1-38-4536

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REPORT

on the impact on trees

of proposals for development

at

7 Aberdare Gardens, London, NW6 3AJ

(29th May 2018)

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01
Introduction and Instructions

I am instructed by Marek Wojciechowski Architects Ltd on behalf of clients to make an assessment of tree amenity value and condition of trees at 7 Aberdare Gardens, London, NW6 3AJ and of the impact of a proposal for development (an extension) on such trees. Accordingly, I visited the property on 22nd May, 2018 in order to carry out an inspection.

02
Copyright

02.01

03
Notes

03.01
PLANS
1-38-4536/P1 gives an approximate representation (in plan) of actual crown form, and is intended to indicate the relationship of neighbouring trees to each other, and should be read with the comments on crown shape and tree value in TREE DETAILS appended. The plan gives a quick reference assessment of value as per section 4, table 1, of BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'. Assessment of value in the TREE DETAILS table appended is, in accordance with this British Standard related mainly but not exclusively to the criterion of *visual value to the general public*. The Standard recommends a way of classifying trees when assessing their potential value in relation to proposed development. Some surveys may not include any trees of one or more categories. Table 1 suggests categories 'U', 'C', 'B' and 'A', in ascending merit. 'U' **(RED crown outline on plan)** category trees are dangerous \ low value trees that could require removal for safety or arboricultural reasons. 'C' **(GREY or black/uncoloured crown outline on plan)** category trees are of no particular merit, but in adequate condition for retention. 'A' category trees **(GREEN crown outline on plan)** are trees of high vitality or good form, or of particular visual importance: 'B' **(BLUE crown outline on plan)** category are good trees but may be of slightly poorer form or be not sited as importantly as 'A' category trees. See TREE DETAILS appended. Category Assessment appears in column 10. This standard also provides a way of determining an area (see TREE DETAILS column 7) - the **RPA** - root protection area - around the trunk of the tree in which protective measures should be used in order to prevent significant damage to trees. There are various ways of achieving this. A simple way is to use exclusion fencing, but other methods have been shown by established use to be very effective.

03.02
1-38-4536/P2 and 1-38-4536/P3 are colour-coded to indicate where arboricentric methods are proposed during the demolition and construction processes.

04
Sources and Documents

Ground level inspection.
Supplied plans :
MOBILE CAD SURVEYING DRG. NO.: 2191-01 GROUND FLOOR PLAN
MAREK WOJCIECHOWSKI ARCHS. DRG. NO.: 300_001 PROPOSED GROUND FLOOR PLAN

05
Appraisal

05.01
AMENITY / SCREENING BY TREES AND SHRUBS
Certain trees are of significant general public amenity value, as they are visible, from Aberdare Gardens *inter alia* as glimpse or partial / skyline features - also from more distant public viewpoints. The same trees are of considerable strictly local amenity value to owners / users of the site.

05.02
TREES AND LAYOUT - POTENTIAL FOR CONFLICT WITH ROOTS
(Details appear in the tree detail table appended.) The figures in columns 5 and 6 in the **Tree data** table appended indicate the root protection area ('RPA' below), and typically the basic exclusion fence position. New materials and methods have been developed and continue to be developed that assist in promoting the successful retention of trees in association with constructed features. It should be noted that BS 5837:2012 (section 7.4.2) supports 'up and over' methods of construction where appropriate. The design principle of this method is outlined within Arboricultural Practice Note 12 (Through the Trees to Development, - a revision of APN 1, 1996, published originally by AAIS / Tree Advice Trust). This method has been used for many years on the recommendation of John Cromar's Arboricultural Co. Ltd. and has successfully allowed the retention of mature trees very close to construction activities.

05.03
An assessment as per BS5837:2012 section 4.6.2 has been carried out in connection with all trees to be retained. (This section requires that site conditions such as location of structures, tree mechanics, etc., are taken into account in determining the likely position of roots.)

05.04
ROOTS and DESIGN
SRP is an acronym for *static root plate*, (after *Mattheck*, 1991, etc.) a radial dimension derived from trunk diameter based on studies of wind-thrown trees and thus a guide to where structurally significant roots are likely to be located. RPA is an acronym used in BS5837:2012 and signifying the *root protection area*. The RPA is a guide to where systemically significant roots are likely to be located.

