricultural Consultant, and appropriate additional methodology provided. **Failure to adhere to the provisions of this document could result in breach of condition.**
- 2.7 The Document should be read along with the following appendices:
- Appendix A: Tree Protection Plan – Drawing Number: 201012-1.6-StPG-TPP-MM
 - Appendix B: Tree Schedule
 - Appendix C: Tree Protection Specifications
 - Appendix D: Example Site Monitoring Form

3 General Tree Welfare

- 3.1 When working near trees, it is important to be aware that the majority of tree roots are normally located in the top 600 mm of soil and can spread out horizontally to a distance at least equal to the height of the tree.
- 3.2 The distance from the tree in which damage is likely to occur is calculated by the Root Protection Area (RPA), which represents the minimum area around a tree deemed to contain sufficient roots and soil volume to keep the tree viable. RPAs should be treated as a precautionary area within which activities such as ground compaction, excavation, the storing of materials, ground stripping, raising of levels and building are likely to cause damage to trees and therefore should not take place. Usually, barriers are erected around the RPA to physically exclude such activities. The area within these barriers is known as the Construction Exclusion Zone (CEZ). Unavoidable activity within the CEZ must be carefully executed and must be guided by this detailed method statement.
- 3.3 Damage can sometimes be avoided, or at least minimised, by suitable technical measures which can be devised with consultation with an Arboricultural Consultant. The protection measures and technical construction measures, applicable to this site, are included within this document.
- 3.4 Tree protection fencing will be installed as set out within the Tree Protection Plan at Appendix A. The fenced-off area will become a Construction Exclusion Zone (CEZ). Any works to be undertaken in the CEZ must follow the detailed method tables set out below.

4 General Precautions

- 4.1 In general, the following procedures will also be followed.
- No materials that are likely to have an adverse effect on tree health will be stored or discharged within the CEZ.
 - Where storage of such materials is upslope of the trees, barriers will be put in place at ground level to minimise the risk of spillages leaching down-slope and contaminating the Root Protection Area of a tree. Such materials include:
 - Fuel and oil
 - Bitumen
 - Cement
 - Sand
 - Fires on sites should be avoided if possible. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and

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the wind direction should be taken into account when determining its location in relation to trees, and it should be attended at all times until safe enough to leave.

- Concrete will not be mixed or transported over unprotected ground within the CEZ. Or on ground that slopes towards the CEZ where overspill could affect it.
- Any incidents involving potential damage to retained trees will be recorded on site using a monitoring form similar to that shown in Appendix D and a copy made available to the Local Authority Tree Officer.

5 Provision of new trees

- 5.1 I am informed that an agreement for the provision of three new trees has been made with the Council's Tree Officer, Mr R Arnone. The agreed specification for these trees is as below:
- 3x *Tilia x vulgaris* (Common Lime)
 - nursery size 16-18cm
 - 2 stakes with hessian ties
 - mulch (75mm depth) and irrigation bag
- 5.2 In my view, these trees would be suitable planted within the gardens, adjacent to the new ramp, and would have potential to provide a significant future amenity to the public. I have indicated potential locations for these trees on the tree protection plan, however these are open to discussion and agreement with the Council. The soft landscape area where post construction planting is proposed, must be protected from construction activities to ensure establishment of the trees.
- 5.3 All planting operations must adhere to the best practice detailed in BS8545: *Trees: from nursery to independence in the landscape*.

6 Tables of Tasks and Detailed Method

- 6.1 The tables below provide detailed method on each task and how they are to be undertaken, along with methods for other tasks which may be required to complete the works. Any deviation from the methods set out in the tables below will be discussed and agreed with the Arboricultural Consultant and/or the Local Authority before being implemented.

