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Arboricultural Impact Assessment

12b Keats Grove,
London,
NW3 2RN

Client:
Kylie Richardson
Flat 2
29 Thurlow Road
London NW3 5PH

Prepared by
Robin Howorth
B.Sc. M.Sc. MRICS, MICFor.
Chartered Arboriculturist

Date of Report :
4th April 2022

Contents

1 Limitations

This report is solely for the use of Kylie Richardson, architectural advisors, Camden local authority planning department, friends and family and cannot be relied upon by others without the sole approval of the author, Robin Howorth of R Howorth & Co Ltd.

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Signed

Robin Howorth, B.Sc. M.Sc. MRICS MICFor
CHARTERED ARBORICULTURIST
CHARTERED BUILDING SURVEYOR

4th April 2022

2 Introduction

This initial advice is based on my tree inspection on 15th June 2021 and 20th January 2022 in addition to my academic training and professional experience.

Please note all orientation within the report is based on viewing the property and the trees from Keats Grove to the front.

3 Brief

To provide an arboricultural impact assessment based on my 15th June 2021 and 20th January 2022 tree survey and schedule and the proposals for a planning application for 12b Keats Grove, London, NW3 2RN.

The proposed works comprise of the demolition of the existing and the construction of a new dwelling.

This report is based on BS 5837: 2012. Trees in Relation to Design, Demolition and Construction - Recommendations.

4 My Experience

I am a qualified and experienced Chartered Arboriculturist with over 25 years professional practice as a forester and arboriculturist.

I have a B.Sc. (Honours) degree in Forestry and Wood Science from Bangor University and a M.Sc. in Building Surveying from Southbank University, London.

I am a Council member and trustee of the Institute of Chartered Foresters.

As part of my ongoing Continual Professional Development, I have completed training in: CAVAT-tree valuation and Quantified Tree Risk Assessment (QTRA).

In my regular professional life, I am involved with resolving tree related subsidence claims; tree safety inspections and reports; arboricultural implication assessments for planning applications; tree root exposure and mapping and tree and wood decay assessments.

5 Technical references

This arboricultural report is based upon the following technical references;

British Standards Institute 2010 BS3998 Recommendations for tree work.

British Standards Institute. 2012. Trees in Relation to Design, Demolition and Construction - Recommendations BS 5837: 2012 HMSO, London.

Lonsdale, D. 1999. Principles of Tree Hazard Assessment and Management. The Stationary Office, London.

Mattheck, C, and Breloer, H. The body language of trees – A handbook for failure analysis. The Stationary Office, London.

J. Robert, N. Jackson & M. Smith (2006) Tree Roots in the Built Environment (ISBN 9780900978593).

Strouts, R.G. and Winter, T.G. 1994. Diagnosis of ill-health in trees. The Stationary Office, London.

10 Limitations

The inspection was carried from ground level. I also used a ladder to inspect the Robinia tree to check and expose decay to the main stem.

This inspection relates only to arboricultural aspects with regard to the proposed planning consent for construction works.

All visual observations, exposure or roots and recommendations, relate, to the condition of the trees on the day of the survey.

The trees have been assessed visually.

No advanced decay detection methods were used in the survey.

Where or when unusual weather conditions such as storms or heavy rain; changes in soil; soil levels and changes to surroundings occur, this may lead to deterioration in the tree's health.

6 Date of inspection

I inspected the site on 15th June 2021 & 20th January 2022.

7 Background information

The property is currently occupied.

8 Documents and information provided

The proposed and existing plan as prepared by 51 Architecture has been provided and is relied upon.

9 Scope of this report

This report only concerns the trees that are within 20m of the existing house and proposed development area.

No inspection of any other trees was undertaken on the day of the survey.

The inspection and report do not include an assessment of the structure of the house or any possible impact the trees may have or have had upon the structure of the house or utilities such as drains and the like.

