1-38-2639/2

R E P O R T

on the impact on trees

of proposals for development

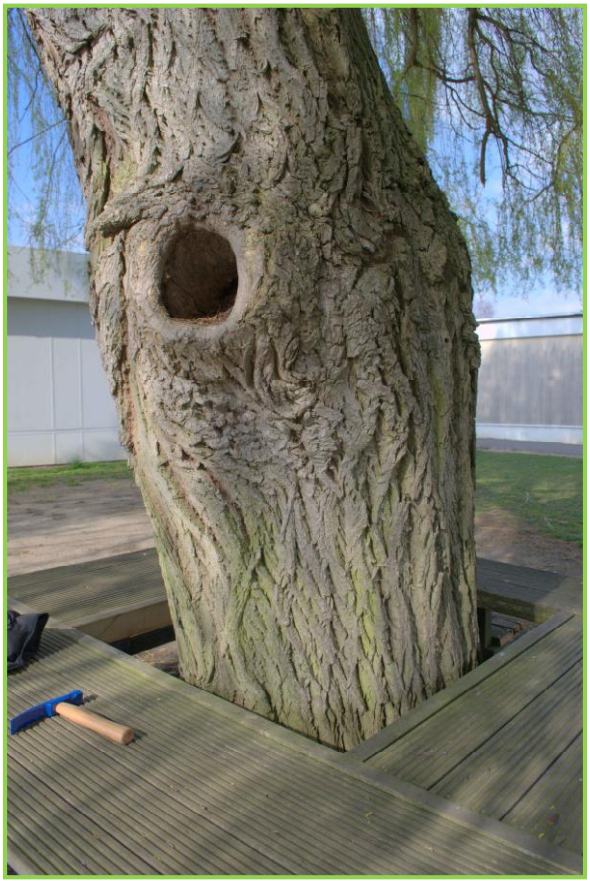
at

Newnham Infant and Junior School,

Newnham Avenue,

HA4 9RW

(13th April 2015)



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REGISTERED CONSULTANT

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01
Introduction and Instructions

I am instructed by Arshad Ali of London Borough of Hillingdon to make an assessment of tree amenity value and condition of trees at Newnham Primary School, Newnham Avenue, Eastcote, Ruislip, Middlesex, HA4 9RW and of the impact of a proposal for development (a single modular classroom) on a tree. Accordingly, a site inspection was carried out on 7th April, 2015.

02
Copyright

02.01
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03
Notes

03.01
PLANS

1-38-2639/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 British Standard 5837:2012 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
1-38-2639/P2 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:
Hillingdon London Services:
2015/D/147/04 (existing)
2015/D/147/02 (proposed)

05
Appraisal

05.01
AMENITY / SCREENING BY TREES AND SHRUBS
Tree 1 is of some public amenity value, as it is clearly visible from the rear of properties in Woodlands Avenue, and more distantly visible from Newnham Avenue.

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, - a revision of APN 1, 1996, published 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, 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.

05.05
PERCEPTION OF TREES
The proposed replacement trees are located mainly to the south of the school buildings, which are not continuously habited. 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
SUPERSTRUCTURE AND TREE APPRAISAL - TREE PRUNING
I note from the drawings supplied that no major encroachment on the part of crowns of proposed trees on buildings will occur.

05.07
TREE REMOVAL APPRAISAL and REPLACEMENT PLANTING
Please see section 08 for comments on the tree proposed for removal. The tree if retained would require repeated pollarding to limit crown size for safety reasons and to address developing decay in trunk. This necessary pruning would tend to diminish the tree as a public visual amenity. Proposed construction requirement for craneage access favours removal of the tree. Overall, removal and appropriate replacement tree planting is supported. The latter will play an important role in providing for future public and local amenity. The British Geological Survey information for the area indicates that the underlying sub-soil is clay silt and sand of the Lambeth group. This tends to be an excellent growing medium. Please see plan for proposed planting locations A and B.

A= dawn redwood (*Metasequoia glyptostroboides*) 20-25cm girth 200L pot

This is a deciduous conifer with excellent autumn colour and a narrow spire like crown.