Task 1: Securing the Site – Installation of Boundary Fence/Site Hoarding

Method and Action Required	Appendix Reference
<ol style="list-style-type: none">1) The alignment of the boundary fencing/site hoarding will be set out.2) A meeting will be held on site between the Arboricultural Consultant and the Site Manager before installation to consider any conflict between the fencing and retained tree.3) Where there is conflict, the fencing will be realigned or facilitation tree pruning will be agreed with the Arboricultural Consultant.4) Any facilitation to aid the fencing installation will be undertaken following this meeting and before the fencing is installed.5) The work will be detailed in a Tree Schedule and provided to the Tree Surgery Contractors, following approval by the Local Authority Tree Officer.6) Site hoarding may form part of the tree protection fencing (see Task 3), where considered suitable by the Arboricultural Consultant and as shown on the TPP.7) Site hoarding serving as tree protection fencing will remain in place and kept in good condition until all works are complete, unless otherwise agreed with the Arboricultural Consultant.	A, B, C, D

Task 2: Tree Pruning and Removal

Method and Action Required	Appendix Reference
<ol style="list-style-type: none">1) The tree work requirements are set out in the Tree Schedule (Appendix B). Trees shown for removal (G98, T99, T100) are illustrated by a dashed crown outline on the Tree Protection Plan to identify their location.2) All tree works will be undertaken by suitably qualified Tree Surgeons and the work will be undertaken in accordance with BS3998:2010.3) Wherever possible, all required tree pruning work will be undertaken without significantly reducing the landscape value or viability of the tree.4) All tree work will be undertaken before any other operations on site. This will include:<ul style="list-style-type: none">○ Tree and stump removal○ Other facilitation pruning○ All other pruning5) Where stumps are to be removed, and the tree is within 15 m of a tree to be retained, the stump will be ground out using a mechanical stump grinder.6) Any variation to the tree surgery works will be agreed with the Arboricultural Consultant before being implemented.7) All arisings will be removed from site, except where identified for reuse and agreed with the client.	A, B

Task 3: Installation of Tree Protection Fencing

Method and Action Required	Appendix Reference
<ol style="list-style-type: none"> 1) The Tree Protection Fencing will be installed following completion of the tree work and before any other works commence on site, including the arrival of machinery, plant and materials. 2) Fencing should be aligned as shown on the Tree Protection Plan (Appendix A) and in accordance with the marking out completed at the pre-commencement site meeting (see Task 1). 3) The tree protection fencing will only be re-aligned from full protection of Root Protection Areas (RPAs) where there is suitable existing hard surface or ground protection that acts as horizontal protection. This is illustrated on the Tree Protection Plan. 4) The tree protection fencing will be constructed in accordance with BS 5837:2012 Figure 2–Tree Protective Barrier, and will form the Construction Exclusion Zone (CEZ) for the duration of the works, except where otherwise specified in this document. 5) A tree protection information sign will be secured to every other fencing panel at eye level, facing into the site. This will aid identification of the CEZ and inform site operatives of its importance. 6) Once the tree protection fencing has been installed, the Arboricultural Consultant will inspect the site and sign off, providing the specified criteria has been met. 7) The tree protection fencing will remain in place and kept in good condition until all works are complete, unless otherwise agreed with the AC. 8) Stem protection will be installed to avoid damage to tree T96. This should comprise: <ol style="list-style-type: none"> ○ Robust plywood-sided (min. 15 mm gauge) crate, reaching from ground level to a minimum height of 2m. ○ The crate should be free standing and mounted on a frame (min. 50 mm x 50 mm thickness), boxed around the trunk ○ A separation of at least 50 mm must be maintained between the outer face of the stem and the inner framework of the crate. ○ No part of the crate should be attached to the tree. 	A, B, C, D

Task 4: Removal of Existing Hard Surfacing Within the RPA

Method and Action Required	Appendix Reference
<p>Hard surfacing removal will be required within the RPA of tree T96.</p> <p>In general, works should comply with the following:</p> <ol style="list-style-type: none"> 1) Removal of hard surfacing should be programmed to take place immediately before the laying of new surfacing (see Task 6) to avoid premature removal of the protective surface. 2) The Arboricultural Consultant will oversee work and complete and submit a monitoring form on completion. 3) Removal of the existing surface within the RPAs will be performed using hand tools within the first 800mm depth. In exceptional cases where the hard surface can only be broken up using machine, the machine will be positioned on existing hard surface outside of the RPA, operate under the direct instruction of the AC and will not operate on areas within the RPA where the surface has been removed. 4) Any exposed roots that may be present will either be pruned to a clean face using disinfected sharp secateurs or pruning saw, or, if they are to be recovered, kept damp and out of direct sunlight whilst exposed, as directed by the Arboricultural Consultant. 5) In hot conditions or drying winds, exposed roots will be dampened down within 1 hour and wrapped in a damp hessian material or similar. 6) Woody roots >25mm diameter will not be pruned unless judged by the Arboricultural Consultant not to be essential to the tree's health and stability. Where agreed roots will be pruned to a clean face by the Arboricultural Consultant using disinfected sharp secateurs or pruning saw. 7) Where possible, the existing base stone will be retained to minimise the potential damage to tree roots from excavation. 8) New surfaces will be installed within 48hrs of removing the old material. Where this is not possible, then a temporary surface will be installed over the exposed area of the RPA. The temporary material will be suitable for purpose – as directed by the AC. 	<p>A, B, D</p>

