

TREE CONSTRAINTS

The tree coverage to the front and rear garden areas, and within neighbouring gardens, has been addressed in the design development to protect root systems.

MDJAC Aboricultural Consultants have undergone a process of airspading trial trenches, in order to fully understand the full extent of root coverage on site. The diagram to the right is an excerpt form the report and outlines the various trees we were to protect as part of the proposals.

An executive summary by MDJAC is provided below:

EXECUTIVE SUMMARY

- S1. This Tree Report and Constraints Appraisal (TRCA) has been instructed by Atelier Gooch on behalf of the owner of the subject property: 12 Highgate West Hill, London, N6 6JR.
- S2. The report is intended to inform The Client of the current tree stock, its condition, and its suitability for retention within the context of a proposed re-development of the site, in accordance with British Standard BSS837:2012 'Trees in relation to design, demolition and construction Recommendations'.
- S3. A total of 17 individual trees, four groups of trees and one hedge with trunk diameters greater than 75mm at 1.5m above ground level were surveyed during the site visit. A summary of their categorisation in accordance with BSS837:2012 is provided at Table 1.
- S4. No active Tree Preservation Orders (TPOs) afford statutory protection to the trees at the property. However, the property itself is located within the Highgate Village Conservation Area and consequently, the LPA may attach greater importance to the retention of trees irrespective of their categorisation in accordance with BS5837:2012.
- S5. Notwithstanding any statutory controls, trees assessed as either category 'A' or 'B' should be considered as constraints and incorporated into any forthcoming site layout wherever possible. Trees of category 'C' or 'U' need not necessarily be considered a constraint, but their retention may help minimise the overall impact of the scheme.
- S6. The default position in the evolution of the site layout should be to propose all structures outside of the RPAs of trees to be retained. Where minor encroachments into these RPAs exist, every attempt should be made to 'design-out' these incursions to reduce the collective magnitude of impact posed by the scheme. It is recommended that design evolution is undertaken in collaboration with MDJ Arboricultural Consultancy Limited to ensure potential impacts are mitigated appropriately.

Excerpt from MDJAC Report for 12 Highgate West Hill



Excerpt from MDJAC Report for 12 Highgate West Hill - Tree Survey Plan

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SUPPLY & WASTE

The diagram indicates a proposed route for supply and waste pipework - the shortest and least disrupting means of servicing the summer house.

It is proposed that two number 100mm DIA plastic pipe runs are installed, as indicated to the right. These are to be laid to avoid all roots over 20mm DIA, onto sand and covered with hessian gause and back-filled with soil. All localised opening up is to be carried out using specialist air spade to displace the material surrounding roots without causing damage to them.

Through this method, all roots can be accurately located, inspected and bypassed to ensure that the minimal services being run do not cause any harm to the surrounding trees or their root networks.

STRUCTURAL DESIGN

The setting of the proposed summerhouse has been very carefully sited relative to the adjacent trees, site boundary as well as the composition of the garden setting and the wider conservation area.

Great sensitivity has been exercised with regards to the proposed summerhouse design being in close proximity to a number of trees. A thorough and methodical structural design and construction methodology has been determined with the appointed consultants, to ensure, without doubt, that the construction of the summerhouse does not harm the trees or their roots.

Please refer to MDJAC's report (Arb Consultant) for a detailed site plan and methodology in relation to retained trees and root protection zones. A typical detail of the Abbey Pynford system is shown below.







Site plan showing proposed service route option



Image of existing garden showing location of existing hardstanding/path



Images showing airspade excavation technique to protect roots within Root Protection Zones







1.0	Pre-work .	2.0	Installation
1.1	Before work commences all correct documents/risk assessment have been obtained, read, understood & signed.	2.1	Lay Cellweb over a breathable geotextile membrane and fill pockets with pea shingle to form working surface.
1.2	Organise work procedures with other personnel before work commences and carry out a toolbox talk.	2.2	Commence construction of. 250mm dia. Continuous Flight Auger (CFA) piles following the careful guidance stipulated by the structural engineer and arboriculturalist
1.3	Ensure materials are located locally to work area by use of mechanical means if possible.	2.3	Lay a Clayboard layer with voidpack water introduction pipes to the top of the Cellweb and cover with a gentextile membrane
1.4	Establish safe work area use hazard tape/barriers.		prior to the installation of a marine plywood shutter to form the underside of the slab.
1.5	Mark out intended pile locations as per arboriculturalists guidelines	2.4	Lay steel reinforcement gridwork as per structural engineer's specification insuring water introduction pipes protrude above
1.6	Carryout tree root investigation works with the use of hand tools and an air spade to a depth of 1000mm.		finished slab level.
1.7	Identify if roots in excess of 20mm are present, if so adjust position of the pile by up to 800mm so as to allow for the avoidance of any discovered tree roots and mark new location with ground marker paint.	2.5	Pour concrete into formwork to create the slab (as per structural engineers drawing) ensuring the ground and surrounding areas are adequately protected. Prior to pouring, structural engineer, architect and arboriculturalist to be invited to site for sign off of the pour.
		2.6	Introduce water into the Voidpack pipes to collapse the Clayboard after the concrete has hardened. Once collapsed remove Voidpack and Clayboard from beneath the slab.