No encroachment on the RPA (or SRP) of any retained tree is entailed.

In view of the above I conclude that no special footings are needed from the arboricultural perspective. In this case all trees to be retained can be adequately protected by exclusion fencing and arboricentric methods as proposed below to reduce impacts on root systems of retained trees.

05.05
PERCEPTION OF TREES
The proposed (extended) dwelling is in an almost identical position in relation to the trees as is the existing structure : the existing structure's position in relation to the existing trees has not generated any obvious or reported requirement to prune trees inappropriately. In view of the above I conclude that shading by and perception of trees has been considered (as sections 5.3.4 and 5.6.2.6 of BS 5837:2012 recommend) and appear not to be negative factors.

05.06
Processing by the LPA of any due application from future owners for permission to carry out tree work will no doubt be carried out with due regard for good arboricultural practice and according to British Standard 3998:2010 'Tree Work – Recommendations'. In any appeal that might arise against refusal of LPA consent to reduce inappropriately, or fell trees, common arboricultural criteria to those of the LPA would be used by any specialist tree inspectors of the Planning Inspectorate, and thus the trees would in my view be thus protected against inappropriate work. I consider that any such notional issues are very likely to be dealt with appropriately as no doubt in the past they have been within the Borough, as such tree/building juxtapositions are far from rare.

05.07
SUPERSTRUCTURE AND TREE APPRAISAL - TREE PRUNING
I note from the drawings supplied that no encroachment on the crowns of retained trees will occur.

05.08
SUPERVISION
Supervision by and regular communication with an arboriculturist is a nigh-essential element of site management where trees are present and to be retained. I propose that this takes place at key points in the construction process, and additionally whenever required by the architect or LPA. These key stages are as per section 06.01 below.

05.09
PUBLISHED GUIDANCE IN RELATION TO TREES AND DEVELOPMENT
In conserving trees on development sites, expected best practice is as in B.S. 5837 : 2012. Section 5.1.1 notes :

"**Certain trees are of such importance and sensitivity as to be major constraints on development or to justify its substantial modification : attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.**"

05.10
The above advice appears to have been considered in formulating proposals for development.

05.11
CONCLUSION
I conclude that the construction proposed, subject to precautionary measures as outlined above and as per the recommendations outlined below, will not be injurious to trees to be retained, nor will require any trees to be removed.

06
TREE PROTECTION

06.01
OVERVIEW
It is highly important to tree health and vitality that construction activities are carried out strictly in accordance with the tree protection methods specified below. It is widely not understood that a **single** traverse of a root protection area by a mechanical excavator can cause SIGNIFICANT and PERMANENT (albeit temporarily invisible) damage to trees.

Any such machinery, including, for example, tracked piling rigs, shall be kept at ALL times outside the root protection areas (RPAs) as indicated in the **Tree data** table appended, and/or shall be subject to ARBORICENTRIC METHODS below.

Fences to protect trees shall be respected as TOTAL EXCLUSION fences. Hence, before any site activity, **including demolition**, the fence lines shall be complete.

Protective fencing and any temporary protection of ground surfaces will have to be removed in due course to allow finishing of landscaping, paving, etc., but this shall not take place until all need for vehicular access to the site has passed, and shall be agreed with arboriculturist / planners on site during progress of works.

Supervision by an arboriculturist appointed directly by the client (not the main contractor) should take place at key points in the construction process, and additionally whenever required by the architect, client, main contractor or LPA. These key stages are :

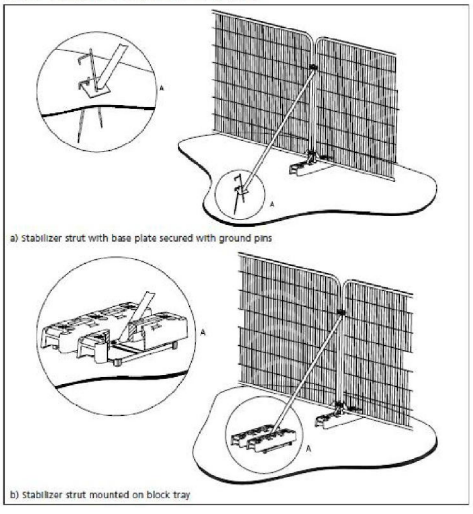
1) **At site possession by contractor, outline all tree protection measures with site agent and resolve any issues arising.**
2) **Ensure protective fencing is erected and completed as proposed. Ensure any site cabins, mixing sites for mortars, disposal-to-skip sites, etc., are located appropriately, and sign off.**
3) **Supervise lifting of hard surfacing near trees.**
4) **Supervise laying of temporary ground protection and sign off.**
5) **Attend as required to supervise digging for and the laying of lighting cable ducts or services.**
6) **Approve any removal or adjustment of protective fencing and sign off.**

