Arboricultural Impact Assessment

Proposed development comprising:

New entrance building
New pavilion
Improvements to western
entrance and southern boundary
footpath

at

Coram Comunity Campus Mecklenburgh Square London WC1N 2OA

for

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1 introduction

- 1.1 This report contains a detailed appraisal of 47 individual trees within or adjacent to the boundaries of Coram Community Campus, Mecklenburgh Square, London WC1N 2QA.
- 1.2 The report assesses the health and safety of the trees under their current growing conditions and considers the impact of proposed new development, measured against the advice and guidance set out in *BS5837:2005 Trees in relation to construction Recommendations*.
- 1.3 The development in question comprises:
 - The construction of a new two storey entrance building at the western (Brunswick Square) end of the site and associated improvements to the configuration of the western entrance to the Coram Campus.
 - Improvements to the footpath along the southern boundary of the campus that connects the western, Brunswick Square, side of the site to the eastern, Mecklenburgh Square, side.
 - The replacement of an existing portacabin in the eastern part of the campus with a two storey pavilion, attached caretaker's accommodation and associated improvements in external circulation.
- 1.4 The survey of the trees on which this appraisal is based was undertaken by the writer of this report in February 2010. The full tree survey can be found in **appendix a**.
- 1.5 This assessment was commissioned Meadowcroft Griffin Architects on behalf of the client, Dr Carol Homden, the Chief Executive of The Coram Foundation..
- 1.6 I have been supplied with digital copies (in .dwg and/or .pdf format) of the following drawings:
 - Milton Keynes Surveys Limited Topographical Survey Drawing No. 14632
 - Meadowcroft Griffin Architects' Drawing No. 0903_001B Existing Site Plan
 - Meadowcroft Griffin Architects' Drawing No. 0903_BASE (which summarises the proposals), 0903_102A Proposed Site Plan and 0903_201 and 202 Proposed Public Path (plan and section).

- 1.7 I have also been supplied with a digital copy (in .pdf format) of:
 - Meadowcroft Griffin Architects' Coram Campus Masterplan Revision A (January 2011)
- 1.8 This assessment also makes reference to four other documents submitted in support of an earlier application for development at Coram Campus in 2010 (Permission Ref: 2010/4408/P) namely:
 - Proposed development at Coram Community Campus, Mecklenburgh Square London WC1N 2QA Ground Investigation Report by Soiltechnics Limited dated April 2010, hereafter referred to as the Soiltechnics report
 - *Tree Root Investigation Trees at Coram Community Campus* (Skerratt: 31.05.10)) hereafter referred to as the 2010 root investigation report.
 - Report on the condition of trees at Coram Fields, Brunswick Square London WC1 with respect to new development by Dr P G Biddle dated 09 July 1991, hereafter referred to as the Biddle report.
- 1.9 I have also been supplied with digital copies (in .pdf or .jpg format) of historical maps of the site dating from 1682, 1746, 1792, 1813, 1871, 1893, 1914 and 1951 gathered together in Collett and Farmer Architects' Planning Design Report (a document submitted in support of a previous planning application for development within the Community Campus). These maps are referred to in **section 2** of this report but are not included in its appendices.
- 1.10 The **tree survey plan** in **appendix a** included in this report is based on Milton Keynes Surveys Limited Topographical Survey Drawing No. 14632 together with on-site measurements. The **tree constraints plans** in **appendix a** are based on Milton Keynes Surveys Limited Topographical Survey Drawing No. 14632 overlaid by Meadowcroft Griffin Architects' Drawing No. 0903_102A Proposed Site Plan

2 background information

2.1 layout, boundaries and topography

- 2.1.1 The main Coram Community Campus site is wedge shaped with its longest axis running approximately south west to north east. An additional rectangular area of green space, Collingham Gardens, abuts the main campus on its north western boundary
- 2.1.2 The combined site is level throughout.
- 2.1.3 The site is enclosed on all boundaries with security fencing of varying types and materials, with the exception of the north west boundary, which is defined by a (Listed) brick wall.
- 2.1.4 There are two vehicular accesses to the site, one in the south west corner and one in the south east corner of the main Campus.
- 2.1.5 The tree survey plan in appendix a shows the existing site configuration.

2.2 geology and soils

- 2.2.1 According to the British Geological Survey 1:50,000 Scale Sheet 256 (North London), the western part of Coram Campus is underlain by Quaternary Lynch Hill River Terrace gravels which rest in turn upon a deep layer of London Clay. According to this source, the Lynch Hill Gravel deposits do not extend across the whole of the campus and London Clay comes to the surface in the eastern part of the site.
- 2.2.2 The Soiltechnics report (see **1.8** above), which contains an appraisal of the north east corner of the campus only, confirms this general pattern.
- 2.2.3 However, the Soiltechnics report also identifies a surface layer of Made Ground of variable composition with a minimum depth of 1.6m, in all the trial pits and bores excavated in the course of the investigation to which it refers.
- 2.2.4 It is not known however, when this Made Ground layer was put down or how far it extends into the western and south eastern parts of the campus.

2.3 planning constraints

- 2.3.1 The site is in the Bloomsbury Conservation Area.
- 2.3.2 Additionally, a number of trees in the south east corner of the site are covered by Tree Preservation Orders.

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2.4 the trees: a general appraisal

2.4.1 This section of the appraisal refers to all the trees within and immediately adjacent to the Coram Campus. **Section 3** of this report makes specific reference to potential impacts on individual trees using the numbering system set out in the **tree survey schedule** in **appendix a**.

history

- 2.4.2 Judging from the evidence provided by the historical maps referred to in **1.9** above, the very substantial mature London Planes that play such a large part in defining the character of Coram Community Campus, date from around 1840 (about 170 years old). The older Lime trees (005, 006 and 007 for example) may be of similar age or perhaps a little younger.
- 2.4.3 The smaller trees and large shrubs on the eastern site boundary and to the south of the existing South Wing and Nursery Building are all much younger, between about 10 years (Field Maple 032 for example) and 50 years of age (Beech 013).

age distribution

2.4.4 The sizes of the different age classes referred to in general terms in **2.4.2** and **2.4.3** above are as follows:

Mature and Over-mature 31 trees Semi-mature 10 trees Young 6 trees

species range and distribution

- 2.4.5 The predominant species is London Plane (*Platanus x hispanica*). 23 of the 47 trees listed in the **tree survey schedule** in **appendix a** are Plane trees.
- 2.4.6 Of the remaining 24 trees, 6 are Sycamores (*Acer pseudoplatanus*), 4 are common Lime (*Tilia x europaea*), 1 is a Beech (*Fagus sylvatica*) and the rest are mostly smaller ornamental species. 5 of the Sycamores and the 3 of the Limes stand in or adjacent to Collingham Gardens.
- 2.4.7 The 23 London Planes referred to in **2.4.5** above, are all within or immediately adjacent to the main part of Coram Community Campus (that is, excluding Collingham Gardens).
- 2.4.8 Geographically the tree resource is quite evenly distributed, bearing in mind the density of the built environment.

- retention category
- 2.4.9 In terms of each tree's Retention Category as defined in *BS5837:2005 Trees in relation to construction Recommendations -* a tree-by-tree measure of the interplay between visual prominence, future safe life, replaceability and general health a remarkable 13 trees (all London Planes) are classified as Category A, 11 as Category B or B+ (indicating that they are close to Category A) and 21 as Category C or C+. 2 trees are classified as R indicating that they should be removed now for the reasons stated in the **tree survey schedule** in **appendix a.**
- 2.4.10 The explanatory notes to the **tree survey schedule** in **appendix a** define all four Retention Categories (A, B, C and R)
 - a technical note
- 2.4.11 Several large lateral limbs on the largest and oldest London Planes have been supported with steel cable braces of unknown age. These braces are referred to in the Biddle report (see **1.9** above) and it is unlikely that they have been maintained or replaced within the last 20 years. They should not be regarded as having any practical function.
- 2.5 the proposed development
- 2.5.1 The proposed development is summarised in **section 1.3** above.
- 2.5.2 The proposals are shown in plan on Meadowcroft Griffin Architects' Drawing No. 0903 102A Proposed Site Plan.
- 2.5.3 This plan, together with supporting documentation of which this report is a part, forms the basis of a current planning application.

