

Arboricultural Method Statement for demolition

Ingenium Building @
Grey Court School
Ham
Richmond
TW10 7HN

Client: Synergy LLP

September 2024

Contents

1.	Introduction.....	3
2.	Pre-start requirements, liaison & communication.....	3
3.	Tree pruning.....	4
	<i>Table 1</i> – Tree pruning	4
4.	Protective fencing.....	4
5.	Ground protection.....	5
6.	Demolition.....	6
7.	Supervision & monitoring	7
	<i>Table 2</i> - Timings of supervision and monitoring visits	8

Appendices

- Appendix 1 – Tree Schedule
- Appendix 2 – Tree Protection Plan

1. Introduction

- 1.1 This arboricultural method statement ('AMS') details the actions to be taken in order to prevent unacceptable damage being caused to the retained trees on this site during the proposed demolition of the Ingenium building at Grey Court School, Ham, Richmond TW10 7HN.
- 1.2 This AMS complies with the recommendations of British Standard BS 5837: 2012, *Trees in relation to design, demolition and construction – Recommendations* ('BS 5837'). It is designed to reflect the principles of the tree protection required for the proposed development, and should not be read as a definitive engineering or demolitions statement for this site. If required, matters relating to the demolition detail or engineering performance of any protective measures specified should be referred to a qualified architect or structural engineer, for further information and specification which may be necessary for their practical implementation in a manner that satisfactorily ensures their protective intention or function.
- 1.3 The AMS should be read in conjunction with, and is to be considered an essential part of, the tree protection plan ('TPP') which is attached to it at **Appendix 2**.

2. Pre-start requirements, liaison & communication

- 2.1 Before any works of any description take place on the site, the applicant, landowner or promoter of the proposed development ('the developer') shall appoint a suitably qualified arboricultural consultant to act as the supervising arboriculturist for the project, in order to ensure that the specified tree protection measures are carried out during the entire demolition process. Confirmation of this appointment, and details of the supervising arboriculturist appointed, shall be provided to the Local Planning Authority ('LPA') before any works commence.
- 2.2 Before any works commence on site, the developer shall convene a pre-start meeting. This should be attended by the developer or project manager, the site manager, the groundwork contractor, and the supervising arboriculturist and, if so required by the LPA, the LPA tree officer. The meeting will be led by the supervising arboriculturist, who will ensure that the sequence and methods of tree protection specified in this statement are fully explained and understood by all parties. Reporting procedures, arboricultural supervision requirements, and frequency of monitoring visits (as detailed in **Section 7** and *Table 2* of this AMS) will be discussed and agreed, and relevant contact details exchanged. Any modifications to this statement arising from this meeting will be recorded and the revisions circulated to all parties.
- 2.3 The developer shall inform the supervising arboriculturist if at any time during the demolition process, the site manager is replaced. In this event, the supervising arboriculturist will, within 5 days, arrange a meeting with the new site manager to review all remaining or outstanding aspects of this method statement.

- 2.4 A copy of this method statement, together with the TPP, shall be given to all personnel who have control over works of any nature within the root protection areas (RPAs) of the trees which are to be retained. The developer will ensure that adequate instruction is given for the implementation of the protection measures outlined within this statement.

3. Tree pruning

- 3.1 Some pruning of the retained trees is required to permit demolition of the proposed development. The relevant trees, and the required pruning works, are listed in the table below.
- 3.2 Tree pruning will be carried out in accordance with British Standard BS 3998: 2010, *Tree work - Recommendations*.

Tree no.	Species	Height	BS Category	Work required	Reason for work
1	Sycamore	18m	A	Lift crown on west side only from 3m to 4m, pruning only tertiary branches, and cuts to be no more than 100mm in diameter.	To allow movement of demolition vehicles beneath crown to alleviate chances of damage to the underside of branches.

