



Arboricultural Impact Assessment

In accordance with BS5837:2012 Trees in relation to design,
demolition & construction – Recommendations

Date of Assessment

5th March 2026

Site

Whitefield Library
Pinfold Lane
Whitefield, M45 7NY

Author

Carl Riva,
Dip Arb ABC L6

Client

NHS Property Services Ltd

TABLE OF CONTENTS

1. Executive
2. Introduction
3. The Development Proposal
4. Tree Survey and Constraints
5. Other Constraints
6. National and Local Planning Policies
7. Arboricultural Impact Assessment
8. Conclusion
9. References
10. Glossary of Terms

Appendices

- Tree Quality & Survey Methodology
- Tree Schedule
- Tree Constraint Plan
- Tree Protection Plan
- Arboricultural Method Statement

EXECUTIVE SUMMARY

I have been instructed to provide an assessment of the impact from a development proposal for new surgery - modifications and hard landscaping of the existing tree stock at Whitefield Library, Pinfold Lane, Whitefield, M45 7NY

A tree survey has been completed in accordance with the recommendations of BS5837 (2012) Trees in relation to design, demolition and construction, and a report prepared to assess the impact of the proposal on the existing tree stock.

- 6 trees and 1 group were recorded as being of moderate quality with a remaining useful contribution of at least 20 years (Category B)
- 5 trees and 6 groups have been assessed as being of low quality and condition (Category C) with at least 10 years remaining contribution to the site.

The proposed scheme will require the removal of low-quality Category C groups that fall directly within the footprint of the new GP surgery building and associated hard landscaping. These include G010, G013, which are of suppressed form, limited condition, and low long-term contribution. Their removal is necessary to facilitate the development and does not result in the loss of any high-value arboricultural features.

All Category B trees, including T002, T003, T004, T005, T008 and T011, will be retained and protected throughout the construction process. Protection measures will follow the specifications shown on the Tree Protection Plan (TPP) and include:

- Tree protection fencing to form Construction Exclusion Zones (CEZs)
- Trunk protection where working areas are close to retained stems
- Temporary ground protection (e.g., compaction boards) where access is required within RPAs
- Arboricultural supervision during demolition, site investigations, service routing and any excavation within or adjacent to RPAs
- No-dig construction methods where required to avoid root disturbance

These measures ensure that retained trees remain unharmed and that soil structure within RPAs is preserved.

The existing surfacing across the site will require removal in areas and renewal to accommodate the proposed GP surgery layout, new hard-landscaping design. Where this surfacing lies within or adjacent to the Root Protection Areas (RPAs) of retained trees, removal will be carried out under direct arboricultural supervision, using hand tools or controlled methods as set out in the Tree Protection Plan.

Replacement surfacing will be installed using construction methods that avoid soil compaction and prevent disturbance to the RPAs, ensuring that retained trees remain viable throughout and following the development.

Any excavations in these areas will be lined and sealed to prevent concrete leachate entering the soil, avoiding desiccation or contamination of retained roots. These measures ensure that

no harmful contact, scraping or disturbance occurs during the installation of new hard landscaping.

The scheme has been assessed against national and local planning policy relating to trees. National policy seeks to protect trees of high value, particularly ancient or veteran specimens. No such trees are present on the site, and none are proposed for removal. The development is therefore compliant with the arboricultural requirements of the National Planning Policy Framework.

Local planning policy recognises the importance of trees for amenity, biodiversity and landscape character. The proposal retains all meaningful tree value and includes opportunities for landscape enhancement, including replacement planting to improve the long-term setting of the site.

All arboricultural works will be undertaken by qualified arborists in accordance with BS3998:2010 – Tree Work Recommendations.

INTRODUCTION

Introduction

Written instruction was received from (Ms Rebecca Marwood), Feb 2026, to undertake a tree survey to assist in the design and impact of proposed development on the site.

Scope

The scope of the instruction was to:

- Complete a scoping survey of all trees within the historic rides at the property, including any trees in close proximity. The tree survey is to be carried out in accordance with the recommendations laid down by BS5837:2012 Trees in relation to design, demolition and construction – Recommendations ('BS5837').
- Prepare a schedule of all recorded trees and a plan of tree constraints to assist the design team understand constraints arising from trees to any development scheme.
- Provide advice to the design team on tree related issues including avoidance, mitigation and compensation measures.
- Prepare an Arboricultural Impact Assessment for submission with a planning application. This report is to include a review of statutory constraints and a review of planning policy in relation to trees.

Purpose of this report

This report is an Arboricultural Impact Assessment and is intended to provide an assessment impact that a proposed development scheme will have on the existing tree stock at the site.

This document has been prepared for submission as part of a planning application to assist in the determination of the application.

The report is intended to be read by those who do not necessarily have specialist knowledge of trees and is therefore written in non-technical language. Where the use of technical terms is unavoidable, these will be highlighted in bold when first used and a definition provided in a glossary of terms at the end of this report.

Site Description

The site is located at latitude 53.546919 and longitude –2.296317, within Whitefield (M45 7NY) in the borough of Bury. It occupies the former Whitefield Library plot, positioned within a mixed residential and community-use area served by the surrounding local road network.

The land comprises the footprint of the former library building, associated hard surfacing, and areas of open ground. The principal arboricultural features are the young-mature to mature broadleaf trees situated around the northern, eastern, southern and western boundaries, forming a continuous canopy edge that contributes to the character of the site and its wider setting.

The site is constrained by its irregular shape, the presence of existing hard surfacing, and the extent of Root Protection Areas (RPAs) associated with the boundary trees. These RPAs influence the developable footprint and require careful integration into the proposed layout for the new GP surgery.

The surrounding area is characterised by residential properties, community facilities, local streets and pockets of woodland, reflecting the mixed suburban context of Whitefield. Public transport and local services are readily accessible within the immediate road network.

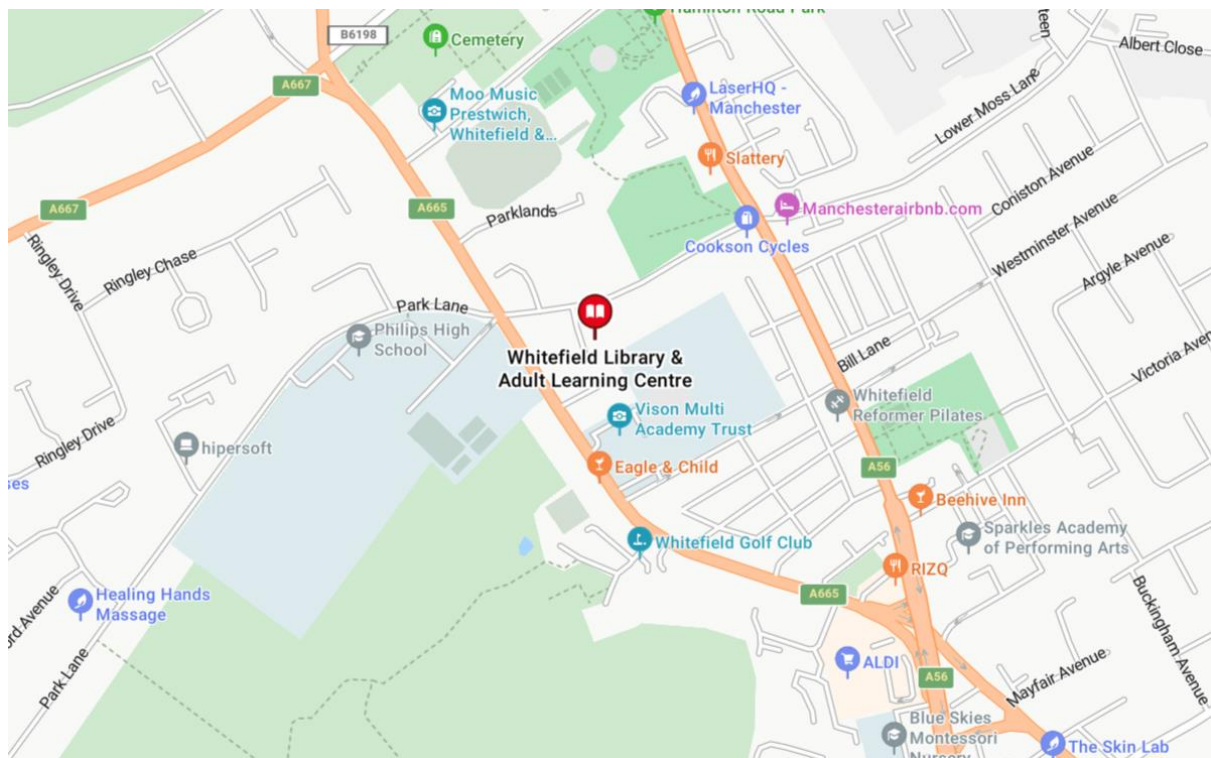


Figure 1: OS Map (Bing Maps) This content is for educational and informative purposes; so, parts of it are reproduced from BSI Global

About the author

The tree survey and this report have been completed by Carl Riva, Owner of Urban Tree Management and principal arboricultural consultant to the company.

Carl has 16 years' experience in the arboricultural sector and has a Royal Forestry Society Certificate in Arboriculture, ABC Level 6 Diploma in Arboriculture, Professional Member Arboricultural Association, LANTRA Professional Tree Inspection. Qualified and experienced to produce reports for trees in relation to design, demolition, and construction.

If you have any queries or wish to discuss further, please do not hesitate to call.

0800 222 9529 - 07765858090

Caveats and Limitations

This survey has been undertaken in accordance with industry best practice recommendations and guidance. The recorded information for each tree is a snapshot of the tree at the time of the survey. The assessments have been made to assist the client in the detailed design of works and does not consist of a condition survey for health and safety purposes. Where obvious defects have been observed these are recorded and recommendations may be made for mitigation, but this does not equate to a detailed risk assessment survey.

The comments and observations made within this report will cease to be valid either within two years of the date of the survey (unless specifically stated elsewhere within the report), or when site conditions change or any works to trees take place that have not been specified within this report, whichever is the sooner.

Unless stated differently in captions, all photographs used in this report have been taken by the author at the time of the site visit.

The location of all trees and groups detailed in this report have been these have been plotted using a handheld GPS Trimble. This is not as accurate as professional grade surveying equipment, and the locations are indicative only. Any such features have been marked on the plans and schedule.