3.1 general

- 3.1.1 A significant number of the existing trees within and immediately adjacent to the Community Campus are unaffected by the proposed development. Those that are affected are referred to on a tree-by-tree basis below.
- 3.1.2 Two small trees, 031 (Flowering Cherry) and 032 (Field Maple) on the southern boundary of the campus, are to be removed in the course of the proposed widening of the southern boundary path Their locations are shown on the **tree removals** plan in appendix a.
- 3.1.3 The visual impact of the removal of these two trees is very small and can be readily compensated for with appropriate replanting

3.2 new entrance building and western courtyard proposals

- 3.2.1 Trees 025 030 (London Planes) and, to a lesser extent, Tree 008 (London Plane) are affected by the proposals referred to in this section. Planes 025 to 027 inclusive are Category A and of the very highest importance.
- 3.2.2 The relevant tree constraints plan (**Drawing 158.01.01** in **appendix a**) is an excerpt from the 2009 topographic survey of Coram Campus showing spot levels within the area affected by the proposed new entrance building and associated access improvements. In some cases spot levels have been annotated with a number in brackets showing the difference in mm below the existing level at the south east corner of the front elevation of the Foundling Museum (22.05).
- 3.2.3 The footprint of the main elements of the proposals for this part of the site new entrance building, the proposed separation and refurbishment of the existing narrow sloping car park between the campus buildings and the Foundling Museum and the creation of a new entrance courtyard have also been added.
 - existing topography
- 3.2.4 These annotations show clearly the extent to which the ground drops away to the east of the listed railings that run along the western boundary of Coram Campus. The biggest difference, 1920mm, is in the north western corner of the narrow car park referred to in 3.2.2 above.
- 3.2.5 The drop in levels in a direct line between the tarmac surface immediately to the east of the centre point of the listed railings (21.68) and the proposed main doors to the new entrance building (21.10) is less, about 600mm overall.

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- existing ground conditions
- 3.2.6 Roughly half the area directly affected by the new entrance building footprint is already surfaced with paving or rubberised play surface.
- 3.2.7 Most of the proposed external works affect areas already covered by hard surfacing.
- 3.2.8 It is anticipated that the existing tarmac surfacing has a total depth, including subbase, of between 250 and 300mm.
- 3.2.9 It is also possible that there is Made Ground immediately below existing surfaces and their associated sub-bases (see reference to the Soiltechnics report in 1.9 above).
- 3.2.10 The 2010 root investigation (see **1.9** above) which investigated sub-surface conditions to a minimum depth of 600mm and a maximum of 800mm in the immediate vicinity of Trees 008 and 009 (London Planes) picked up no roots larger than 25mm diameter and, in the case of that part of the investigation centred round T008, no root large than 5mm diameter
 - the proposed new entrance building: main characteristics
- 3.2.11 It is proposed to construct the new entrance building and pavilion on piles with the whole depth of the floor (about 600mm in total) above existing ground level.
- 3.2.12 The proposed ground floor slab will be 450mm thick reinforced concrete supported on piles. This flat slab has been made thicker than would otherwise be the case to allow for flexibility in positioning the piles to minimise the impact on tree roots.
- 3.2.13 The piles would be typically 300mm diameter CFA bored piles, between 15 and 20m deep and placed at 3000mm centres with a flexibility in positioning of +/-500mm.
- 3.2.14 The proposed piling method requires the smallest possible headroom to operate typically 5m maximum. T008, no root large than 5mm diameter
 - proposed external works
- 3.2.15 Replacement hard surfaces in the area between the entrance gates and the extended western elevation of the campus buildings will be required to have a similar bearing capacity to the existing tarmac.

- 3.2.16 There is some flexibility in the setting of the levels between the 2 fixed lines (the line of the listed railings at the western side of the development area and the base of the western elevation of the extended campus buildings to the east).
- 3.2.17 It is reasonable to conclude from this that below-ground disruption of the root zone (that is below the existing hard surfacing and its sub-base but within the Root Protection Area (RPA)) of any retained tree can be limited to the supporting piles for the new entrance building and post holes for the new railings that will border the main entrance courtyard on its northern side.
- 3.2.18 The Arboricultural Method Statement (AMS) that accompanies this appraisal sets out working practices by which the proposals can be further developed (and modified if necessary) without causing significant damage to the root zone of any retained tree.
- 3.2.19 At this stage, new underground services have not been addressed and care will be needed to ensure that new service trenches are not routed through the RPAs of retained trees.

3.3 improvements to the southern boundary footpath

- 3.3.1 Trees 017, 019, 020, 021, 022, 023, 024, 025, 026, and 027 (London Planes), 020A (Lime) and 034 -036 (various species) inclusive are affected by this element of the proposals.
- 3.3.2 Meadowcroft Griffin Architects' Drawings No. 0903_ 201 and 202 Proposed Public Path (plan and section) included in **appendix b** show the extent of the proposed widening of this path and the proposed general levels of the new surfaces
- 3.3.3 With the exception of a very short section close to its mid-point, the entire length of this path runs through the RPAs of retained trees, most of them 017, 020, 023, 025, 026 and 027 in particular of the highest importance.
- 3.3.4 Bearing in mind that there is some flexibility in the finished level of this pathway, there is no technical reason why this widening cannot be achieved without significant damage to the root zone (see 3.2.13) of any of the retained trees.
- 3.3.5 However, it will almost certainly be necessary to carry out localised non-destructive investigations (Air Spade or similar) to establish the rooting pattern of existing trees at the most sensitive locations along the route, prior to construction.
- 3.3.6 As a consequence of these investigations, it may also be necessary to construct part of the path surface above existing ground level ('no dig' construction) in order to avoid damage to roots.

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- 3.3.7 It will also be necessary to retain the path and the islands within which retained trees will stand, with edgings that are held in place by pegs, pins or posts, in order to avoid the disruption caused by the installation of conventional kerbing witha strip foundation.
- 3.3.8 Some flexibility will also be needed in the positioning of kerbing anchorage points and in the supports for fencing.
- 3.3.9 Here too, the Arboricultural Method Statement (AMS) that accompanies this appraisal sets out working practices by which the proposals can be further developed (and modified if necessary) without causing significant damage to the root zone of any retained tree.

3.4 new pavilion and associated external works

- 3.4.1 This element of the proposal and its associated external works affects Trees 011, 012, 016, 018, 019, 020 and 024 (London Planes).
- 3.4.2 Meadowcroft Griffin Architects' Drawing No. 0903_102A Proposed Site Plan included in **appendix b** shows the extent of this element of the proposals.
- 3.4.3 The relevant tree constraints plan (**Drawing No. 158.01.02** in **appendix a**), is an excerpt from the 2009 topographic survey of the site showing the existing ground conditions and levels with the outline of the proposals referred to in this part of the report added.
- 3.4.4 In this case too, the proposal is to construct the approximately 600mm total floor depth of the new pavilion and ancillary accommodation entirely above existing ground levels, supported with piles.
- 3.4.5 The floor slab thickness, pile dimensions and spacing and method of construction would be similar to those proposed for the new entrance building (see **3.2.11** to **3.2.14** above).
- 3.4.6 Associated with the construction of the pavilion, it is also proposed to create a new pedestrian access between the southern boundary path and the central courtyard abutting the existing nursery unit.
 - existing topography
- 3.4.7 Currently general levels fall from approximately 21.40 on the northern edge of the southern boundary path to approximately 20.60 on the southern edge of the nursery courtyard, a difference of about 800mm.

- 3.4.8 About 80% of the area allocated to the new access is currently covered by hard surfacing of various types ranging from tarmac through rubberised play surface (laid on a hard sub-base) to paving.
- 3.4.9 Particular care will be needed in finalising the surface level of the new access path where it traverses an area of grass retained by timber sleepers, abutting the northern edge of the southern boundary path, as roots, particularly of London Plane T023 may be close to the surface here.
- 3.4.10 The AMS that accompanies this appraisal sets out a methodology for ensuring that potential damage is anticipated and avoided.
- 3.4.11 Elsewhere along the route of the new pedestrian access and in the area surrounding the proposed new pavilion, there is no technical reason to prevent the proposals being implemented without damage to the root zone of existing trees.
- 3.4.12 This opinion is based on the following assumptions:
 - existing hard surfaces and that their associated sub-bases will not be less than 200mm deep
 - the new hard surface will not be required to take higher loadings than the existing
 - there will be flexibility in setting the surface levels of new external surfaces.
- 3.2.13 It is reasonable to conclude from this that below-ground disruption of the root zone (that is below the existing hard surfacing and its sub-base but within the Root Protection Area (RPA)) of any retained tree can be limited to the supporting piles for the new pavilion and post holes for new fencing and railings.
- 3.2.14 At this stage, new underground services have not been addressed and care will be needed to ensure that new service trenches are not routed through the RPAs of retained trees.