Table 1 – Tree pruning

4. Protective fencing

- 4.1 No vehicles of any kind shall enter the site, nor any works commence, until the root protection areas of the retained trees, as shown on the TPP, have been protected by the erection of protective fencing to the specification found in BS 5837, Section 6.2. The location of the fencing is denoted by the continuous bold purple lines on the TPP.
- 4.2 The protective fencing shall be at least 2.1m in height and comprise standard ‘Heras’ welded mesh fence panels mounted on rubber or concrete feet. The panels shall be fixed to each other with at least two anti-tamper clamps, installed so that they can only be removed from inside the fence.
- 4.3 The fencing shall be supported on the side closest to the retained trees by stabiliser struts braced to the ground at an angle of 45 degrees, and attached to a base plate secured to the ground with ground pins. Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabiliser struts should be mounted on a block tray. Notices stating “*Tree Protection Zone – Keep Out*” will be attached with cable ties to every other panel.
- 4.4 No activity of any kind shall be undertaken behind the protective fencing; there shall be no topsoil stripping, no storage of materials, no access for vehicles or personnel, and no excavation or changes in soil level of any kind.

- 4.5 No fixtures of any nature shall be attached to the retained trees, and no fires shall be lit in any position where heat could affect their foliage or branches.
- 4.6 When the installation of the protective fencing is complete, the supervising arboriculturist shall be informed so that they may come and inspect it. If it complies with this statement, the supervising arboriculturist will record the fact and notify the client and LPA.
- 4.7 Where tall plant or equipment may be passing or working close to the canopies of the retained trees, timber uprights shall be erected and fastened to the protective fencing to prevent accidental damage to branches. Cross members between the uprights shall be marked clearly with reflective tape to ensure high visibility.
- 4.8 If the protective fencing is accidentally damaged or knocked over, the damaged sections shall be immediately marked with high visibility tape or with mesh fencing. The damaged sections shall be replaced or repaired to the original specification within 48 hours. All events of this nature must be recorded and reported to the supervising arboriculturist.
- 4.9 The protective fencing will not be moved, dismantled or relocated without the prior approval of the supervising arboriculturist. When the demolition period is complete the fencing may then be removed, but only after first informing the supervising arboriculturist of this intention.

5. Ground protection

- 5.1 Where the setting back of the protective fencing in order to provide demolition working space results in unmade ground within the RPAs of retained trees being exposed to demolition damage, temporary ground protection shall be put in place for the duration of the demolition period, in the locations denoted by magenta hatching on the TPP. In order to protect the structure of the soil adjacent to the areas of demolition, the ground protection should be capable of supporting any traffic, pedestrian or mechanical, entering or using the relevant areas without being distorted or causing compaction of underlying soil.
- 5.2 The ground protection shall proprietary inter-linked ground protection boards or 15mm (3/4") steel sheets placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane, to accommodate pedestrian-operated plant up to a gross weight of 5 tonnes.
- 5.3 The ground protection shall be installed in the specified locations at the same time as the erection of the protective fencing, prior to any works commencing on the site. When its installation is complete, the supervising arboriculturist shall be informed so that they may come and inspect it. If it complies with this statement the supervising arboriculturist will record the fact and notify the client and LPA.
- 5.4 If, during the course of demolition operations, it becomes known that the specification of the installed ground protection in any location will be insufficient to accommodate the

loadings to which it will unavoidably be subjected, it shall be replaced or upgraded to a more robust specification immediately, in accordance with BS 5837 recommendations and with the advice of the supervising arboriculturist, before any further works in the relevant areas proceed.

- 5.5 The ground protection shall be retained in place for the duration of the demolition operations, and shall not be removed until all works are completed, and all equipment and materials have been removed from the site.

6. Demolition

- 6.1 Where indicated on the plan, demolition of the existing Ingenium building and removal of existing hard surfacing (if required) within RPAs of retained trees shall be undertaken under direct on-site arboricultural supervision. Where possible, existing hard surfaces within retained trees' RPAs shall be left in situ during the demolition, to provide continuing protection to underlying roots and soil.
- 6.2 Machinery and vehicles used for the demolition of the structure shall be stationed and operated either outside the RPAs, or on existing floorslabs or hard surfacing, reinforced as necessary with additional temporary ground protection to support the working loads without distortion or compaction of underlying soil.
- 6.3 Structures shall be demolished so that materials are pulled away from retained trees' RPAs and are stockpiled and loaded away without vehicles encroaching into or traversing them. If existing foundations cannot be left in situ, they shall be broken up using pneumatic or hydraulic breakers, and removed using an excavator fitted with a toothless grading bucket, situated outside the RPAs or on existing floorslabs or hard surfacing, and pulling the material back away from the RPAs before lifting it out of the ground.
- 6.4 Where existing hard surfacing is to be removed within RPAs, the wearing course will be broken up using a hand-held pneumatic breaker, and removed using hand tools and wheelbarrows. Where it is necessary to remove the sub-base this shall be undertaken using digging forks to loosen the material, which will then be removed using hand tools and wheelbarrows. At the discretion of the supervising arboriculturist, it may be possible to use an excavator using a hydraulic breaker and a toothless grading bucket. If an excavator is to be used it must be situated outside the RPAs, either on top of the hard surfacing and working away from the RPAs, or from temporary ground protection.
- 6.5 Any tree roots exposed by the removal of hard surfaces or foundations of structures shall be immediately protected and kept damp by covering with wet hessian. A covering layer of topsoil will be applied as soon as is practicably possible.
- 6.6 Where areas exposed by the removal of hard surfacing are to be reinstated to soft landscaping, the underlying areas shall be lightly decompacted by hand forking over to a maximum of 100mm depth, followed by addition of clean topsoil to BS 3882: 2015, *Specification for topsoil*, to match surrounding levels. If the areas will be exposed to demolition traffic movements or activity during the course of remaining demolition

