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ARBORICULTURAL IMPACT ASSESSMENT AND METHOD STATEMENT

BS5837:2012

On behalf of:
LLI Design

Site:
17 Hampstead Lane, N6 4RT

Prepared by:
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(Hons)

Report Reference:
AAAIA17HA

Report Date:
13th November 2023

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1.0 Instruction

All Arboriculture has been instructed by LLI Design to undertake a tree survey in accordance with BS5837:2012 *Trees In relation to design, demolition and construction – Recommendations*, and to produce an Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan. The instruction was received on the 2nd November 2023. The tree survey was carried out on the 6th November 2023.

2.0 Statement of purpose

The purpose of this report is to provide local planning authorities with sufficient arboricultural information to consider the effect of the proposed development on nearby trees, and to demonstrate that trees have been carefully considered throughout the development process. The report includes an arboricultural method statement that describes how work will be undertaken to provide adequate protection of retained trees.

3.0 Associated documents and drawings

This report should be read in conjunction with the following documents and drawings:

1. (GA05) Proposed Rear Garden
2. British Standards Institute - BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations*
3. Tree Protection Plan – AATPP17HA

4.0 Site description

The site is in London on the south side of Hampstead Lane and is a detached residential dwelling. The proposal is a rear extension and alterations to the front and rear. The site falls under the jurisdiction of Camden Council and is within the Highgate Village Conservation Area.

5.0 Vegetation description

The vegetation consists of 3 Category C trees. There are shrubs planted to the front and the rear of the property and all reasonable specimens will be retained and low quality vegetation will be replaced with better quality specimens and planting.

6.0 Arboricultural impact assessment

Table 1: Summary of impacts

Tree removal	None
Facilitation pruning	None
Demolition within RPA	None
New surfacing within RPA	T1, T2,
New structures within RPA	T1, T2, T3

Building construction in relation to tree roots: No tree removal or facilitation pruning is required for proposed. The use of traditional strip foundations for the relocated shed could result in root severance, which could result in premature decline of the tree and loss of stability. Ground screws will be used to avoid large roots with a diameter of 25mm or more. All works within and close to the RPA's of retained trees will be carried out by hand.

Excavations for the construction of the retaining wall within the RPA of T3 will be undertaken manually under arboricultural supervision. The soil is to be loosened with the aid of a fork or pick axe and then cleared with the aid of an Air-spade, Air-vac and or shovel. Any roots found will be cleanly severed by the arboricultural consultant or the specialist arboricultural contractor with either a hand saw or secateurs leaving a clean cut. Once all roots have been severed the edge of the excavation closest to the trees will be covered and retained prevent drying out, soil collapse or contamination.

Building construction in relation to tree crowns: It is important that sufficient growing space is allowed between the mature crown extent of each tree and the roof edge of the proposed structures. This is to reduce conflicts of interest in the future and to reduce the pressure to prune trees to keep them clear of roofs: A clearance of two metres from the mature tree crown is generally considered acceptable which is the case with this proposal.

Tree root and canopy protection: The RPA (Root protection area) of the retained trees should be protected during the development phase with heras fencing and ground protection to ensure heavy machinery is not operated, or materials stored within the rooting area. This can be detrimental to the trees, causing soil compaction and root die back. The protection of the RPA and canopy spread is detailed in the Arboricultural Method Statement below.

Special surfacing: For new surfacing within RPA's such as the pathways, the existing ground will be graded up to form a no dig-surface utilising a 3D load spreader, a no-fines aggregate and a porous wearing course. All works within the RPAs will need to be carried out strictly by hand as shown on the Tree Protection Plan.

Materials delivery, storage and handling: Materials should not be handled or stored within the RPAs of retained trees; the load exerted can result in soil compaction and leachate from spills can be toxic to trees.

Surface drains, soakaways and services: It is important that services, surface drains and soakaways avoid the RPAs of retained trees as roots can be damaged during trench excavations which is the case for this proposal.

Shading: The shading effects of trees should be taken into consideration when locating fenestration. Where structures are located too close to trees and to the north of them, the shade cast by the trees may prompt requests to fell or prune in the future and is therefore not encouraged by local planning authorities.