Task 5: Changing Ground Levels Within the RPA

Method and Action Required	Appendix Reference
<p>Changing of ground levels will be required within the RPA of T96 and T101.</p> <p>1) In normal circumstances, there should be no change to ground levels within 1 m of the stem of a tree and, beyond this prohibited zone, reduction in ground levels of 100 mm or greater and increases in ground levels of 200 mm or greater are considered to be significant, with a potential to harm the tree.</p> <p>Reducing Ground Levels</p> <p>Where ground levels are to be reduced the following process and methods will be employed to ensure that trees are not critically affected:</p> <p>1) Detailed assessment will be carried out as directed by the Arboricultural Consultant of the presence, location and significance of tree roots in the affected area, such as:</p> <ul style="list-style-type: none"> ○ Visual ground assessment ○ Trial excavation supervision <p>2) Where the impact can be kept to an acceptably low level to ensure that the tree remains viable, the work will be carried out the excavation under the following conditions:</p> <ul style="list-style-type: none"> ○ Supervision by the Arboricultural Consultant ○ All operations by hand/using hand operated tools only within the first 800mm depth. 	<p>A, B, D</p>

Task 6: Installation of Permanent Hard Surfacing within the RPA

Method and Action Required	Appendix Reference
<p>Installation of permanent hard surfacing will be required within the RPA of T96 and T101.</p> <p>In general, works will follow the points below:</p> <ol style="list-style-type: none"> 1) To achieve the levels required, excavation within the RPA will be required in this instance (see Task 5). 2) Exploratory investigations may be undertaken under the supervision of the Arboricultural Method Consultant if not done already to establish the presence/absence of significant tree roots. The results of these exercises may be used to inform the final surface levels, in consultation with the Arboricultural Consultant. 3) Removal of the existing subbase where this is required will be supervised by the Arboricultural Consultant, who will follow the methodology for hard surface removal set out in Task 4. 4) To prevent compaction of the sub-soil, new surfaces installed on soft ground will comprise of a 3D cellular confinement system (such as Wrekin ProtectaWeb or Geosynthetics CellWebTRP), filled with irregularly sized clean granular fill, over a permeable geo-textile. The cellular system must be a suitable depth for the application which will be identified by the supplier. This is likely to be at least 100mm in depth for pedestrian use. 5) Where possible, the surface to be installed over the filled 3D cellular system is to be porous, to allow air and water to penetrate into the root system. 6) <u>For the avoidance of doubt</u> this cellular system specification will only be applied to sections of the new ramp footpath free from any reinforced concrete sub structure. 7) The cellular system will be unloaded outside of the RPAs and via the designated haul routes (tbc). The material will be installed by hand within the RPAs. Once installed and filled with stone, vehicles/plant machinery can operate within the RPA and install the final surface above. Installation will conform to the following: <ul style="list-style-type: none"> ○ Supervision of the Arboricultural Consultant, who will submit a monitoring form on completion. ○ All operations by hand/using hand operated tools only. 	<p>A, B, D</p>