This survey has been limited to identifying arboricultural features within the site. It therefore does not include any ecological, archaeological assessment or landscape appraisal of trees, groups, woodlands or hedges beyond the scope of BS5837: 2012 Trees in relation to design, demolition and construction ('BS5837').

Although I am occasionally involved in landscape, ecological and planning issues, I have no formal qualifications in these areas and any comments made in this report to such matters are limited to the general context in view of my familiarity through my day-to-day work, and professional advice should be obtained on these matters where required.

THE DEVELOPMENT PROPOSAL

The proposed development is for housing development and new surfacing and access into the site.

TREE SURVEY AND CONSTRAINTS

I completed a tree survey on 5th March 2026

The survey has been carried out in accordance with the recommendations laid down by BS5837 and was a ground level survey only.

The information collected during the survey should be used to assist in the design of the site. This report includes:

- A schedule of the relevant trees to include base line data and quality assessment; and
- A plan showing the extent of constraints presented by the existing tree stock (herein after referred to as a Tree Constraints Plan (TCP)) that provides illustrative information on the constraints, for consideration during the design of the site.

The purpose of the tree survey has been to provide an assessment as to the quality and non-fiscal value of the trees on Site. This then allows guidance to be given to the design team to inform the site design and layout.

General Data Capture

For reference, individual trees are identified with the letter T and associated number on the Tree Schedules and on a plan showing the extent of tree constraints. Where the specific data on trees has been recorded:

- The stem diameter of the trees has been recorded using a rounded down diameter tape at 1.5m above ground level and have been rounded up to the nearest 10mm.
- The height of the subject trees has been estimated in meters.
- Maximum crown spread of the subject tree was measured from the edge of the trunk to the tips of the live lateral branches taken at four compass points (N-E-S-W) using a Leica Disto digital laser measure. Crown spread measurements were taken in metres.

Tree age was estimated from visual indicators (such as tree size and appearance of bark) which is provided as a provisional guide.

Groups of trees were identified with the letter G and number on the associated schedules and plans. Crown spread was assessed using topographical data to position the extents. Stem diameter of groups of trees was set as an average stem diameter of the trees within these individual groups and a maximum height of the tallest tree within the group.

Hedges are identified with the letter H and number on the associated schedule and plans. Each hedgerow was surveyed recording the species, the maximum height and the average width of the hedge. Any individual trees present within the hedgerow were recorded as an individual tree.

Woodlands and woodland groups were identified with the letter W and number on the associated schedules and plans.

If direct access to a tree was not possible, estimations from appropriate vantage points were taken. Any limitations or estimations are presented within the survey limitations section and noted in the associated schedules.

Categorisation

In compliance with Table A of BS5837 the trees surveyed have been categorised according to their arboricultural quality and value which is summarised in Table A

Categorisation

Table 1 - Summary of BS5837 categorisation colours

Category	Colour	Description
A	Green	Trees of high quality with an estimated remaining life expectancy of at least 40 years
B	Blue	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
C	Grey	Trees of low quality with an estimated remaining life expectancy of at least 20 years
U	Red	Those trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

Quality Assessment

A summary of the assessment on the quality of the trees can be seen in Table 2.

Table 2 - Summary of tree quality on site

	Category A	Category B	Category C	Category U	Total
Trees	None	6	5	None	12
Groups	None	1	6	None	7
Hedges	None	None	None	None	None
Total	0	7	11	0	18

Above Ground Tree Constraints

The above ground constraints posed by canopy spread are plotted as a continuous line around the tree, with the extent of the canopy spread hatched in the corresponding BS5837 retention category colour.

Root Protection Area

The Root Protection Area (RPA) is the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. This does not account for the actual depth of the soil within the area, nor does it account for any requirement for working space during development.

The RPA of each tree has been calculated in accordance with Section 4.6.1 in BS5837. This is determined through multiplying the stem diameter of each tree, measured at 1.5m above ground level, by a factor of 12. The below ground constraints posed by the RPA have been plotted on the TCP as a magenta line with the text RPA inscribed. The size of the RPA is capped at 15m radius from the tree

The RPA of the veteran trees has been increased in line with guidance provided by the Forestry Commission and is calculated at 15x the stem diameter or 5m beyond the canopy line (whichever is greater).

OTHER CONSTRAINTS

Soils

I have not been supplied with any detailed site soil analysis or been engaged to undertake such investigations by my client. A site-specific soil assessment may inform decisions relating to the root protection area (RPA), tree protection, new planting design and foundation design to take account of retained, removed and new trees. As and when such information becomes available results should be forwarded to the project Arboricultural consultant and other relevant professionals involved in site layout, planning, and design (e.g., structural engineer, landscape architect).

Tree Preservation Orders (TPOs) & Conservation Areas

TPOs cannot always be reliably interpreted from the documentation to identify which trees are protected, especially as time passes and site conditions change from when they were originally made. It is common for TPO plans to be inaccurate and schedules often become out of date as trees die or are removed. Frequently, trees deteriorate and, although they may be technically protected by the TPO, are in such poor condition or causing such unreasonable inconvenience that their suitability for retention becomes questionable.

In a planning context, if poor trees are assessed as unsuitable for retention, then it would be inappropriate to show them as a material constraint in development planning. For these reasons, although TPOs do need to be considered, they do not form the primary basis for tree categorisation.

Poor quality trees assessed as not worthy of retention will be shown as such, irrespective of whether they are protected or not. Similarly, good quality trees that are not protected will still be shown as material constraints. The same rationale will be applied to Conservation Areas

Forestry Act

The Forestry Act (1967) requires that permission is obtained from the Forestry Commission for the felling of any trees in England or Wales. There are certain exceptions from this requirement including the felling of trees required to allow a planning permission to be carried out .

- *An exception applies where the felling of trees is immediately required for the purpose of carrying out development that is authorised by the approval of full planning permission (granted, or deemed to be granted, under the Town and Country Planning*
- *Act 1990, including any planning conditions or s.106 agreements attached to a full planning consent). The approved planning permission will detail the extent of the approved development and may also define the trees that are allowed to be felled or those that must be retained. Any tree felling outside that boundary will require a licence.*

Tree Felling- Getting Permission (Forestry Commission)

The development exception can relate to individual or groups of trees or woodland, and for trees to be exempt from the need for a felling licence at least one of the following conditions must be met:

- *Trees must be explicitly identified in the planning consent as being permitted for removal; - the trees must stand within the footprint of the proposed development; or*
- *The removal of the trees must be necessary in order to carry out the proposed development (e.g. they block an access route to which there is no alternative, or lie in such close proximity to the proposed development that they prevent the carrying out of that development).*
- The exception does not simply extend to all trees within the boundary of the fully approved proposed development.

Any requirement to fell trees at the site will either require a felling licence from the Forestry Commission or planning consent.

Non-statutory considerations

A search has also been undertaken on the DEFRA MAGIC GIS mapping system to determine if the woodland on or in proximity to the Site has been designated as ancient woodland. The results indicate that there is no woodland that meets the criteria for this designation on Site.

Ancient woodland and ancient or veteran trees are considered to be irreplaceable habitat although there is no specific statutory protection afforded to such trees. However, the Forestry Commission has drafted Standing Advice for making planning decisions which is a material consideration for local planning authorities.

[Forestry Commission Standing Advice for development in ancient woodland](#)

The Standing Advice specifically states that planning permission should be refused if development will result in the loss or deterioration of ancient woodland, ancient trees and veteran trees unless there are wholly exceptional reasons and there is a suitable compensation strategy. This position is defined in the National Planning Policy Framework.

The Standing Advice also recommends that buffer zones are created around ancient and veteran trees and woodlands, and that for trees this buffer zone should be 15x the stem diameter of the tree or 5m beyond the outer edge of the canopy, whichever is the greater.

ARBORICULTURAL IMPACT ASSESSMENT

Assessing Impacts

An Arboricultural Impact Assessment is written to inform planning decision makers as to the actual and potential impact to the existing tree stock from the proposed development scheme. Impacts can be defined as being direct or indirect, and can occur over short-, medium- and long-term time periods.

- **Direct impacts** may arise from activities that result in tree removal, or as a result of root severance, soil compaction or soil contamination, all of which may cause the tree to decline and be lost. Other direct impacts include loss of vitality and exposure to pests and disease as a result of excessive canopy pruning.
- **Indirect impacts** may arise from future pressures from trees such as future growth, daylight, shading and sunlight, tree domination and/or soil movement.

The impact of any tree loss is assessed against a criterion in relation to the arboricultural significance of the loss, the detail of which is provided in Table 4. This table is not related to the quality categories provided in BS5837 but has a closer relationship to the sub-categories through assessing the impact that tree loss may have at the Site and its setting in the wider locality. This assessment is also useful in considering the impact of any potential loss against planning policy.

Table 4: Impact Assessment definitions

Scale of Impact	Definition
Major	Total loss or major/substantial alteration to key trees/features of the baseline (pre-development) conditions such that the post development character or composition will be fundamentally changed. This would generally apply to tree(s) that are of exceptional or high quality and condition and their loss would be irreplaceable. This would also include trees that have been categorised as being Ancient or Veteran, trees are rare examples of their species and or trees that offer significant amenity value to the character and setting of the area.
Moderate	Loss or alteration to one or more key trees/features of the baseline conditions such that post development character or composition of the baseline will be materially changed. This would generally apply to tree(s) that are of good quality and condition and make a notable contribution to the setting or character of the locality (visual amenity). This may include trees that would be hard to replace but for which there could be some mitigation over a medium timeframe (20-40 years).
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying

	character or composition of the baseline condition will be similar to the pre-development circumstances/situation. This would generally apply to tree(s) that are of low quality and condition and/or their loss would have low impact on the locality. These trees would be relatively easy to replace within a short timeframe (10-20 years).
Negligible	Very little change from baseline conditions with any change barely distinguishable. This would generally apply to tree(s) that are of low quality and condition, and/or their loss would barely be noticeable. Any replacement planting would offer an improvement to the setting of the site in a very short time frame (1-10 years)
No Change	There is no change to the baseline conditions to trees from the development proposal.

While development is generally considered in terms of the potential harm that may result to trees from construction processes or post-development pressures, there are also positive impacts that can accrue through development, and these will also be considered as part of the impact assessment.