4 conclusions

- 4.1 The proposed development considered in this report can be achieved without significant adverse impact upon the health and safety of trees to be retained or detriment to the visual amenities that they provide.
- 4.2 Preliminary investigation and the adoption of appropriate protective measures and working practices throughout the construction phase will however be critical to the successful retention of existing trees.
- 4.3 The Arboricultural Method Statement (AMS) accompanying this appraisal sets out these requirements and will form part of the Main Contract
- 4.4 Undergound service routes have not yet been defined however and must be planned in such a way as to avoid damage to retained trees.

appendix a

tree survey schedule tree survey plan tree constraints plans tree removals plan

explanatory notes

For general information on any entry in the detailed survey text, refer to the notes below which are organised on a column by column basis.

tree number

All trees have been numbered in the survey text to correspond to the location numbers shown on the accompanying Tree Survey Plan. No trees have been marked on site.

species

Common English names have been used wherever possible and Latin names are listed (in brackets in *italics*) in all cases.

dimensions

height - are recorded in m.

stem diameter – recorded in cm at breast height (1.4m) wherever possible.

If the diameter has been measured at a different height, this has been recorded, e.g. 60 @ 1m = 60cm diameter at 1m height.

Other abbreviations used:

av - average est - estimated

ms - multi-stemmed max – maximum gl - ground level

crown spread - radial crown spreads in metres have been recorded at four points on the circumference of the crown (north, east, south and west). The Tree Survey Plan enclosed shows approximate crown shapes based on these measurements

age

Y Young SM Semi-mature EM Early mature M Mature

OM Over-mature

Where the precise age of a tree is known, it has been recorded in brackets adjacent to the general classification i.e. M(7).

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condition

physiological condition

Gives a measure of biological vigour and of the presence or absence of disease, insect attack or other debilitating factors.

- G Good
- F Fair
- P Poor

structural condition

Gives a measure of each tree' physical form and mechanical stability.

- G Good
- F Fair
- P Poor

comments

See also background information, discussion and conclusions in the accompanying report.

recommendations

Preliminary management recommendations under existing conditions

life expectancy

An approximate estimate for each tree's anticipated future safe life in the following ranges:

<10 years

10-20 years

20-40 years

40+ years

retention category

This grading is based on the recommendations set out in BS 5837:2005 *Trees in relation to construction - recommendations*. The categories are summarised in the standard as follows:

- A Trees of high quality and value: in such a condition to make a substantial contribution (a minimum of 40 years is suggested)
- B Trees of moderate quality and and value: those in such a condition to make a significant contribution (a minimum of 20 years is suggested)
- C Trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested) or young trees with a stem diameter below 150mm

In addition the British Standard requires one or more subcategories to be applied to the main Retention Category. In summary these are as follows:

- 1 Mainly arboricultural value (that is individual aesthetic characteristics)
- 2. Mainly landscape value
- 3. Of historical, conservation or other cultural value

Tree No.	Species	Height (m)	Diam (cm)		own Sį		` ′	Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
001	Sycamore	23	60	N 7	9	S	W 7	6	М	G	G	Single stem: stands in open ground: forks sharply at 4m into	No action required	40+	В	1
002	(Acer pseudoplatanus) Sycamore (Acer pseudoplatanus)	20	35	0	3	7	3	9	SM	G	F	2: reduced to 15m in the past: Single stem: stands in open ground: narrow crown	No action required	40+	C+	1/2
002A	Sycamore (Acer pseudoplatanus)	10	14 max	2	2	5	4	2.5	SM	F	Р	Two stemmed: suppressed and one sided: stands in open ground	No action required	20-40	С	2
003	Sycamore (Acer pseudoplatanus)	20	90 @ gl	6	7	6	4	3	М	F	F	Squat single stem forks into 3 at 0.8m: well balanced crown: wet pocket at junction of main stems but no signs of major pathogens	Review (general condition)	20-40	В	1
004	Sycamore (Acer pseudoplatanus)	14	60 @ gl	5	4	2	3	4	SM	F	Р	Squat single stem forks into 2 at 0.5m: stands close to wall and causing structural damage: epicormic growth	Remove (damage to adjacent wall)	10-20	R	1/2
005	Lime (Tilia x europaea)	22	70	9	5	6	5	8	М	F	G	Single stem: severe vertical bark wound on north side from 0.3m to 2m heigh (callusing well): in open ground but rise in level within crown spread (250mm high sleeper wall): previously reduced to 15m	Review (general condition)	10-20	C+	1/2
006	Lime (Tilia x europaea)	18	65	3	5	3	1	9	М	Р	Р	Single stem: crown severely reduced in the recent past with short regrowths: trunk burrs (typical of species) and extensive picormic growth: very one sided		20-40	С	1/2
007	Lime (<i>Tilia x europaea</i>)	26	85	9	7	5	5	2	М	G	G	Single stem by wall: slightly one sided: nesting box attached to main stem: stands off-site on adjacent land	No action required	40+	В	2
008	London Plane (<i>Platanus x hispanica</i>)	23	103	5	9	6	8	9	М	G	G	Paving extends to base of stem on all sides: close to existing wall and buildings: reduced in distant past to about 10m height: below average for this species on this site	Review (general condition)	20-40	В	1
009	London Plane (Platanus x hispanica)	29	114	7	10	7	10	8	М	G	G	Single stem: stands in paved area: close to existing wall and buildings: crack in wall: cable and spotlight attached to main stem:	Review (general condition)	20-40	А	1
010	London Plane (Platanus x hispanica)	31	130	8	10	13	8	6	М	G	G	A massive well balanced crown on a single stem: stands in a paved area with stepped change in level within crown spread: forks at 4m into 2: cable and spotlight attached to main stem: callused growth at 9m on subsidiary stem	Review (general condition)	20-40	А	1
011	London Plane (Platanus x hispanica)	33	126	14	15	7	10	5	М	G	G	011 and 012 make up an interdependent key group; single stem: stands in a small patch of open ground surrounded by tarmac:: close to buildings: telephone wires run below the crown spread	No action required	20-40	А	1

Tree No.	Species	Height (m)	Diam (cm)	Cro	wn Sį	pread	l (m)	Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
				N	Е	S	W									
012	London Plane (Platanus x hispanica)	24	114	8	3	12	7	9	М	G	G	See 011: single stem with one sided crown : stands in tarmac area: close to buildings	No action required	20-40	А	1
013	Beech (Fagus sylvatica)	12	35	6	7	4	3	2	SM	G	F	Single stem with squat crown: stands in fenceline: cable attached to stem:: suppressed (012): paving extends to base of main stem	No action required	40+	C+	1/2
013A	Purple Leaved Plum (Prunus cerasifera 'Atropurpurea'	8	16	4	2	3	3	1.5	EM	F	Р	Two stemmed: suppressed and one sided: epicormic growths	No action required	20-40	С	2
014	London Plane (<i>Platanus x hispanica</i>)	30	101	8	8	5	6	6	М	G	F	Single stem with slight curvature (sweep): close to boundary wall and buildings: stands in open ground: large subsidiary branch originates at 2.5m: 014 -016 inclusive make up a significant east boundary group	Remove subsidiary branch: Review (general condition)	20-40	В	1
014A	Fig (Ficus carica)	10	20 max	6	2	5	5	2.5	SM	G	F	5 stemmed clump in 600mm high brick container: damage to container wall: telephone wires pass through crown	Review (remove to prevent further wall damage)	10-20	C+	1
014B	Holly (<i>Ilex aquifolium</i>)	4	ms 6 av	2	2	2	2	0	Υ	G	G	Three stemmed: attractive columnar shape: useful low level screening: stnads in open ground	No action required	40+	С	1/2
014C	Holly (<i>Ilex aquifolium</i>)	6	9	2	2	2	2	1.2	Υ	G	G	Useful low level screening: single stem: well balanced: stands in open ground: see 014B	No action required	40+	С	1
014D	Holly (<i>Ilex aquifolium</i>)	6	15	3	2	1	2	1	SM	G	F	Single stem: stands in open ground: useful low level screening: suppressed (014): see 014B	No action required	20-40	С	1/2
014E	Holly (Ilex aquifolium)	6	15	3	2	1	3	1.5	SM	G	F	Similar to 014D	No action required	20-40	С	1/2
015	London Plane (Platanus x hispanica)	36	107	9	5	11	11	7	М	G	G	Single stem: stands in tarmac: metal bracket embedded in main stem: telephine wires pass below crown: see 014	No action required	40+	А	1
016	London Plane (Platanus x hispanica)	29	75 est	4	7	7	7	10	М	G	F	Single stem: stands outside boundary fence: very close to retaining wall and adjacent buildings: see 014	No action required	40+	В	1
016A	Holly (Ilex aquifolium)	4	<5	1	1	1	1	1	Υ	G	G	Single stem: suppressed: useful low level screening	No action required	20-40	С	1/2
017	London Plane (Platanus x hispanica)	24	80	8	11	12	7	2	М	G	F	Single stem forks at 2m into 2: stands in small patch of open ground surrounded by tarmac: by access gate: long, spreading limb (cable braced) over access restricts headroom:	Review: (general condition)	20-40	В	1

