1-38-2606/2

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R E P O R T

on the impact on trees

of proposals for development

at

8 Pilgrims Lane, London, NW3 1SL

(18th June, 2012)

Registered Consultant of the Arboricultural Association
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Arboricultural Association
REGISTERED
CONSULTANT

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01
Introduction and Instructions

I am instructed by Brod Wight Architects on behalf of clients to make an assessment of tree amenity value and condition of trees, at 8 Pilgrims Lane, London, NW3 1SL , and of the impact of a proposal for development on such trees. Accordingly, I visited the property on 24th August, 2010 in order to carry out an inspection.

02
Copyright

02.01

03
Notes

03.01
PLANS

1-38-2606/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. Assessment of value in the TREE DETAILS table appended is, in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' 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. 'R' (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
1-38-2606/P2A shows proposed retained trees and is colour-coded to indicate where arboricentric methods are proposed during the construction process.

04
Sources and Documents

Ground level inspection.
Supplied plans refs:

999/AP3-S01A	Existing Site Plan
999/AP3-01C	Proposed site plan,
999/AP3-02E ,	Proposed Basement floor plan
999/AP3-03D	Proposed Upper Basement floor plan

05
Appraisal

05.01
AMENITY / SCREENING BY TREES AND SHRUBS
The trees on and adjacent to the site are no significant general public amenity value, as they are scarcely if at all visible from any public viewing positions, and then only as 'glimpse' features. (See cover picture) Certain trees are of some strictly local amenity value to owners / users of the site and adjacent owners/users.

05.02
TREES AND LAYOUT - POTENTIAL FOR CONFLICT WITH ROOTS
(Details appear in the tree detail table appended.) The figures in columns 6 and 7 in the tree details table appended indicate the root protection area ('RPA'), 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). 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, tree mechanics, etc., are taken into account in determining the likely position of roots.)

05.04
FOOTING DESIGN
Minor encroachment on the RPA of one retained tree is entailed, as analysed in the table below :

No.	Tree	RPA in sq.m.	Area sq.m affected	Percentage affected	Notes
1	Japanese cherry	43.47	2.62	6.03	Area of potential root loss - steps area.

To put the above in arboricultural context, trials made by the Morton Arboretum found that up to 30% of the root system of mature trees could be cut without any difference in shoot elongation or vitality resulting. The use of a piled footing with reduced depth ground beams or fully suspended ground beams is proposed in area indicated on plan and outlined in method below. In this case all trees to be retained can be adequately protected by exclusion fencing and other measures as indicated.

05.05
PERCEPTION OF TREES
The proposals do not entail any change to fenestration relevant to retained trees. In view of the above I conclude that shading by trees has been considered (as section 5.6.2.6 of BS 5837:2012 recommends) and appears insignificant.

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 conflict with the crown of retained trees will occur.

05.08
TREE PLANTING
Appropriate replacement tree planting will play some minor role in providing for future local amenity. On plan, A= Parrotia persica 14/16cm girth ; 85L pot.

05.09
SUPERVISION
Supervision by an arboriculturist is a desirable (but not always essential) element of site development where trees are present and to be retained. Good communication between site agent and arboriculturist can reduce the need for

such a measure. 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 method 1 in section 06.02 below.

05.10
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."

05.11
The above advice appears to have been considered in formulating proposals for development.

05.12
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 of significant longevity or public amenity value to be removed.

06
<u>Tree Protection Proposals</u>

06.01
TREE PROTECTION - GENERAL
It is highly important to tree health and vitality that construction activities are carried out strictly in accordance with the tree protection methods specified. A single traverse of a root protection area by a mechanical excavator can cause SIGNIFICANT and PERMANENT (albeit temporarily invisible) damage to trees. Such machinery, including piling rigs, shall be kept at ALL times outside the root protection areas as indicated in the tree details table appended, and/or shall be subject to SPECIAL 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.

06.02
TREE PROTECTION – SPECIAL METHODS 1 - 8
PLEASE READ WITH PLAN REFERENCE 1-38-2606/P2A, APPENDED.

Method 1 : Supervision by an arboriculturist shall take place at key points in the construction process, and additionally whenever required by the architect 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. Ensure tree work is carried out to specification and sign off. Ensure protective fencing is erected and completed as proposed. Ensure any site hut, mixing sites for mortars, disposal-to-skip sites, etc., are located appropriately, and sign off.**
2) **Approve timing of removal of protective fencing (post main phase) and sign off.**

Method 2 : Tree work shall be in accordance with good arboricultural practice, to BS 3998:2010 'Tree Work - Recommendations'. The stump of tree 3 shall be removed by mechanical stump grinder, not by mechanical excavator.

