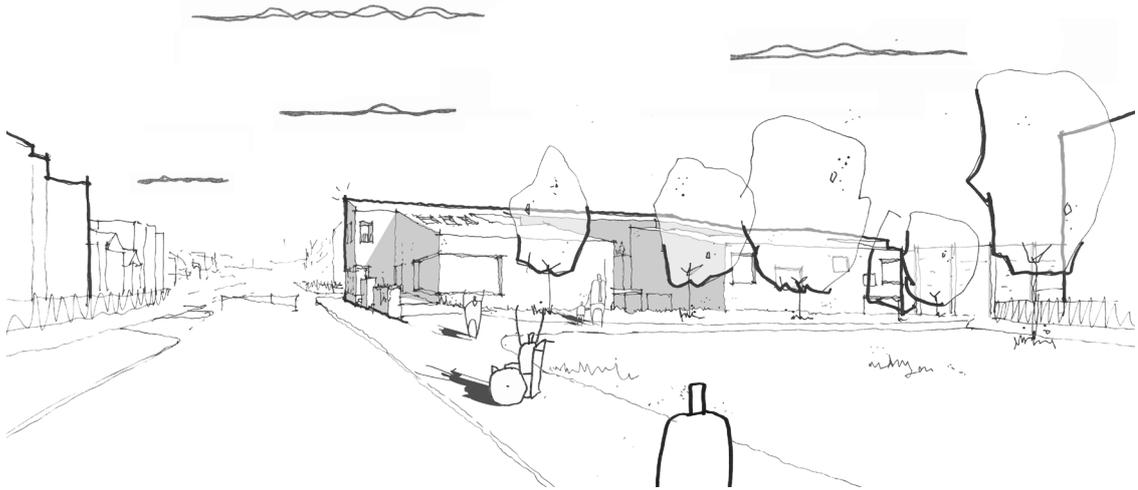


RESOURCE CENTRE

AT COBURG CRESCENT

ARBORICULTURAL ASSESSMENT

July 2017
Revision: -





Arboricultural Impact Assessment

Coburg Crescent, Tulse Hill, London SW2 3HU

Client Name: London Borough of Lambeth

Project Number: P2890.2.0

Date: 16 June 2017

Client:	London Borough of Lambeth
Agent:	Airey Miller
Site:	Coburg Crescent, Tulse Hill, London SW2 3HU
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Version:	FINAL

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1 Report Summary

This Arboricultural Impact Assessment has been prepared to support a planning application for development at Coburg Crescent, Tulse Hill, London.

The site was the former Palace Adult Education Centre, situated in Tulse Hill to the south of Central London. It will be cleared of all existing building, and hard surfacing, to allow the construction of a new development with amenity areas. The site contained many trees, most of which are large, with significant local prominence. Development has potential to affect trees within and beyond the site boundary.

The potential impacts on trees and proposed mitigation measures are set out in the table.

Potential Development Impact	Trees Affected	Proposed Mitigation Measures
Removal of trees due to incompatibility with the development.	T2, T5, G1, G3, G4 and G5.	Compensate removals with new tree planting, to create a tree stock of increased diversity and longevity.
Excavation within the RPA for construction of for new structures, leading to root damage and removal, crown reduction and tree removal.	T3.	Hand excavate the closest 600mm horizontally to trees, using a clean, sharp saw for all root removal. Design foundations to tolerate the presence of trees.
Damage to tree roots from compaction and contamination from construction activities. Damage to tree stems and crowns from construction activities.	All retained trees.	Erect protective fencing to encompass all sections of tree crowns and RPAs, whichever is the greater, with this erected prior to the commencement of development and maintained in place until all development is complete. Install ground protection where working space is required within any RPA.

It has been confirmed with the London Borough of Lambeth (e-mail dated 9th June 2017) that the site was not located within a Conservation Area (CA), nor were any of the trees within this report subject to Tree Preservation Orders (TPO). This should be confirmed with the Local Planning Authority (LPA) prior to any works on the trees taking place.

This report sets out tree removal to allow space for viable development, together with the methodology for construction, soft landscaping and tree protection requirements. It is considered that, although the impact of tree removal for development will have a significant visual impact, the site offers high potential to accommodate new tree planting, which can ultimately provide both compensation and future enhancement of the site's tree stock.

Any development impacts on retained trees can be effectively mitigated, subject to the correct implementation of all tree protection and the methodology.

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2 Introduction

2.1 Brief and Proposals

agb Environmental Ltd was commissioned by Airey Miller on behalf of London Borough of Lambeth to undertake an Arboricultural Survey at Coburg Crescent, Tulse Hill, London to accompany a planning application. The purpose of the survey was to identify:

- Tree age, condition class, general health and dimensions;
- Root Protection Area;
- Constraints and potential tree removals in respect of the proposed layout;
- The location and means of protecting retained trees;
- Preliminary methodology for implementing the proposed layout.

2.2 Documents and Information

The following documents were utilised in the preparation of this report:

- DB1672-TOPO-1 of 2 and 2 of 2 A0 - Topographical Survey;
- AX_85387-01_Coburg Crescent_WIP_lfrP2RC7 - Sheet - A-06-503 - Site plan.dwg - Site Layout;
- BS5837:2012 *Trees in relation to design, demolition & construction - Recommendations*.

2.3 Survey Details and Constraints

The survey was undertaken on the 24th May 2017 by the agb Environmental Arboricultural Consultant, in adherence to the principles of BS5837:2012 *Trees in relation to design, demolition & construction - Recommendations*. Tree inspections have been undertaken from ground level using non-invasive techniques only, in accordance with the principles of the Visual Tree Assessment method developed by Mattheck and Breloer (1994).