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Tree No.	Species	Height (m)	Diam (cm)	Cro	own Si	oread	(m) W	Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
018	London Plane (Platanus x hispanica)	25	68	12		4	6	8	М	G	G	Trees 018 - 025 inclusive make up a very prominent interdependent group in the south eastern corner of the campus: individual crowns overhang existing buildings, an access road and open grass: single stem: larger than average for group; forks at 3m into 3; stands in a small raised enclosure within tarmac	No action required	20-40	В	1/2
019	London Plane (Platanus x hispanica)	25	55	2	4	7	4	12	М	G	F	See 018: single leaning stem:high, narrow, unbalanced crown: changes in level within crown spread (250-300mm high sleeper wall)	No action required	20-40	C+	2
020	London Plane (Platanus x hispanica)	26	102	10	6	10	3	12	М	G	F	See 018: forks at 3m into 3: stands in open ground adjacent to tarmac: small change in level within crown spread area: large branch stub from major limb breakage	Review (general condition)	10-20	C+	2
021	London Plane (Platanus x hispanica)	29	104	9	7	10	9	6	М	G	G	See 018: single stem: a key boundary tree: floodlight adjacent: public footpath and lamp standard below: small cavity at 6m (no signs of significant structural decay)	No action required	40+	Α	1/2
021A	Lime (<i>Tilia x europaea</i>)	16	40	2	3	5	5	3	М	F	Р	Single stem forks at 3m into 2: suppressed (021) and leaning: severely reduced in recent past: epicormic growths: overhangs public footpath		10-20	С	2
022	London Plane (Platanus x hispanica)	26	63	5	5	5	6	12	М	G	F	See 018:single stem with slight lean: in tarmac area: subsidiary stem originates at 3m	Review (general condition)	20-40	C+	1/2
023	London Plane (Platanus x hispanica)	33	110 est	8	10	9	7	8	М	G	G	See 018: a key single stem boundary tree: stands outside community campus fence in enclosure on south edge of public footpath: cable brace in crown: 4m high sports pitch fence adjacent	No action required	40+	А	1
024	London Plane (Platanus x hispanica)	36	102	7	10	10	7	6	М	G	G	See 018: single stem: stands in nursery outside space: rubberised surface to base: well balanced crown	Review (general condition)	20-40	Α	1
025	London Plane (Platanus x hispanica)	31	145	10	9	11	14	6	М	G	G	See 018: a key single stem boundary tree: cable brace in crown: floodlight and 4m sports pitch fence adjacent: public footpath below	Review (general condition)	40+	Α	1

Tree No.	Species	Height (m)	Diam (cm)		wn Sp		` ,	Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
				N	Е	S	W									
026	London Plane (Platanus x hispanica)	31	1400	10	11	10	8	3	М	G	G	Single stem forks at 3m into 3: a key boundary tree: large lateral limb overhangs adjacent 4m high sports pitch fence: lamp standard below	No action required	40+	Α	1
027	London Plane (Platanus x hispanica)	31	140	8	11	16	10	5	М	G	G	Single stem forks at 3m into 2: a key boundary tree: lamp standard below: cable brace in crown	Review (general condition)	40+	А	1
028	London Plane (Platanus x hispanica)	27	102	11	10	10	13	6	М	G	G	Single stem: stands in tarmac: close to buildings	No action required	20-40	Α	1
029	London Plane (Platanus x hispanica)	30	95	5	10	8	10	6	М	G	G	Single stem: stands in tarmac car park: high narrow crown: close to buildings	No action required	40+	В	1
030	London Plane (Platanus x hispanica)	31	102	10	10	5	10	12	М	G	G	Single stem forks at 2.5m into 2: : stands in tarmac car park: close to buildings	No action required	40+	Α	1
031	Flowering Cherry (Prunus 'Kanzan')	5	20 est	5	5	6	5	1.5	SM	G	G	Single stem: well balanced crown	No action required	20-40	C+	1
032	Field Maple (Acer campestre)	7	18 max est	4	3	3	3	2	Υ	G	F	Single Field Maple srem intertwined with single Hawthorn stem: 032 has good potential	Remove Hawthorn	40+	С	2
033	Sycamore (Acer pseudoplatanus)	8	22	4	1	3	4	3	Υ	G	F	Single stem of natural seedling origin by boundary fence: competing with 032	Remove (future management problem)	40+	R	2
034	Willow (Salix species)	7	16 max	7	4	6	1	2	Υ	G	F	7 rather one sided stems in a line: useful as a group feature	No action required	10-20	С	2
035	Kashmir Birch (Betula jacquemontii)	4	25 @ 1m	4	5	6	3	2.5	SM	G	G	Single stem with a rather squat, one sided crown	No action required	20-40	С	1
036	Cherry (Prunus species)	5	33 max	5	5	5	4	2	SM	F	F	Short single stem forks at 0.3m into 2: well balanced crown: vertical (callusing) split on main stem	No action required	10-20	С	1
037	Ash (Fraxinus excelsior)	23	55	10	11	7	9	4	М	G	G	Probably pollarded to 3m many years ago: single stem forks into 3 at 3m: minor dead wood and epicormic growth: 1.5m from boundary wall	Remove dead wood	20-40	В	1
038	London Plane (Platanus x hispanica)	28	99	9	10	9	9	4	М	G	F	Previously pollarded at 8m: significant cavity on south side o main stem close to main branch fork: single stem forks at 7m into 2 main and several minor stems	Review (general condition)	20-40	В	1

appendix a

tree survey schedule tree survey plan tree constraints plan

explanatory notes

For general information on any entry in the detailed survey text, refer to the notes below which are organised on a column by column basis.

tree number

All trees have been numbered in the survey text to correspond to the location numbers shown on the accompanying Tree Survey Plan. No trees have been marked on site.

species

Common English names have been used wherever possible and Latin names are listed (in brackets in *italics*) in all cases.

dimensions

height - are recorded in m.

stem diameter – recorded in cm at breast height (1.4m) wherever possible.

If the diameter has been measured at a different height, this has been recorded, e.g. 60 cm @ 1 m = 60 cm diameter at 1 m height. Other abbreviations used:

av - average est - estimated

ms - multi-stemmed max – maximum gl - ground level

crown spread - radial crown spreads in metres have been recorded at four points on the circumference of the crown (north, east, south and west). The Tree Survey Plan enclosed shows approximate crown shapes based on these measurements

age

IMImmatureSMSemi-matureEMEarly matureMMature

OM Over-mature

Where the precise age of a tree is known, it has been recorded in brackets adjacent to the general classification i.e. M(7).

Coram Community Campus, Mecklenburgh Square, London WC1N 2QA

condition

physiological condition

Gives a measure of biological vigour and of the presence or absence of disease, insect attack or other debilitating factors.

- G Good
- F Fair
- P Poor

structural condition

Gives a measure of each tree' physical form and mechanical stability.

- G Good
- F Fair
- P Poor

comments

See also **discussion** and **conclusions** in the accompanying report.

recommendations

Preliminary management recommendations under existing conditions

life expectancy

An approximate estimate for each tree's anticipated future safe life in the following ranges:

<10 years

10-20 years

20-40 years

40+ years

retention category

This grading is based on the recommendations set out in BS 5837:2005 *Trees in relation to construction - recommendations*. The categories are summarised in the standard as follows:

- A Trees of high quality and value: in such a condition to make a substantial contribution (a minimum of 40 years is suggested)
- B Trees of moderate quality and and value: those in such a condition to make a significant contribution (a minimum of 20 years is suggested)
- C Trees of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested) or young trees with a stem diameter below 150mm

In addition the British Standard requires one or more subcategories to be applied to the main Retention Category. In summary these are as follows:

- 1 Mainly arboricultural value (that is individual aesthetic characteristics)
- 2. Mainly landscape value
- 3. Of historical, conservation or other cultural value