B= mulberry (*Morus alba* 'Platanifolia') 14-16cm girth 85 L pot

This is a small tree with large glossy leaves producing edible and delicious fruits.

05.08
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. The key stages are as per method 1 in section 06.02 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 will require a tree to be removed, but the tree is not of special public amenity value. Tree loss will be satisfactorily addressed by proposed planting.

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 1-4
PLEASE READ WITH PLAN REFERENCE 1-38-2639/P2, APPENDED.
The Methods shall be implemented in the order given unless it is stated to the contrary.

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) **Ensure remedial tree work is carried out to specification and sign off.**
2) **Approve ground preparation for replacement planting, tree planting, and sign off.**

Method 2 : TREE WORK
Tree work shall be in accordance with the provided specification and good arboricultural practice, and to BS 3998:2010 'Tree Work - Recommendations'. The stump of tree 1 shall be thoroughly removed by mechanical stump grinder or by mechanical excavator.

Method 3 : GROUND PREPARATION FOR TREE PLANTING AREAS
This method shall apply after completion of main build only. Ground preparation for tree planting areas shall entail removal of hard surfacing using hand tools or hand-held power tools only, the removal of degraded or compacted or contaminated soil to a depth of at least 0.6m below finished surrounding ground level, and over an area within a minimum of 3m radius from the intended trunk position. The base and sides of the pit shall be forked over to at least one hand fork's spit in depth. Screened topsoil (to BS3882 : 2007- multi-purpose topsoil) shall be laid to replace soil volume removed and to a maximum depth of 0.6m within 3m of the trunk location of each tree to be planted. Soil handling of any kind 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. Tree planting shall be in accordance with British Standard 8545:2014 'Trees : from nursery to independence in the landscape - Recommendations'. This enshrines good arboricultural practice: the tree shall be planted so that the root collar lies at finished ground level, shall be short-staked and tied with proprietary tree tie. The ground surface shall be mulched within 0.75m of the trunk location to a depth of 100mm with composted organic material or proprietary mulch mat.

Method 4 : 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 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.

06.04
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.

13th April 2015
Signed:

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

APPENDICES

08
Tree Data

Tree number	Tree type	Height range (m)	Stem diameters	Radius of RPA if circle (mm)	RPA (m^2)	Comments	Life expectancy (years)	Assessed BS5837 value category
1	willow	11–15	950	11400	408	Tap test ok at base, some decay below old trunk wound, cavity noted. Decay detected from around 0.8m above ground level to around cavity. Moderate vitality.	20+	B1

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

Deciduous trees were not in leaf at the time of inspection. This may have limited precise identification.

09
Schedule

Tree at Newnham Primary School, Newnham Avenue, Eastcote, Ruislip, Middlesex, HA4 9RW

Please read in conjunction with plan 1-38-2639/P2.