The duration of the impact is also considered and is assessed as being long-term (20 years+), medium term (10 years+) and short-term (<10 years). This will help guide any compensation or mitigation that is required for losses or other impacts.

General Considerations

Development can have an adverse impact on trees and other woody vegetation within a site, which can result in:

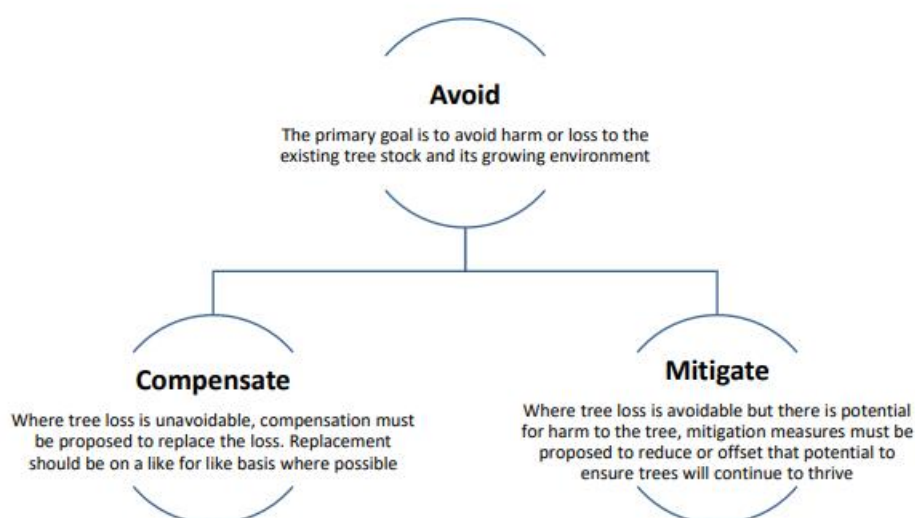
- i. Immediate tree removal to facilitate the footprint of a new development.
- ii. Potential future tree loss through the early decline of trees due to soil compaction or damage.
- iii. Root disturbance and damage within a tree's rooting area; and
- iv. Canopy removal or damage due to plant movement.

Best practice guidance proposed by the arboricultural sector seeks to ensure that there is a harmonious relationship between trees and development that will ensure that both trees and structures can be retained in the long term.

Where practical, development should seek to work with the natural environment, and development schemes that might result in harm should follow a mitigation hierarchy to ensure harm is minimised.

To assist the planning decision makers, this scheme should use the following mitigation hierarchy to consider the influence that trees might have on site design while also continuing

to make a positive contribution to the site and local character of the area, both during and post development:



Direct Arboricultural Impact

Tree Loss

The proposed development scheme will result in the loss of 10 trees. A more detailed summary of these losses is presented in Table 4.

All trees for removal have been highlighted in the tree schedule in red text and on the tree removal and retentions plan with a red dashed line.

	A	B	C	U	Grand Total
Partial Removal					
Group	0	0	0	0	0
Hedge	0	0	0	0	0
Woodland	0	0	0	0	0
Remove					
Group	0	0	2	0	2
Hedge	0	0	0	0	0
Tree	0	0	0	0	0
Grand Total	0	0	2	0	2

A review of the age profile of the loss is presented in Table 5.

Table 5: Summary of tree losses by age

	A	B	C	U	Grand Total
Partial Removal					
Mature	0	0	0	0	0
Early Mature	0	0	0	0	0
Semi Mature	0	0	0	0	0
Young	0	0	0	0	0
Remove					
Young	0	0	0	0	0
Semi mature	0	0	2	0	2
Early mature	0	0	0	0	0
Mature	0	0	0	0	0
Over mature	0	0	0	0	0
Grand Total	0	0	2	0	2

The proposed development requires the removal of the majority of trees on site, with 100% of the affected trees lost due to the footprint of the new building, associated hard landscaping, access arrangements and the retaining wall. The trees to be removed are positioned directly within the developable area and cannot be retained without preventing the delivery of the scheme.

Of the removals required to facilitate the new structure and associated works:

- Two tree groups (G010 and G013) are to be removed in full.
- These groups comprise low-quality (Category C) trees with limited remaining contribution and suppressed growth.
- Their removal is therefore considered to have low arboricultural impact in terms of amenity and long-term landscape value.

Compensation for tree loss

A significant element of the project is the restore and improve the landscape of the site, and a landscape plan has been prepared with details the new planting.

- Choice and type of species (native) will be informed by soil type and species characteristic of the local landscape.
- NHBC approved planting distances of trees and shrubs from footings.
- Native hedges are most beneficial to wildlife.
- A selection of some native hedging shrubs and trees

Table 6: selection of some native hedging shrubs and trees

Hedging shrubs	Trees
Hawthorn - <i>Crataegus monogyna</i>	Field maple - <i>Acer campestre</i>
Beech* - <i>Fagus sylvatica</i>	Hornbeam - <i>Carpinus Betula</i>
Guelder rose* - <i>Viburnum opulus</i>	Wild cherry - <i>Prunus avium</i>
Wild privet* - <i>Ligustrum vulgare</i>	Rowan - <i>Sorbus aucuparia</i>

Planting to be carried out to BS 8545:2014 Trees from nursery to independence in the landscape – Recommendations.

Impact Assessment

Justification for Tree Loss

While the proposed scheme does require the removal of a number of trees, the losses are concentrated on specimens of low arboricultural quality, predominantly Category C trees and groups that fall directly within the footprint of the new GP surgery building and associated hard landscaping. In particular, Groups G010 and G013 comprise low-quality, suppressed broadleaf trees with limited future contribution, and their removal will have only a negligible visual and arboricultural impact, as defined within the impact scale.

The proposed landscape scheme will introduce a greater number of new trees than are being removed, delivering an overall enhancement to the site's character, structure and long-term amenity. The planting strategy will be developed with ecological input to ensure a measurable net gain in biodiversity, with replacement trees offering improved species diversity, resilience and canopy cover. As a result, the arboricultural impact of the scheme is assessed as minor and positive, with any short-term change mitigated within a relatively brief establishment period of 10–20 years.

Damage to the rooting environment

The rooting environment can be damaged through development activities that may result in compaction of the soil, severance of roots, or soil contamination. To avoid such harm, a buffer zone (the RPA) is established around each tree or group, and this is a Construction Exclusion Zone (CEZ). The risk to the rooting environment occurs when development activities take place within the CEZ.

Retained trees will have the RPA/CEZ breached by development activity, and measures will be put in place to ensure that these trees are protected from potentially harmful activities. An overview of the protection measures is provided below and in the arboricultural method statement.

Demolition

- The demolition of the existing structures, walls and hard surfacing has the potential to affect retained trees, particularly where these works occur close to their stems or within the outer extents of their Root Protection Areas (RPAs). All demolition activities in proximity to retained trees will therefore follow the precautionary methods set out in the Tree Protection Plan. Tree protection fencing will be installed to form Construction Exclusion Zones (CEZs) around all retained trees and groups, preventing access, storage, or movement of machinery within these sensitive areas. Where demolition works occur close to retained stems—particularly around T002, T003, T004, T005, T008, T011, T012 and retained groups G007, G009, G014, G016 and G018—trunk protection will be installed using appropriate padding and timber boxing to prevent accidental impact damage.
- Existing hard surfacing that currently provides natural ground protection will be retained for as long as practicable. Once removed, temporary ground protection will be installed immediately to prevent soil compaction during demolition operations. No excavation or breaking out within RPAs should occur beyond the minimum required to facilitate the approved works, and all removal of surfacing, foundations or kerbs must be undertaken under direct on-site arboricultural supervision using hand tools or low-impact methods. Should significant roots be encountered that were not identified during earlier trial investigations, and where their severance would compromise tree stability or viability, works must cease and the Local Authority Tree Officer and/or the appointed Arboricultural Consultant must be contacted before proceeding. These measures ensure that the rooting environment and structural integrity of retained trees are safeguarded throughout the demolition phase.

Construction

The retained trees have the potential to experience disturbance to their rooting environment during the construction phase. The retained trees and groups are positioned at similar levels to the proposed development, and no changes in soil level are required, which significantly reduces the risk of indirect harm. Several retained trees lie close to the proposed works, including T002, T003, T004, T005, T008, T011 and T012, along with retained groups G007, G009, G014, G016 and G018. These features sit adjacent to areas of resurfacing, new hard landscaping, service installation and construction access routes, and therefore require strict protection throughout the build.

To the south of the site, the existing hard landscaping already acts as a physical constraint to root spread. In accordance with BS5837 (para. 4.6.3), the Root Protection Areas (RPAs) of retained trees and groups have been modified to reflect the likely asymmetric rooting pattern created by these existing surfaces, as shown on the Tree Constraints Plan.

Elements of the proposed works—including the resurfacing of existing hardstanding and the installation of new permeable hard surfacing—encroach into the RPAs of retained trees and groups. Without appropriate controls, these operations have the potential to cause root severance, soil compaction or contamination. To mitigate this risk, all resurfacing within or adjacent to RPAs will utilise permeable Tarmac Ulti-Porous (or similar) to maintain soil aeration and water infiltration. Existing hard surfaces will be retained for as long as practicable to provide natural ground protection, and where removed, temporary ground protection will be installed immediately in accordance with the Tree Protection Plan.

Supervised Excavation

Where excavation is required within or immediately adjacent to RPAs—such as for service runs, kerb realignment, drainage or foundation investigations—these works will be carried out under direct arboricultural supervision. Initial excavation will be undertaken by hand to a minimum depth of 200mm, with soil loosened using hand tools and cleared using an air-spade or shovel. Mechanical excavation may only proceed once roots have been exposed and protected, and must use a toothless grading bucket working in shallow, controlled passes. Any roots requiring pruning will be cleanly severed with secateurs or a handsaw, and exposed roots will be covered with damp hessian to prevent desiccation.

Hard Surfacing Removal

Where existing hard surfacing is to be removed within or adjacent to RPAs, this will be undertaken using hand tools or low-impact methods under arboricultural supervision. The wearing course will be broken up using a hand-held pneumatic breaker, with sub-base removal carried out using forks and shovels. If mechanical assistance is required, the machine must operate from outside the RPA or from approved ground protection. At no point should the underlying soil be disturbed; if roots are encountered, they will be protected with damp hessian and a layer of sharp sand, woodchip or topsoil.