Tree No.	Species	Height (m)	Diam (cm)		wn Sp		(m)	Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
001	Sycamore (Acer pseudoplatanus)	23	60	N 7	9	S	W 7	6	M	G	G	Single stem: stands in open ground: forks sharply at 4m into 2: reduced to 15m in the past:	No action required	40+	В	1
002	Sycamore (Acer pseudoplatanus)	20	35	0	3	7	3	9	SM	G	F	Single stem: stands in open ground: narrow crown	No action required	40+	C+	1/2
002A	Sycamore (Acer pseudoplatanus)	10	14 max	2	2	5	4	2.5	SM	F	Р	Two stemmed: suppressed and one sided: stands in open ground	No action required	20-40	С	2
003	Sycamore (Acer pseudoplatanus)	20	90 @ gl	6	7	6	4	3	М	F	F	Squat single stem forks into 3 at 0.8m: well balanced crown: wet pocket at junction of main stems but no signs of major pathogens	Review (general condition)	20-40	В	1
004	Sycamore (Acer pseudoplatanus)	14	60 @ gl	5	4	2	3	4	SM	F	Р	Squat single stem forks into 2 at 0.5m: stands close to wall and causing structural damage: epicormic growth	Remove (damage to adjacent wall)	10-20	R	1/2
005	Lime (Tilia x europaea)	22	70	9	5	6	5	8	М	F	G	Single stem: severe vertical bark wound on north side from 0.3m to 2m heigh (callusing well): in open ground but rise in level within crown spread (250mm high sleeper wall): previously reduced to 15m	Review (general condition)	10-20	C+	1/2
006	Lime (<i>Tilia x europaea</i>)	18	65	3	5	3	1	9	М	Р	Р	Single stem: crown severely reduced in the recent past with short regrowths: trunk burrs (typical of species) and extensive epicormic growth: very one sided	No action required	20-40	С	1/2
007	Lime (Tilia x europaea)	26	85	9	7	5	5	2	М	G	G	Single stem by wall : slightly one sided: nesting box attached to main stem: stands off-site on adjacent land	No action required	40+	В	2
008	London Plane (Platanus x hispanica)	23	103	5	9	6	8	9	M	G	G	Paving extends to base of stem on all sides: close to existing wall and buildings: reduced in distant past to about 10m height: below average for this species on this site	Review (general condition)	20-40	В	1
009	London Plane (Platanus x hispanica)	29	114	7	10	7	10	8	M	G	G	Single stem: stands in paved area: close to existing wall and buildings: crack in wall: cable and spotlight attached to main stem:	Review (general condition)	20-40	А	1
010	London Plane (Platanus x hispanica)	31	130	8	10	13	8	6	М	G	G	A massive well balanced crown on a single stem: stands in a paved area with stepped change in level within crown spread forks at 4m into 2: cable and spotlight attached to main stem callused growth at 9m on subsidiary stem	Review (general	20-40	А	1

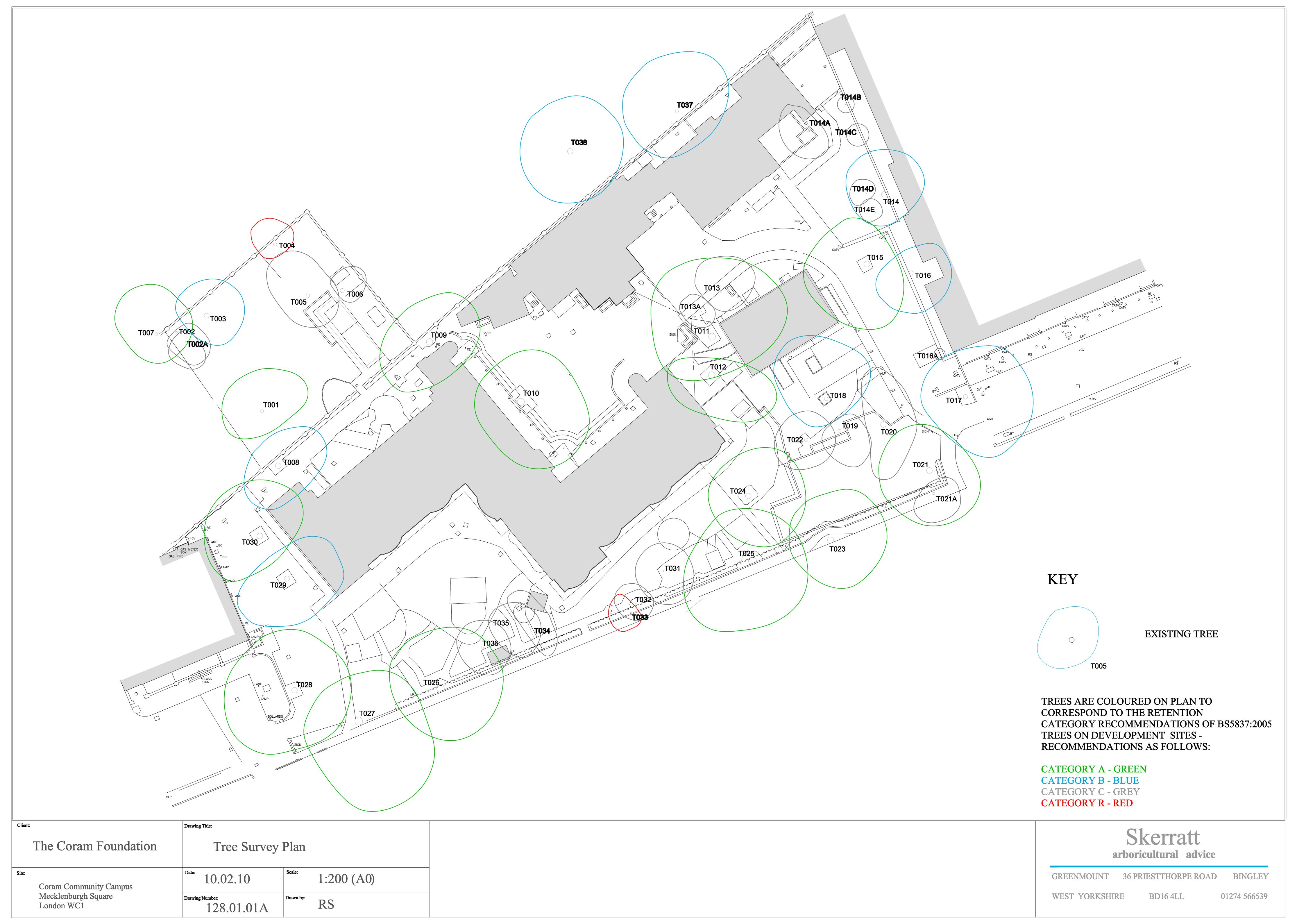
Tree No.	Species	Height (m)	Diam (cm)		wn Si		(m)	Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
\vdash				N	Е	S	W									
011	London Plane (Platanus x hispanica)	33	126	14	15	7	10	5	М	G	G	011 and 012 make up an interdependent key group; single stem: stands in a small patch of open ground surrounded by tarmac:: close to buildings: telephone wires run below the crown spread	No action required	20-40	А	1
012	London Plane (<i>Platanus x hispanica</i>)	24	114	8	3	12	7	9	М	Ð	G	See 011: single stem with one sided crown : stands in tarmac area: close to buildings	No action required	20-40	Α	1
013	Beech (Fagus sylvatica)	12	35	6	7	4	3	2	SM	Ð	F	Single stem with squat crown: stands in fenceline: cable attached to stem:: suppressed (012): paving extends to base of main stem	No action required	40+	C+	1/2
013A	Purple Leaved Plum (Prunus cerasifera 'Atropurpurea'	8	16	4	2	3	3	1.5	EM	F	Р	Two stemmed: suppressed and one sided: epicormic growths	No action required	20-40	С	2
014	London Plane (<i>Platanus x hispanica</i>)	30	101	8	8	5	6	6	М	D	F	Single stem with slight curvature (sweep): close to boundary wall and buildings: stands in open ground: large subsidiary branch originates at 2.5m: 014 -016 inclusive make up a significant east boundary group	Remove subsidiary branch: Review (general condition)	20-40	В	1
014A	Fig (Ficus carica)	10	20 max	6	2	5	5	2.5	SM	G	F	5 stemmed clump in 600mm high brick container: damage to container wall: telephone wires pass through crown	Review (remove to prevent further wall damage)	10-20	C+	1
014B	Holly (<i>Ilex aquifolium</i>)	4	ms 6 av	1.5	1.5	1.5	1.5	0	Υ	G	G	Three stemmed: attractive columnar shape: useful low level screening: stnads in open ground	No action required	40+	С	1/2
014C	Holly (<i>Ilex aquifolium</i>)	6	9	2	2	2	2	1.2	Y	G	G	Useful low level screening: single stem: well balanced: stands in open ground: see 014B	No action required	40+	С	1
014D	Holly (<i>Ilex aquifolium</i>)	6	15	3	2	1	2	1	SM	Ð	F	Single stem: stands in open ground: useful low level screening: suppressed (014): see 014B	No action required	20-40	С	1/2
014E	Holly (Ilex aquifolium)	6	15	3	1.5	1	2.5	1.5	SM	G	F	Similar to 014D	No action required	20-40	С	1/2
015	London Plane (<i>Platanus x hispanica</i>)	36	107	9	5	11	11	7	М	G	G	Single stem: stands in tarmac: metal bracket embedded in main stem: telephine wires pass below crown: see 014	No action required	40+	Α	1