The survey obtained data upon eight individual trees and six groups. Trees with a stem diameter below 75mm, when measured at 1.5m above ground level, were not included. The terms used to explain the data recorded are provided in **Appendix 1**.

Comments on tree condition and safety relate to the condition of trees at the time of survey. It should be recognised that tree condition is subject to change in response to a range of factors. This report does not take into account potential extreme climatic events not normally expected in this locality, which could include, but aren't restricted to, severe windstorms, floods or drought. This report also doesn't take into account potential outbreaks of pests or diseases.

This report contains recommendations concerning work that should be carried out to manage the risks posed to and by the trees responsibly, and reduce them to an acceptable level. Even after the recommended work has been carried out some trees could still fail, but it is unlikely that they will cause significant harm unless the weather conditions are extreme and/or there are major hidden defects.

This report considers the potential for trees to influence soil in such a way as to cause the proposed development, or other buildings, to suffer tree related subsidence or heave damage, but does not attempt to quantify this. Operations carried out in the vicinity of the trees, either in the past or future, could affect their health and stability; such operations could include, but aren't restricted to, trenches dug for the installation or repair of utilities.

3 Site and Surrounding Area Context

3.1 Site Description

The site was the former Palace Adult Education Centre, located at the north-western end of the Palace Road Estate, situated in Tulse Hill approximately seven kilometres south of Central London. Surrounding land use was predominantly residential with the exception of Palace Road Nature Garden to the south-west.

The site boundaries were Coburg Crescent to the north-west, amenity areas, adjoining existing dwellings to the north-east and south-west with Palace Road forming the south-western boundary.

The north-western half of the site comprised hoardings surrounding the existing buildings with the remainder comprising footpaths and areas of amenity grass. The site was predominantly flat with no significant level changes.

3.2 Soil Assessment

Information from the Geology of Britain viewer (British Geological Survey, 2017) indicates that the bedrock geology local to the site is London Clay Formation - Clay and Silt, and that local superficial deposits are Head - Clay, Silt, Sand and Gravel. Clay soils generally have a high potential for volume change in response to soil moisture change, possibly resulting from the presence of trees.

An assessment of the soil conditions within the site will be required to inform foundation construction. This assessment must be made by a qualified structural engineer or geotechnical consultant.

3.3 Existing Tree Stock Summary

Photographic plates are provided in **Appendix 2**. Details of all trees surveyed are provided in the Tree Survey Table in **Appendix 3**, with locations in relation to the site in the Tree Constraints Plan (TCP) in **Appendix 4**.

Most of the trees were located to the south-east of the site and the majority were assessed as moderate quality, Category B,

One Category A tree T6, Turkey oak, and one group, G6, lime, were located on the opposite side of Coburg Crescent outside the north-west site boundary.

One tree T2, ash and one group G2, mountain ash, were classified as low quality, Category C, due to the presence of defects, and one tree T7, holly, due to its small diameter.

An individual tree T1, lime, was assessed as Category U, due to serious defects. As its location was next to a footpath and play area, removal is recommended for safety reasons.

4 Statutory Tree Protection

It has been confirmed with the London Borough of Lambeth (e-mail dated 9th June 2017) that the site was not located within a Conservation Area (CA), nor were any of the trees within this report subject to Tree Preservation Orders (TPO). This should be confirmed with the Local Planning Authority (LPA) prior to any works on the trees taking place.

In the event that statutory tree protection is put in place, the LPA will contact the landowner, explaining the implications and the required process for contacting the LPA prior to commencing any work.

The presence of statutory tree protection may prevent work that may normally be carried out, such as reducing overhanging branches from a neighbour's tree back to the site boundary. In circumstances where work is required in an emergency, the work may proceed, though contact should be made with the LPA to advise them that this is the case prior to carrying out any work.

If this report is submitted to accompany a planning application, any tree work specified, relating to trees subject to statutory tree protection, will be considered as part of that application. Therefore, if planning permission is subsequently granted, this would normally provide permission for all tree work. Clarification may be sought from the LPA over this.

5 Principal Survey Findings and Arboricultural Impacts

The main findings are summarised in the following section. For ease of reference, it is recommended that this section is cross referenced with the information and plans provided within **Appendices 3, 4 & 5**.

5.1 Development Proposals

The site will be cleared of all existing buildings, and hard surfacing, to allow the construction of a new development with amenity areas.

5.2 Tree Removals and Reduction

Details of all tree work and tree removals are provided in **Table 6.2** and illustrated on the Tree Protection Plan (TPP) provided in **Appendix 5**.

5.2.1 Removal and Reduction for Reasons of Condition

One tree T1, lime, was recommended for removal for reasons of poor condition. It is also recommended that major deadwood is removed from G1, lime, within six months of the survey date.

5.2.2 Removal and Reduction for Reasons of Incompatibility

The following trees and groups require removal due to incompatibility with the proposed development:

- T2, ash;
- T5, ash;
- G1, lime;
- G3, ash and lime;
- G4, Norway maple; and
- G5, lime.

5.2.3 Assessment of Proposed Tree Removal and Reduction

The removal of trees for development is likely to have significant visual impact due to the loss of screening of public views by boundary vegetation. It is therefore recommended that the proposal includes an extensive planting scheme to compensate for the loss of amenity value.

5.3 Tree Interface with Proposals

Where trees are retained, both the works required to develop the site and its future use have potential to adversely affect trees, either causing damage to them or threatening their long-term retention. Damage can occur both above ground to tree crowns, limbs and trunks, and to roots below ground within the calculated Root Protection Area (RPA). The potential causes of such threats, together with proposals to avoid or minimise them, are set out in this section.

Table 5.1: Potential arboricultural impacts and proposed mitigation.