Task 7: Landscaping Operations

Method and Action Required	Appendix Reference
<p>Soft landscaping operations will be required within the RPAs of T96, T101, and T102.</p> <ol style="list-style-type: none"> 1) The Arboricultural Consultant will review any landscape operation that involves works within the RPAs of retained trees and input additional site-specific methodology where necessary. Additional methodology will be agreed with the Local Authority Tree Officer before proceeding with the work. 2) The Arboricultural Consultant will oversee any soil removal and replacement work, and will complete and submit a monitoring form on completion. 3) Tree protection measures in place will be removed following consultation with the Arboricultural Consultant. 4) No plant or vehicles will enter soft areas of ground within the RPA. 5) Installation of paving or other hard surfaces within RPAs will follow the principles set in task 6, above. 6) Existing unwanted vegetation within the RPA will be removed using hand-held tools, or exceptionally, by the application of non-contact herbicide such as glyphosate. 7) No excavation or rotivation will occur within the RPA, with the exception of small localised post holes for fencing. 8) Post holes will be dug by hand and if significant roots are encountered (>25mm), the hole will be backfilled and an adjacent location found. 9) Small roots can be pruned flush with the soil profile with clean disinfected secateurs or a pruning saw. 10) If concrete is to be used to secure posts in holes, then an impermeable barrier is to be used between the concrete and the soil profile to prevent potential toxicity to tree roots. 11) Turf and other soft surfaces to be introduced within the RPA will be kept to a minimum thickness (maximum 100 mm) and laid upon existing soft ground. 12) If undulations need to be levelled, then sharp sand (not marine-derived sand, e.g., builders' sand, which is too alkaline) will be used and no excavation will be undertaken. 13) No strip foundations will be installed. 	<p>A, B</p>

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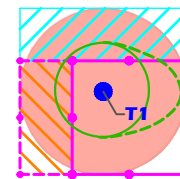
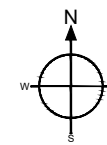
St Pancras Gardens, Camley Street, London



Method and Action Required	Appendix Reference
14) Shrubs will not be planted within 1 m of the stems of trees. Planting holes for shrubs should be dug by hand and should be repositioned if significant woody roots are encountered.	A, B
6.2 All planting operations must adhere to the best practice detailed in BS8545: <i>Trees: from nursery to independence in the landscape</i>	

Appendix A

Tree Protection Plan



	Tree or Group Reference Number		Tree Protection Fencing
	Tree Stem Position A Category Tree		Initial Tree Protection Fencing
	Tree Stem Position B Category Tree		Ground Protection
	Tree Stem Position C Category Tree		Special Engineering /Supervised Excavations
	Tree Stem Position U Category Tree		Construction Exclusion Zone
	Tree Crown		Pruning/Tree Removal
	Root Protection Area		Site Boundary

Date: October 2020

Scale: 1:400 @A4

Project Name:
St Pancras Gardens, Camley Street, London

Drawing Title:
Tree Protection Plan

Drawing Number:
201016-1.6-StPG-TTP-MM



Treework Environmental Practice

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Stem protection will be installed to avoid damage to T96 in accordance with Task 3.