Ground Protection

Throughout the construction phase, all retained trees will be safeguarded by Tree Protection Fencing and temporary ground protection as specified in the Tree Protection Plan. Ground protection will be capable of supporting anticipated construction traffic without deformation or soil compaction. Depending on loading, this may comprise scaffold boards on a compressive layer, proprietary interlinked ground protection boards, or engineered slabs. These measures ensure that the rooting environment remains undisturbed during construction access, material movement and general site operations.

Foundations for proposed kerbs and hard landscaping

For the construction of foundations for dwellings, strip method will be used. In principle, this will require the excavations to be lined with an impermeable membrane, with similar precautions to contain spillage or seepage out to into adjacent soil. Details of the generic methodology to be employed are given in the Arboricultural Method Statement (AMS) found in of this report.

Hazardous Materials

All hazardous materials (including cement and petrochemical products) will need to be controlled according to COSHH regulations in order to ensure there is no detrimental impact on tree health, any mixing of hazardous materials is to take place outside the RPAs of all trees. Provision shall be made to ensure that the mixing area is contained so that no water runoff enters the RPA of any trees. It is anticipated that adhering to this guidance will allow all trees to be retained without long term detrimental impact on tree health.

Landscaping operations

Landscaping operations will typically take place at the end of the construction period. These works will normally require the removal of protective fencing to facilitate access for works. There is a risk that plant, and machinery may damage soil structure where tree roots are growing.

However, these risks can be managed by maintaining good professional standards of work and working to a method statement. The principle of avoiding soil disturbance or changes in levels within the RPAs of retained trees should be followed unless arboricultural advice has been sought.

Facilitation pruning

A small number of retained trees require minor facilitation pruning to provide adequate clearance for construction access, machinery movement and the installation of new hard landscaping. These works are limited in scope and will not adversely affect the long-term health or structural integrity of the trees.

The trees requiring facilitation pruning include T008, T012 where low branches extend toward proposed access routes or working areas. In addition, selective lifting and clearance pruning

will be required to the edges of retained groups G009, and G016, where lateral growth encroaches into the construction corridor. All pruning will be carried out in accordance with BS3998:2010 Tree Work – Recommendations, ensuring that cuts are clean, appropriately positioned and proportionate to the size and form of the tree.

The purpose of this pruning is solely to create safe working space and prevent accidental damage to retained canopies during construction. No reduction of overall crown size is required, and no pruning will be undertaken beyond what is necessary to achieve operational clearance. All works will be supervised by the appointed arboricultural consultant where pruning occurs close to the construction interface.

Future growth of retained trees, Daylight and Shading

The proposed development has considered the existing and possible future conflicts between occupants and retained trees and at this time pruning is required for risk management only (dead wood, reduction in crown due to the altered exposure and potential of further branch failure)

Any pruning points established during the future pruning works should set a suitable form that repeat works can utilise (i.e., establishing a suitable pruning point for cyclical works) and shall be undertaken without detriment to the health or visual appearance of the trees concerned.

Seasonal nuisance issues can be expected to arise in the future; provision should be made for leaf guards and grills to be installed on gutters with cleanable traps on down pipes factored into the design.

Daylight and sunlight

The proposed new developments will be not subject to an element of shading although, overtime the newly planted trees may provide some shade, however, shading by trees is not considered a significant issue in relation to these proposals. It is recognised that shade from retained trees contributes to reducing the degree of internal building temperatures as caused by direct sunlight on to building,

Installation of services & drainage

Where new services and drainage runs are required, they shall be located outside the RPAs of retained trees where possible. It will be necessary to locate new service, and drainage runs within the RPAs of retained trees, it is necessary that these works be undertaken with Arboricultural supervision.

Should this not be possible then the methods of work will follow the recommendations in the National Joint Utilities Group (NJUG) guidance, in order to reduce the adverse impact to trees resulting from root damage and severance during installations; BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances.

Damage to retained tree canopy

The canopy of all the retained trees is close to the development envelope and there is not requirement for any facilitation pruning as part of this project, however, if trees require any pruning of low crowns or branches, or tying back to create space during demolition and construction, contact the supervising arboriculturist and/ or permission from LPA will be required.

Cabins and Site Facilities

The location of any site welfare facilities shall need to be considered in terms of potential impact on trees, and should all be placed outside of the protection areas of retained trees. There is ample room for the siting of cabins and storage of materials / spoil during the demolition and construction phase within the park.

Where this is not possible further advice should be sought from the appointed arboriculturist and in some circumstances, it may be possible to construct temporary ground protection and adjust fencing, but this is only to be considered as a last resort.

Principles of Tree Protection

All construction activities have the potential to cause harm to the retained trees on site. It is therefore necessary that measures are employed across the site to limit the potential for such harm and prevent any long-term negative impacts on the trees.

Arboricultural Method Statement is included within this report which provides generic details on what protective measures are required, how they will be implemented and what supervision is required to ensure that the measures remain in place and fit for purpose. It has been prepared to inform the planning and the construction/ development process.

The following principles for the protection of retained trees will be adopted across the site for the duration of the project:

- All retained trees will be protected by fencing that will form the CEZ.
- Where fencing cannot provide the necessary protection measures, alternative systems will be installed that will ensure retained trees are protected. This may include the use of either temporary or permanent ground protection.
- There will be no storage of materials, or access for construction workers or machinery within any CEZ. There will be no excavation within a CEZ. All utilities and underground services will be located outside the CEZ or tap into existing service routes.
- Any storage or mixing station located outside of a CEZ will be located in a place that minimises the risk of contaminated runoff entering the CEZ and damaging the rooting environment. This may be achieved by using a non-permeable membrane on the ground, surrounded by sandbags to contain any spillage.
- There will be no fires within a CEZ.
- There will be no use of herbicides within a CEZ.

CONCLUSION

A detailed tree survey has been undertaken to assess the extent, age, condition and quality of the tree stock across the site. The proposed development has been designed with full consideration of the arboricultural constraints, and the retained trees have been incorporated into the layout in a manner that avoids unnecessary disturbance to their rooting environments. Provided that the recommendations set out within this report, the Tree Protection Plan, and the Arboricultural Method Statement are followed, the construction process is highly unlikely to have any detrimental impact on the long-term health or stability of the retained trees.

The end use of the site is the construction of a new GP surgery, associated hard landscaping, access routes and a retaining wall. The balance between the building footprint, the location of new surfacing and the trees to be retained is considered appropriate, and the scheme does not necessitate the loss of any trees of high or moderate quality. All removals are limited to low-quality Category C trees and groups that fall directly within the footprint of the proposed development and cannot be practically retained.

The following matters are addressed within the Arboricultural Method Statement and Tree Protection Plan to ensure successful tree retention throughout demolition and construction:

- Communication procedures between the contractor and the appointed arboriculturist
- Specification of all trees works, including facilitation pruning
- Methods of working in proximity to retained trees
- Installation and maintenance of tree protection barriers
- Installation of trunk protection where required
- Installation of temporary ground protection and compaction boards
- Location of site cabins, welfare units and material storage
- Arboricultural supervision schedule covering all critical stages of demolition and construction

With these measures in place, the retained trees will be appropriately safeguarded, and the development can proceed without unacceptable arboricultural impact.

REFERENCES

- Town and Country Planning Act 1990 www.legislation.gov.uk/ukpga/1990/8/contents
- Gov.uk (2021) National Planning Policy Framework.
- BS 5837 (2012) Trees in relation to design, demolition, and construction – Recommendations, BSI www.shop.bsigroup.com/
- BS 8545 (2014) Trees: from nursery to independence in the landscape – Recommendations, www.shop.bsigroup.com/
- BS 3998 (2010) Tree work – Recommendations, BSI www.shop.bsigroup.com/
- Trees in the Townscape: A Guide for Decision Makers, published by the Trees & Design Action Group <http://www.tdag.org.uk/>
- National Joint Utilities Group (2007) Volume 4, Issue 2: Guidelines for the planning, installation, and maintenance of utility apparatus in proximity to trees www.njug.org.uk/publications/
- British Geological Society (2022) Geology of Britain Viewer. [Available online] (Accessed 28/08/2024)

APPENDIX A - BS 5837 (2012) Cascade chart for tree quality assessment

Trees unsuitable for retention (See Note)				
Category and definition		Criteria (including subcategories where appropriate)		Identification on plan
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years		- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of another category U trees. (e.g., where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low-quality trees suppressing adjacent trees of better quality. NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7		Red
Trees to be considered for retention				
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g., the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands See Table 2 of significant conservation, historical, commemorative or other value (e.g., veteran trees or wood-pasture)	Green
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g., presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Blue
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey
ROOT PROTECTION AREA (RPA): These are normally represented as a circle centred on the base of each tree stem with a radius of 12 times stem diameter measured at 1.5m above ground level, but the shape of the RPA may be altered where site conditions dictate that there are sound reasons to do so.		VETERAN OR ANCIENT TREE BUFFER (VTB/ATB) In line with the Standing Advice produced by the Forestry Commission and Natural England this is a buffer zone (in metres) around an ancient or veteran tree that should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's stem diameter.		ANCIENT WOODLAND BUFFER (FOR ASNW, PAWS OR ARW) In line with the Standing Advice produced by the Forestry Commission and Natural England this is a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, a larger buffer zone may be required.

SPECIAL IMPORTANCE:

Trees that are particularly notable as high value trees such as ancient trees/woodland, or veteran trees. Such trees may be regarded as the principal Arboricultural features of a site, and pose a significant constraint to potential development. An ancient tree is one that has passed beyond maturity and is very old compared with other trees of the same species. Very few trees reach the ancient life-stage.

Veteran trees are often very old, but not necessarily so; they may be regarded as 'survivors' that have developed some of the characteristic features of an ancient tree but have not necessarily lived as long. All ancient trees are veterans but not all veteran trees are ancient.

An ancient woodland is an area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS) and ancient replanted woodland (ARW)

QUALITY CATEGORY:

Trees are classed as category U, A, B or C, based on criteria given in BS5837:2012; summary definitions as follows (see BS5837 for further details). Categories A, B and C are further characterised by the use of sub-categories, which attempt to identify what aspect of the tree is the main source of its perceived value:

1. Arboricultural qualities
2. landscape qualities, and
3. cultural, historic or ecological/conservation qualities.

Examples of these qualities for each of the three categories are given below, although these are indicative only. Note: This is NOT a health and safety classification; the classification does not take into account any requirement for remedial tree care or ongoing maintenance apart from that which may affect the trees' general suitability for retention.