Development Activity	Potential Risk	Consequence	Mitigation
Excavation within RPA of T3.	Over-excavation.	Root damage and loss.	Use hand tools only for the initial 600mm depth and closest 600mm horizontally to trees within the RPA.
	Inappropriate removal of roots.	Root dieback.	Use a clean sharp saw for root severance, to minimise wound size and prevent the spread of infection.

Development Activity	Potential Risk	Consequence	Mitigation
<p>Construction activities, including materials delivery, transport and storage, contractor parking, site facilities and working areas.</p>	<p>Soil compaction and contamination.</p> <p>Accidental contact damage.</p>	<p>Root damage and die-back.</p> <p>Crown damage, die-back and loss.</p>	<p>Erect tree protective fencing round the entire RPA and crown spread, whichever is the greater, for the entire duration of the development.</p> <p>Where construction access is required within any RPA, install ground protection on any areas of unsurfaced ground, for the entire duration of the development.</p>

6 Arboricultural Method Statement

The information in this section has been provided on the basis of the plans provided at the time the report was prepared. Should the site layout alter in the future, the advice provided may have reduced relevance and need to be revised prior to the commencement of the development.

6.1 Guidance Utilised

This section provides a site specific Arboricultural Method Statement (AMS), based on guidance provided within:

- BS5837:2012 *Trees in relation to design, demolition & construction - Recommendations.*
- BS3998:2010 *Tree work - Recommendations.*
- Volume 4 - *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* (Issue 2, 2007).

6.2 Contact Details

The details of all the principal points of contact are provided in the table below.

Table 6.1: Principal contact details.

Contact	Name	Address	Contact Details
Local Planning Authority	Ian Leonard Arboricultural Officer Planning, Transport and Development Neighbourhoods and Growth	London Borough of Lambeth Phoenix House First Floor 10 Wandsworth Road London SW8 2LL	020 7926 1191 ileonard@lambeth.gov.uk
Client	Richard Martin Project Manager Major Capital Programmes Division Neighbourhoods & Growth Office	London Borough of Lambeth 7th Floor International House Canterbury Crescent London SW9 7QE	020 7926 3984 rmartin2@lambeth.gov.uk
Agent	Matt Riches Director	Airey Miller Suite 14 Building 30 Churchill Square Kings Hill Kent ME19 4YU	01732 897 902 matt@aireymiller.co.uk
Arboricultural Consultant	Peter Brais Arboricultural Consultant	agb Environmental Newmarket Business Centre 341 Exning Road Newmarket Suffolk CB8 0AT	01638 663226 peter@agbenvironmental.co.uk

6.3 Tree Works

Tree works should be the first activity on site to prevent accidental damage during clearance / demolition / construction and to enable sufficient vehicular clearance such that the proposals can be implemented.

Tree work is a potentially dangerous occupation. All tree work contractors should be required to provide evidence that they are competent to undertake the required works and are adequately insured. The contractor should also be asked to provide a site-specific risk assessment prior to commencement of any tree works. All tree works should be in accordance with BS 3998:2010 *Tree work - Recommendations*.

Some of the trees may possess features that increase their potential for use by nesting birds and roosting bats. It is recommended that all tree works take place outside of the main bird nesting season (generally accepted as being March-August inclusive). Where work is required on trees containing cracks, cavities, splits and major (>100mm) dead wood, it is recommended that these features are inspected by a licensed ecologist or bat surveyor prior to work being carried out.

Details for all tree work are given in **Table 6.2**.

Table 6.2: Tree works.

Tree No.	Species	Work Recommended Irrespective of Development	Work Required to Facilitate Development
T1	Lime	Remove for health and safety reasons within six months of the survey date.	No work required.
T2	Ash	No work required.	Remove due to incompatibility with the proposed development.
T5	Ash	No work required.	Remove due to incompatibility with the proposed development.
G1	Lime	Remove major deadwood within six months of survey date.	Remove due to incompatibility with the proposed development.
G3	Ash Lime	No work required.	Remove due to incompatibility with the proposed development.
G4	Norway maple	No work required.	Remove due to incompatibility with the proposed development.
G5	Lime	No work required.	Remove due to incompatibility with the proposed development.

6.4 Tree Protection

Following tree works and before any other works commence on site, tree protective fencing shall be immediately installed in accordance with the Tree Protection Plan (TPP) in **Appendix 5** and specification in **Appendix 6**, and signed accordingly with warning notices. It shall be located on the outer edge of the RPA or crown spread, whichever is greater, except where working space is required within RPAs.

It is assumed that the entire development site will be secured with hoarding. This will be suitable to provide protection to retained trees to the east of the site, with the exception of T3, Norway maple, which will require individual tree protection fencing. Tree protection fencing has been recommended along the grass verge to the north-west of Coburg Crescent to prevent contractor parking in this area and protect the ground for the proposed planting scheme.

Once all protection is in place and before any works commence on site, it is recommended that this be viewed and signed off, by the project arboriculturist. All protection shall be in place during the entire construction phase of the development.

6.5 Construction Access / Materials Storage

Access to the site for all activities will be directly from Coburg Crescent. The locations of all site facilities and any compounds will be limited by the presence of site security hoarding. The absence of trees within the site means the entire enclosed area can be used for all facilities, storage and delivery, negating the need to use any area containing retained trees.

Consideration must also be given to the impact of such activities on the soil conditions of areas proposed for new planting. It is recommended that these areas are protected in the same way as retained trees.

The limitations on materials storage are those given under **General Guidance** in 6.9.

6.6 Provision of New Wall Foundations Within the RPA of T3

Hand excavation must be used for the initial 600mm depth, to minimise the potential for root damage. Where roots below 25mm diameter are encountered, these shall be cut using a clean, sharp saw. In the event that roots exceeding 25mm diameter are encountered, no severance must take place without first consulting the Project Arboriculturist, to assess the impact of removal on tree health and stability. All excavation and root severance should be supervised by the Project Arboriculturist.