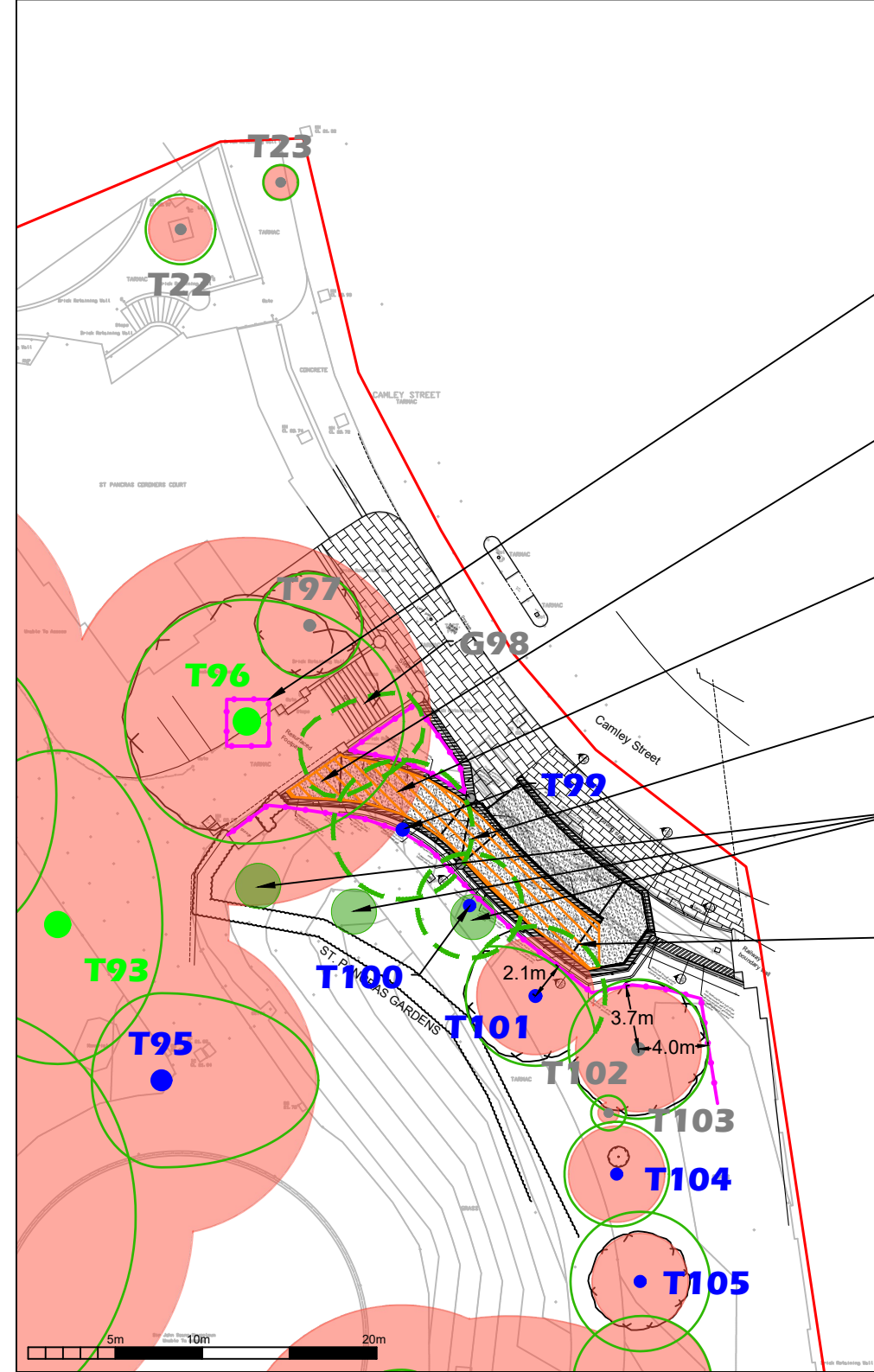
Existing hard surfacing within RPAs will be removed under supervision using hand tools in accordance with Task 4.

Reduction of ground levels within RPAs will be carried out under supervision using hand tools in accordance with Task 5.

New hard surfacing should utilise a load spreading cellular confinement system and a porous wearing course in accordance with Task 6.

Indicative location of 3 new trees to be planted in the landscaping phase (see Task 7). Please refer to the landscaping plan for the exact tree planting locations.

Reduction of ground levels within RPAs will be carried out under supervision using hand tools in accordance with Task 5.