PREPARATION / DEMOLITION

PLEASE READ WITH PLAN REFERENCE 1-38-4536/P2, APPENDED.
The Methods shall be implemented in the order given unless it is stated to the contrary.

Method 1 : TREE PROTECTION FENCING
Tree protection fencing shall be erected, consisting of 'Heras' type fencing (weld-mesh panels), each section securely attached to uprights driven at least 0.6m into ground, as per the layout as shown on the plan (pink lines). No ground levels reduction or excavation shall take place within (=the tree side of) the fence lines. The standard rubber supports ('elephant's feet') shall if used, be as per BS 5837:2012 section 6, figure 3, left; that is, pinned to the substrate with re-bar. Near tree 6 tree protection fencing at least 1.8m high shall be placed around the trunk, consisting of hoarding of >13mm thick manufactured board and uprights, no part of which is to be attached to the tree.

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

Pedestrian access 0.7m wide shall be formed as indicated, and sealed after implementation of Method 3 below. Below the crowns of trees with branches extending to less than 2m above ground level, in order to avoid unnecessary pruning, it is permissible to replace sections with manufactured boards at least 11mm thick (hoarding), attached securely to timber uprights driven at least 0.6m into the ground, providing the finished fence stands at least 1.5m above ground level.

Method 2 : GROUND SURFACE HANDLING and PROTECTION
This method shall apply in the zone hatched green on plan. NO levels reduction shall take place. This includes no 'scraping up' with a mechanical excavator or otherwise. Any existing hard surfacing, any existing surface debris, light vegetation, etc., that lies within the zone shall be removed using hand tools only. A 2D geotextile membrane, such as 'Treetex T300' type shall be laid; 100mm of green-source woodchip; continuously abutted scaffold boards or manufactured boards so as to completely cover this area. This area shall be used for pedestrian access only.

OR

If loads exceed that of pedestrians, a 2D geotextile membrane, such as 'Treetex T300' type shall be laid; 150mm of green-source woodchip; continuously abutted scaffold boards and a layer of manufactured board at least 25mm thick screwed to the underlying scaffold board so as to completely cover this area This area may be used for pedestrian-operated plant up to 2 tonnes in weight.

OR

If loads exceed 2 tonnes the ground surface shall be protected with TuffTrak^{R} Ground Protection Solutions ground guards or similar appropriate temporary trackway sections. The temporary trackways shall be fixed together with manufacturers' approved fixings. On completion of build phase the ground guards shall be lifted by hand or by plant standing outside the zone.

Any scaffold erection shall take its bearing directly off the ground surface via spreader plates/scaffold boards.

These protective layers shall not be modified without reference to an arboriculturist.

Method 3 : DEMOLITION
This method shall apply in the linear zone of cyan fill and the zone of red crosses : demolition shall be carried out with hand tools or hand-held power tools only. Arisings shall be removed for disposal off site.

CONSTRUCTION

PLEASE READ WITH PLAN REFERENCE 1-38-4536/P3, APPENDED.
The Methods shall be implemented in the order given unless it is stated to the contrary.

Method 4 : TREE PROTECTION FENCING
Tree protection fencing shall be maintained/adjusted, as per Method above. Pedestrian access 0.7m wide shall be sealed as indicated.

Method 5 : SERVICE TRENCHES
N.B. -This applies to ALL services : Electricity, gas, water, etc. Existing services shall be utilised wherever possible.

These methods shall apply generally within any RPA (orange circles).