operations, they shall either be fenced off with protective fencing, or protected by temporary ground protection, in accordance with the specifications given in the relevant sections above.

7. Supervision & monitoring

- 7.1 At the start of the demolition process the supervising arboriculturist shall visit the site on the occasions specified to inspect the tree protection measures (fencing and ground protection) as installed. If these measures comply with the specifications detailed in this method statement, statements of compliance shall be sent to the developer and copied to the LPA.
- 7.2 The supervising arboriculturist shall then visit the site, as agreed at the pre-start meeting, or when specifically required as set out in *Table 2* below, to ensure that the tree protection measures are kept in place and functioning as designed. Regular contact will be maintained with the site manager to determine any forthcoming operations that may make an impact on these tree protection measures and if arboricultural supervision is required. A record of all monitoring visits will be kept, and copies sent to the developer and the LPA upon request.
- 7.3 The site manager shall give at least 48 hours' notice to the supervising arboriculturist of any operations, e.g. demolition of the existing Ingenium building which may make an impact on the RPAs of the retained trees.
- 7.4 Any alterations or variations in drawings for the site that are in, or within, the RPAs of the retained trees shall be referred in the first instance to the supervising arboriculturist for advice. If these changes make any kind of impact on the retained trees the supervising arboriculturist shall suggest changes that will either avoid damage to the retained trees or offer solutions to minimize the impact. If required, the supervising arboriculturist will liaise with the LPA's tree officer to agree a way forward, since any alterations to the approved details may require the LPA's prior written agreement. Following these consultations, the supervising arboriculturist shall issue revisions to the TPP and this AMS that reflect the changes.
- 7.5 Where any operations carried out by the developer deviate substantially from this AMS, work must cease immediately, and the LPA be informed in writing. A meeting will be convened between the developer, the supervising arboriculturist, the LPA tree officer and the site manager to determine the best method to mitigate any damage that may have occurred. Work shall not be recommenced until appropriate action has been agreed to the LPA's satisfaction.

Visit no.	Trees affected/ relevant	Timing of visit	Function carried out
1	All	Prior to the start of any demolition works.	To lead the pre-start meeting. To check protective fencing and ground protection have been installed in the correct locations and to the correct standard.
2	Tree 6	During the demolition of the SW elevation of the Ingenium building.	To supervise the manual excavation of the foundations.
3	Trees 1, 2 & 6	During the surface removal of any associated hard surfaces.	To supervise the removal of surfaces if required for demolition.
4	All	At any other time, which is sensitive in arboricultural terms.	To ensure retained trees are protected from demolition activities.

Table 2- Timings of supervision and monitoring visits

Michael Roberts | Arboricultural Consultant
Dip ARB TechArborA.

September 2024



APPENDIX 1 – Tree Schedule

Notes for the Tree Schedule

This schedule is based on a tree survey carried out in accordance with the recommendations of British Standard, BS 5837 (2012) “Trees in relation to design, demolition and construction - Recommendations” (‘BS 5837’) by Michael Roberts on Thursday the 12th September 2024. Weather conditions at the time were clear, dry and bright. Deciduous trees were fully in leaf.

The information contained in this schedule reflects the condition of the trees at the time of the survey, based on visual inspection from the ground only; they were not climbed, and no internal investigations were undertaken. A BS 5837 survey for planning or development purposes is not a detailed tree hazard or risk survey. As such, no guarantee is given as to the structural integrity or safety of any trees included.