7.0 Arboricultural Method Statement

Implementation and phasing of the development: Prior to any building work commencing on site, a meeting will be held with the tree consultant and site manager present. During the meeting details regarding the location of heras fencing will be discussed and a time to reconvene in order to assess the heras fencing will be agreed. The schedule of events during the development phase will be as follows:

Heras fencing will be installed as indicated in plan AATPP17HA.

Tree protection barriers: Protective fencing will be installed prior to the commencement of any development activity and will be retained in the positions shown on the tree protection plan (AATPP17HA). The fencing will be to the BS 5837:2012 'Trees in relation to design, demolition and construction – recommendations' (section 6.2) i.e. preformed galvanised steel mesh panels ('Heras' or similar) facings on a driven braced scaffold pole framework. It will be retained at the locations shown until construction is completed. It may be moved or removed only with notice to and consent from the local planning authority.

Ground protection: Temporary ground protection to be installed within RPA of T1 and T2 should be capable of supporting pedestrian movements only. Ground protection will consist of plywood sheets or scaffold boards laid upon a layer of compressible material such as woodchip 50-75mm in thickness.

Storage and handling of materials: This site has sufficient space for materials to be stored and handled.

Contractors parking: There is sufficient space on site and on Hampstead Lane for parking.

Welfare facilities: Toilets and hand washing facilities shall be made available within the property.

Surface drains, soakaways and services: RPAs will be avoided in the drainage design however, in the unlikely event that existing cables need to be unearthed within an RPA, the method for doing so will accord with the recommendations in the NJUG Publication: Volume 4: Issue 2: 16/11/2007: Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Trenches will be dug by hand and any roots over 2.5cm in diameter will be retained undamaged. Smaller roots may be cut back to the proximal face with a clean, sharp pair of secateurs. The trench backfill around the roots shall be a granular material that can be compacted to the point where it can bear the new surfacing without subsiding but without abrasion of tree roots and without raising the soil bulk density to the point where root growth cannot take place. Should it be necessary, this operation will be overseen by the project arboriculturist.

Supervision: The project arborist will attend the site to inspect the heras fencing and ensure that it has been laid out as prescribed in the method statement and meets the requirements of BS5837:12. Any excavations within the RPA of retained trees will be overseen by the project arboriculturist. It is the responsibility of the site manager to inform the arboricultural consultant when inspections are required for example, when heras fencing is ready to be inspected.

Tree works: Excavations for the construction of the retaining wall within the RPA of T3 will be undertaken manually under arboricultural supervision. The soil is to be loosened with the aid of a fork or pick axe and then cleared with the aid of an Air-spade, Air-vac and or shovel. Any roots found will be cleanly severed by the arboricultural consultant or the specialist arboricultural contractor with either a hand saw or secateurs leaving a clean cut. Once all roots have been severed the edge of the excavation closest to the trees will be covered and retained prevent drying out, soil collapse or contamination. .

Tree planting: It is respectfully suggested that if additional tree planting is required then this should be secured through an appropriately worded planning condition.

Sequencing of works

Site clearance of a light nature
Main construction phase
Hard and soft landscaping (if required)
Removal of all non-essential equipment
Landscaping hard and soft (if required)
Completion

Contacts

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APPENDIX 1 - Tree Schedule Schedule



Tree No	Species	Height (m)	Trunk Diameter (cm)	Crown spread (m)		Crown height above ground (m)	Life stage	General observations	BS 5837 cat	Root protection area (m)
1	Plum <i>Prunus domestica</i>	9	30	5	3	2	Early Mature	Twin stem. Lean to the North.	C	3.6
				5	5					
2	Magnolia <i>Magnolia × soulangeana</i>	7	29	3	2	2	Early Mature	Suppressed.	C	3.4
				3	2					
3	Laurel <i>Prunus lusitanica</i>	4	21	2	2	1	Early Mature	No significant defects.	C	2.5
				2	2					

APPENDIX 1 - Tree Schedule Schedule

Survey Key

Diameter (mm)

Stem diameter in millimetres measured at 1.5m above ground level. Where the stem is divided below 1.5m, measurement is taken as directed by BS:5837 Annex

C. RPA - Root Protection Area

RPA circle radius is determined from Annex D of BS:5837. R- Radius

A – Area

Branch Spread (m)

Radial crown spread in metres, measured for each of the four cardinal points of the compass from the centre of the trunk.