Method 3 : 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). The standard rubber supports ('elephant's feet') shall used as per BS 5837:2012 section 6 figure 2. 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 4 : This method shall apply in the zone hatched blue on plan. Heavy-duty impermeable membrane shall be laid over the entire area and then continuously abutted scaffold boards or manufactured boards shall be laid so as to completely cover this area. Polythene sheeting shall be left in position if concrete is to be poured to form a ground bearing slab in this zone.

Method 5 :
This method shall apply in solid orange zone on plan. Trial pits to determine suitable pile/pad locations to support lintels carrying the steps formation shall be dug with hand tools only. The pile heads/underside of lintels shall be placed so as not to require the cutting of roots >20mm diameter. The work shall proceed cautiously from ground level across the full width of the required zone. A skimming horizontal action rather than primarily vertically-orientated use of spade shall be adopted where possible. No roots over 20mm diameter shall be cut. Concentrations of 3 or more roots of 10mm to 20mm diameter within 150mm shall be preserved. 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. The use of small probes such as screwdrivers to determine root presence ahead of digging is recommended. If a root > 20mm diameter is inadvertently damaged, it shall be retained *in situ* for appraisal by the arboriculturist. Any smaller roots encountered shall be trimmed to the edge of excavation using a sharp edge tool such as handsaw or secateurs; the cuts shall be made at right angles to the long axis of any such roots. An impermeable membrane shall be placed between exposed soil and any wet concrete to be poured.

Method 6 : This method shall apply after completion of main build only. Soil handling of any kind within the root protection areas shall take place only after a minimum of 3 days after heavy rain, and shall where possible be carried out 7 days or more after such rainfall. Screened topsoil (to BS3882:2007- multi purpose topsoil) shall be laid to a maximum depth of 100mm as required.

Method 7 : The replacement shrub shall be supplied of type ('A' on plan) : *Parrotia persica*. Shrub shall be short-staked, tied with proprietary fixing, and mulched to 100mm depth and 0.75m radius from trunk.

Method 8 : In addition to the above, careful general operation and site handling shall be observed as outlined at 06.03 below.

06.03
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 pouring of fuels, oils, solvents, tar shall be made on any part of the site.
C) No spillage or discharge of wet mortar or concrete shall be made on any part of the site.
D) No storage of materials shall be made within the protective fences.
E) No breaching or moving of the protective fences without the approval of an arboriculturist.
F) Services, if planned to be laid in the root protection areas, (and which notionally appears unnecessary in this case) shall be laid using trenchless 'no dig' methods or by hand dug trenches to avoid cutting major roots.
G) Alterations in levels within the tree protection fence areas shall be avoided.

06.04
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.

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.

18th June 2012
Signed:

John C. M. Cromar, **Dip.Arb.(RFS) F.Arbor A.** **01582 808020 / 07860 453072**

APPENDICES

08
Tree details

TREE ASSESSMENT AND ROOT PROTECTION ZONES

Tree number	Tree type	Height (m)	Number of stems	Stem diameter (combined if applicable) (mm)	Radius of RPA if circle (mm)	RPA (m^2)	Comments	Life expectancy (years)	Assessed BS5837 value category
1	Japanese cherry	9	1	310	3720	43	some local screening value; low, decayed limb.	10+	C2
2	*Euonymus*	3.5	1	120	1440	7	Shrub	10+	(C2)
3	purple plum	4	1	130	1560	8	Moribund NOT RETAINED	<10	U
4	western red cedar	14	1	475	5700	102	no access : screening value	40+	B2
5	Japanese cherry	6	1	200	2400	18	Dead NOT RETAINED		U

09
Schedule

Trees at 8, Pilgrims Lane, London, NW3 1SL

Please read in conjunction with plan 1-38-2606/P1.