10 Limitations

The inspection was carried from ground level with ladder access to the Robinia tree (T8).

This inspection relates only to arboricultural aspects with regard to the proposed planning consent for construction works.

All visual observations, exposure or roots and recommendations, relate, to the condition of the trees on the day of the survey.

The trees have been assessed visually.

No advanced decay detection methods were used in the survey.

10 Time Limit

As trees are biological living organisms and are potentially subject to disease or decline, this report and any recommendations made are limited to a 12 month period.

Any alterations to the site, ground levels and any development proposals or construction works could change the current circumstances and may invalidate this report and any recommendations made.

11 Tree Health

Trees are dynamic structures that can never be guaranteed completely safe particularly as this inspection did not involve the use of advanced internal decay testing with specialist equipment.

Even when trees are in good condition, they can suffer damage under average conditions.

Regular inspections can help to identify potential problems before they become acute.

12 Site Inspection and Observations

I carried out a site survey on 15th June 2021 & 20th January 2022.

The inspection was of the adjacent trees and their roots for the purposes of the planning application only and not for safety reasons.

The weather at the time of inspections was cold with average visibility.

13 Identification and Location of the Trees

The trees are detailed in the tree schedule and the tree protection plan drawing.

All the relevant information on these trees is contained within this report and the tree schedule report.

14 Trees

The tree schedule report dated 15th June 2021 lists 16 trees within 20 metres of the proposed development area.

British Standard BS5837:2012 Item 4.2.4 b) notes that only trees with a diameter of 75mm or more should be recorded in the survey.

14.1 Category A trees (High Amenity Value)

T4 & T5.

14.2 Category B trees (Moderate Amenity Value)

T12, T13, T14 & T15.

14.3 Category C trees (Low Amenity Value)

T7 & T16.

14.4 Category U tree (Trees recommended for removal)

T1, T2, T3, T6, T8, T9, T10 & T11.

15 Arboricultural Impact Assessment

The following trees are within an area that could potentially be affected by the development.

The arboricultural impact of the works upon the trees is based on construction traffic, digging for services, garden paths, scaffolding and any interference with the underground and overground parts of the trees close to and in the construction area.

15.1 Tulip Tree (T1)

This deciduous tree is positioned within the front garden of the adjacent property No.12.

The tree is around 4.3m from the front right corner of No.12b and 3.5m from the front left corner of No.12.

The diameter is 27cm and its height is around 8m.

This tree has been approved for removal as part of the planning consent for No.12 (2021/1497/P).

15.2 Holm Oak Trees (T2 & T3 (G2))

These two evergreen trees positioned in a raised bed in the front garden of the adjacent property No.12.

The trees are around 6m & 8m from the front right corner of No.12b.

The diameters are 24cm and their heights are around 6m.

These trees have been approved for removal as part of the planning consent for No.12 (2021/1497/P).

15.3 London Plane trees (T4 & T5)

These two mature trees are positioned in the front garden of the left side neighbours' garden.

The trees are over 20m from the front left corner of No.12b.

These magnificent trees have good form and a healthy leaf cover and canopy.

The diameters are around 90cm and their heights are around 26m.

The tree root protection area of these trees is 10.8m radius from the tree stems.

These monumental trees have high canopies distant from a height where they could be damaged by any construction traffic.

The tree stems are separated from the work by existing fences.

The construction works will not be undertaken in the tree root protection area.

The construction access for lorries and deliveries passes through the root protection of these two trees.

The existing surface to the drive which is within the root protection of the trees is currently formed of a granular tarmac/concrete finish.

With the current driveway in position, there is a likelihood of ground compaction.

I would recommend that a geogrid system as produced by Zigma ground solutions is laid and infilled with pea shingle. This system can withstand loads of up to 500 tonnes/square m and point loads of 25 tonnes.

This ground protection could be laid over the existing hard surface.