1) The trench shall be opened with an air-spade to required depth. Roots 20mm or more in diameter unearthed shall be temporarily protected with bubble-wrap and insulating or gaffer tape while rest of trench is dug. Services shall be worked under/over/around/ between roots so as not to cut or damage any larger than 20mm diameter.
OR
2) The trench shall be dug with hand tools only. Probes such as screwdrivers or steel rod <10mm diameter to determine root presence ahead of digging shall be used. The work shall proceed cautiously. No roots over 20mm diameter shall be cut. Roots 20mm or more in diameter unearthed shall be temporarily protected with bubble-wrap and insulating or gaffer tape while rest of trench is dug. Services shall be worked under/over/around/ between roots so as not to cut or damage any larger than 20mm diameter.
OR
3) Services shall be thrust-bored using trenchless techniques (compressed air-driven 'mole') at a depth of 700mm or more below ground level, entailing no surface excavation. Starter pits for rams shall be outside any RPA, or reception/starter pits shall be opened according to 1) or 2) above.

LATE CONSTRUCTION / LANDSCAPING PHASE

Method 6 : EXISTING HARD SURFACES TO BE SUPERCEDED BY REPLACEMENT HARD SURFACING
This method shall apply in green hatched zone on plan. No 'scraping up' with a mechanical excavator shall be carried out. The existing hard surface shall be lifted by hand tools or hand-held power tools only. The underlying sub-base shall be left undisturbed if levels allow and if the sub-base is competent to support the loads envisaged. Otherwise no excavation below the underside of the existing sub-base shall take place : the subbase may be augmented with porous material where required. Any such excavation in the existing sub-base shall be by hand tools or hand-held power tools only. The wearing course shall be installed.

(All design subject to engineering approval, but used on other sites and known to be practicable and reliable).

Method 7 : In addition to the above, careful general operation and site handling shall be observed as outlined at 06.02 below.

06.02
GENERAL TREE PROTECTION METHODS

A) No fires shall be made on any part of the site, or within 20m of any tree to be retained.

B) No spilling or free discharge of wet mortar, concrete, fuels, oils, solvents, or tar shall be made on any part of the site.

C) No storage of wet materials shall be made within the protective fences.

D) No breaching or moving of the protective fences shall take place without the approval of an arboriculturist.

06.03
It is recommended that acceptance of the recommendations in this report is demonstrated by, for example, the architect specifying in writing to the building contractor that tree care conditions apply in execution of the contract, and by an estimate or written undertaking from the contractor to the architect demonstrating that the practical aspects of observation of such recommendations have been priced in.

06.04
Note to LPA : if the Authority is minded to grant consent, it is invited to consider the incorporation of the specific *order of implementation* of the arboricentric methods above into any Conditions applied. Such a measure is likely to maximise tree protection.

07
General

If conflicts between any part of a tree and the building(s) arise in the course of development these can often be resolved quickly and at little cost if a qualified arboriculturist is consulted promptly. Lack of such care is often apparent quickly and decline and death of such trees can spoil design aims and can of course affect saleability, and reflect poorly on the construction and design personnel involved. Trees that have been the recipients of careful handling during construction add considerably to the appeal and value of the finished development.

29th May 2018
Signed:

[redacted]

John C. M. Cromar, Dip.Arb.(RFS) F.Arbor A. 01582 808020 [redacted]

APPENDICES

08
Tree Data

Tree number	Tree type	Height / height range (m)	Stem diameters	Radius of RPA if circle (mm)	RPA (m^2)	Comments	Life expectancy (years)	Assessed BS5837 value category
1	London plane	20	875	10500	346.4	Valuable screening function	40+	A2
2	common lime	14	600	7200	162.9	Suppressed by 1 and 3	40+	B1
3	London plane	20	800	9600	289.5	Valuable screening function. Heavily infested with ivy : not possible to inspect trunk.	40+	A2
4	*Magnolia* spp.	3	90	1080	3.7	Shrubby	10+	C1
5	*Magnolia* spp.	3	70, 60, 60	1320	5.5	Shrubby	10+	C1
6	tulip tree	6.5	95	1140	4.1	Potential for growth and contribution to public amenity	40+	B1
7	*Magnolia* spp.	5	110, 110, 80, 80	2308	16.7	Shrubby	20+	C1
H8	*Euonymus japonica*	3	60, 60	1018	3.3	Informal hedge	20+	C2

In all cases, in the absence of negative comment on vitality and structure, normal systemic and physiological condition should be considered to apply.

Dependent on time of year of survey, deciduous trees may not have been in leaf at the time of inspection. This may have limited precise identification.

09
Schedule

Trees at 7 Aberdare Gardens NW6 3AJ

Please read in conjunction with plan 1-38-4536/P2.