ROOT PROTECTION AREA (RPA):

These are normally represented as a circle centred on the base of each tree stem with a radius of 12 times stem diameter measured at 1.5m above ground level, but the shape of the RPA may be altered where site conditions dictate that there are sound reasons to do so.

VETERAN OR ANCIENT TREE BUFFER (VTB/ATB)

In line with the Standing Advice produced by the Forestry Commission and Natural England this is a buffer zone (in metres) around an ancient or veteran tree that should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's stem diameter.

ANCIENT WOODLAND BUFFER (FOR ASNW, PAWS OR ARW)

In line with the Standing Advice produced by the Forestry Commission and Natural England this is a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, a larger buffer zone may be required.

BS5837:2012 Tree Survey

Urban Tree Management

Client: NHS Property Services Ltd
 Project: Former Whitefield Library, Pinfold Lane, M45 7NY
 Survey Date: 05/03/2026 - 15/03/2026
 Surveyor: Carl Riva

6 Anderby Walk
 Westhoughton
 Bolton
 BL53BW

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC	
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment				
G007															
A Group	16.65	1	525	N	7.5	7	M	A: 124.7	Fair	C: Good	No action :: No action			B.2	
- -				E	8	7		R: 6.3		S: Good				20 to 40 yrs	
				S	8.5	5.5				B: Good	A group of two sycamore. Suppressed crown and growth. Minor deadwood				
				W	8	5.5									
G009															
A Group	9	2	355	(Eq)	N	2	2	SM	A: 57.1	Fair	C: Fair	Raise low canopy :: To 3.0m			C.2
- -					E	4.5	1.5		R: 4.26		S: Good				10 to 20 yrs
					S	6.5	3.5				B: Good	Group of 2 cherry. Suppressed crown and growth. Low crown over access			
					W	3	3								
G010															
A Group	9.5	3	625	(Eq)	N	5	2	SM	A: 177	Fair	C: Fair	Fell :: Fell to ground level			C.2
- -					E	3.5	3.2		R: 7.5		S: Good				10 to 20 yrs
					S	4	2				B: Good	Group pf 4 silver brich, cherry, and alder suppressed crown and growth. Ivy crown close to structure.			
					W	3	4								
G013													Estimated Measurements		
A Group	8.5	9	450	(Eq)	N	1.5	3	SM	A: 91.6	Fair	C: Fair	Fell :: Fell to ground level			C.2
- -					E	6	1		R: 5.39		S: Fair				10 to 20 yrs
					S	2.5	1				B: Good	Group of of third party. Ash die back level 1 & 2. suppressed crown and growth. Ash and holly			
					W	6	1								
Age Classifications:		N	Newly planted	EM	Early Mature			Condition:		C	Crown	Stems:		Ø	Diameter
		Y	Young	M	Mature					S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
		SM	Semi-mature	OM	Over Mature					B	Basal area	ERC:			Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC	
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment				
G014												Estimated Measurements		
A Group	12.5	6	245	(Eq)	N	1.5	2.5	SM	A: 27.1	Fair	C: Fair	No action :: No action	C.2	
- -					E	3	2		R: 2.93		S: Good		10 to 20	
					S	1.5	2				B: Good	Group of birch and shrubs. Suppressed crowns	yrs	
					W	2	2							
G016												Estimated Measurements		
A Group	14	10			N		4	SM	A: 0	Fair	C: Fair	See Comment :: See Comment	C.2	
- -					E	7	3		R: 0		S: Good		10 to 20	
					S		2				B: Good	Prune to clear building 3.0 m to west. Group of third patry owned. Beech. Leylandi. Low crown of building. Limited inpection due to acess	yrs	
					W		2							
G018												Estimated Measurements		
A Group	6	2	250	(Eq)	N	4	2	SM	A: 28.3	Fair	C: Fair	No action :: No action	C.2	
- -					E	4	2		R: 3		S: Fair		10 to 20	
					S	4	3				B: Good		yrs	
					W	4	3							
T001														
Sycamore	16.5	1	475		N	8.5	5.5	M	A: 102.1	Fair	C: Fair	Ivy :: Sever/remove ivy	C.2	
<i>Acer pseudoplatanus</i>					E	8	8		R: 5.7		S: Ivy	Remove :: Major dead wood	10 to 20	
					S	3.5	7.5				B: Good		yrs	
					W	1	5					Suppressed crown and growth. Major deadwood. Limited inspection due to ivy.		
T002														
Sycamore	17.5	1	825		N	8.5	4.5	M	A: 307.9	Fair	C: Fair	No action :: No action	B.2	
<i>Acer pseudoplatanus</i>					E	6	8		R: 9.89		S: Good	Remove :: Major dead wood	20 to 40	
					S	9	5				B: Good		yrs	
					W	5.5	8					Suppressed crown and growth. Major deadwood. Co dominate stem		
T003														
Sycamore	1.5	1	850		N	9	7.5	M	A: 326.9	Fair	C: Fair	Ivy :: Sever/remove ivy	B.2	
<i>Acer pseudoplatanus</i>					E	7.5	7.5		R: 10.2		S: Ivy		20 to 40	
					S	9	4				B: Good	Suppressed crown. Limited inspection due to ivy.	yrs	
					W	4.5	9							
Age Classifications:	N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature				Condition:	C S B	Crown Stem Basal area		Stems: ERC:	Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition Estimated Remaining Contributio	

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
T004												
Sycamore <i>Acer pseudoplatanus</i>	16.5	1	500	N E S W	9 3.5 9 5.5	6 10 4.2 6	M	A: 113.1 R: 6	Fair	C: Fair S: Good B: Good	No action :: No action Suppressed crown and growth. Minor deadwood	B.2 20 to 40 yrs
T005												
Sycamore <i>Acer pseudoplatanus</i>	16.5	1	575	N E S W	8 4.5 7.8 7.5	6 9 7 8	M	A: 149.6 R: 6.9	Fair	C: Fair S: Good B: Good	No action :: No action Suppressed crown and growth. Minor deadwood.	B.2 20 to 40 yrs
T006												
Sycamore <i>Acer pseudoplatanus</i>	14.5	1	300	N E S W	6 1.5 2.5 4.2	6 6 5 5.5	SM	A: 40.7 R: 3.59	Fair	C: Fair S: Good B: Good	No action :: No action Suppressed crown and growth. Minor deadwood.	C.2 10 to 20 yrs
T008												
Common Beech <i>Fagus sylvatica</i>	21	1	800	N E S W	9.5 8 9.5 7.5	3.5 4 4 4	M	A: 289.6 R: 9.6	Fair	C: Good S: Good B: Good	Raise low canopy :: To 5.0m Low crown over access to the site. Minor deadwood.	B.2 20 to 40 yrs
T011												
Common Beech <i>Fagus sylvatica</i>	10.5	1	450	N E S W	3.5 4 4 4	3 3 3 3	M	A: 91.6 R: 5.39	Fair	C: Good S: Good B: Good	No action :: No action Minor deadwood	B.2 20 to 40 yrs
T012												
Sycamore <i>Acer pseudoplatanus</i>	14.5	1	475	N E S W	5.5 7 5.5 6.8	4 3.5 3 2.5	M	A: 102.1 R: 5.7	Fair	C: Fair S: Ivy B: Good	Ivy :: Sever/remove ivy See Comment :: See Comment Limited inspection due to ivy. Prune to clear building 2.5 m to the north	C.2 10 to 20 yrs
Age Classifications:	N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature			Condition:	C S B	Crown Stem Basal area		Stems: Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contributio	

Report selection criteria.

Projects.

Former Whitefield Library, Pinfold Lane, M45 7NY

Date Range.

Any Date

Work types.

- > Fell :: Fell to ground level
- > Ivy :: Sever/remove ivy
- > No action :: No action
- > Raise low canopy :: To 3.0m
- > Raise low canopy :: To 5.0m
- > Remove :: Major dead wood
- > See Comment :: See Comment

Latest Survey.

All surveys for the selected trees.
---> Last survey for each selected tree.

Work Completed.

---> Work Completed
---> Work Not Completed

Number of trees in selected Project(s) 18
Number of trees in Report selection 18

Age Classifications:	N	Newly planted	EM	Early Mature	Condition:	C	Crown	Stems:	Ø	Diameter
	Y	Young	M	Mature		S	Stem		(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature		B	Basal area		ERC:	Estimated Remaining Contributio

Urban Tree Management

0800 222 9529
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Tree Constraint Plan

SCALE :
1 : 500

@ A3

DATE :
15/03/2026

MAP FILENAME :
Whitefield Library – Proposed GP Surgery, Pinfold Lane, Whitefield, M45 7NY

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Crown Spread

Root Protection Area

Shading Arc

Category 'A'