As trees are dynamic organisms and subject to continual growth and change, no dimensions expressed in this schedule may be relied upon for development planning purposes for more than 24 months from the date of survey. Estimated dimensions are marked ‘est’.

1. **No.:** Expressed in sequential order starting from number 1 – woodlands, groups & hedges are prefixed as W, G, & H respectively.
2. **Con. Area:** Trees and Tree Groups standing within the (Ham House) Conservation Area; all trees with are protected from removal or pruning without prior notification to, the local planning authority.
3. **Species:** The common name as given in “Collins Tree Guide”, Johnson & More (2004).
4. **Height:** Estimated with the aid of a ‘Disto’ laser rangefinder and expressed in metres, to the nearest metre.
5. **Trunk Diameter:** Measured at 1.5m above ground level and expressed in millimetres to the nearest 10mm; where multiple stems are present they are measured individually, and an aggregated equivalent single trunk diameter is calculated in accordance with BS 5837, in order to derive the tree’s root protection area (‘RPA’).
6. **Radial Crown Spread:** Distance in metres from the centre of the trunk to the outermost edge of the crown at each cardinal point of the compass, rounded up to the nearest half metre; or in the case of uniform or symmetrical crowns, the average distance from the centre of the trunk to the outermost edge of the crown.
7. **Crown Clearance:** Mean height, in metres, from adjacent ground level to the lowest point of the live crown.
8. **Height to First Branch:** Height, in metres, of the first significant branch (>100mm diameter), or to crown break from ground level.
9. **Life Stage:** Young, Semi-mature, Mature, Over-mature, Veteran/Ancient.
10. **Physiology:** The tree’s health and vigour in comparison to a typical specimen of the same species and age: Good, Average, Below average, Poor, Dead.
11. **Structure:** The tree’s structural condition based on assessment of any visible roots, and of its trunk, main branches and crown, noting the presence of any obvious defects or decay: Good, Average, Below average, Poor, Hazardous.
12. **Landscape Value:** An assessment of the tree’s visual importance in the local landscape in its present context: High, Moderate, Low, Nil.
13. **Estimated Years:** Estimate of the tree’s likely remaining contribution expressed in years: <10, 10-20, 20-40, 40+.
14. **Comments:** Notes relating to the tree’s health and condition, structure and form, estimated life expectancy and importance within the local landscape; including notes of any restrictions to access for inspection, presence of potential habitat features (natural or artificial), or other significant observations.
15. **Category:** - A rating given to trees based on Table 1 in BS 5837, summarised below:

Category ‘U’ - Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.

Category ‘A’ - Trees of high quality and value; in such a condition as to be able to make a substantial contribution (normally a minimum of 40 years).

Category ‘B’ - Trees of moderate quality and value; those in such a condition as to make a significant contribution (normally a minimum of 20 years).