Low branches

Height above ground in metres of the lowest branch and use of the 4 cardinal points of the compass.

Age class

(NP) Newly planted – a tree within 3 years after planting

(Y) Young – a tree within its first one third of life expectancy

(EM) Early Mature – a tree within its second third of life expectancy

(M) Mature – a tree in its final one third of life expectancy

(OM) Over Mature – a tree having reached its maximum life span and is declining in health and size due to old age

(V) Veteran – a tree in the second or mature stage of its life and has important wildlife and habitat features including; hollowing or associated decay fungi, holes, wounds and large dead branches.

(A) Ancient – a tree in the ancient or third and final stage of their life that is of interest biologically, aesthetically or culturally because of its age, size and condition

N E
W S

Physiological Condition

GOOD – a tree in a healthy condition with no significant problems

FAIR – a tree generally in good health with some problems that can be remediated POOR – a tree in poor health with significant problems that can't be remediated DEAD – a tree without sufficient live material to sustain life

Structural Condition

An assessment of the structural/safe condition of the tree categorised into:

GOOD – a tree in a safe condition with no significant defects

FAIR – a tree in a safe condition at present but with defects or with significant defects that can be remediated POOR – a tree with significant defects that can't be remediated.

EC - Estimated remaining contribution in years (based on the species and its current condition)

<10 Up to 10 years

10+ 10 years or more

20+ 20 years or more

40+ 40 years or more

Category (Tree quality assessment)

Category U – Tree in poor condition that cannot realistically be retained for longer than 10