However, I would recommend that the existing granular tarmac/concrete finish is carefully lifted and taken away and the geogrid system then laid. This will form an improved rooting area as well as providing a non compactable surface suitable for heavy construction traffic.

This lifting of the existing surface should be undertaken carefully under the direct supervision of the project arboriculturist to ensure that any existing roots are not disturbed or damaged

15.4 Lilac Shrub (T6)

This shrub is positioned in the front left side raised bed of No.12b around 15m from the house.

Even though this shrub is separated from the works by the raised bed, the branches are low hanging and will undoubtably be damaged by construction traffic.

However, this is a small and relatively unimportant shrub in terms of amenity, cultural or biodiversity value.

I would recommend that this shrub is cut back to ground level.

This shrub once cut will, over the next few years, grow from its base and re-establish its current size and form.

In effect, this shrub, will be pruned so that it can be retained.

15.5 Hawthorn Tree (T7)

This deciduous native tree is positioned within the front garden of the adjacent left side property.

The tree is around 11.5m from the front left corner of No.12b.

The diameter is around 30cm and its height is around 6m.

The tree root protection area of this tree is 3.6m radius from the tree stem.

This is a mature/overmature and attractive tree with significant decay in the stem and a healthy leaf cover and canopy.

This tree has a relatively short lifespan and is nearing senescence and decline.

However, the canopy does not extend over the driveway to No.12b and there is a fence and raised flower bed separating the tree stem and roots from the construction work.

As the ground level where construction work is planned is to the edge 0.6% of the root protection area and is significantly lower than the raised flower bed and the tree ground level, the roots will not be significantly affected even if they are present in this area of the theoretical root spread.

In summary, this tree should not be affected by the construction works.

15.6 Robinia Tree (T8)

This deciduous tree is positioned in the right corner of the rear garden at No.12b close to the house.

The tree is around 2.5m from the house. The diameter is 36cm and its height is around 15m.

This is a young/semi mature tree has significant areas of decay at 2.4 m height with a further decay pocket running from 2.8 to 3.3 m from ground level. At the fork at 3.7 m height there is a 300 mm deep decay pocket to the centre of the fork.

Due to the decay in addition to the position of the tree hidden from view and close to the existing house, I recommend removal of this tree.

It is proposed that the Category U Robinia tree (T8) be felled and removed due to stem decay and its proximity to the existing property.

This tree is not suitable for long term retention.

The tree is not visible from the street or adjacent public areas.

15.7 Birch Trees (T9, T10 & T11)

These three decorative birch trees quite close to the rear left corner of the rear garden to No.12b.

Their diameters range from 17cm to 23cm and they are around 8m high.

T8 closest to the house has been pruned indicating that this tree is outgrowing its current location which is too close to the existing house for its future growth.

T9 has become suppressed with weak growth and a canopy that is overgrown by the T8 canopy.

T9 has been planted too close to T8.

When considering long term retention or management of trees, BS5837 states that it should be considered if they can remain healthy and whether they will cause problems in the future.

Birch trees do not react very well to pruning, developing decay and easily becoming disfigured by the pruning work.

Birch trees do not have a long life. These trees could only live for a further 20 years.

These two trees, unfortunately, are not suitable for long term retention.

T10 has a better form and shape, it is further away from the existing. However, as the final tree in the group, T10 should also be removed so that a coherent planting scheme and replacement trees can be positioned in the rear garden following the construction works.

Due to its small size and low value in terms of biodiversity/heritage/amenity, this is a Category C/U tree.

These three birch trees are decorative specimens probably Betula Sinensis or similar and so as exotic tree species, they do not support many associated insect species.

These three Birch trees are recommended for removal.

15.8 Cherry Tree (T12)

This mature Cherry tree is positioned in the rear left corner of the rear garden of No.12b.

The tree is around 10m from the house and the root protection area is 4.6m based on its diameter of 38cm.

The tree is 10m high.