Where new foundations are constructed within the RPA, the excavation must be lined with an impermeable membrane to prevent leachate from concrete affecting tree roots.

The design of all foundations and surfaces likely to be affected by trees must be specified by a suitably qualified structural engineer, with consideration given to the proximity and species of trees, and the surrounding soil conditions.

6.7 Provision of New Planting

The ability of new tree planting to deliver the intended compensation for tree removal is dependent upon three key factors. The project's Landscape Architect will need to consider these factors when determining the landscape plan. It is recommended that British Standard BS 8545:2014 *Trees: from nursery to independence in the landscape – Recommendations* is used to inform the process.

6.7.1 Species Selection

When selecting species for planting, the following need to be considered:

- The space available – select species able to grow to mature size without requiring substantial reduction or maintenance to alleviate future problems;
- The adjacent land use – avoid species that may conflict with use of the surrounding area, giving consideration to shading, debris fall, potential use by nesting birds and insects, and potential to cause irritation;
- The local environmental conditions – the urban setting may result in higher temperatures, reflected heat, wind deflection and higher levels of pollution.

6.7.2 Planting Location

Due to the extensive and comprehensive redevelopment of the site, all new trees will require planting provision. The following needs to be considered when designing this:

- Provide a sufficient soil volume for tree roots at the anticipated mature size – if this is not feasible, then consideration must be given to a smaller growing species;
- Provide a means for water, nutrients and air to reach roots beneath new hard surfacing – this may be via a permeable paving construction or the installation of an underground irrigation and aeration system;
- Provide suitable soil conditions – consideration needs to be given to soil structure, composition and potential contaminants. The specifications for imported topsoil should conform to the latest recommendations within BS 3882:2015 *British Standard specification for topsoil and requirements for use*;
- Provide a construction capable of tolerating the tree at mature size – incremental expansion of the trunk and roots can cause damage to surfacing, potentially leading to expensive future repairs and possible tree removal.

There are a number of proprietary tree planting products designed specifically for the urban environment. Manufacturers will be able to provide advice on soil volume requirements, irrigation and aeration, and the ability to tolerate future growth.

6.7.3 Aftercare to Independence

Trees will need periodic inspection and irrigation during the first few growing seasons, to help them establish successfully to the point where they can survive independently. A regime of post-planting aftercare should be provided, to cover the following:

- Irrigation schedule;
- Inspection schedule for damage (trees and structures), pests and disease;
- Formative pruning in accordance with BS 3998:2010 *Tree work – Recommendations*;
- Replacement provision for any failures or those that have poor establishment.

6.8 Schedule of Works and Supervision

The recommended schedule of works and points at which supervision is required are set out in **Table 6.3**. This schedule is intended to minimise the potential for development to result in damage to retained trees, providing a logical sequence of works.

Supervision is recommended for key stages where these have greatest potential to result in tree damage if carried out incorrectly. This supervision should be provided by the designated project arboricultural consultant. Following supervision, a photographic report would be presented to the LPA.

Arboricultural supervision may be made a requirement of the development by way of appropriate planning conditions. A proposed schedule detailing the scope and frequency of arboricultural supervision visits is detailed below. However, the LPA may request an alternative schedule within any planning conditions.

Table 6.3: Schedule of works and supervision.

Sequence	Activity	Supervision Responsibility
1	All tree works and removals.	Project Arboriculturist.
2	Installation of all tree protection in accordance with the TPP.	Site Manager & Project Arboriculturist.
3	Main development phase,	Site Manager.
4	Removal of all tree protection following completion of all development.	Site Manager.
5	Soft landscaping	Project Landscape Architect.
6	Assessment of tree condition post-development	Project Arboriculturist.

6.9 General Guidance

The following general precautions must also be taken during the construction phase.

- No materials or fuel shall be stored close to or within the RPAs of trees to be retained or where new trees are to be established.
- There shall be no bonfires within 10m of the outer edge of the crown or RPA of a tree to be retained.
- Mechanical equipment must not be refuelled within the RPAs of retained trees or areas where new trees are to be established.
- No cement shall be mixed or stored within the RPAs of retained trees or areas where new trees are to be established.
- Cement mixers must not be washed within or uphill of the RPAs of retained trees or areas where new trees are to be established.
- The soil level within the RPA of a retained tree must not be raised or lowered without the agreement of the local authority Tree Officer.
- No plant shall be operated within the RPAs of retained trees unless the soil is suitably protected against compaction.
- Excavation should not take place within the RPAs of retained trees unless an arboricultural consultant or the local authority Tree Officer is supervising the work.
- The guidance provided by NJUG (2007) should be followed when installing underground services within the RPAs of retained trees.
- Surface water runoff must not be redirected into or out of the RPA of a retained tree.
- No materials shall be dumped within the RPA of a tree, whether in a skip or on the ground.
- No vehicles shall be parked or operate within the RPA of a retained tree.

7 Conclusions

Development requires considerable tree removal due to direct conflict with the proposed layout. The majority of the trees for removal are of moderate quality, Category B, with considerable local prominence. As a consequence, tree removal will have a significant visual impact, in particular for views from dwellings to the east of the site.

To compensate for this loss, a scheme of extensive new tree planting is recommended. The ability of this scheme to compensate losses is dependent upon:

- The provision of suitable planting conditions;
- Successful establishment;
- Species selection, suited to the location and site use.

Retained trees have potential to be damaged by development. Tree protection requirements are provided to minimise this potential.

Arboricultural supervision is specified for key stages in the development that have potential impacts upon trees, to help ensure that all tree protection and the methodology are implemented correctly.