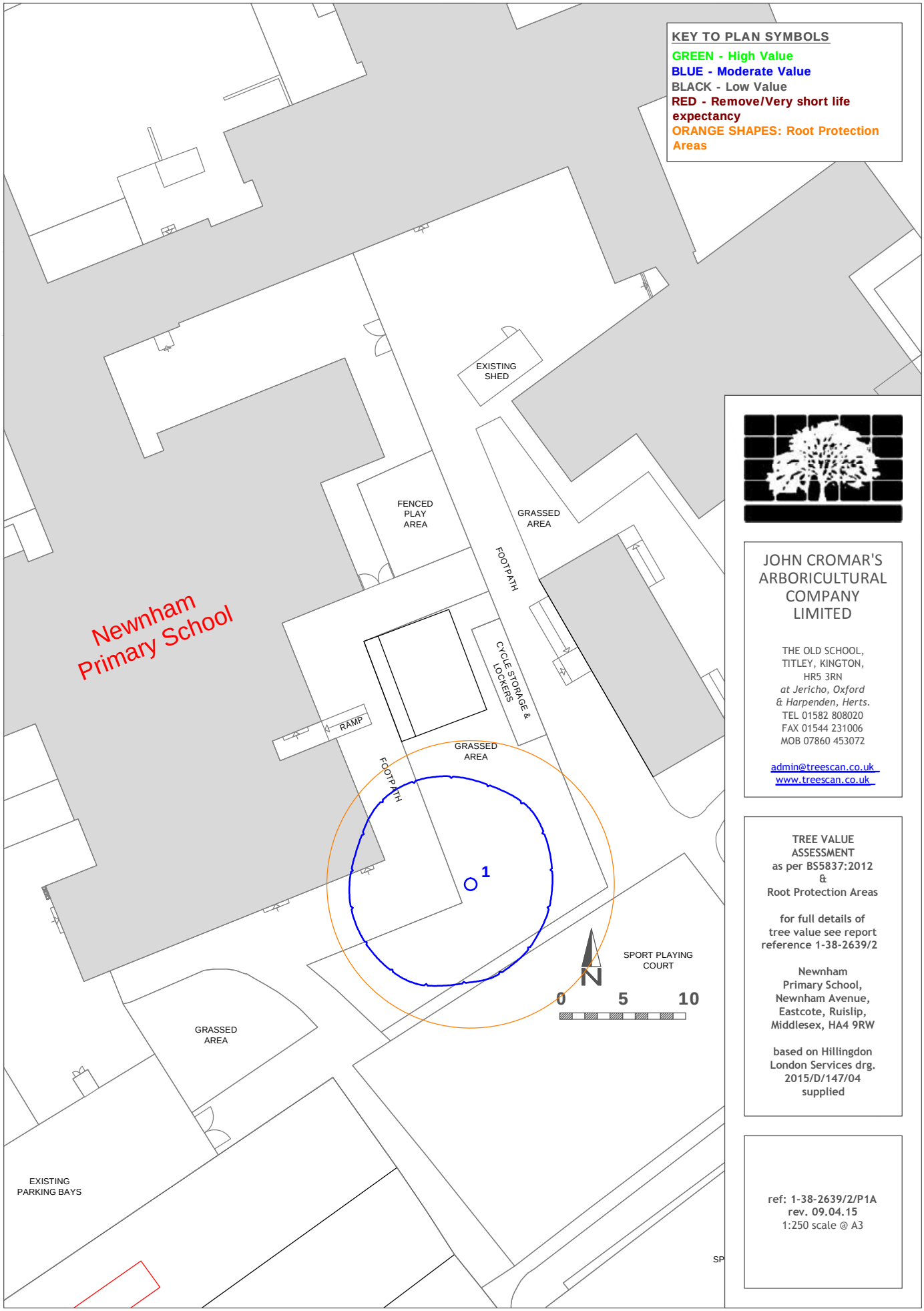
Tree number	Tree type	Height range (m)	Stem diameters	Comments
1	willow	11–15	950	Remove including stump.

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.