Appendix B

Tree Schedule

St Pancras Gardens, Camley Street, London

Tree Survey BS5837-2012



Tree/Group Reference	Tree Count	Species	Height (m)	Stem Count	Stem Diameter (cm)	Crown Radius (m)				Crown Clearance Height (m)	Lowest Branch Height (m)	Life Stage	Physiological Condition	Observations and Recommendations	RPA (m ²)	RPR (m)	Remaining Contribution (Years)	Retention Category	Retention Sub-category
T93	1	<i>Platanus x hispanica</i> London Plane	30.0	1	82	N 10.0	E 6.0	S 8.0	W 7.0	5.0	8.0	Mature	Good		304.2	9.8	40+	A	2
T94	1	<i>Platanus x hispanica</i> London Plane	33.0	1	111	N 12.0	E 10.0	S 12.0	W 10.0	10.0	8.0	Mature	Good		557.4	13.3	40+	A	2
T95	1	<i>Tilia x vulgaris</i> Common Lime	25.0	1	74	N 5.0	E 9.0	S 5.0	W 4.0	9.0	6.0	Mature	Good	Suppressed crown - Minor.	247.7	8.9	20-40	B	2
T96	1	<i>Platanus x hispanica</i> London Plane	30.0	1	88	N 7.0	E 9.0	S 7.0	W 7.0	7.0	9.0	Mature	Good		350.3	10.6	40+	A	2
T97	1	<i>Prunus</i> sp. Cherry sp.	8.0	1	22	N 3.0	E 3.0	S 3.0	W 3.0	2.0	2.0	Semi Mature	Fair		21.9	2.6	10-20	C	2
G98	4	<i>Cerasus avium</i> Wild Cherry	5.0	1	10	N 2.0	E 2.0	S 2.0	W 2.0	2.0		Semi Mature	Fair	Fell - Ground level. Remove group to facilitate works.	4.5	1.2	10-20	C	2
T99	1	<i>Tilia x vulgaris</i> Common Lime	8.0	1	29	N 4.0	E 4.0	S 4.0	W 4.0	2.0	2.0	Semi Mature	Good	Fell - Ground level. Remove tree to facilitate works.	38.0	3.5	20-40	B	2
T100	1	<i>Tilia x vulgaris</i> Common Lime	8.0	1	25	N 3.0	E 3.0	S 3.0	W 3.0	2.0	2.0	Semi Mature	Good	Fell - Ground level. Remove tree to facilitate works.	28.3	3.0	20-40	B	2
T101	1	<i>Tilia x vulgaris</i> Common Lime	8.0	1	28	N 4.0	E 4.0	S 4.0	W 4.0	2.0	2.0	Semi Mature	Good	Prune from adjacent structure. Reduce eastern edge of crown by up to 1.5m and up to 4m in height to allow construction access.	35.5	3.4	20-40	B	2
T102	1	<i>Tilia x vulgaris</i> Common Lime	8.0	1	30	N 4.0	E 4.0	S 4.0	W 4.0	2.0	2.0	Semi Mature	Good	Bark wound - Mammal.	40.7	3.6	20-40	C	2

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Tree Survey BS5837-2012



Tree/Group Reference	Tree Count	Species	Height (m)	Stem Count	Stem Diameter (cm)	Crown Radius (m)				Crown Clearance Height (m)	Lowest Branch Height (m)	Life Stage	Physiological Condition	Observations and Recommendations	RPA (m ²)	RPR (m)	Remaining Contribution (Years)	Retention Category	Retention Sub-category
T103	1	<i>unrecognized</i> Unrecognised	3.0	1	5	N 1.0	E 1.0	S 1.0	W 1.0	2.0		Young	Fair	Not on topographical survey. Unknown species.	1.1	0.6	10-20	C	2
T104	1	<i>Tilia x vulgaris</i> Common Lime	8.0	1	23	N 3.0	E 3.0	S 3.0	W 3.0	2.0	2.0	Semi Mature	Good		23.9	2.8	20-40	B	2
T105	1	<i>Tilia x vulgaris</i> Common Lime	8.0	1	23	N 4.0	E 4.0	S 4.0	W 4.0	2.0	2.0	Semi Mature	Good		23.9	2.8	20-40	B	2