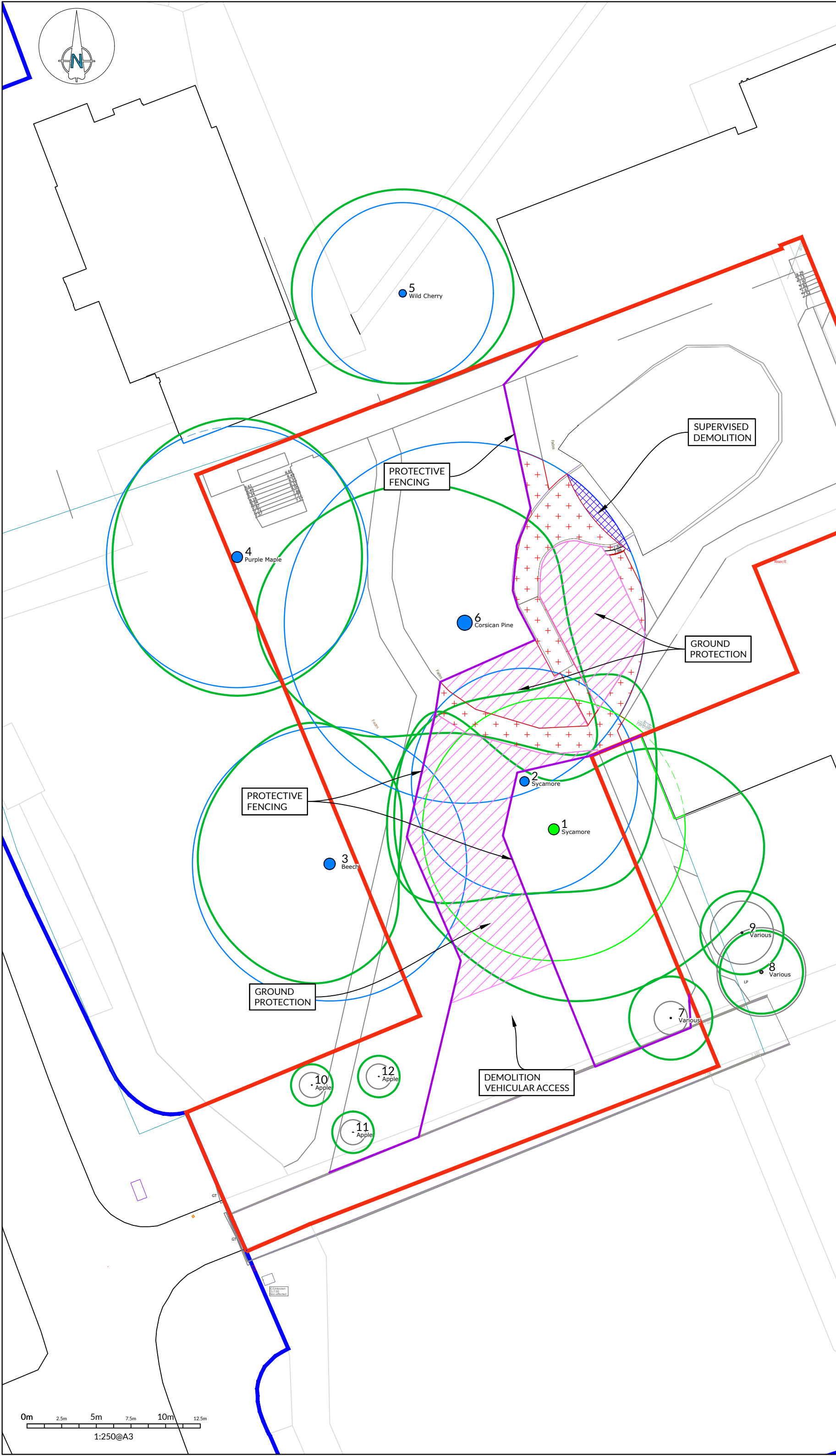
Category ‘C’ - Trees of low quality and value; currently in adequate condition to remain until new planting could be established (normally a minimum of 10 years), or young trees with a stem diameter below 150mm.

Sub-categories (where appropriate); 1 – Mainly arboricultural qualities; 2 – Mainly landscape qualities; 3 – Mainly cultural values, including conservation.

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category
1	Sycamore	18m	790mm	N3.5m NE8m E15m SE13.5m SW11m NW12m	N3m E6m SE2.5m S3m W3m	3.5m W	Mature	Good	Below average	High	40+	Slightly leaning trunk; one-sided crown as suppressed by adjacent specimens; no significant structural defects found at time of survey.	A (2)
2	Sycamore	20m	680mm	N6.5m NE10.5m E9.5m SW11.5m NW7.5m	5m	3m	Mature	Average	Below average	Moderate	20-40	Prominent buttress roots; bark depression on north side of trunk from base to 2m; tight compression fork at 2.5m with evidence of included bark.	B (12)
3	Beech	16m	530mm 350mm 525mm	N10m E5m S8.5m W9.5m	N2m E2m SE3m S2m W2m	3m	Mature	Average	Average	Moderate	40+	Evidence of recent soil compaction beneath canopy; many surface roots; three stemmed from base; minor dead wood, dieback in crown; no significant structural defects found at time of survey.	B (12)
4	Purple Maple	19m	785mm	N10m E9m S10m W9m	1.5m	2.5m	Mature	Average	Average	Moderate	20-40	Many surface roots; evidence of recent soil compaction beneath canopy; asymmetrical crown as suppressed by adjacent specimens; no significant structural defects found at time of survey.	B (12)
5	Wild Cherry	15m	545mm	N7.5m E8m S6.5m W8m	2.5m	2.5m	Mature	Average	Below average	Moderate	20-40	Historical wound on south side of tree; occluding; evidence of recent soil compaction beneath canopy; tight compression fork with evidence of included bark.	B (12)
6	Corsican Pine	24m	1085mm	N9.5m E7.5m SE13m S8m W15m	N6m E4m S6m W6m	3m SW	Mature	Average	Average	High	20-40	Slightly leaning trunk; crown has been severely lifted in past; pruning wounds in excess of 250mm dia for previous crown lift; exudations of sap on SE side at 0.75m; comms cables connected to trunk at 4m; slightly sparsely foliated.	B (12)