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

1-38-2639/P1
1-38-2639/P2



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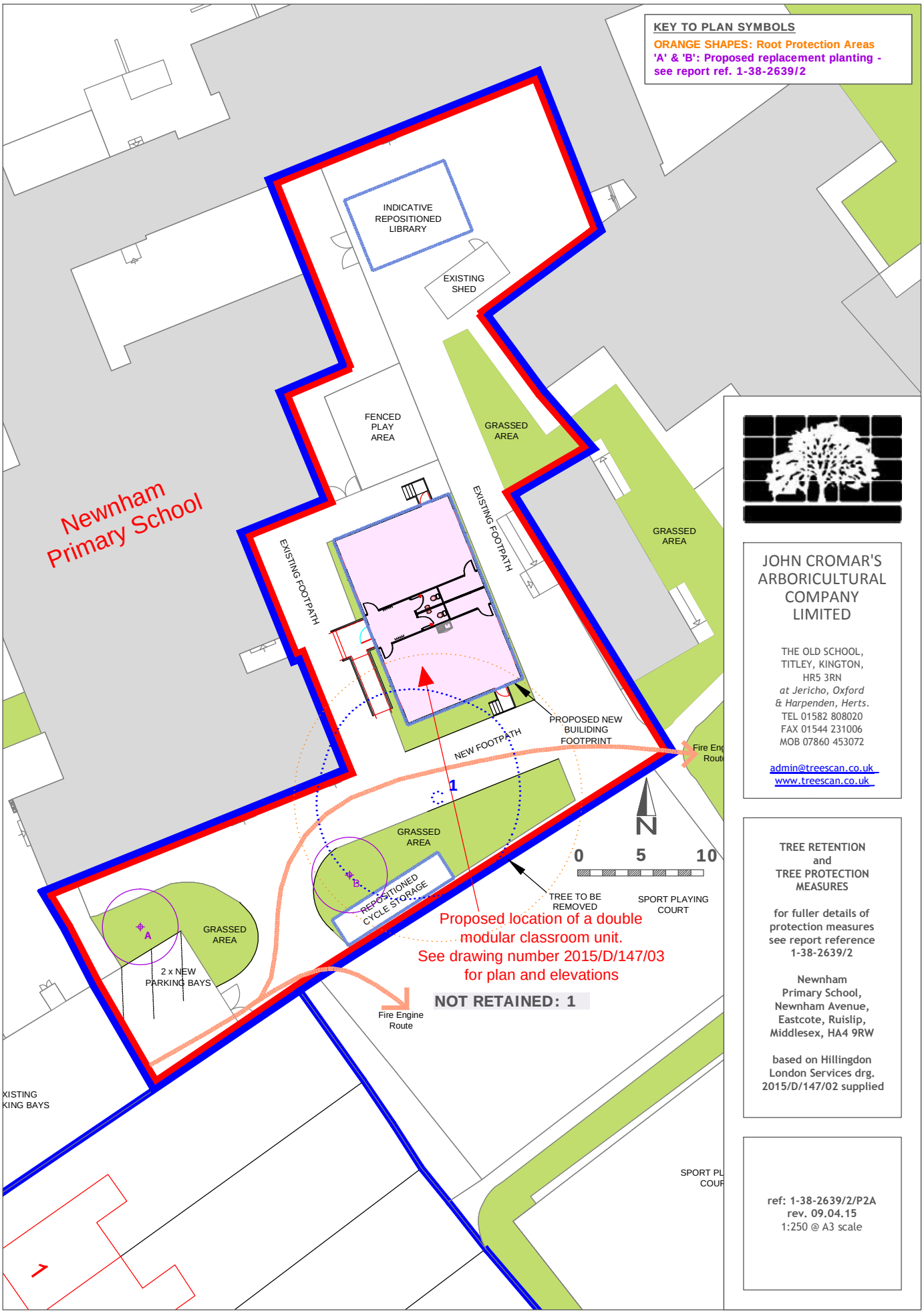
TREE VALUE ASSESSMENT
as per BS5837:2012
&
Root Protection Areas

for full details of tree value see report reference 1-38-2639/2

Newnham Primary School,
Newnham Avenue,
Eastcote, Ruislip,
Middlesex, HA4 9RW

based on Hillingdon London Services drg. 2015/D/147/04 supplied

ref: 1-38-2639/2/P1A
rev. 09.04.15
1:250 scale @ A3


KEY TO PLAN SYMBOLS
ORANGE SHAPES: Root Protection Areas
'A' & 'B': Proposed replacement planting - see report ref. 1-38-2639/2
Newnham Primary School
INDICATIVE REPOSITIONED LIBRARY
EXISTING SHED
FENCED PLAY AREA
GRASSED AREA
EXISTING FOOTPATH
EXISTING FOOTPATH
GRASSED AREA
PROPOSED NEW BUILIDING FOOTPRINT
NEW FOOTPATH
Fire Eng Route
1
GRASSED AREA
N
0 5 10
TREE TO BE REMOVED
SPORT PLAYING COURT
REPOSITIONED CYCLE STORAGE
B
A
GRASSED AREA
2 x NEW PARKING BAYS
Proposed location of a double modular classroom unit.
See drawing number 2015/D/147/03
for plan and elevations
NOT RETAINED: 1
Fire Engine Route
XISTING
KING BAYS
SPORT PL
COUR
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TREE RETENTION and TREE PROTECTION MEASURES
for fuller details of protection measures see report reference 1-38-2639/2
Newnham Primary School, Newnham Avenue, Eastcote, Ruislip, Middlesex, HA4 9RW
based on Hillingdon London Services drg. 2015/D/147/02 supplied
ref: 1-38-2639/2/P2A
rev. 09.04.15
1:250 @ A3 scale