Subject to the above, a scheme of new planting, in combination with successful tree retention, offers potential to deliver a long-term enhancement of local tree cover, providing a tree stock of increased diversity and resilience.

8 References

British Geological Survey. (2017) *Geology of Britain viewer* [online]. <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (Accessed 7th June 2017).

Mattheck, C. and Breloer, H. (1994) *The body language of trees*. London: TSO

National Joint Utilities Group. (2007). Volume 4 *NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* (Issue 2) [online]. Available at: <http://www.njug.org.uk/document-download/?URL=http://www.njug.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf> (Accessed 23rd July 2015).

Appendix 1 Explanatory Notes for Terms Used in Appendices 3, 4 & 5

Compass Bearing

N = north; S = south; E = east; W = west;

Tree Number

Number used to indicate the approximate position on plans inserted as **Appendices 4 & 5**.

Species

The species identification is based on visual observations.

Diameter at Breast Height (DBH)

Trunk diameter 1.5m above ground level recorded in millimetres measured with a diameter tape. If branches emerge below 1.5m, or if the trunk divides at or close to this height, the trunk diameter will be measured at a different height above the ground and this height will be mentioned. More than one figure indicates that the individual has several stems. Many stems are indicated with an 'M', where it is not possible to determine the number. If the DBH has been estimated this will be marked with an asterix (*) in the column.

Height

The height of the tree measured to the nearest metre, or half-metre if below ten metres.

Age Class

Sapling or newly established (Y) = a size which could be easily transplanted;

Semi-mature (SM) = prior to seed bearing age and could be transplanted with care;

Early Mature (EM) = of seed bearing age, may be close to or have achieved mature height, but with considerable apical dominance and lacking a broad, domed crown;

Mature (M) = fully grown, annual growth is much reduced, with a broad, domed crown;

Old Mature (OM) = exceptionally old for the species, possibly starting to decline;

Veteran (V) = often old for the species, the crown may be retrenching or displaying damage, containing features that provide many opportunities for wildlife, likely to offer important habitat.

Crown Clearance

The existing height of the first significant branch or section of canopy, to the nearest half-metre, to inform on ground clearance, crown/stem ratio and shading.

PRF

Potential Roost Features – features that have potential for use by bats for roosting, likely to require further inspection if tree work is required.

Condition

The physiological condition of the tree:

Good = normal growth and twig extension showing good vitality, canopy of typical density, with foliage of normal size and colour for the species - no notable indication of ill health.

Fair = reduced twig extension, minor deadwood, but other than that few signs of ill health;

Poor = small internodes and low vitality, the canopy may be thinning and contain dead twigs and/or branches in the outer canopy, discoloured, dwarfed, misshapen or wilting foliage, obvious presence of disease or infection;

Dead = Dead

Category & Remaining Contribution

The category assessed using the guidance in Table 1 of BS 5837:2012 and the potential for safe tree retention based on the current context.

(A) (light green) Trees of high quality and value: in such condition as to be able to make a substantial contribution (a minimum of 40 years is suggested);

- A1 - Exemplary arboricultural specimens
- A2 - Trees of particular visual importance as arb/landscape features
- A3 - Significant conservation/historical value.

(B) (mid blue) Trees of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested);

- B1 - Might have been A Cat, but downgraded because of impaired condition.
- B2 - Present in numbers - reduced value as individuals but higher as a collective group.
- B3 - Trees with material conservation or other cultural value.

(C) (grey) 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;

- C1 - Unremarkable tree, limited merit/impaired condition.
- C2 - Trees present in groups/woodlands without inferring greater collective value.
- C3 - Tree with no material or other cultural value.

(U) (dark red) Trees in such a condition that any existing value would be lost within 10 years and should, in the current context, be removed under sound arboricultural management.

Crown Spread

The distance from the tree trunk to the most relevant of the four cardinal points of the compass, measured in metres.

Radius of the RPA

The radius of a circular Root Protection Area (RPA) in metres as specified using the guidance contained in BS 5837:2012.

Appendix 2 Tree Photos



Plate 1. T1, lime, located next to the play area and footpath. Viewed looking towards the north-east.

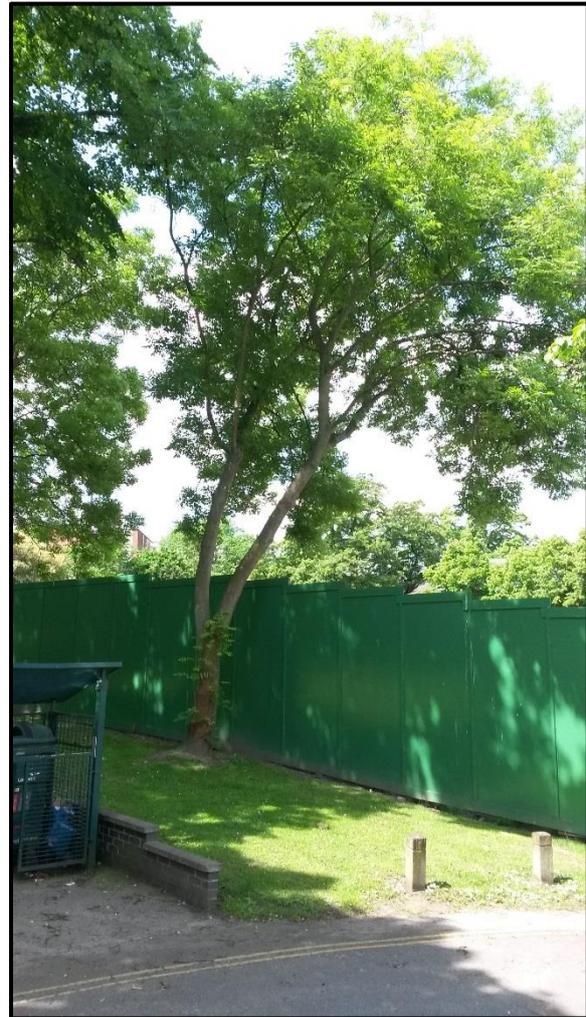


Plate 2. T2, ash, showing location next to hoardings surrounding construction site.