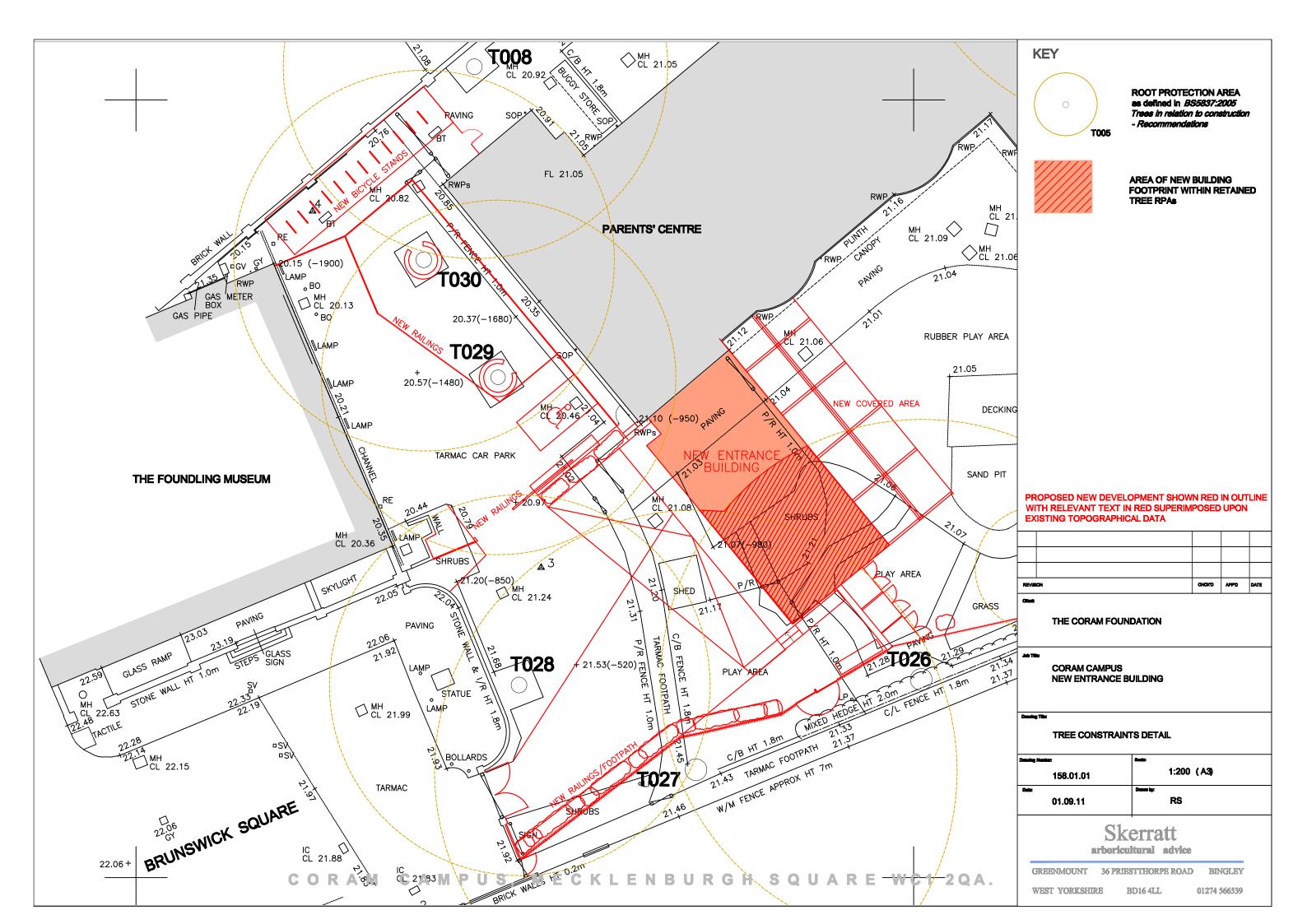
Tree No.	Species	Height (m)	Diam (cm)	Cro	wn S _l	pread	(m)	Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
				N	Е	S	W									
016	London Plane (Platanus x hispanica)	29	75 est	4	7	7	7	10	М	G	F	Single stem: stands outside boundary fence: very close to retaining wall and adjacent buildings: see 014	No action required	40+	В	1
016A	Holly (Ilex aquifolium)	4	<5	1	1	1	1	1	Υ	G	G	Single stem: suppressed: useful low level screening	No action required	20-40	С	1/2
017	London Plane (<i>Platanus x hispanica</i>)	24	80	8	11	12	7	2	М	G	F	Single stem forks at 2m into 2: stands in small patch of open ground surrounded by tarmac: by access gate: long, spreading limb (cable braced) over access restricts headroom:	Review: (general condition)	20-40	В	1
018	London Plane (<i>Platanus x hispanica</i>)	25	68	12	10	4	6	8	М	G	G	Trees 018 - 025 inclusive make up a very prominent interdependent group in the south eastern corner of the campus: individual crowns overhang existing buildings, an access road and open grass: single stem: larger than averag for group; forks at 3m into 3; stands in a small raised enclosure within tarmac	No action required	20-40	В	1/2
019	London Plane (Platanus x hispanica)	25	55	2	4	7	4	12	М	G	F	See 018: single leaning stem:high, narrow, unbalanced crown: changes in level within crown spread (250-300mm high sleeper wall)	No action required	20-40	C+	2
020	London Plane (Platanus x hispanica)	26	102	10	6	10	3	12	М	G	F	See 018: forks at 3m into 3: stands in open ground adjacent to tarmac: small change in level within crown spread area: large branch stub from major limb breakage	Review (general condition)	10-20	C+	2
021	London Plane (Platanus x hispanica)	29	104	9	7	10	9	6	М	G	G	See 018: single stem: a key boundary tree: floodlight adjacent: public footpath and lamp standard below: small cavity at 6m (no signs of significant structural decay)	No action required	40+	А	1/2
021A	Lime (Tilia x europaea)	16	40	2	3	5	5	3	М	F	Р	Single stem forks at 3m into 2: suppressed (021) and leaning: severely reduced in recent past: epicormic growths:		10-20	С	2
022	London Plane (Platanus x hispanica)	26	63	5	5	5	6	12	М	G	F	See 018:single stem with slight lean: in tarmac area: subsidiary stem originates at 3m	Review (general condition)	20-40	C+	1/2
023	London Plane (Platanus x hispanica)	33	110 est	8	10	9	7	8	М	G	G	See 018: a key single stem boundary tree: stands outside community campus fence in enclosure on south edge of public footpath: cable brace in crown: 4m high sports pitch fence adjacent	No action required	40+	А	1