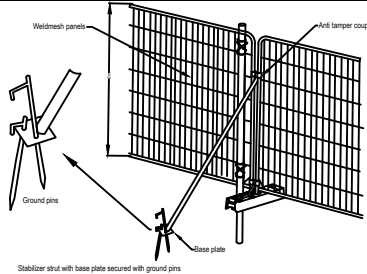
No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category
7-9	Bird Cherry, Fastigiate Japanese Cherry and Japanese Cherry	#T7 4m #T8 7m #T9 5m	#T7 100mm #T8 220mm #T9 150mm #T9 125mm 95mm 2 stems @ 75mm	3m	1.5m	0.5m	Semi-mature	Below average	Below average	Low	10-20	Many basal suckers.#7; bark necrosis #8; tight compression forks with evidence of included bark #9; evidence of continuous soil compaction beneath canopies.	C (12)
10-12	Apple	1.5m	#T10 55mm #T11 35mm #T12 2 stems @ 35mm	1.5m	0.2m	0.4m	Young	Average	Average	Low	20-40	Young trees with stem diameter below 150mm; recently planted and readily replaceable.	C (12)

APPENDIX 2 – Tree Protection Plan



PROTECTIVE FENCING

To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabiliser struts, which should be attached to a base plate and secured with ground pins.



GROUND PROTECTION

To be installed prior to any demolition works. For plant up to a gross weight of 5t, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane.

SUPERVISED DEMOLITION / SURFACE REMOVAL

Where indicated on the plan, demolition of the existing structure(s) and/or removal of existing hard surfacing within RPAs of retained trees shall be undertaken under direct on-site arboricultural supervision. Where possible, existing hard surfaces within retained trees' RPAs shall be left in situ during the demolition, to provide continuing protection to underlying roots and soil. Machinery used for the demolition of structures shall be stationed and operated either outside the RPAs, or on existing floorslabs or hard surfacing, reinforced as necessary with additional temporary ground protection to support the working loads without distortion or compaction of underlying soil.

Structures shall be demolished so that materials are pulled away from retained trees' RPAs and are stockpiled and loaded away without vehicles encroaching into or traversing them. If existing foundations cannot be left in situ, they shall be broken up using pneumatic or hydraulic breakers, and removed using an excavator fitted with a toothless grading bucket, situated outside the RPAs or on existing floorslabs or hard surfacing, and pulling the material back away from the RPAs before lifting it out of the ground.

Where existing hard surfacing is to be removed within RPAs, the wearing course will be broken up using a hand-held pneumatic breaker, and removed using hand tools and wheelbarrows. Where it is necessary to remove the sub-base this shall be undertaken using digging forks to loosen the material, which will then be removed using hand tools and wheelbarrows. At the discretion of the supervising arboriculturist, it may be possible to use an excavator using a hydraulic breaker and a toothless grading bucket. If an excavator is to be used it must be situated outside the RPAs, either on top of the hard surfacing and working away from the RPAs, or from temporary ground protection.

Any tree roots exposed by the removal of hard surfacing or foundations of structures shall be immediately protected and kept damp by covering with wet hessian. A covering layer of topsoil will be applied as soon as is practicably possible.



ARBORICULTURE | ECOLOGY | LANDSCAPE

Project: Ingenium Building
Grey Court School
Ham
Richmond TW10 7HN

Client:
Synergy LLP.

Drawing:
TREE PROTECTION PLAN

Based on:
Proposed Demolition Site Plan

Drawing No: TPP 01 Rev: ----

Date: Sep 2024 Scale: 1:250 @ A3 Drawn: MR

	Tree nos.: ● 1	Canopies of trees:	
Category 'A' RPA:	Category 'B' RPA:	Category 'C' RPA:	
Existing hard surfacing:	Protective fencing:		
Ground protection:	Supervised demo:		

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