- 2.7 Install lightweight steel columns and roof as per structural engineers drawings.
- 2.8 Construct flat roof structure with timber joists and steel beams to structural engineer's specification.
- 2.9 Install final finishes as per architect's details.

- 3.0 Completion of task.
- 3.1 Invite architect, structural engineer, and arboriculturalist and tree officer (if required) to sign off completion of works prior to careful dismantling of tree protection measures.
- 3.2 Ensure work areas are clean and tidy of all materials before removing working platform.
- 3.3 Obtain signed off permits (if required).

<u>All works to be carried out in line with planning consent and conditions, arboriculturalists method statement, structural method statement, and any/all findings that effect these to be reported immediately and prior to carrying out any further works.</u>







The proposals are comprised of the following elements:

AMOUNT

Front Garden:

The front garden proposals consist of minor regrading works to the existing driveway, implementation of a bin store and sliding gate. The minor extension of the boundary wall sits neatly within the stepped context of the street and the materials will be of exact match to the existing condition.

Summerhouse:

The summerhouse consists of a lightweight timber structure, in a traditional design to the rear corner of the garden. It's position seeks to be entirely subservient to the main house, surrounded by trees and soft landscaping and sits neatly within the immediate and wider context.

LAYOUT

Front Garden:

The main change, in terms of front garden layout, is the small bin enclosure on entry. The gate to the front is proposed to sit in line with the neighbouring property in reflection of the joint Listing the properties share.

Summerhouse:

The summerhouse is proposed to consist of a small gym area, sauna and ice bath, and sits within the western corner of the garden.

SCALE

Front Garden:

The extension of the front wall proposal is modest and entirely in keeping with the existing streetscape.

Summerhouse:

The scale of the summerhouse presents a delicate balance between functionality and respect to it's surroundings. The walls are low

in stature, and the double hip roof serves to lean away from each boundary to visually reduce it's massing. The timber and slate materiality work together to blend in with the context.

USE

Front Garden: The bin store proposal is to hide away unsightly refuse bins and gate mechanism, maintaining a tidy and attractive approach that focuses purely on the main house facade.

Summerhouse: Leisure and recreational use.

ACCESS

Front Garden:

The new gate serves as a security measure for the applicant and sits at the lower end of the driveway. This access is for pedestrians and vehicles alike.

Summerhouse:

Access from the rear of the main house only.

CONCLUSION

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The proposals for 12 Highgate West Hill contained within this document have been considered with a holistic view of suitable modern living requirements alongside the important role the property has to play in the historical context of the area.

Every endeavour has been made to ensure the proposals do not detract from the historic setting and seek to integrate subtly within the context of the Highgate Village Conservation Area.



12 Highgate West Hill

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Stages of typical slab build

Working within protected trees creates very site specific requirements. The Treesafe system is tailored to your site and specific arboricultural needs. The following covers some of our most common approaches, but not all.



Setting Out

We start by setting out the pile locations, as per the Abbey Pynford design. This takes place either directly on to the prepared ground or over a breathable geotextile membrane.



Bespoke Working Surface

Once setting out is complete a bespoke working surface is laid. We use three types of working surface: Cellweb (pictured), a concrete working surface (pictured) or granular mat. The surface type is dictated by the site requirements in conjunction with the Arboriculturist.



Hand augering

Hand augering is undertaken at all pile positions within the RPA. If roots greater than 10mm diameter are found, our in-house design team reanalyse the slab. A new pile position is proposed and re-augered. Once all positions are confirmed to be root free, piling can commence.

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04.02 ROOT PROTECTION SUMMER HOUSE CONSTRUCTION METHODOLOGY



Piling

The piles are driven using our custom made light weight rigs. which can be supported by the bespoke working surface. This prevents the need for deep excavation for a piling mat, which would cause root damage. Each pile is then sleeved to prevent concrete





Drainage & Services

After the piles are trimmed to cut off level the drainage and services are installed. This can be done by us or the client, project dependant.



Deck Support Units

Our patented temporary Deck Support Units (DSU) are laid out to create the void, upon which the raft will be built.





04.03 ROOT PROTECTION SUMMER HOUSE CONSTRUCTION METHODOLOGY



Edge Shuttering & Fix Reinforcement

Next, our patented edge system is installed on plywood, followed by the steel reinforcement to create the raft.



Concrete pour

Once final levelling is complete the concrete is poured, taking precautions to prevent concrete leaching into the RPA.



Finished structural slab

The finished slab is ready for trades on average 5-7 days after the concrete pour.



Once the slab is cured a membrane will be attached to prevent materials entering the void.



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