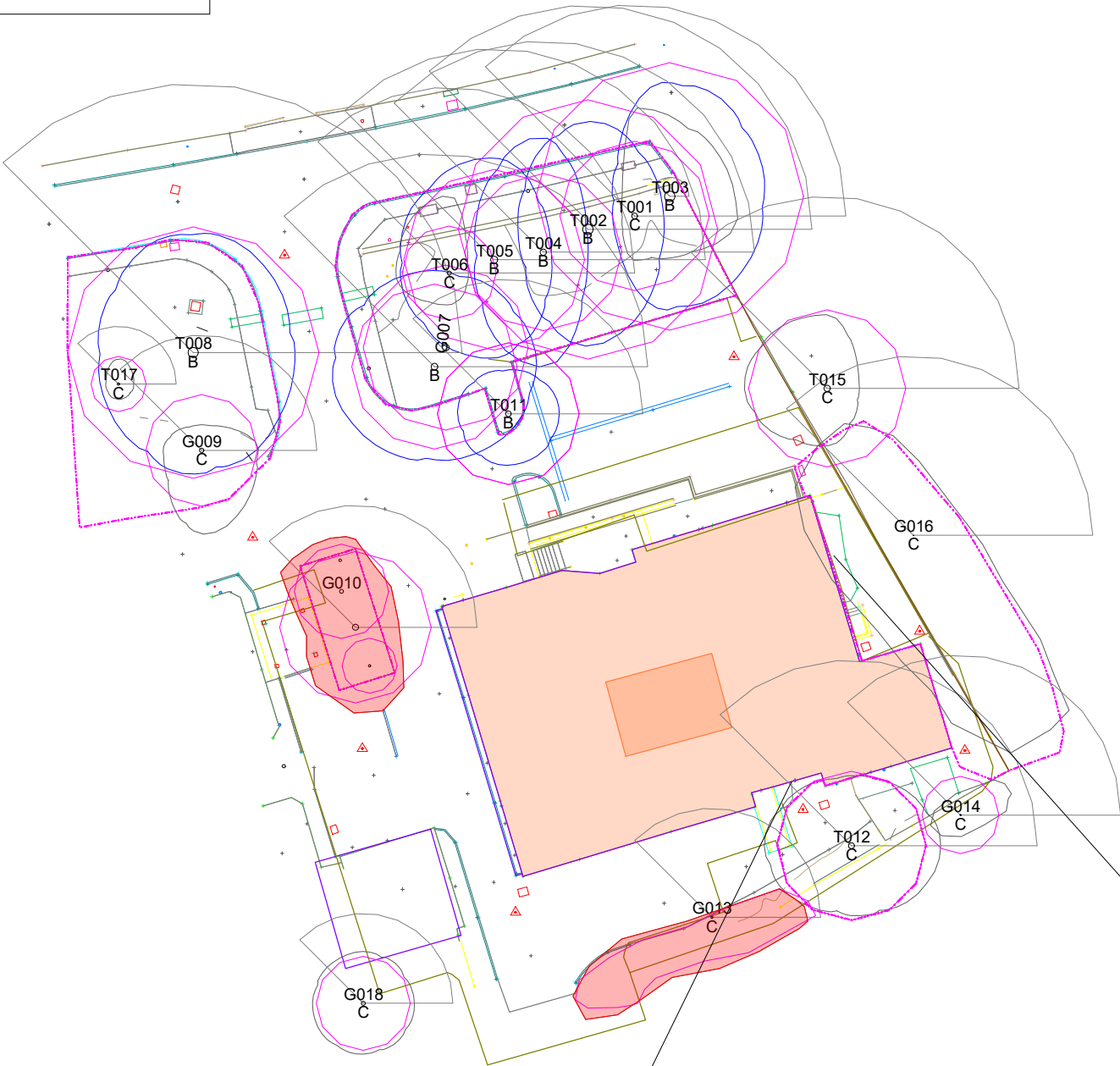
Category 'B'

Category 'C'

Category 'U'



There is insufficient information relating to below ground infrastructure available at present to comment as to whether or not their would-be adequate space for these to be installed outside of RPAs. If services do enter RPAs the use of hand digging as detailed in the National Joint Utilities Group publication 'Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees' (NJUG 10, Volume 4, 2007) will be undertaken to minimise the impact on the tree roots.



Seasonal nuisance issues can be expected to arise, provision should be made for leaf guards and grills to be installed on gutters with cleanable traps on down pipes factored into the design.

Key

Proposed Structure

Proposed Hard Landscaping

Trees To Be Removed

Existing Hard Landscaping

Existing Fencing & Wall

Existing Structure

Modified RPA

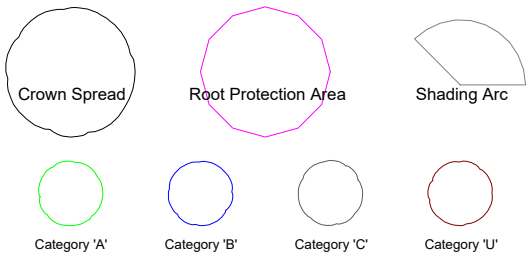
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Tree Protection Plan

SCALE :	DATE :	
1 : 500 @ A2	15/03/2026	
MAP FILENAME : Whitefield Library – Proposed GP Surgery, Pinfold Lane, Whitefield, M45 7NY		

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Prohibition

- Mechanical digging or scraping is not permitted within a defined root protection area or within areas cordoned off by protective barrier fencing.
- No access will be permitted within the protected areas.
- No materials, equipment or debris will be stored within any of the fenced areas, or against the fencing.
- Fires are not permitted within 10m of any vegetation.
- Leaning objects against or attaching of objects to a tree is not permitted.
- Machinery, plant and vehicles are not permitted to be washed down within 10m of vegetation. Chemicals and materials are not to be transported, stored, used or mixed within a root protection area or within areas cordoned off by protective barrier fencing.
- Cement silos, mixing site to be situated within a bunded area to prevent spillage/leaking of chemicals harmful to trees. These areas are to be sited well clear of protected trees.
- Refuelling of plant or machinery is prohibited within 10m of the construction exclusion zones. It is essential that allowance should be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Where machinery is to be used within 5m of retained tree canopies a banks man will be required at all times whilst setting up, moving or operating within this distance of retained trees canopies.
- Storage of all caustic material and chemicals are to be situated well clear of protected areas and preferably on lower ground if slopes are present, or to be situated within a bonded area to prevent any spills or leaks entering the ground.

Arboricultural Supervision

The arboricultural consultant will be required to attend site to directly supervise all demolition and construction works that have to be undertaken within the root protection areas. This will include:

1. Pre-commencement site meeting.
2. Location of protective measures.
3. Supervised demolition of walls, hard surfacing, kerb edging and associated foundations within or RPAs of tree retained trees
4. Manual excavation within RPAs of tree retained trees
 - investigations for foundations locations, and installation of foundations
 - site investigations to inform precise location of drainage and soak-ways
 - service runs, any associated lighting, new hardlandscaping
5. Removal of protective measures and sign off.

Ground Boarding & Protection

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.
Note The ground protection might comprise one of the following:
a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;
b) for pedestrian-operated plant up to a gross weight of 2t, proprietary inter-linked ground protection boards placed on top of a compression-resisiantnt layer(e.g.150mm depth of woodchip), laid onto a geotextile membrane;
c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary system or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected

Construction Exclusion Zone

A construction exclusion zone (CEZ) is a designated area where there is to be no construction activity what-so-ever. Access to the area for construction personnel or machinery is strictly prohibited and there is no scope for materials or waste storage etc.

Tree Protection Fencing

Ground protection:
Any existing hard surface may be retained to act as ground protection within the RPAs of retained trees
When this isremoved it should under direct on sitearboricultural supervision and replacedimmediatly with either temporaryground boarding

Supervised Demolition

Demolition of existing structures and foundations situated either partially or completely within RPAs of retained trees shall be undertaken with care and under the direct on-site arboricultural supervision as these areas are likely to contain roots.
Where it is necessary for the foundations to be removed they are to only be removed where critical to the proposed development and to the minimum depth required. The foundations will be broken up using a hand held pneumatic breaker, hand tools and a wheel barrow to break up and remove the surfacing. In some situations and at the discretion of the arborist it may be possibly to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding. If it is likely that there will be any collapse of the soil within the rooting environment excavation is to be stopped immediately and the trench is to be shored up to prevent loss of the rooting environment.
Which ever system is used there is to be NO disturbance of the soil on the tree side of the foundations. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation

Existing fencing to be used as protection measures

Arboricultural supervision:
Demolition of existing structures within the RPAs of retained trees T018

Hard Surfacing Removal

Removal of and or replacement of hard surfacing situated either partially or completely within the RPAs of retained trees shall be undertaken with care and under the direct on-site arboricultural supervision as these areas are likely to contain roots.
Where this is necessary the wearing course will be broken up using a hand held pneumatic breaker, hand tools and a wheel barrow to break up and remove the surfacing. If it is necessary to remove the sub base this is to be undertaken using hand tools such as a fork to loosen the material and removed using shovels and wheels barrows.
In some situations and at the discretion of the arborist it may be possibly to use an excavator using a hydraulic breaker and suitably sized toothless grading bucket. If an excavator is to be used it must be situated outside of the RPAs, on top of the hard surfacing working away from the RPAs or from ground boarding.
Which ever system is used the is to be NO disturbance of the soil beneath. If roots are found they are to be covered over with damp hessian and a layer of either sharp sand, wood chip or top soil to prevent desiccation

Supervised Excavation

Excavation within and adjacent to RPAs are to be undertaken under direct on-site arboricultural supervision. Excavation will consist of a mixture of mechanical and manual excavation.
Initial excavation will be undertaken by hand under to a minimum of 200mm deep of any excavation, the soil is to be loosened with the use of a fork or pick and then cleared with the aid of an air-spade, air-vac or shovel. There after excavation can be undertaken using an excavator with a suitably sized toothless grading bucket using a grading motion rather than digging and taking no more than 10 - 20mm deep swipes at any time, if any roots are discovered mechanical excavation will be stopped immediately and manual excavation will resume to expose the root. All roots to be cut will be cleanly severed with the use of a hand saw or secateurs. The edge of the excavation closest to the retained trees will be covered over with damp hessian to prevent drying out, and where necessary be shuttered to prevent soil collapse or contamination by concrete. If appropriate soil beneath the depth 600mm may be sheet piled, tegular piled or individual piles. Any deeper excavations may be undertaken by a machine provided it works form outside of the RPA or has appropriate ground protection in place to move and work upon.

Key

- Proposed Structure
- Proposed Hard Landscaping
- Trees To Be Removed
- RPA Where ground protection must be installed
- Arboricultural Supervision
- Storage of Materials & Site Huts
- Construction Exclusion Zone (CEZ)
- Existing Hard Landscaping
- Exisiting Fencing & Wall
- Existing Structure
- Modified RPA
- Tree Protection Fencing
- Trunk Protection

1 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

Proposed GP Surgery, Pinfold Lane, Whitefield, M45 7NY

In accordance with BS5837:2012 Trees in relation to design, demolition & construction – Recommendations

Overview

- 1.1 This Preliminary Arboricultural Method Statement (AMS) provides best practice measures to be adopted protect retained trees during the development process. It has been prepared to inform the planning and the construction/development process.
- 1.2 The document also provides details of specific measures required to protect retained trees from potentially harmful activities such as the construction of hard surfaces within the RPA.
- 1.3 A copy of this report must be kept at each site and be permanently available for the duration of the development process. It can be:
 - Included in the tender documents to identify and quantify the tree protection measures and management requirements.
 - Used to plan the timing of site operations to minimise the impact to trees; and
 - Referenced on site for practical guidance on how to protect trees.
- 1.4 A Tree Protection Plan (TPP) has been prepared to provide graphical illustration of the protection measures required.