Plate 3. T3, Norway maple, located at the edge of the grassed amenity area. Viewed looking towards the east.

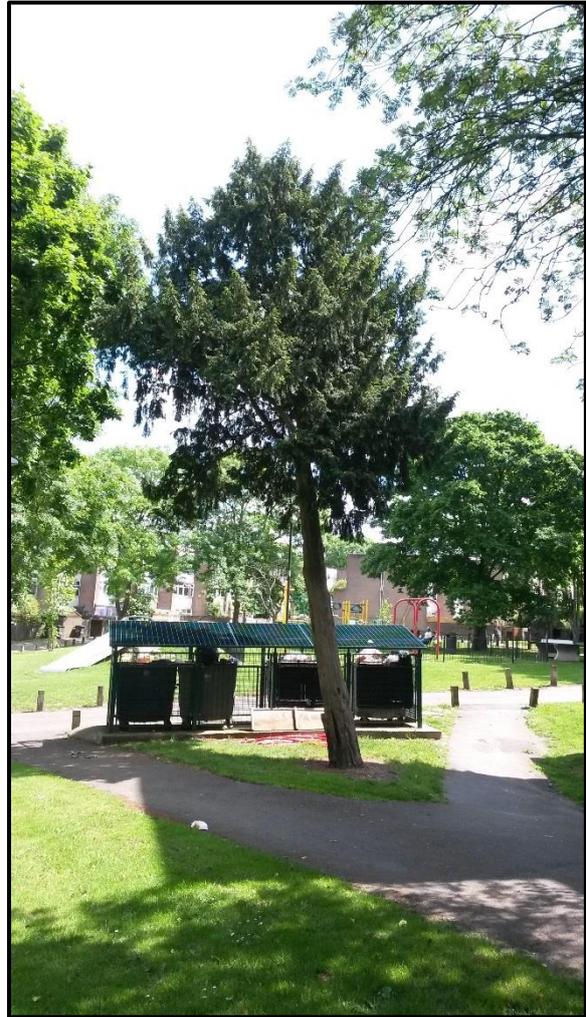


Plate 4. T4, yew, located next to the footpath and bin storage area. Note main stem leaning to the north.



Plate 5. G1, lime (centre) and part of G3, lime, (far-left), showing proximity to the site hoardings. Viewed looking towards the west from the grassed amenity area.



Plate 6. G2, mountain ash, showing located adjacent to the footpath and damage at the base of the most northerly tree.

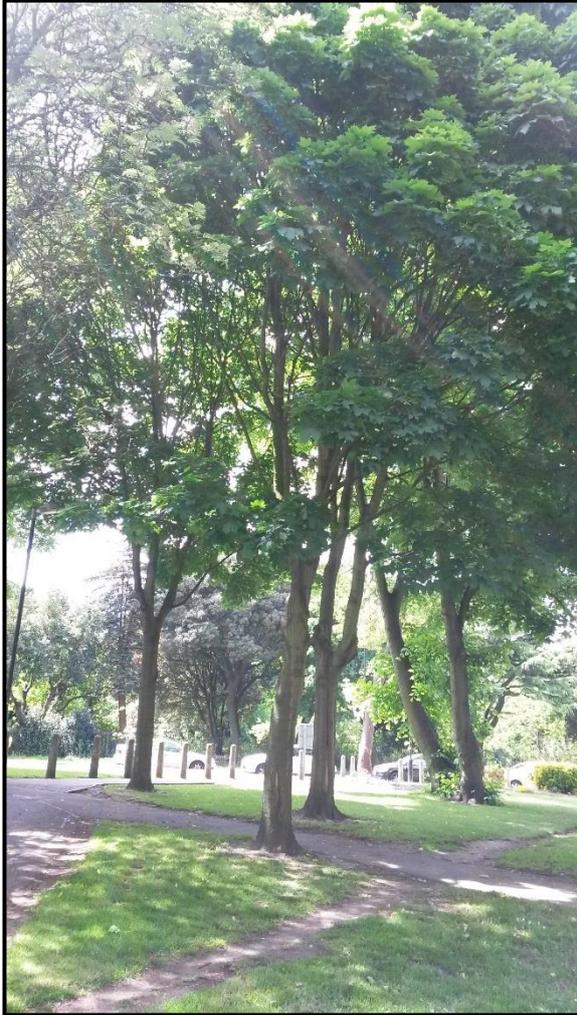


Plate 7. T5, ash (centre-left), G4, Norway maple (centre), and G5, lime (centre-right), showing close proximity of trees and canopy merging.