Tree number	Tree type	Height / height range (m)	Stem diameters	Comments
3	London plane	20	800	Crown clean : include treatment of ivy as per note below.

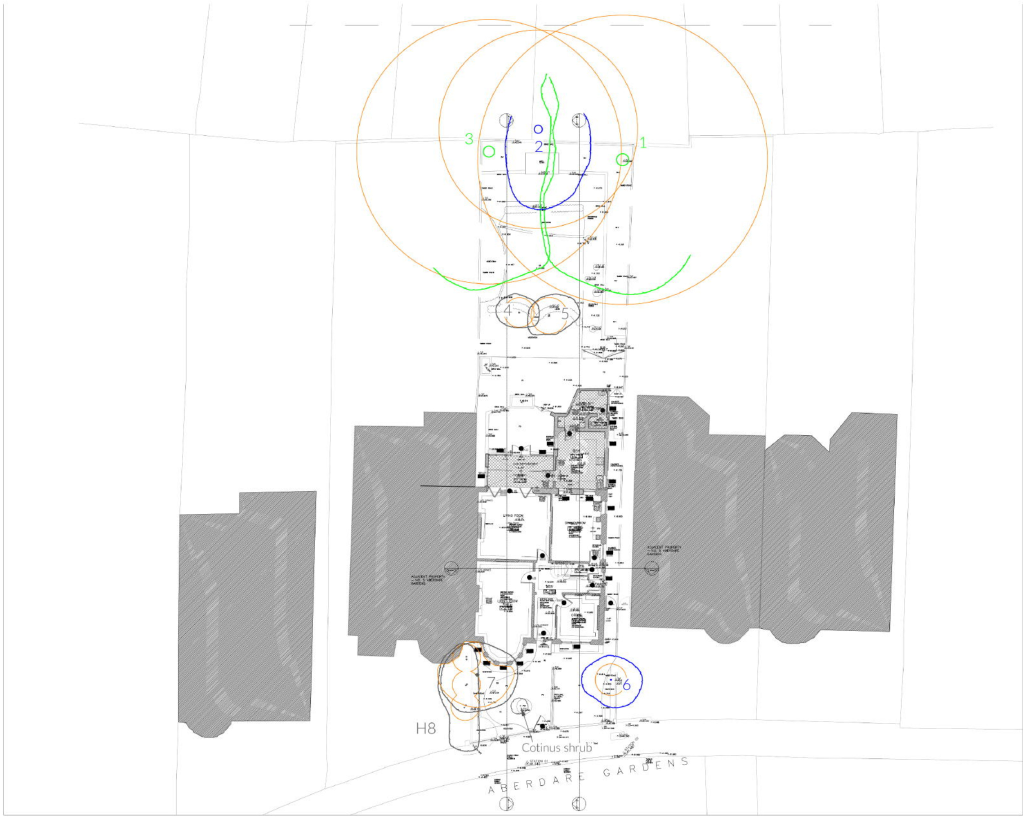
NOTES:
This schedule notifies the LPA, where such notification is required, of intention to prune or remove trees in accordance with TCP Act 1990 Section 211. 42 days after notification should be allowed before proceeding with the work, during which time (and after) the LPA may place a Tree Preservation Order on the tree(s), thus requiring a formal application for any works to living wood.

All tree work should be carried out to BS 3998 : 2010 'Tree Work - Recommendations'. The Wildlife and Countryside Act 1981 protects with certain exceptions all birds and their nests. It is an offence to destroy such nests or take or injure such birds in the course of tree works operations. If a tree is a bat-roost, a licence to work on the tree must first be obtained from the relevant Statutory Nature Conservation Organization (in England : Natural England 0845 601 4523.) Acting without a licence is likely to be justifiable only in acute emergencies threatening human life and where all other legally available option such as footpath diversion, fencing and warning signs cannot be applied.

Ivy and dead wood can be important ecological features. Ivy where specified in the work schedule should be treated as per BS3998 section 7.12. In summary this means trimming back (e.g. with a hedge cutter or secateurs) to near the line of the trunk or branches, and/or removing selected stems so that the structure of the tree can be inspected. In practice this may need to be done outside the bird-nesting season. Treatment of dead wood shall be as per section 7.3.2 – essentially shorten if possible, thus retaining some resource for invertebrates, etc.