Sequence of Activities

- 1.5 To ensure adequate protection of retained trees, the following activities should be adhered too:
 - The Main Works Contractor (MWC) must be provided with a copy of this method statement and all associated attachment prior to the commencement of any site clearance, enabling or construction works.
 - Undertake tree works and removals as detailed in this method statement.
 - Erect tree protective fencing and install ground protection measures in accordance with attached plans.
 - Brief all site operatives and sub-contractors on the requirements of tree protection measures and Construction Exclusion Zones across the site.
 - Ensure site monitoring and report of the protection measures are undertaken in accordance with the Arboricultural Monitoring Programme

Supervision

- 1.6 A suitably competent and qualified arboriculturist will be appointed as the 'Project Arboriculturist'; to provide advice to the site enabling and construction team and to supervise any works that have the potential to cause harm to retained trees.
- 1.7 Site inspections will be undertaken at key points in the development programme as well as at frequent intervals.
- 1.8 The Project Arboriculturist shall be the principle point of contact for the MWC on all matters relating to trees and shall liaise as required with the LPA tree officers.
- 1.9 An Arboricultural Monitoring Programme (AMP) has been prepared to support this method statement and is detailed in Table 1 below.
- 1.10 The full extents of site visits will be dependent on construction plans and details will be agreed during the pre-commencement meeting with the MWC.

Table 1 - Arboricultural Monitoring Programme

Details	Timing
Meet with the MWC to confirm extent of tree protection measures and agree any variations.	Pre-commencement
Site visit to check tree removals and pruning works have been undertaken Appropriately	During development
Site visit(s) to ensure Tree Protective Fencing have been installed correctly.	During development
Site visit(s) to supervise permanent ground protection installation within the RPAs of retained trees	During development
Site visit to address any snagging issues and confirm Tree Protective Fencing and temporary ground protection can be removed.	Post development

- 1.11 Any damage to TPF will be rectified as soon as practically possible and any machinery works ceased in the immediate vicinity until repairs are complete.
- 1.12 Following each site visit a File Note will be prepared and circulated to relevant project contacts and the LPA Tree Officer.
- 1.13 All tree protection measures will remain in place throughout the development phase.
- 1.14 The project arboriculturist will undertake site visits at key stages of the development process and a post-inspection report will be prepared after every site visit detailing observations and any recommendations for specific measures that may be required in the forthcoming period. A copy of this report will be sent to the LPA tree officer and circulated to the project team including the site manager for the main works contractor.

Responsibilities

- 1.15 It will be the responsibility of the MWC to ensure that the requirements included in this method statement are adhered to at all times and that the monitoring regime is adopted on site for the duration of the project.
- 1.16 The MWC will be responsible for contacting the retained project arboriculturist at any time issues are raised relating to trees on site. This includes but is not limited to:
- Additional tree pruning or removals.
 - Amendments to or removal of tree protection measures.
 - Access to Construction Exclusion Zones; and
 - Potential impacts to retained trees (i.e. construction access, utility installation etc.) that have arisen since the preparation of this method statement.
- 1.17 The MWC will be responsible for ensuring any sub-contractors are suitably briefed on the necessary tree protection measures that are required on the site. This method statement and attached plans should be utilised in 'toolbox' talks.
- 1.18 If at any time pruning works or additional tree removals are required, permission must be sought from the relevant Local Planning Authority or Forestry Commission (as appropriate) before tree works commence. Any such approved works must be undertaken in accordance with BS3998:2010 Tree Work – Recommendations.
- 1.19 The MWC must also be aware of the need to comply with the Wildlife and Countryside Act (1981), Countryside Rights of Way Act (2000) and Conservation of Habitats and Species Regulations (2010) in relation to any additional tree works

Tree Removals

- 1.20 Trees for removal have been noted on the AIP with red hatching and a dashed red outline.
- 1.21 Great care should be taken during the tree removal process to ensure that retained trees are not adversely impacted. The following methodology should be adhered to at all times:
- Any machinery used during the tree removal process be sited outside the RPA of retained trees.
 - The felling of trees will be undertaken to avoid damaging retained trees.
 - Where the removal of stumps of felled trees is required, great care will be taken to ensure any retained trees in close proximity remain free from harm.
- 1.22 All works will be conducted by a suitably qualified arborist working in accordance with BS3998:2010 Tree Work – Recommendations.

Facilitation Tree Works

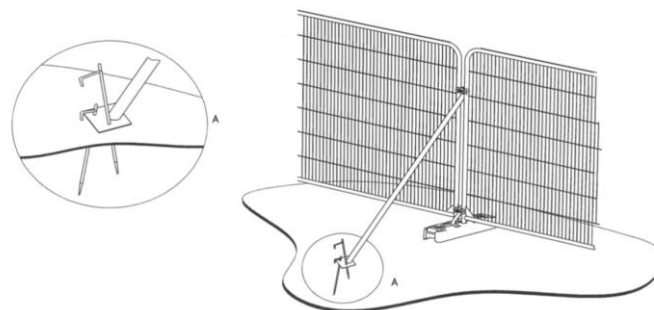
- 1.23 The trees requiring facilitation works to facilitate development will be carried out by a suitably qualified arborist working in accordance with BS3998:2010 Tree Work – Recommendations.

Protection of Retained Trees

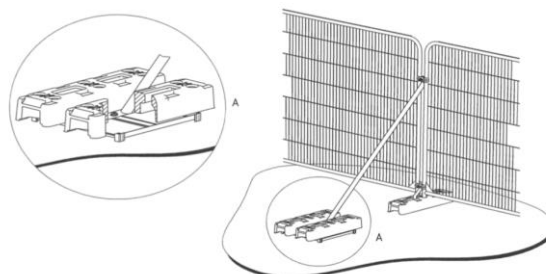
- 1.24 Where practical all retained trees will be protected through the construction phase using barriers to limit the potential for harm from machinery, materials or personnel.
- 1.25 The primary form of protection is the use of fencing around the trees to prevent access within a protected buffer zone. This buffer zone is a Construction Exclusion Zone (CEZ) and there will be no access within it during the construction phase.

Tree Protection Fencing

- 1.26 Protective fencing will be erected around retained trees prior to the commencement of any site works including mobilisation of machinery and materials.
- 1.27 The location of the fencing has been marked on the TPP prepared for this AMS. This is shown as a black dashed line, and the CEZ has been highlighted as orange hatching behind the fencing.
- 1.28 The Tree Protective Fencing will require adjustment between Phase 1 and Phase 2 works. This will need to be done in liaison with the project arboriculturist.
- 1.29 The appropriate form of fencing for this project will be wire mesh panels that will be supported on the ground by a rubberised foot that will in turn be pinned to the ground using metal stakes driven a minimum of 500mm into the ground. An example of the fencing panel construction is provided in below.



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Fig 1. Tree protection fencing specification (extract from BS 5837: 2012)

- 1.30 Weather-proof notices shall be attached to any protective fencing located adjacent to retained trees displaying the words “Construction Exclusion Zone” and listing restrictions which apply. All personnel must be made aware of these restrictions.

Tree Protection Area
KEEP OUT
Do not move this fence

(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS
AND/OR ARE THE SUBJECT OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL
PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN
PERMISSION OF THE LOCAL PLANNING AUTHORITY

An example of a suitable sign for the fencing is provided in Fig 2.

Protective trunk Wrapping

- 1.31 To be attached to the trunks of retained trees prior to the commencement of all works on site, and retained in place throughout construction. To comprise of a minimum of three wrappings of clean dry hessian around the trunk from ground level up to 2.3m high and held in place using sisal. Onto the hessian a minimum of three wraps of chestnut paling and is to be held in place by 2.50mm mild steel galvanized wire in three locations and fixed into place using fencing staples fixed into the chestnut paling.

Construction Exclusion Zone (CEZ)

- 1.32 The CEZ is the area identified by the Project Arboriculturist as the area to be protected during development from Site clearance and construction work through the use of barriers and/or ground protection to ensure the successful long-term retention of a tree. Fencing or ground protection shall not be taken down or relocated at any time without prior agreement and/or Site supervision as recommended by the Project Arboriculturist.
- 1.33 All areas excluded by protective tree fencing shall be treated as CEZs and the following restrictions shall apply:
- No construction activity can occur within these areas.
 - No works on trees unless agreed by the Project Arboriculturist.
 - No alterations of ground levels or conditions.
 - No chemicals or cement washings.
 - No excavation.
 - No temporary structures.
 - No storage of soil, rubble or other materials.
 - No vehicles or machinery to be used or parked without appropriate ground protection measures as per BS5837 recommendations. This will require the use of a proprietary system of reinforced concrete slabs/steel road plates on a compressible layer, or side butting scaffold boards/ 18mm plywood sheets on a compressible layer. The type of ground protection used shall be appropriate for the potential loading applied.
 - No fixtures (lighting, signs etc.) to be attached to trees.
 - No fires within 10 metres of the canopies of any tree or hedgerow.

*Site huts, provided they are of the “Jack Leg” type, can be sited to act as ground protection for the duration of the construction.

Removal of Existing Surfaces

- 1.34 Any enabling works within the RPA of retained trees will be undertaken in accordance with the following methodology:
- Care must be taken to avoid physical contact with the canopies of trees during the enabling works. A banksman will be used where such conflicts could occur.
 - If localised pruning is required, the LPA Tree Officer shall be contacted and the scope of works agreed in writing.
 - All machinery used to undertake enabling works will be sited outside the RPAs of existing trees or working from on top of existing hard standing.

- Debris may be removed from the RPAs of retained trees by using machinery with a long reach or through pedestrian access. Care must be taken to avoid damage to the existing ground surface to ensure the rooting environment remains sustainable post demolition.
- The removal of existing hardstanding or foundations within the RPAs of retained trees will be undertaken using hand tools only. Appropriate tools for manually removing debris may include a pneumatic breaker, crowbar, sledgehammer, pick, mattock, shovel, trowel and fork.
- Severance of roots over 25mm diameter should be avoided unless advised by the retained Project Arboriculturist. Secateurs and a handsaw must be available to deal with any roots that are exposed. Where roots will remain exposed for any period of time the roots must be wrapped in hessian sacking for protection.