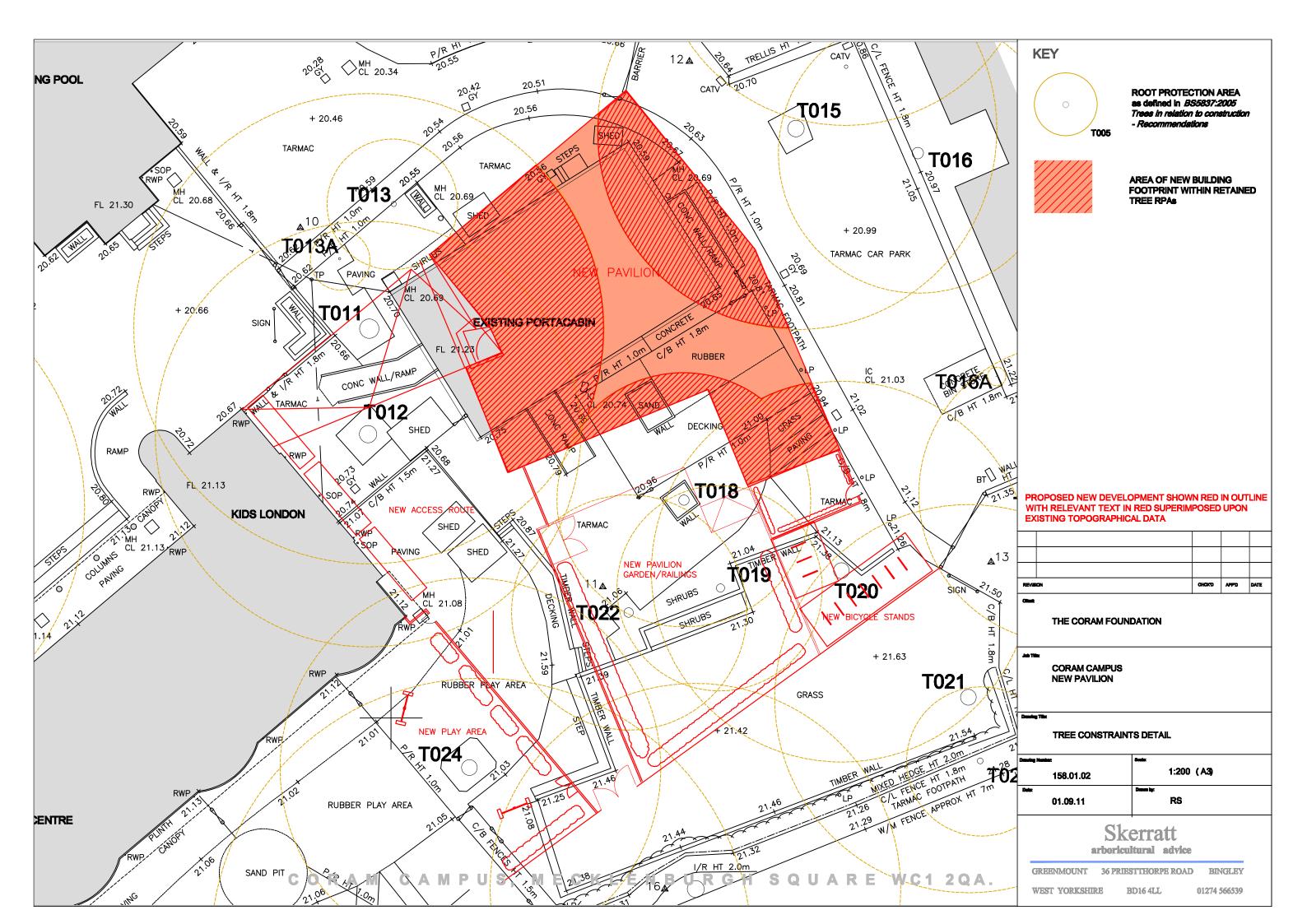
Tree No.	Species	Height (m)	Diam (cm)	Cro	wn Si	pread		Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
				N	Е	S	w	,								,
024	London Plane (Platanus x hispanica)	36	102	7	10	10	7	6	М	G	G	See 018: single stem: stands in nursery outside space: rubberised surface to base: well balanced crown	Review (general condition)	20-40	Α	1
025	London Plane (Platanus x hispanica)	31	145	10	9	11	14	6	М	G	G	See 018: a key single stem boundary tree: cable brace in crown: floodlight and 4m sports pitch fence adjacent: public footpath below	Review (general condition)	40+	Α	1
026	London Plane (Platanus x hispanica)	31	1400	10	11	10	8	3	М	G	G	Single stem forks at 3m into 3: a key boundary tree: large lateral limb overhangs adjacent 4m high sports pitch fence: lamp standard below	No action required	40+	А	1
027	London Plane (Platanus x hispanica)	31	140	8	11	16	10	5	М	G	G	Single stem forks at 3m into 2: a key boundary tree: lamp standard below: cable brace in crown	Review (general condition)	40+	Α	1
028	London Plane (Platanus x hispanica)	27	102	11	10	10	13	6	М	G	G	Single stem: stands in tarmac: close to buildings	No action required	20-40	Α	1
029	London Plane (Platanus x hispanica)	30	95	5	10	8	10	6	М	G	G	Single stem: stands in tarmac car park: high narrow crown: close to buildings	No action required	40+	В	1
030	London Plane (Platanus x hispanica)	31	102	10	10	5	10	12	М	G	G	Single stem forks at 2.5m into 2: : stands in tarmac car park: close to buildings	No action required	40+	Α	1
031	Flowering Cherry (Prunus 'Kanzan')	5	20 est	5	5	6	5	1.5	SM	G	G	Single stem: well balanced crown	No action required	20-40	C+	1
032	Field Maple (Acer campestre)	7	18 max est	4	3	3	3	2	Y	G	F	Single Field Maple srem intertwined with single Hawthorn stem: 032 has good potential	Remove Hawthorn	40+	С	2
033	Sycamore (Acer pseudoplatanus)	8	22	4	1	2.5	4	3	Y	G	F	Single stem of natural seedling origin by boundary fence: competing with 032	Remove (future management problem)	40+	R	2
034	Willow (Salix species)	7	16 max	7	4	6	1	2	Υ	G	F	7 rather one sided stems in a line: useful as a group feature	No action required	10-20	С	2
035	Kashmir Birch (Betula jacquemontii)	4	25 @ 1m	4	5	6	3	2.5	SM	G	G	Single stem with a rather squat, one sided crown	No action required	20-40	С	1
036	Cherry (Prunus species)	5	33 max	5	5	5	4	2	SM	F	F	Short single stem forks at 0.3m into 2: well balanced crown: vertical (callusing) split on main stem	No action required	10-20	С	1
037	Ash (Fraxinus excelsior)	23	55	10	11	7	9	4	М	G	G	Probably pollarded to 3m many years ago: single stem forks into 3 at 3m: minor dead wood and epicormic growth: 1.5m from boundary wall	Remove dead wood	20-40	В	1

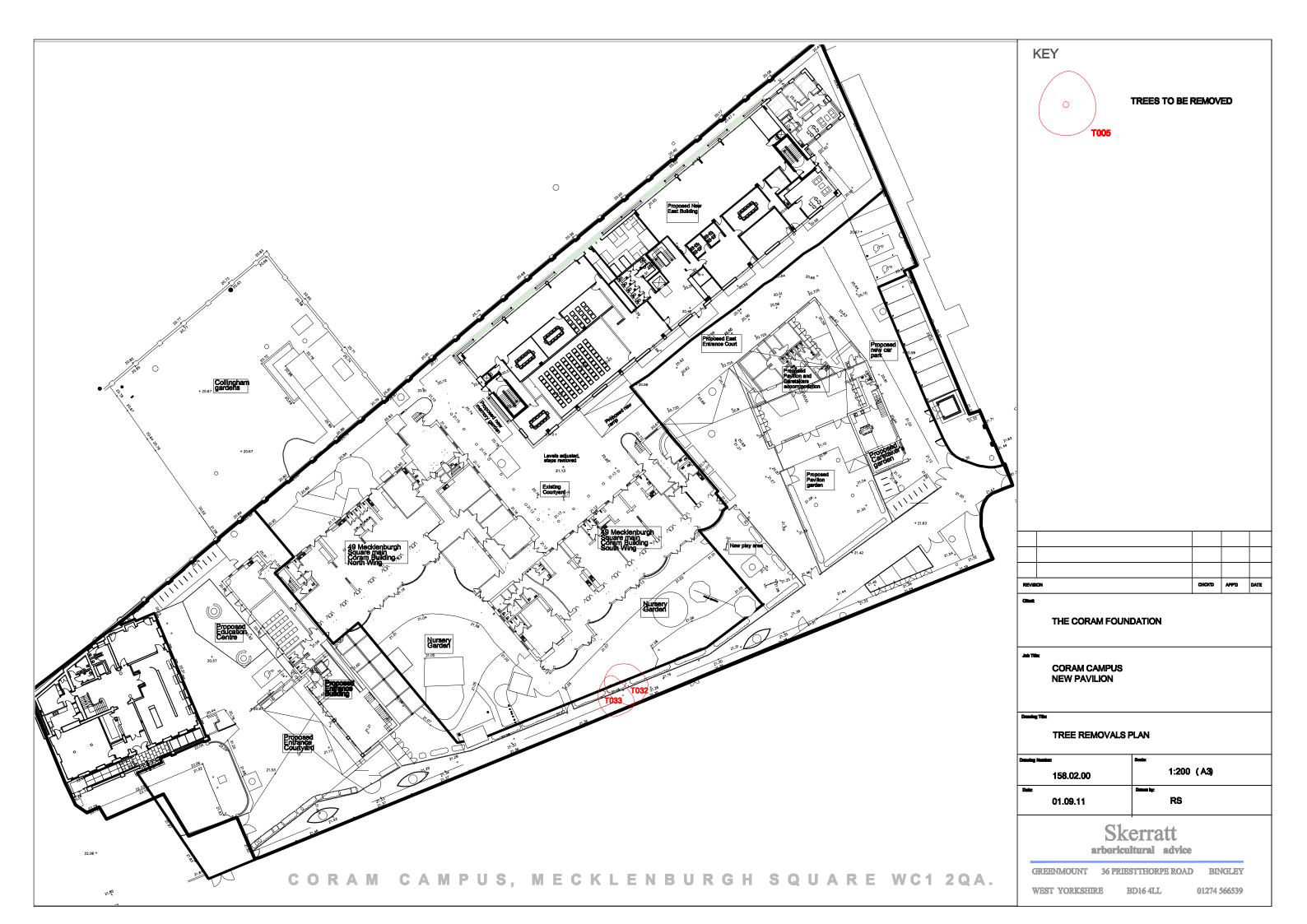
Tree Survey: Coram Community Campus, Mecklenburgh Square, London