years Category A – Trees of high quality

Category B – Trees of moderate quality Category

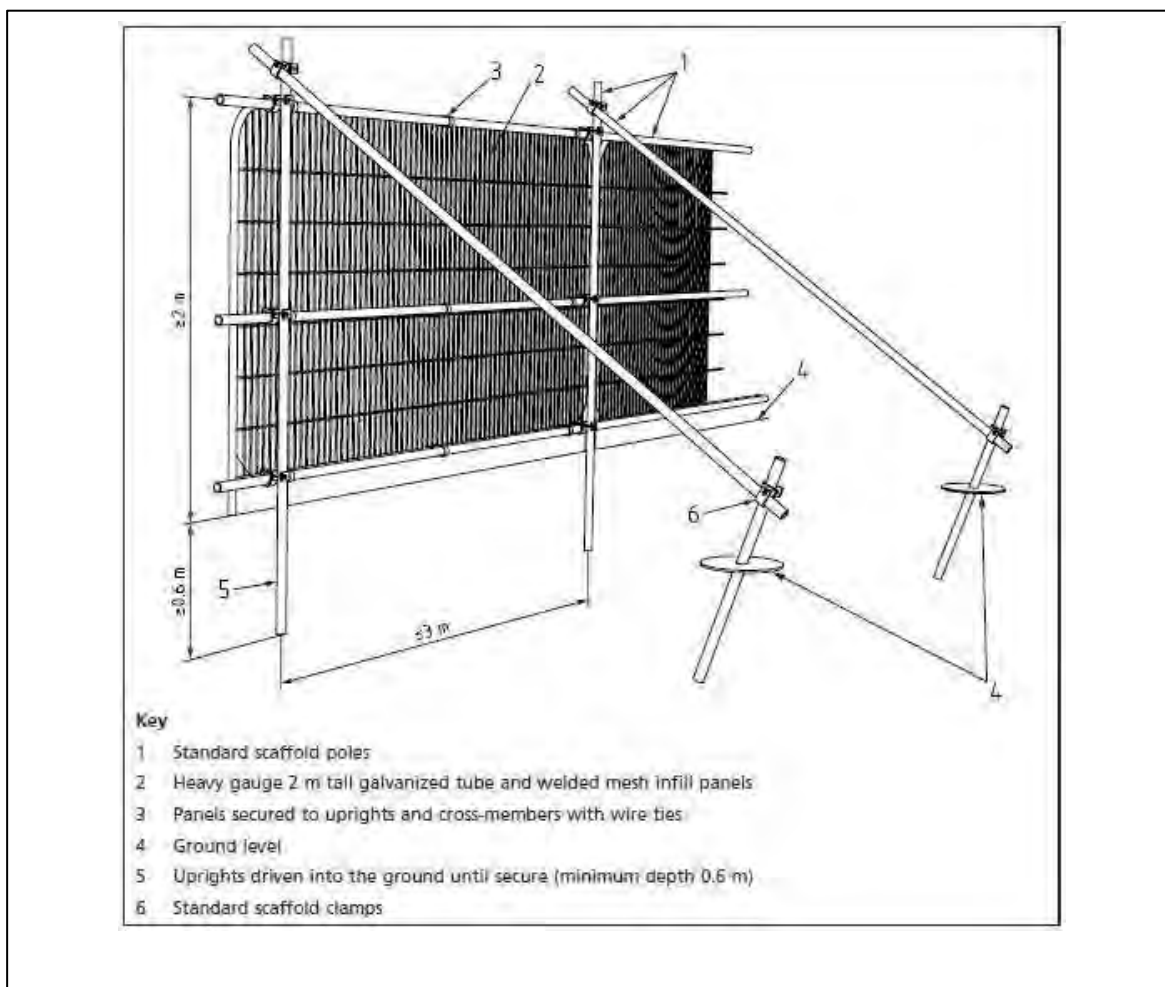
C – Trees of low quality

APPENDIX 2 – Protective Fencing

Protective fencing should be erected before any construction commences on site. It should also be in position to protect important trees prior to demolition.

Protective fencing should stay in position until all construction activity has finished.

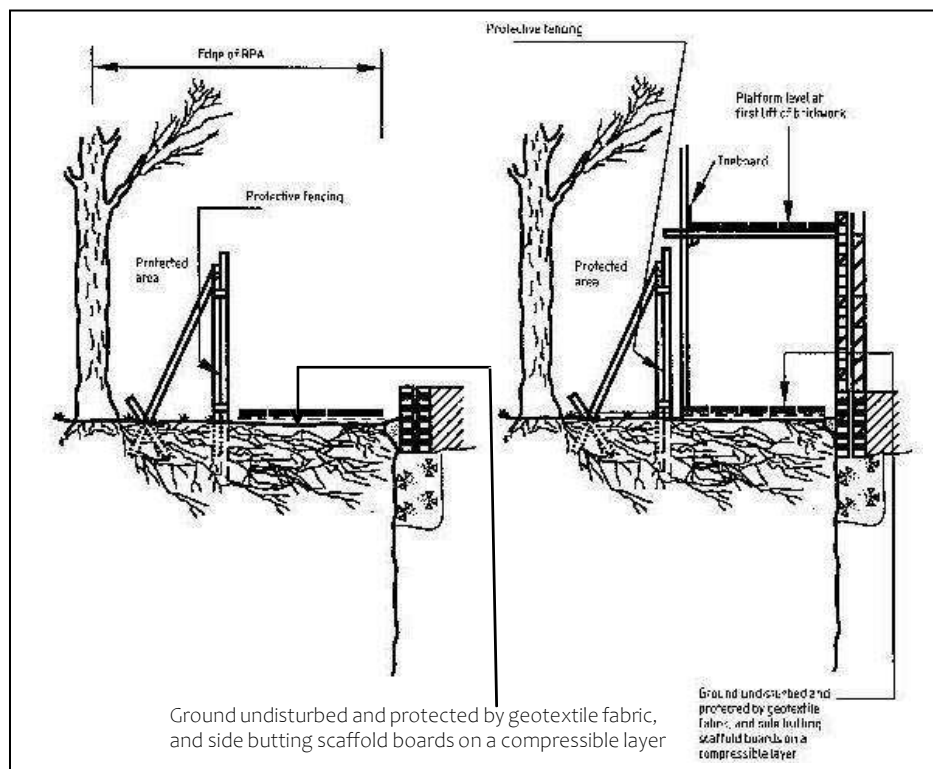
'Fencing should be established at the minimum distance set out in British Standard 5837:2012 *'Trees in relation to design, demolition and construction - Recommendations'*. Excavations should not encroach into the fence position and it is appropriate to keep at least 0.5m between the fence and any changes in level.