This tree is at a significant distance from the works and based on fencing being erected to exclude construction traffic and storage of materials from the root protection area of the Lombardy Poplar trees (T13, T14 & T15) in the rear garden, this tree should not be affected by the works.

No works are recommended to T12.

15.9 Lombardy Poplar Trees (T13, T14 & T15)

These mature Poplar trees are positioned in the rear centre and right side of the rear garden of No.12b.

The trees are around 16m in height and 16 to 17m from the house and the root protection area of these trees varies from 4.8 to 10.3m.

The works to the rearmost section of the proposed new dwelling and basement terrace will slightly impinge on the root protection area of 10.3m.

This incursion into the tree root protection area should be in less than 1% of the root protection area.

Based on any work within the root protection area being undertaken under direct supervision of the project arboriculturist and all digging being carefully undertaken, this small scale incursion is acceptable.

It is proposed to lay a new path within the root protection area of these trees as part of the new woodland garden as shown on the drawing. Having discussed the path construction with James Fox, the project Landscape Architect and garden designer, it has been agreed that the path will be laid as a 'no dig' path so that the root protection area will not be impacted.

T13 and T15 are overmature specimens and subject to a close examination are likely to contain significant decay within their stems as is typical of this species which is a short lived tree.

However, separate to the planning application, I would recommend that a detailed aerial inspection of these trees is undertaken in the next 3 to 6 months to check for decay with works carried out as required.

15.10 Apple Tree (T16)

This fruiting apple tree is situated in the left side of the rear garden of No.12 around 10m from the rear right corner of No.12b.

There are three main stems to this mature fruit tree each measuring 14cm in diameter.

The root protection area of this tree is 2.9m and the tree is sufficiently distant from the works not to be affected.

16 Tree Protection

The root protection area of the front left London Plane trees (T4, T5) is to be protected by a geogrid with a granular infill. This ground protection is to be laid in position following the careful removal of the existing hard drive tarmac/concrete. This work is to be undertaken prior to the works commencing under the direct supervision of the project Arboriculturist.

This ground protection will remove the possibility of ground compaction and tree root damage.

The above ground parts of these two trees are distant from the works and construction traffic or disturbance.

The root protection area of the Lombardy Poplar trees T13, T14 & T15 should be protected by fencing which complies with the minimum standard of figures 2 and 3 of British Standard BS 5837:2012 *Trees in relation to development – recommendations* as shown below and on the tree protection plan drawing.

This root protection fencing will also exclude the rear Cherry tree (T12) roots and canopy from the construction area.

The construction of the external stairs and the retaining wall to the lower ground floor lightwell will involve works within the edge of the root protection area of the Lombardy Poplar trees (T13, T14 & T15).

This incursion into the tree root protection area will be in less than 1% of the root protection area.

BS5837 notes that small scale incursions into root protection areas can be acceptable if there are mitigation circumstances. The project woodland garden will improved the root area of the retained rear garden trees.

Additionally, BS5837 notes that the specific tree species tolerance of disturbance should be considered (item 7.4.1). Lombardy Poplar trees are known for their propensity for adventurous roots and tolerance of disturbance. However, in this instance, the incursion into the tree root protection area will be in less than 1% of the root protection area and as such, very small scale.

Based on any work within the root protection area being undertaken under direct supervision of the project arboriculturist and all digging being carefully undertaken, this small-scale incursion is acceptable.