Tree Schedule Key



Tree/Group Reference	Reference number for individual trees or groups of trees, prefixed by T (Tree), G (Group), W (Woodland), H (Hedge) or S (Shrub) to indicate the type of feature.
Tree Count	Number of trees of a particular species recorded within a group feature, with the default value of 1 for single trees.
Species	Scientific name followed by common name (where available).
Height (m)	Tree height to the nearest metre, either measured with a device or estimated. Tree height for group records refers to the estimated average height of trees within the group (unrepresentative trees may be excluded from this estimate).
Stem Count	Number of stems. Stem count indicates whether the tree is single-stemmed or multi-stemmed and informs the RPA calculation.
Stem Diameter (cm)	Stem diameter, measured at 1.5m above ground level in accordance with Annex C of BS5837:2012. Diameters of multi-stemmed trees are presented as a combined stem diameter calculated in accordance with the formulae in Section 4.6.1 of BS5837:2012. Stem diameter for group records refers to the estimated average stem diameter of trees within the group (unrepresentative trees may be excluded from this estimate).
Crown Radius (m)	Distance from stem position to crown periphery in either the four cardinal or four ordinal directions, estimated to the nearest half metre. Crown spreads for group records refer to the estimated average spreads of trees within the group (unrepresentative trees may be excluded from this estimate).
Crown Clearance Height (m)	Distance between the ground and the lowest point of the crown periphery, estimated to the nearest half metre.
Lowest Branch Height (m)	Height of the lowest branch, the removal of which is considered likely to have a significant negative effect on the tree in terms of physiology or in terms of the size of wound created.
Life Stage	Young, Semi-mature, Early Mature, Mature, Late Mature, Ancient or Veteran.
Physiological Condition	Good, Fair, Poor, Dead.
Observations	General description of the tree or tree group, including basic features and morphology, structural and physiological condition, growing conditions and surroundings.
Recommendations	Management recommendations for tree works to address immediate unacceptable risks, or to facilitate development proposals.
RPA (m²)	Minimum area around a tree deemed to contain sufficient roots and rooting soil volume to maintain the tree's viability, in which the protection of roots and soil structure is treated as a priority. Calculated from the stem diameter according to the formulae in BS5837:2012. RPA for group records is based on the estimated average stem diameter of trees within the group (unrepresentative trees may be excluded from this estimate).
RPR (m)	Radius of the RPA, in metres, when this is plotted as a circle around the tree stem.
Remaining Contribution (years)	Estimated number of years for which the tree will continue to make a positive contribution to the site, banded as < 10, 10-20, 20-40, 40 +.
Retention Category	Quality and value category (A , B , C or U) as defined in Table 1 of BS5837: 2012 (reproduced below), where A = high quality and value; B = moderate quality and value; C = low quality and value and U = tree identified for removal due to poor condition regardless of development proposals.
Retention Sub-category	One or more sub-categories (1-3) as defined in Table 1 of BS5837: 2012 (reproduced below), assigned for Categories A , B or C where 1 = arboricultural qualities, 2 = landscape qualities and 3 = conservation and cultural value.

Appendix C

Tree Protection Specifications

Technical Measures to Prevent Tree Damage

Tree Pruning

Tree pruning will be carried out where the design and/or planned site operations encroach into the crowns of trees and where these encroachments can be accommodated through facilitation pruning without significantly reducing the landscape value and/or viability of the tree.

Tree pruning operations will:

- be specified by the arboricultural consultant
- be in accordance with current best practice
- be carried out by a suitably experienced and qualified arborist