APPENDIX 2 – Ground Protection

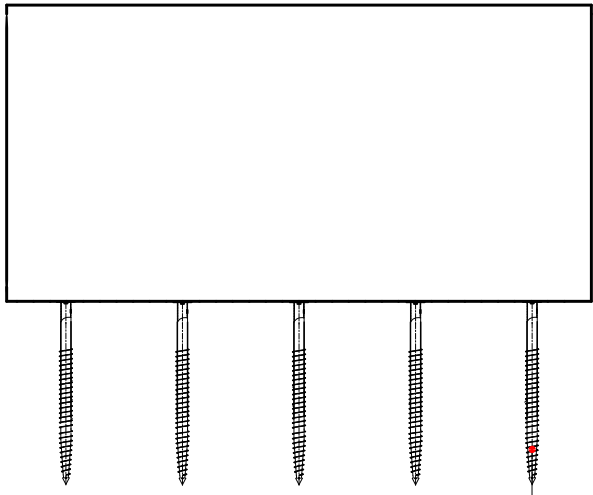
Where ground protection measures are necessary, they can be provided by laying a geotextile mat onto the existing ground level and adding to this compressible materials, such as bark mulch or sharp sand to form a safe, level surface. Onto this surface is laid scaffold boards which become the working surface for the duration of the construction phase.

Where scaffolding is proposed above the area requiring protection the footway can be suspended above ground level using the upright scaffold poles onto which horizontal supports can be attached and then boards used to form the footway surface. A geotextile mat should be laid on the ground beneath to prevent contamination from materials dropped through the footway.



APPENDIX 3 – Tree Protection Plan

Ground Screws:
The shed will be installed using ground screws to avoid large roots with a diameter of 25mm or more. All works will be carried out by hand.



Ground Screw

Ground protection:
Temporary ground boarding capable of supporting pedestrian movements, 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. 100 mm depth of woodchip), laid onto a geotextile membrane.

Existing retaining wall to be removed

Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction.

Default specification: To comprise either 2.4m wooden site hoarding; or a 2.3m high scaffolding framework comprising of vertical and horizontal framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals and driven into the ground by a minimum of 600mm. On to this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold framework with wire.

Secondary Specification: To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabilizer struts, which should be attached to a base plate and secured with ground pins.

All weather notices should be erected at regular intervals on the weld mesh panels with words such as "Construction exclusion zone - Keep out".

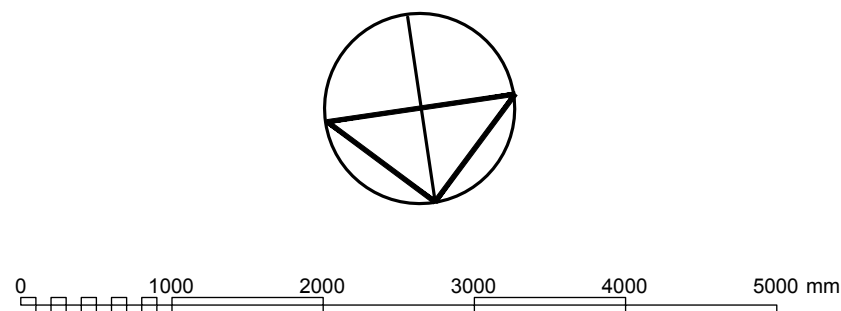
Ground Protection

Temporary ground boarding capable of supporting 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. 100 mm depth of woodchip), laid onto a geotextile membrane.

Supervised Excavation

Excavations within and immediately adjacent to RPAs are to be undertaken under direct on-site arboricultural supervision.

For the retaining wall within the RPA of tree 3, the initial excavation will be undertaken manually under arboricultural supervision then any roots that to be cut will be cleanly severed by the project arboriculturalist using a suitable hand saw or secateurs. The edge of the excavation closest to the retained trees will be covered over with damp hessian to prevent drying out, and where necessary be shuttered to prevent soil collapse or contamination by concrete.