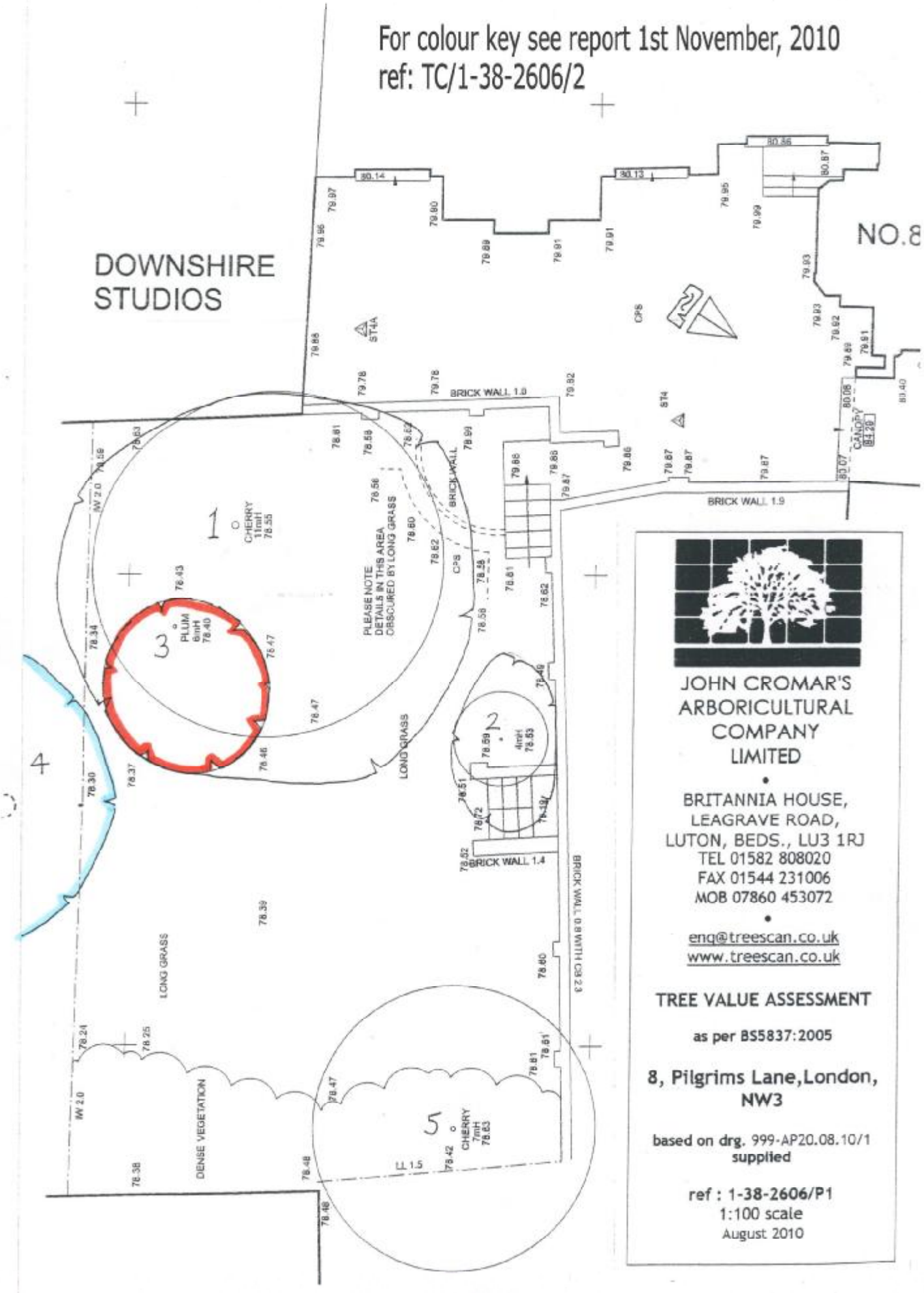
No.	Tree	Height (m)	Trunk / stem count dia. (mm)	Comments
1	Japanese cherry	9	310	remove decayed limb
3	purple plum	4	130	remove, grind out stump
5	Japanese cherry	6	200	remove including stump

NOTES:
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.