Tree Protection Fencing

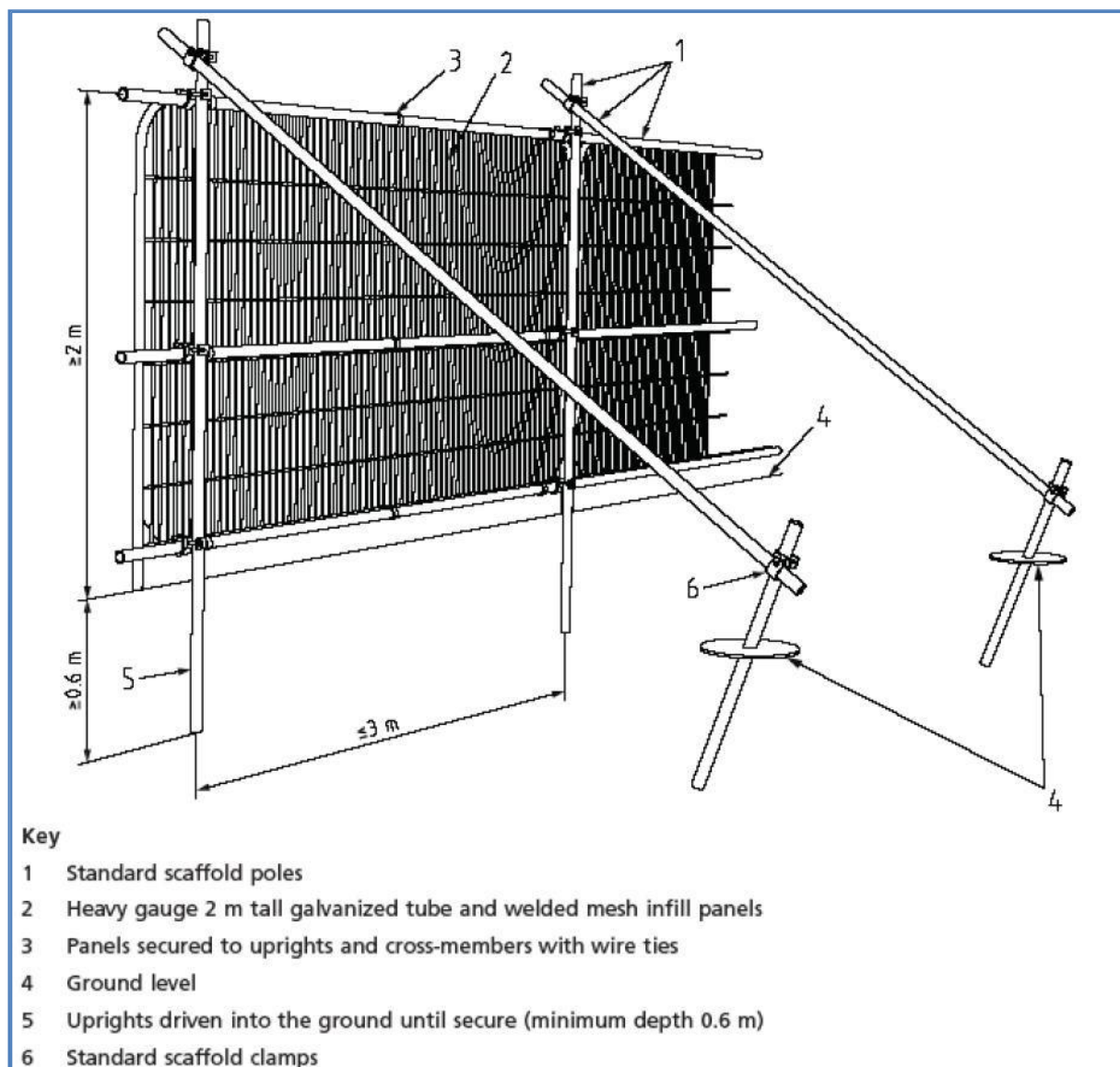
Tree protection fencing will be located at the edge of the Construction Exclusion Zone (CEZ) and will be suitably robust to provide sufficient protection for trees. The performance requirement for fencing will be determined by the type of activity that will take place in the area around the CEZ.

Typically the performance requirement for the Tree Protection Fencing will be:

- Tree Protection Fencing will be installed prior to commencement of activity on the site.
- Tree Protection Fencing will only be removed once all works associated with the development have been completed.
- The Tree Protection Fencing will be installed and removed without causing damage to retained trees.
- Installation, removal and, where required, replacement of Tree Protection Fencing will be supervised and signed off by the Arboricultural Consultant.
- The Tree Protection Fencing will be stable and robust (typical construction method, in accordance with BS5837: 2012, see below).
- The area between the Tree Protection Fencing and the tree will be a Construction Exclusion Zone (CEZ)
- Fence panels will be made of mesh (e.g.: Heras fencing) or, if solid, will have 30cm windows cut into enough panels to enable conditions within the CEZ to be viewed.
- The CEZ will be clearly identified (see Construction Exclusion Zone sign example below)



Example Tree Protection Fencing Sign



BS5837: 2012 - Figure 2 – Tree Protective Barrier

Appendix D

Example Monitoring Form

Site Inspection Report

Completion of Arboricultural Operations – Monitoring Form

Site Name:		
Site Address:		
Client Name:	Instructed By:	
Site Manager:		
Arboricultural Operation Checked By:	Date:	Approved / Not Approved
Operation Completed / Additional Works Required:		
Number of Photographs Supplied:		
Completed By (Contractor Name):	Contractor / Subcontractor	
Copied to LPA	Yes / No	Contact Name:
Copied to Client	Yes / No	Contact Name:
Copied to Site Manager	Yes / No	Contact Name:

Operation Completed / Additional Works Required (Continued):