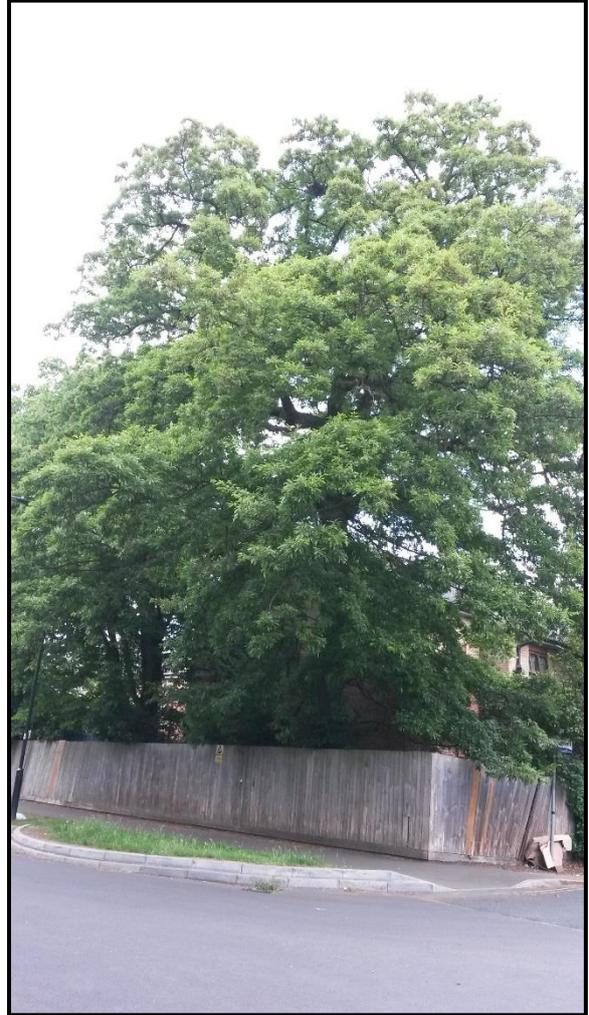


Plate 8. T6, Turkey oak, showing off-site location behind wooden boundary fence and excellent form and condition. Viewed looking towards the north from Palace Road.

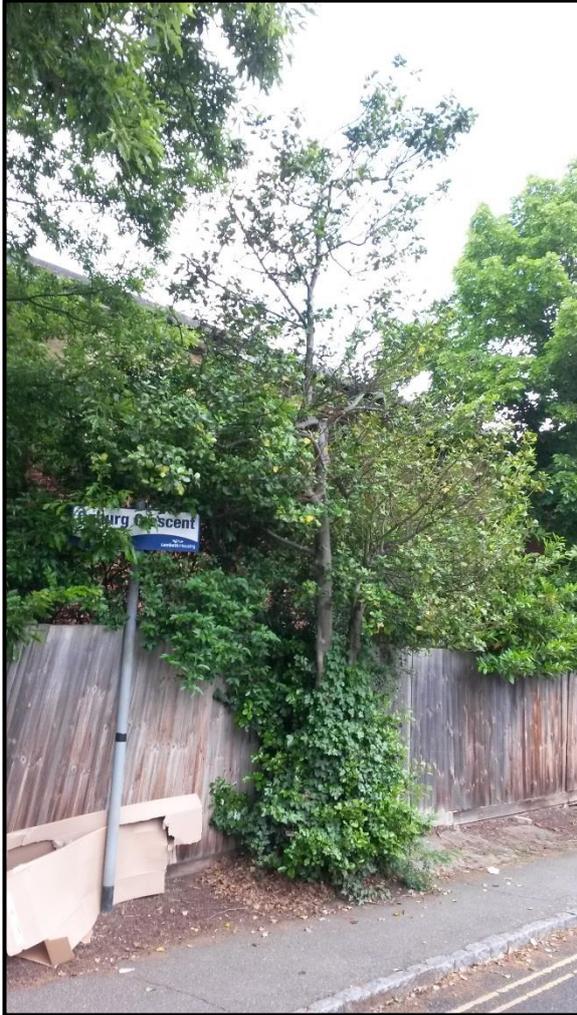


Plate 8 (left). T7, holly, showing location below the canopy of T6, Turkey oak. Viewed looking north alongside Coburg Crescent.

Plate 9 (below). G6, lime, showing dominant position alongside Coburg Crescent.



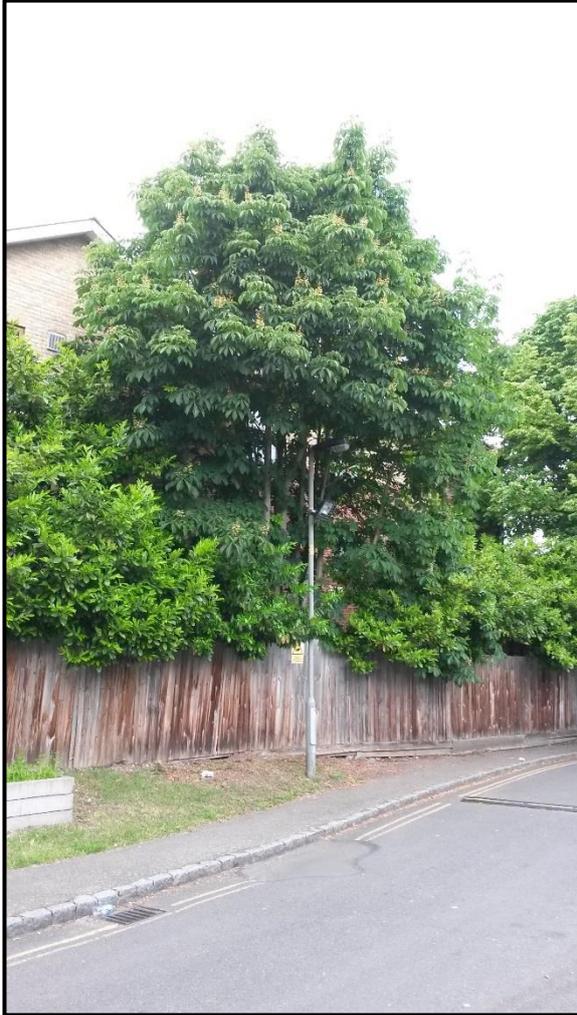


Plate 10. T8, horse chestnut, located to the north-west outside the site boundary. Note multi-stemmed form and location behind wooden fence. Viewed looking north-west from Coburg Crescent.