10
Plans

1-38-2606/P1
1-38-2606/P2A

For colour key see report 1st November, 2010
ref: TC/1-38-2606/2



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TREE VALUE ASSESSMENT

as per BS5837:2005

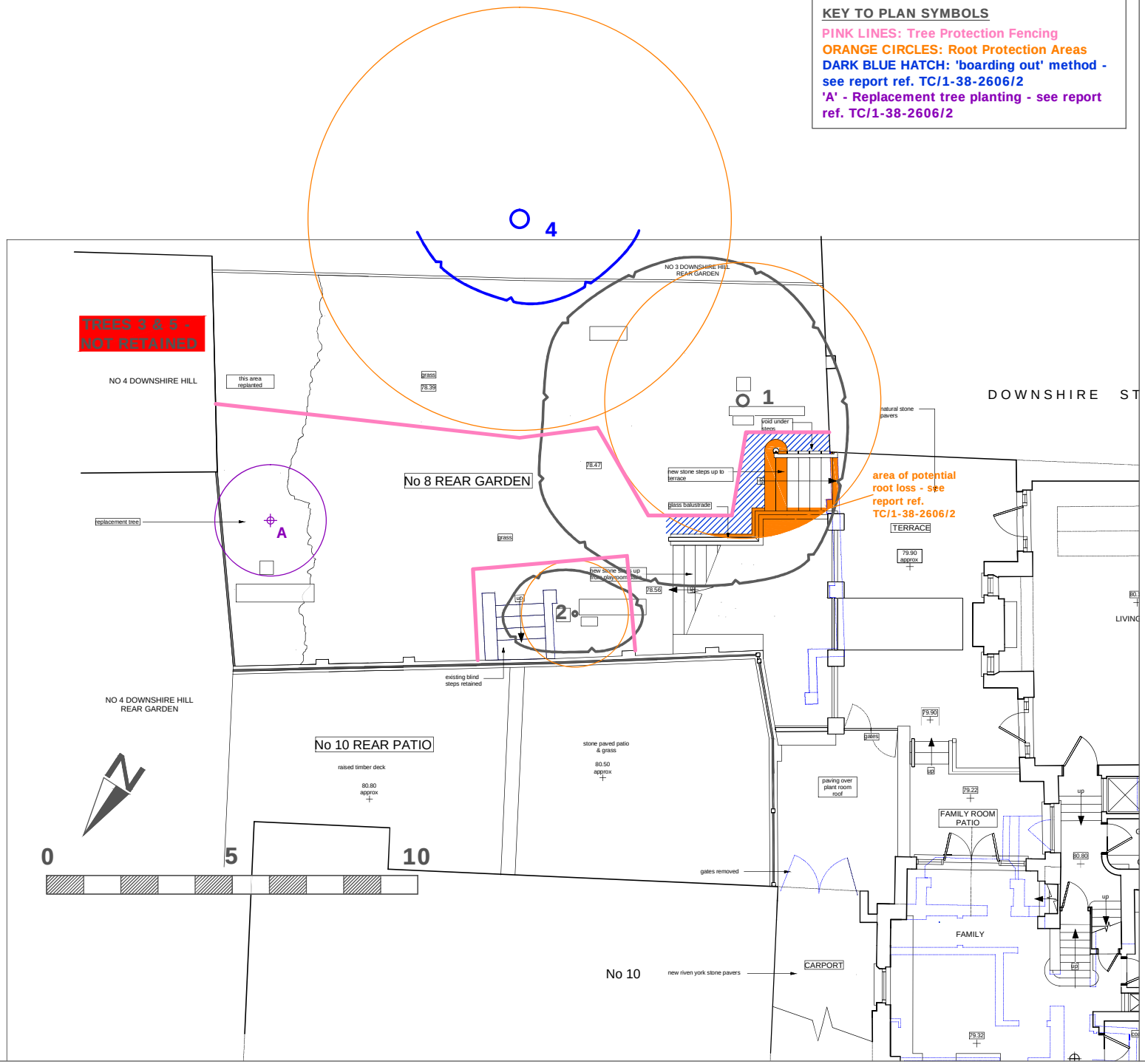
8, Pilgrims Lane,London, NW3

based on drg. 999-AP20.08.10/1 **supplied**

ref : 1-38-2606/P1
1:100 scale
August 2010

KEY TO PLAN SYMBOLS

PINK LINES: Tree Protection Fencing
ORANGE CIRCLES: Root Protection Areas
DARK BLUE HATCH: 'boarding out' method - see report ref. TC/1-38-2606/2
'A' - Replacement tree planting - see report ref. TC/1-38-2606/2



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TREE RETENTION and TREE PROTECTION MEASURES

for fuller details of protection measures see report reference TC/1-38-2606/2

8, Pilgrim's Lane,
London,
NW3 1SL

based on Brod Wight Architects drg. no. 999-AP3-03E supplied

ref: 1-38-2606/P2A
1:100 @ A3 scale
Jun 2012