10
Plans

1-38-4536/P1 v1
1-38-4536/P2 v1
1-38-4536/P3 v1



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KEY TO COLOURS/LINETYPES USED IN RELATION TO TREES

GREEN - High Value
BLUE - Moderate Value
BLACK - Low Value
RED - Remove/Very short life expectancy
ORANGE SHAPES: Root Protection Areas

TOOTHED LINE: Tree spread line

NOTES
Do not use for setting out purposes.
All dimensions to be checked on site.

DRG. NAME
TREE VALUE ASSESSMENT AS PER BS 5837:2012 & ROOT PROTECTION AREAS

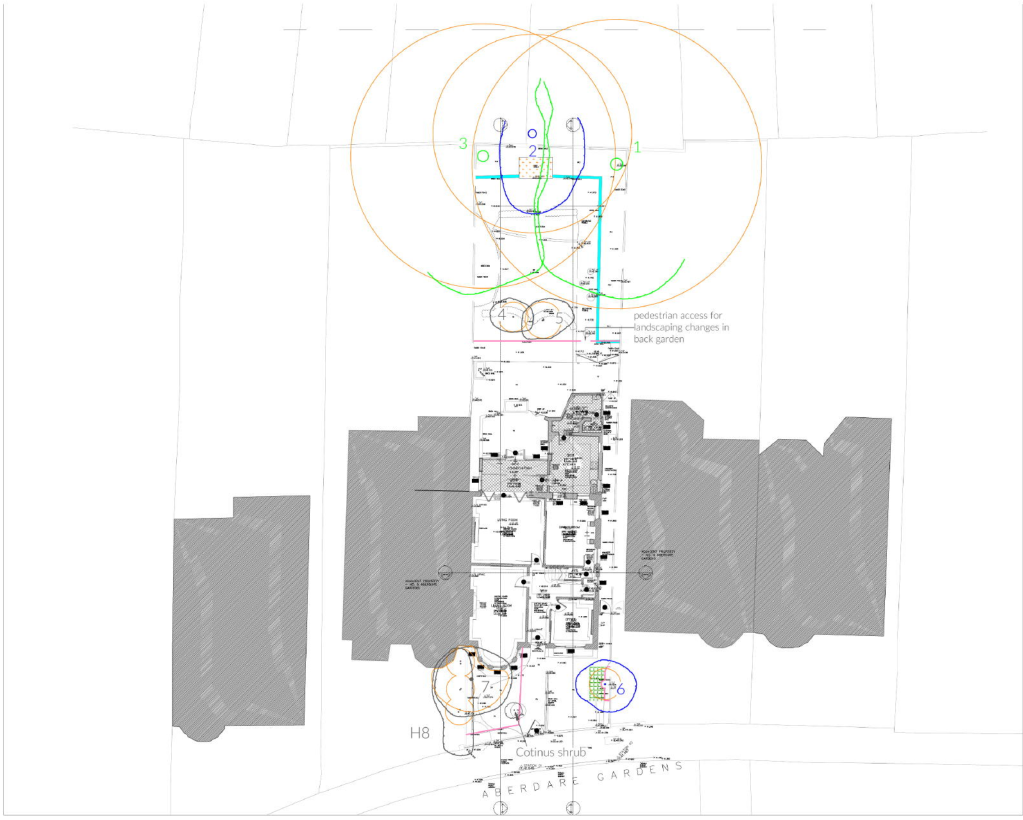
TEXT
FOR FULL DETAILS OF TREE VALUE PLEASE SEE REPORT

BASED ON
MOBILE CAD SURVEYING DRG. NO.: 2191-01 GROUND FLOOR PLAN SUPPLIED

SITE ADDRESS
7 Aberdare Gardens, London, NW6 3AJ

DRG. REF.	REV. NO.
1-38-4536/P1	v1
SCALE & SIZE	**DATE**
1:100 @ A1	29-May-18

0 5



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KEY TO PLAN SYMBOLS/COLOURS USED IN RELATION TO TREES

- PINK LINES: Tree Protection Fencing
- ORANGE SHAPES: Root Protection Areas
- CYAN FILL: method applies
- ORANGE CROSSES: method applies
- GREEN HATCH: ground protection

NOTES
Do not use for setting out purposes.
All dimensions to be checked on site.