Appendix 3 Tree Survey Table

All work recommendations provided in this table are given on the basis of tree condition at the time of the survey and do not relate to any development proposal.

Tree No.	Species	Age	Con	Height (m)	Spread (m)				Crown Clearance (m)	DBH (mm)	Comments	PRF	Recommendations	BS 5837 Category	Remaining Contribution (est.)	RPA Radius (m)
					N	S	E	W								
T1	Lime	EM	P	12	4	5	6	6	0.5	330	Dominant tree of fair density and poor extension. Tip die-back to west of crown. Extensive bark damage around large parts of the stem, up to 1 m to the east and west, with no occlusion of wound and decay present within heartwood.	N	Remove within six months of survey date.	U	<10	3.96
T2	Ash	EM	G	14	8	4	4	10	4.0	440	Intermediate tree located next to site boundary of good extension growth and crown density. Forms two co-dominant stems at 3 m and 1 m to the south up to 25 x 25 cm. Basal bark damage 40 x 40 cm at 0.2 m to the north with longitudinal damage 10 x 30 cm 1.1 m with partial occlusion of wound also to the north of the main stem.	N	No work required.	C1	10-20	5.28
G1	Lime	EM	G	16 Max	8	6	6	5	0	540 Max	Intermediate pair of trees of good extension growth and crown density and dense epicormic growth up to 3 m. Most north easterly tree for two stems at 3.5 m with U-shaped union. Major deadwood (>100 mm diameter) up to 5m long	N	Remove major deadwood within six months of survey date.	B2	20-40	6.48
T3	Norway maple	EM	G	13	6	6	6	6	4.5	340	Intermediate tree of good extension growth and crown density forms two co-dominant stems at 3 m with a U-shaped union. Partially occluded wounds 150 mm diameter and 250 x 5 cm at 0.5 m to the north and north-west respectively.	N	No work required.	B1	20-40	4.08

Tree No.	Species	Age	Con	Height (m)	Spread (m)				Crown Clearance (m)	DBH (mm)	Comments	PRF	Recommendations	BS 5837 Category	Remaining Contribution (est.)	RPA Radius (m)
					N	S	E	W								
T4	Yew	EM	G	10	4	4	4	4	4.0	400	Intermediate tree of good extension growth and crown density leaning at 13 degrees to the north at 1.5 m. Several areas of longitudinal partially occluded bark damage up to 1m in length at the base to the east. Numerous unoccluded pruning wounds up to 150 diameter up to 5 m to the south and east	N	No work required.	B1	20-40	4.80
G2	Mountain ash	M	F	9.0 Max.	4	4	4	4	2.0	260 Max.	Pair of intermediate trees with mutual crown formation of fair extension growth and crown density. Severe unoccluded historic bark damage up to 30 x 60 cm square to the south-west of the most northerly tree. Unoccluded pruning wounds with decay at base up to 100 mm in diameter. Moderate (25 to 100 mm diameter) deadwood up to 6m in length in crown.	N	No work required.	C2	10-20	3.12
G3	Ash Lime	EM	G	14 Max.	5	5	5	5	2.0	430 Max	Pair in intermediate trees with mutual crown formation of good extension growth and crown density, located close to sire hoarding. Ash forms two stems with U-shaped union at 2 m, with occluded wound at base up to 200 mm in diameter. Lime has longitudinal bark damage 60 x 10 cm, partially occluded at 0.3 m from base.	N	No work required.	B2	20-40	5.16
G4	Norway maple	EM	G	14 Max.	5	5	5	5	3.0	360 Max.	Intermediate group of three trees with mutual crown and good extension growth and crown density. Coalescing unoccluded pruning wounds, up to 150 mm in diameter, at 3m to the south-east on most western tree, longitudinal partially occluded bark damage at 170 x 10 cm 0.4m from base.	N	No work required.	B2	20-40	4.32
G5	Lime	EM	G	18 Max.	8	8	8	8	0	490 Max.	Pair of intermediate tress of good extension growth and crown density with dense epicormic growth at base. Minor (25 mm diameter) in crown. Most northern tree forms two stems at 6 m with a U-shaped union.	N	No work required.	B2	20-40	5.88

Tree No.	Species	Age	Con	Height (m)	Spread (m)				Crown Clearance (m)	DBH (mm)	Comments	PRF	Recommendations	BS 5837 Category	Remaining Contribution (est.)	RPA Radius (m)
					N	S	E	W								
T5	Ash	EM	F	16	6	6	6	6	2.5	360	Intermediate tree of fair extension growth and crown density, with sparse canopy and minor deadwood particularly to the south-west crown.	N	No work required.	B1	20-40	4.32
T6	Turkey oak	M	G	20	9	9	9	9	2.0	800*	Dominant tree of good extension growth and crown density. Unable to assess base of tree due to location behind fence. Numerous fully occluded pruning wounds up to 400 mm diameter.	N	No work required.	A1	40+	9.60
G6	Lime	EM	G	10	4	4	4	4	1.5	270 Max.	Intermediate group of trees with mutual crown formation and good extension growth and crown formation.	N	No work required.	B2	20-40	3.24
T7	Holly	EM	F	6	2	2	2	2	0	110 90	Intermediate tree of fair extension growth and crown density with dense epicormic growth at base.	N	No work required.	C1	10-20	1.68
T8	Horse chestnut	EM	G	12	5	5	5	5	2.0	400*	Dominant group located behind a roadside fence of good extension growth and crown density. Multiple stems at 2m, but unable to access base of tree for detailed assessment	N	No work required.	B1	20-40	4.80

* Indicates estimated value due to access constraints.

Appendix 4 Tree Constraints Plan