Appendix No 1 - BS 5837:2005, Figure 2 - Protective barrier

17 Arboricultural Method Statement

a) No construction activity or machinery is to be allowed within the tree root protection areas of T12, T13, T14 & T15 without the direct supervision of the project Arboriculturist.

b) An incursion into the edge of the T13 root protection area is to be undertaken under the direct supervision of the project Arboriculturist

c) Fencing is to be erected to the edge of the root protection area of trees T12, T13, T14 & T15 as shown on the tree protection plan to protect the below ground and above ground parts of these trees.

d) The existing granular tarmac/concrete front drive which is within the root protection area of the front two London Plane trees is to be carefully lifted and taken away and the geogrid system from Zigma ground solutions is to be laid and infilled with pea shingle prior to works being undertaken. This lifting of the existing surface should be undertaken carefully under the direct supervision of the project arboriculturist to ensure that any existing roots are not disturbed or damaged

e) Signage is to be provided on the tree protection fencing stating "No works or construction traffic are to be allowed in this area".

f) The contractor is to inform the project manager of the need for arboricultural input if any damage to adjacent trees occurs with at least 5 working days' notice by email so that a written record is available to council officers if required.

g) The reporting of the above required arboricultural input is to be the responsibility of the contractor and depending on the frequency of site inspections, the project manager/Architect.

h) If there are any amendments to the proposed work, the amendments must be subject to a Chartered Arboriculturists' review.

i) Any digging, ground disturbance or construction work of any type within the protected root areas must only be undertaken with a Chartered Arboriculturists' guidance, supervision and written agreement.

j) The architect's contact details are as follows: Cathi Du Toit, 51 Architecture, +44 203 355 1205 cathi@51architecture.com, 51architecture.com, 1a Cobham Mews, London NW1 9SB

18 Conclusion

- The tree protection plan shows the theoretical location of the roots which makes up the root protection area which in turn creates the construction exclusion zone for the retained trees.
- The front drive within the root protection area of the mature London Plane trees (T4 & T5) is to be dug up and resurfaced with a geo grid to improve the rooting area and protect against compaction. Works within the root protection area are to be directly supervised by the project Arboriculturist
- This construction area exclusion zone will allow the retained rear garden trees (T12, T13, T14 & T15) to be retained without construction disturbance (excepting the minor incursion into the root protection area which is to be directly supervised by the project Arboriculturist).
- Poor quality and damaged trees are to be removed (Lilac shrub T6, Robinia tree T8, Birch trees T9, T10 & T11).
- Trees agreed for removal by a previous planning Consent are the Tulip tree & Holm Oak trees (T1, T2 & T3).

19 Recommendations

The contractor should be provided with a copy of this report so the requirements can be followed during works and to completion.

20 Statutory Controls

It has been confirmed that the trees are within a conservation area and no tree pruning or removal works are to be carried out without local authority approval.

It is strongly advised that prior to undertaking any work on the trees written consent is granted from the local authority via an application or through the planning process.

A tree preservation order, referred to as a 'TPO', is an order made by a local planning authority ('LPA') in respect of trees or woodlands.

The principal effect of a TPO is to prohibit the: cutting down, uprooting, topping, lopping, wilful damage, or wilful destruction of trees without the LPAs consent. The cutting of roots is potentially damaging and so, in the Secretary of State's view, requires the LPAs consent.

Anyone who, in contravention of a TPO, wilfully damages a tree in a way that is likely to destroy it is guilty of an offence. Anyone found guilty of this offence is liable, if convicted in the Magistrates Court, to a fine of up to £20,000. In serious cases a person may be committed for trial in the Crown Court and, if convicted, is liable to an unlimited fine.

Conservation Areas are areas of special architectural or historical interest with a character or appearance that is desirable to preserve or enhance. Trees may often contribute to the special character of the area.

All trees in a Conservation Area are subject to controls which enable the LPA to protect the special character of the area created by the trees. If trees have a specific Tree Preservation Order (TPO) on them, then the normal Tree Preservation Order controls apply.

You must give the LPA 6 weeks' notice, in writing, of your intention to do any work to trees in a Conservation Area. You must not carry out any work during the six week period, which starts from the date of receipt of your notification by the council, unless you receive written permission to do so. Work which is not exempt and is carried out without formal notification or within the six week period without the written consent of the council is illegal. The LPA may prosecute offenders and fines of up to £20,000 for each tree may be imposed by the Magistrates Court in the event of offenders being convicted of an offence. If proceedings are instituted in the Crown Court fines are unlimited. There is a duty to replace any tree removed without permission.