DRG. NAME
TREE RETENTION & TREE PROTECTION MEASURES (Site Preparation Phase)

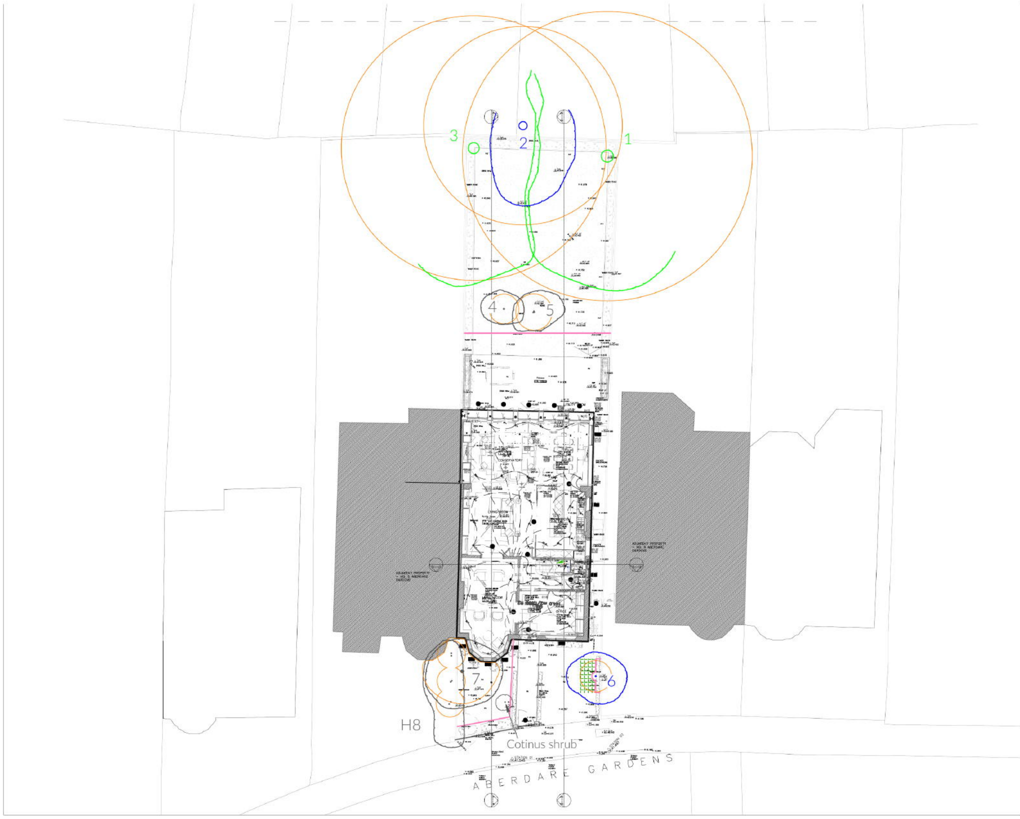
TEXT
FOR FULL METHOD DETAILS PLEASE SEE REPORT

BASED ON
MOBILE CAD SURVEYING DRG. NO.: 2191-01 GROUND FLOOR PLAN SUPPLIED

SITE ADDRESS
7 Aberdare Gardens, London, NW6 3AJ

DRG. REF.	REV. NO.
1-38-4536/P2	v1
SCALE & SIZE	DATE
1:100 @ A1	29-May-18

0 5



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KEY TO PLAN SYMBOLS/COLOURS USED IN RELATION TO TREES

- PINK LINES: Tree Protection Fencing
- ORANGE SHAPES: Root Protection Areas
- GREEN HATCH: ground protection

NOTES
Do not use for setting out purposes.
All dimensions to be checked on site.

DRG. NAME
TREE RETENTION & TREE PROTECTION MEASURES (Construction Phase)

TEXT
FOR FULL METHOD DETAILS PLEASE SEE REPORT

BASED ON
MAREK WOJCIECHOWSKI ARCHS. DRG. NO.: 300_001 PROPOSED GROUND FLOOR PLAN SUPPLIED

SITE ADDRESS
7 Aberdare Gardens, London, NW6 3AJ

DRG. REF.	REV. NO.
1-38-4536/P3	v1
SCALE & SIZE	**DATE**
1:100 @ A1	29-May-18

0 5