Tree No.	Species	Height (m)	Diam (cm)	Cro	wn Sį	pread		Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Life Expectancy	Retention Category	Retention Sub- category
				N	Е	S	w									
038	London Plane (Platanus x hispanica)	28	99	9	10	9	9	4	М	G	F	Previously pollarded at 8m: significant cavity on south side of main stem close to main branch fork: single stem forks at 7m into 2 main and several minor stems		20-40	В	1



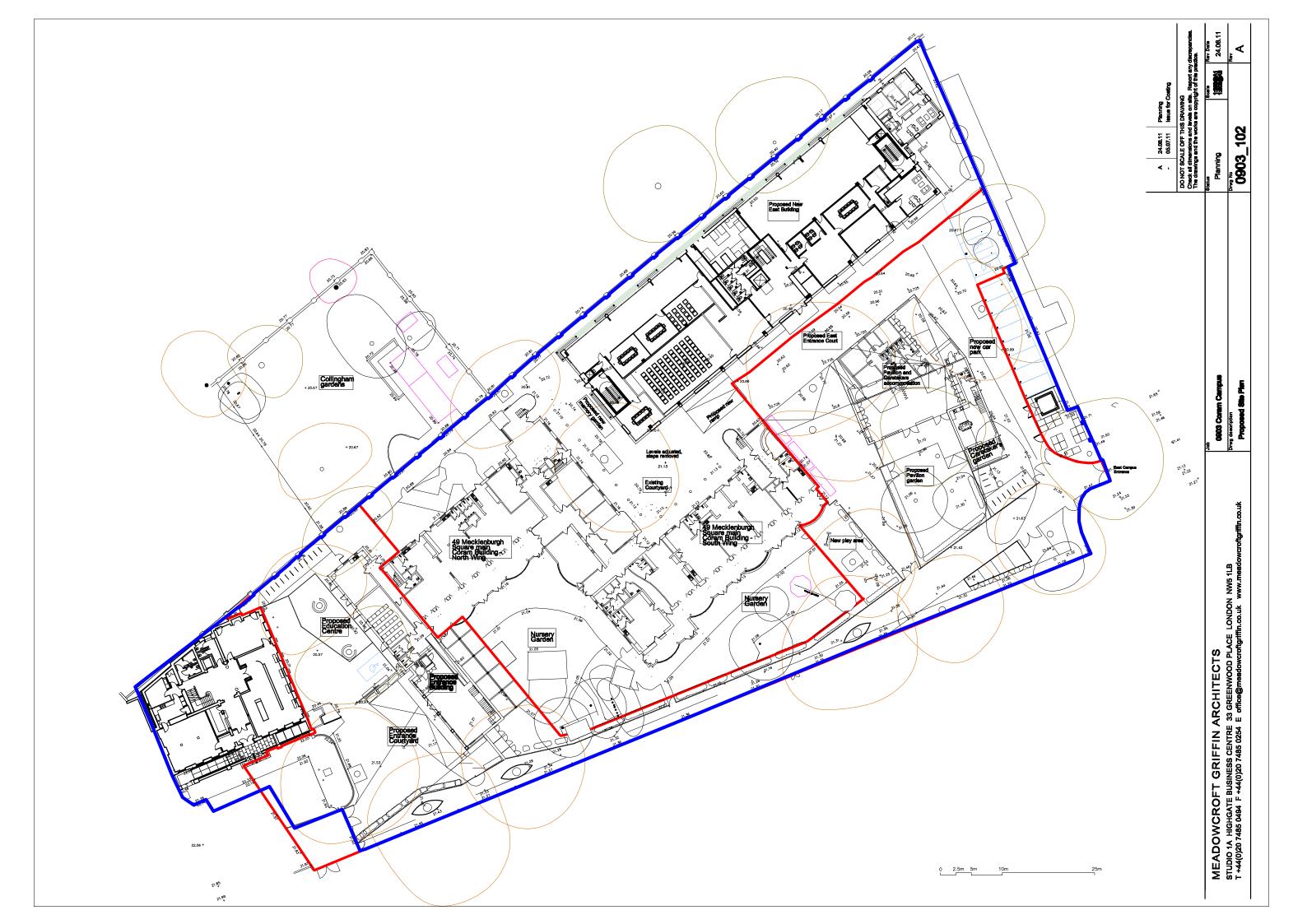


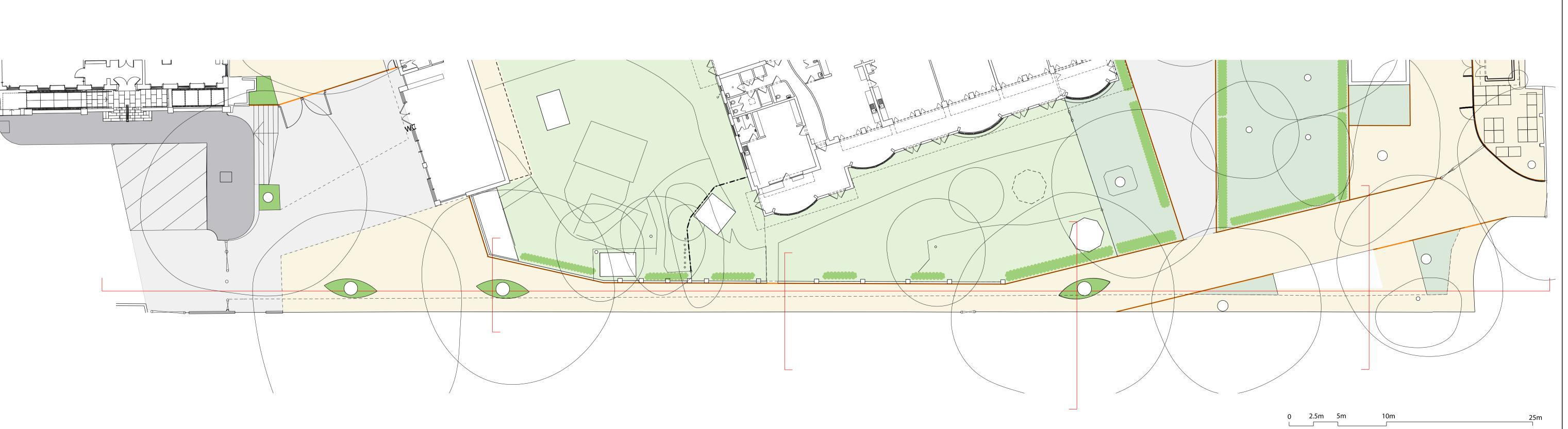




appendix b

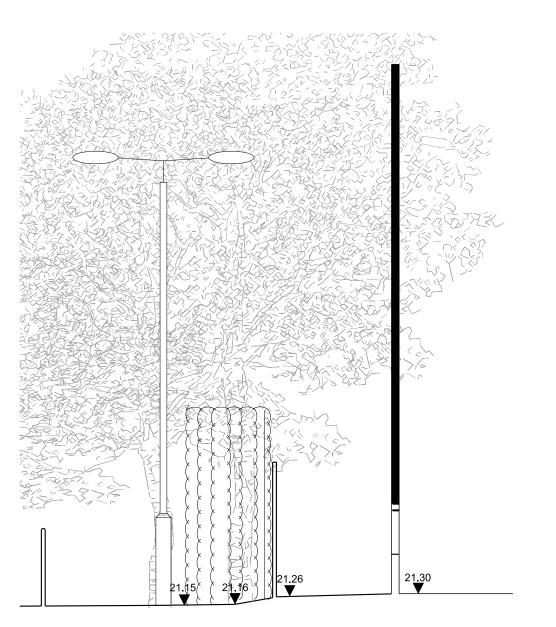
meadowcroft griffin drawings

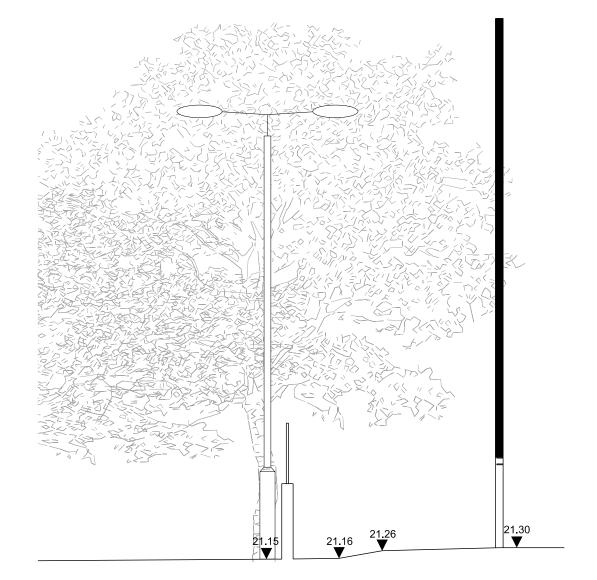




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5m _

Existing Section AA Proposed Section AA