Legend:

- RPA for Cat A* tree
- RPA for Cat B* tree
- RPA for Cat C* tree
- RPA for Cat U* tree
- Tree Canopy
- Heras Fencing
- Ground protection

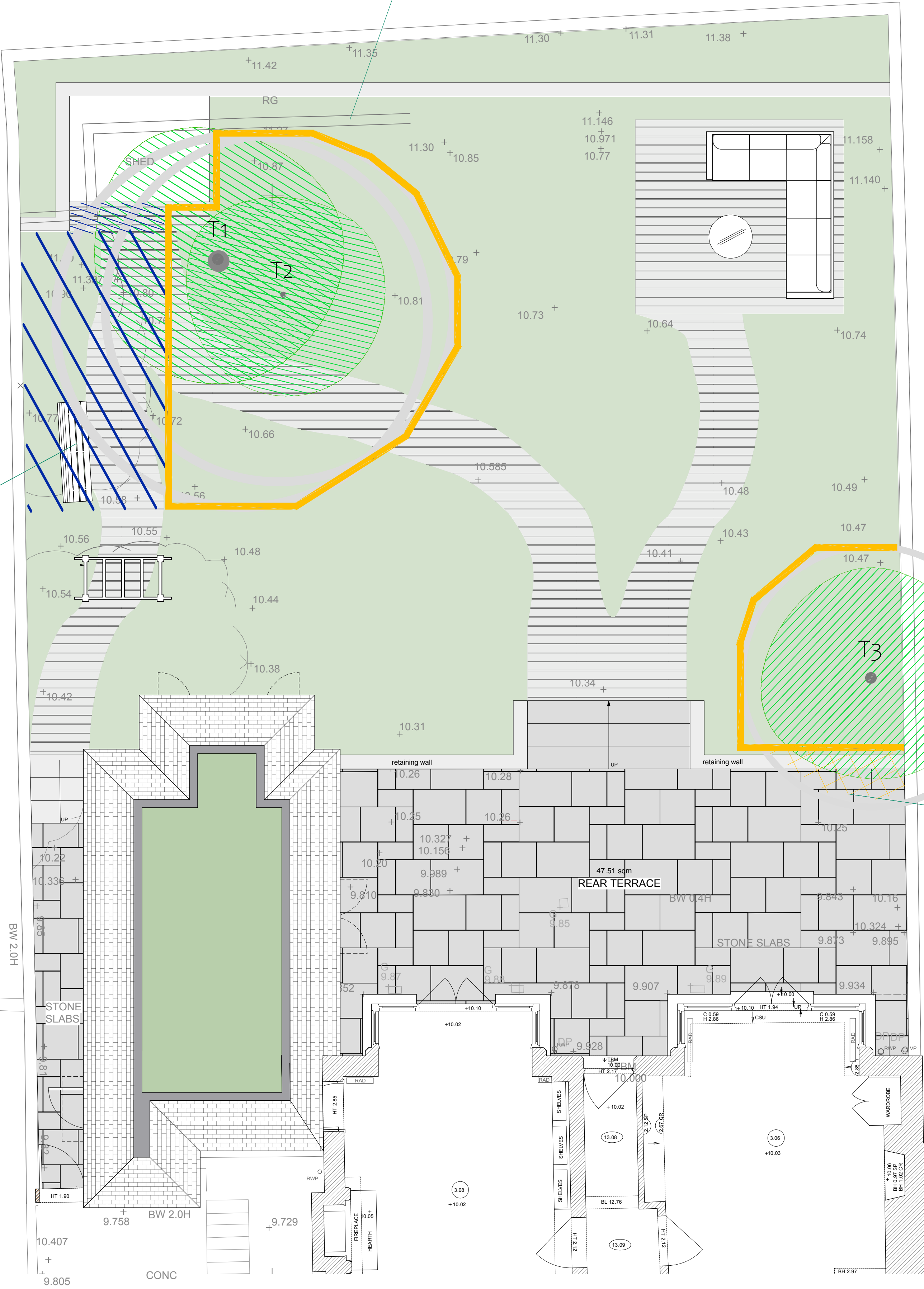
All Arboriculture
23 Southernhay Avenue
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Client: LLI Design
Consultant: Kristian Chesterman

Site: 17 Hampstead Lane, N6 4RT

Title: Tree Protection Plan

Scale of A1: 1:50	Date: 13/11/2023	Document Ref: AATPP17HA
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Arboricultural supervision: Excavations for the retaining wall within the RPA of tree 3 will be undertaken manually, under arboricultural supervision. Any roots discovered will be cut cleanly by the project arboriculturalist. The edge of the excavation closest to the retained trees will be covered over with damp hessian until the wall is installed.