The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000, provide statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist must be obtained before undertaking any works that might constitute an offence.

21 Tree Pruning or Removal Works

All tree works should be carried out to BS 3998 Recommendations for Tree Work as modified by more recent research. It is advisable to select a contractor from the local authority list and preferably one approved by the Arboricultural Association. Their Register of Contractors is available free from:

Arboricultural Association, The Malthouse, Stroud Green, Standish, Stonehouse, Gloucestershire, L10 3DL, Tel: +44 (0)1242 522152, admin@trees.org.uk. www.trees.org.uk/contractors.htm

TREE SURVEY SCHEDULE

Site	**12b Keats Grove, London, NW3 2RN**
Date of Survey	**15TH June 2021**
Arboricultural Consultant/Surveyor	**Robin Howorth MRICS, MICFor**

Tree Reference Number	Species	Height m	Stem Diameter mm	Branch Spread mm	Height Of Crown Clearance m	Age Class	Physiological Condition	Structural Condition	Preliminary Management Recommendation	Estimated Remaining Contribution Years	Category Grading	Root protection area (RPA) as radius in metres
1	Tulip tee	These trees are positioned in the front garden of No.12 and as part of the planning consent, the removal of these trees has been agreed. On this basis, no survey data has been collected or recorded for these trees.										
2	Holm Oak											
3	Holm Oak											
4	London Plane	26	900	N12 E 13 S 6 W 4						40 +	A1	10.8
5	London Plane	26	900	N 8 E 5 S 12 W 12	11	M	Fair	Fair	None	40 +	A1	10.8
6	Lilac	5	70, 80 & 90	N 1 E 4 S 2 W 1	2.2	SM			Remove	0	U	0

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7	Hawthorn	6	300	N 3 E 0.5 S 2 W 1	5 (no overhang over fence)	OM	Poor – decay in stem	Poor – decay in stem	None	10+	C1	3.6
8	Robinia	15	360	N 5 E 4 S 4 W 5	7	SM	Fair	Poor – decay in stem	Remove	0	U	0
9	Birch	8	180	N 2 E 2 S 2 W 2	5	SM	Fair	Fair	Remove	0	U	0
10	Birch	8	170	N 2 E 2 S 2 W 2	2.5	SM	Fair	Fair	Remove	0	U	0
11	Birch	8	230	N 3 E 3 S 3 W 3	2.5	SM	Fair	Fair	None	0	U	2.8
12	Cherry	10	380	N 4 E 3 S 4 W 5	4	M	Fair	Fair	None	10+	B1	4.6