Temporary Ground Protection

1.35 New temporary ground protection should be capable of supporting any traffic entering or using the Site without being distorted or causing compaction of underlying soil. The ground protection might comprise one of the following:

- **For pedestrian movements only a single** thickness of scaffold boards placed either on top of a driven scaffold frame so as to form a suspended walkway or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip) laid onto a geotextile membrane.
- **For pedestrian-operated plant up to a gross weight of 2 t** proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane.
- **For wheeled or tracked construction traffic exceeding 2t gross weight**, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the potential loading to which it will be subjected.

General Canopy Protection

1.36 Since the canopies of retained trees may be in close proximity to areas of plant operation, the following restrictions will apply:

- All plant will be sited outside the defined RPAs of retained trees / groups, and the appointed contractor will ensure all relevant personnel shall be made aware of the location of branches and the need to avoid causing damage to them.
- Prior to the implementation of lifting operations, a representative from the equipment supply company shall visit the Site and ensure all operations can be completed without causing damage to retained trees. A lifting plan will be prepared and submitted for approval prior to all lifting operations. The lifting plan will make provision for the potential for damage of retained trees.

- All lifting operations will be completed under the close direction of a qualified banksman, who will be briefed by the appointed contractor as to the need to avoid damage the stems and branches of retained trees.
- 1.37 Should additionally tree removal or pruning be required the LPA Tree Officer shall be contacted and the scope of works agreed in writing.

Site cranes and piling rigs

- 1.38 Where possible, fixed-position cranes should be programmed to automatically avoid retained trees. If that is not possible, operatives should be trained to avoid retained trees as part of the normal site risk management procedures.
- 1.39 Where possible, access for any plant near trees will be restricted by protective fencing. However, where branches extend over fencing and there is a risk of damage from mobile cranes, operatives should be briefed to avoid them and be guided around the site by a banksman.
- 1.40 Loads can be lifted around the site over and around trees, but operatives should be briefed to avoid contact with tree crowns.
- 1.41 Care should be taken to avoid damaging retained trees during the installation and dismantling of fixed-position site cranes.
- 1.42 Tall piling rigs have the potential to damage branches up to 20m off the ground and so protective fencing should be used to prevent this where such rigs are used.
- 1.43 Facilitation pruning to reduce the length of branches extending over fencing or tying long branches back are ways to prevent damage by piling rigs.
- 1.44 Alternatively, low height piling rigs should be used to avoid damaging branches that cannot be pruned or tied back.

Demolition

- 1.45 Any demolition works within the RPA of retained trees will be undertaken in accordance with the following methodology:
- Demolition works will be undertaken using a 'top down, pull back' technique. This will minimise the potential of physical harm to retained trees.
 - Care must be taken to avoid physical contact with the canopies of offsite trees during the demolition works. A banksman will be used where such conflicts could occur.
 - If localised pruning is required, the LPA Tree Officer shall be contacted, and the scope of works agreed in writing.

- All machinery used to undertake demolition works will be sited outside the RPAs of existing trees or working from on top of existing hard standing.
- Debris may be removed from the RPAs of retained trees by using machinery with a long reach or through pedestrian access. Care must be taken to avoid damage to the existing ground surface to ensure the rooting environment remains sustainable post demolition.
- The removal of existing hardstanding or foundations within the RPAs of retained trees will be undertaken using hand tools only. Appropriate tools for manually removing debris may include a pneumatic breaker, crowbar, sledgehammer, pick, mattock, shovel, trowel and fork.
- Severance of roots over 25mm diameter should be avoided unless advised by the retained Project Arboriculturist. Secateurs and a handsaw must be available to deal with any roots that are exposed. Where roots will remain exposed for any period of time the roots must be wrapped in hessian sacking for protection.

Supervised Excavation

- 1.46 Excavation within and adjacent to RPAs are to be undertaken under direct on-site arboricultural supervision. Excavation will consist of a mixture of mechanical and manual excavation. Initial excavation will be undertaken by hand under to a minimum of 200mm deep of any excavation, the soil is to be loosened with the use of a fork or pick and then cleared with the aid of an air-spade, air-vac or shovel.
- 1.47 There after excavation can be undertaken using an excavator with a suitably sized toothless grading bucket using a grading motion rather than digging and taking no more than 10 - 20mm deep swipes at any time, if any roots are discovered mechanical excavation will be stopped immediately and manual excavation will resume to expose the root.
- 1.48 All roots to be cut will be cleanly severed with the use of a hand saw or secateurs. The edge of the excavation closest to the retained trees will be covered over with damp hessian to prevent drying out, and where necessary be shuttered to prevent soil collapse or contamination by concrete. If appropriate soil beneath the depth 600mm may be sheet piled, tegular piled or individual piles. Any deeper excavations may be undertaken by a machine provided it works form outside of the RPA or has appropriate ground protection in place to move and work upon

Construction

- 1.49 Prior to the construction of the proposed development, a copy of the construction method statement should have been submitted and approved by the project arboriculturist and LPA tree officer, to ensure that there is no conflict with this method statement. All excavations and construction work within or immediately adjacent to RPAs or canopies of retained trees is to be undertaken under the direct on-site supervision of an arboriculturist.

Foundation design

1.50 Concrete foundations/slabs

- Prior to concrete being poured to form the foundations/slabs within or immediately adjacent to the RPAs of retained trees the excavation is to be lined and sealed to prevent any leaching of the concrete into the soil and causing desiccation of retained roots by concrete run off.

Hazardous Materials

- 1.51 Any mixing of cement-based materials is to take place outside the RPAs of all trees. Provision shall be made to ensure that the mixing area is contained so that no water runoff enters the RPA of any trees. All mixers and barrows shall be cleaned within this dedicated mixing area.
- 1.52 All other chemicals hazardous to tree health, including petrol and diesel, are to be stored in suitable containers as specified by the Control of Substances Hazardous to Health (COSHH) Regulations (HMSO, 2002: The Control of Substances Hazardous to Health Regulations 2002), and kept away from the RPAs.

Contractor compound, site huts and welfare units.

- 1.53 The contractor's compound, including all site huts, storage and welfare units, will be located outside the CEZ of retained trees.

Service installation overhead and underground

- 1.54 Where new services are required within the Root Protection Areas (RPAs) of retained trees these will be undertaken in accordance with the following methodology.
- 1.55 Should plans deviate when on-site works commence and require additional service installation with the RPAs of retained trees, the Project Arboriculturist must be consulted before being installed.
- 1.56 Should it not be possible to redesign new services outside the RPAs of retained trees then the installation of any services or ducting must be carried out following the National Joint Utilities Group 'Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.
- 1.57 Any such services which are required within the RPAs of retained trees must adhere to the following methodology:

General Guidance

- Any machinery used to remove existing hardstanding will work from on top of existing hardstanding or from temporary load-bearing matting.
- Any topsoil that is stripped will be reinstated once the project is complete.

- Any exposed roots will be wrapped in hessian to prevent desiccation. All hessian will be removed prior to backfilling with soil.
- Replaced soil will be compacted by footfall and the use of whacker plates or rollers are prohibited. The soil should be left slightly mounded to help with settlement.

Airspade

- The air spade will be used by an experienced operator, who is also a trained arboriculturist.
- The air spade should enable the flow of air to be controlled by a hand-trigger.
- The air spade compressor will be fitted with crack oil filters to prevent oil spillage onto the ground to prevent any contamination of the soil. Spill kits should be kept readily available.
- The air spade will be used in short bursts to loosen soil around major roots (>50mm diameter) and loosened soil will be removed using hand-tools only.
- A barrier will be erected around the extents of the trench to minimise soil being blown away from the excavation area.
- Hand-tools will be utilised to loosen soil around tree roots or areas that cannot be penetrated by the air spade. These tools may include spade, mattock, fork and trowel.
- Wherever possible tree roots will be retained. This includes fibrous roots that may be exposed during the excavation process.
- Root severance of any roots between 10-50mm diameter will only be undertaken in liaison with the project arboriculturist.

Hand-dig

- Appropriate tools for manually removing debris may include a crowbar, sledgehammer, pick, mattock, shovel, spade, trowel, fork and wheelbarrow.
- Wherever possible tree roots will be retained. This includes fibrous roots that may be exposed during the excavation process.
- Root severance of any roots between 10-50mm diameter will only be undertaken in liaison with the project arboriculturist.

Boundary fences

- 1.58 Proposed and or replacement boundary fence posts are to be located so that they will not damage or require the removal of roots important to the stability of any trees. This may require individual posts to be relocated which will increase or decrease the spacing between the posts (bay lengths).
- 1.59 All posts within or close proximity to retained trees are to be excavated manually, using handheld tools (spade, shovel, rabbiting spade, shove holer's / post hole digger), no mechanised equipment (handheld or plant mounted post borer) is to be used

Soft Landscaping

1.60 New tree and shrub planting is proposed in close proximity to existing trees. If new planting is required within the RPAs of retained trees, then the following methodology must be adhered to:

- Wherever possible tree roots will be retained. This includes fibrous roots that
- Wherever possible tree roots will be retained. This includes fibrous roots that
- Wherever possible existing levels will remain in situ. A De-Vegetation strip (<10mm depth) will be undertaken by machinery working from outside the RPAs of retained trees and under supervision of the project arboriculturist.
- It may be appropriate to utilise hand-tools in close proximity to the base of trees, or where surface roots are evident. Appropriate hand tools may include pick, mattock, shovel, trowel and fork.
- Severance of tree roots will be avoided unless advised by TFL.
- The use of scarifiers or cultivators within the RPAs is strictly prohibited.
- Introduction of topsoil within the RPAs of trees will be limited (maximum 50mm depth). This should be introduced via machinery working outside the RPAs and distributed by hand-tools only.

Post Development

- 1.61 No fencing or other protective measures will be moved, dismantled or taken off site until the Project arboriculturist has confirmed that all machinery has been removed from the site and any construction activity that could cause harm to retained trees has been completed.
- 1.62 The project arboriculturist will review the condition of the trees post-construction to check for signs of intolerance to the change in conditions, the effect of development works and any accidental damage.
- 1.63 This may result in additional remedial measures or tree works to rectify the harm caused.
- 1.64 A site inspection note will be provided to the MWC detailing any remedial treatments/tree works