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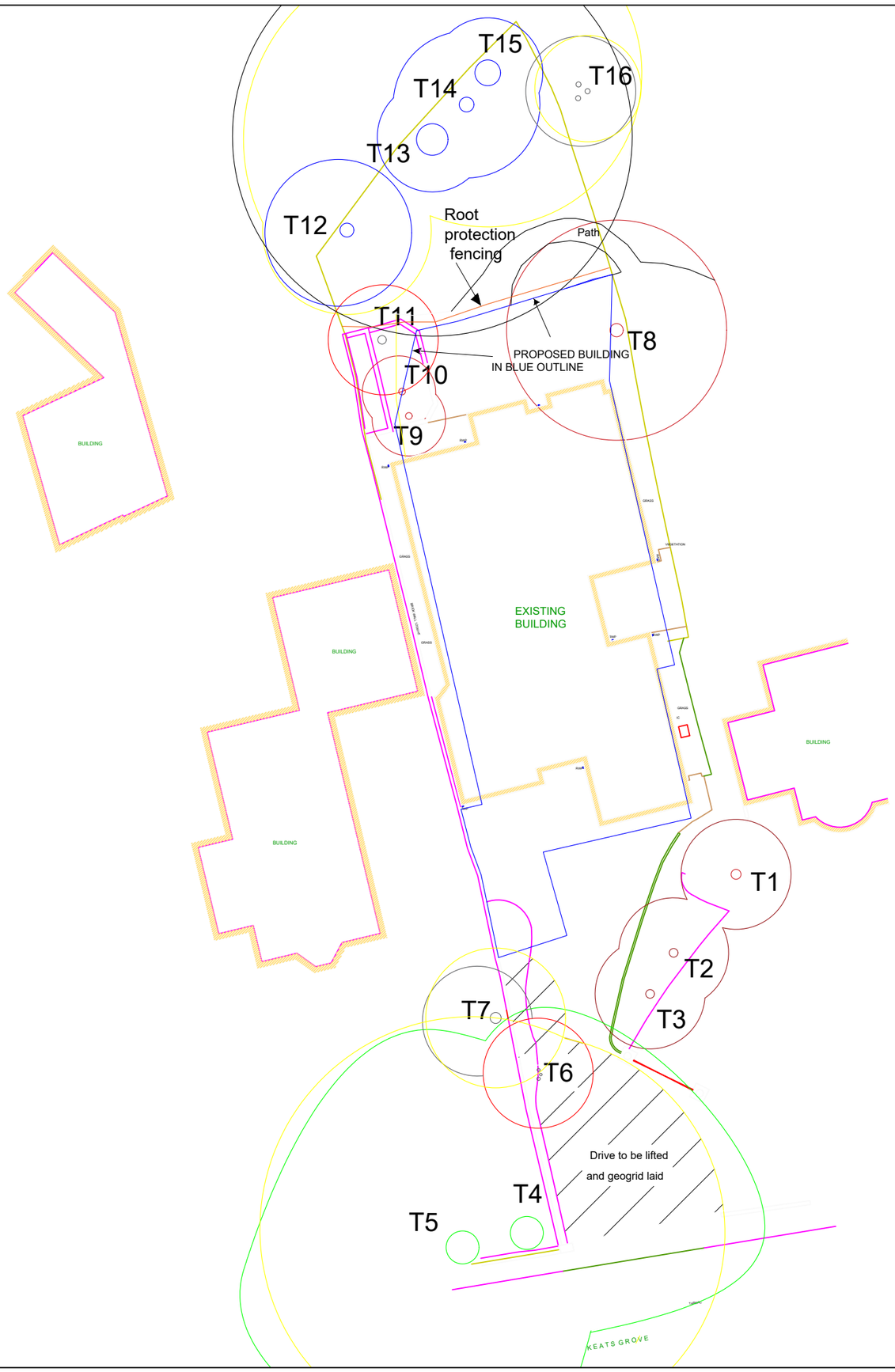
13	Lombardy poplar	16	860	N, E, SW 3	4	OM	Fair	suspected decay but no full inspection undertaken	Inspect & pollard subject to survey	30+	B1	10.3
14	Lombardy poplar	16	400	N, E, SW 3	4	M				30+	B2	4.8
15	Lombardy poplar	16	700	N, E, SW 4	4	OM				30+	B1	8.4
16	Apple	6	3 x 14	N E S W		M	Fair	Poor – decay pockets	None	10 +	C1	2.9



KEY

Proposed footprint

Tree protection fencing

Category A tree canopy

Category B tree canopy

Category R tree canopy

Root protection area

12b Keats Grove

London

NW3

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scale 1:250 @ A3

4th April 2022 | drawn by RNH

drg. tree plan

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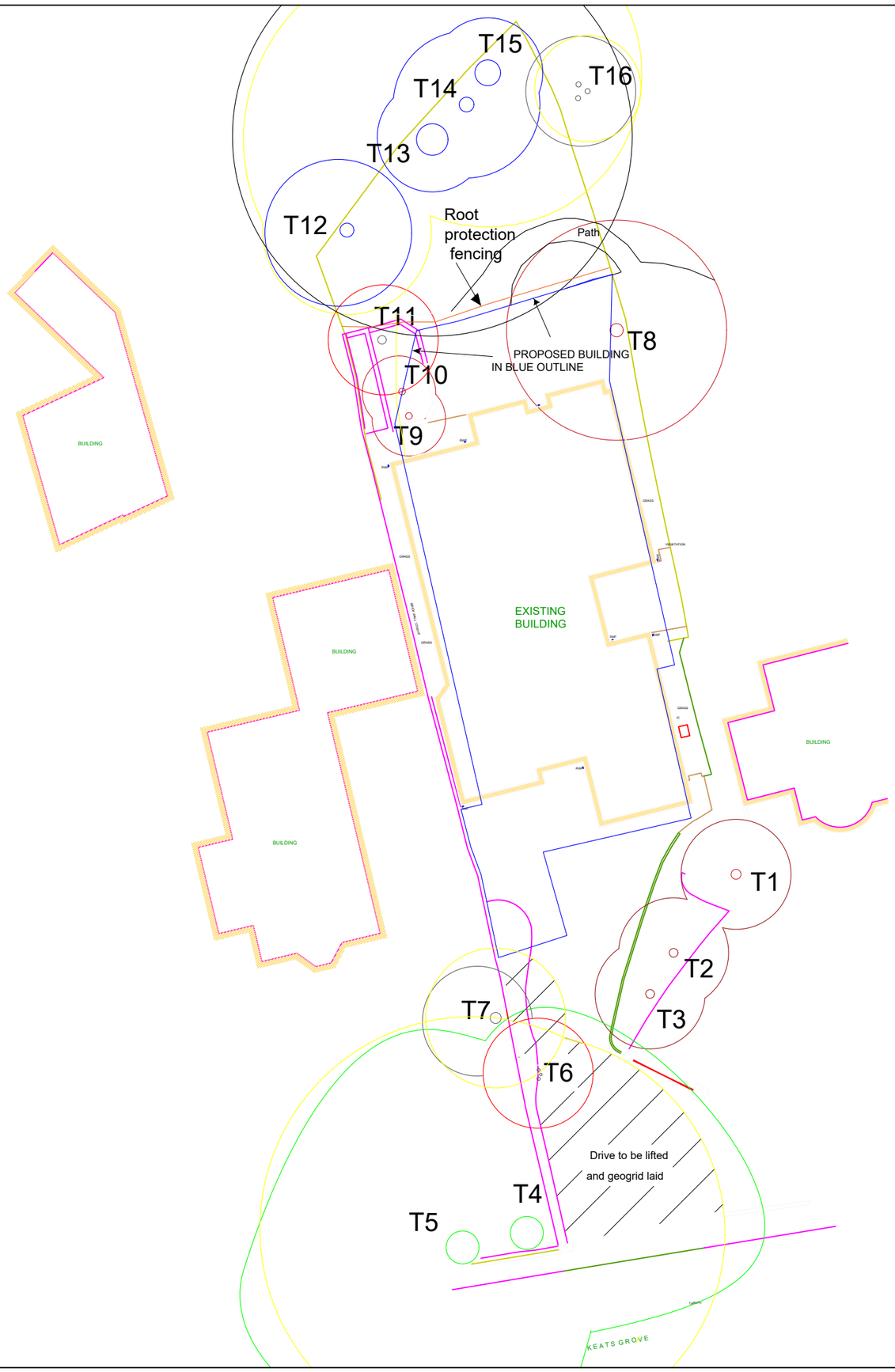

KEY

Proposed footprint

Tree protection fencing

Category A tree canopy

Category B tree canopy

Category R tree canopy

Root protection area

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scale 1:250 @ A3

4th April 2022 | drawn by RNH

drg. tree plan