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Report Verification

Report Version	Date	Completed by:	Checked & Approved by:
Final	06/03/2023	Luke Webb BSc (Hons) MArborA Senior Arboricultural Consultant	Duncan Smith BSc (Hons) MArborA Arboricultural Manager
Revision A	21/04/2023	Luke Webb BSc (Hons) MArborA Senior Arboricultural Consultant	Duncan Smith BSc (Hons) MArborA Arboricultural Manager
Revision B	20/09/2023	Luke Webb BSc (Hons) MArborA Senior Arboricultural Consultant	Duncan Smith BSc (Hons) MArborA Arboricultural Manager
Revision C	01/11/2023	Luke Webb BSc (Hons) MArborA Senior Arboricultural Consultant	Duncan Smith BSc (Hons) MArborA Arboricultural Manager
Revision D	30/01/2023	Luke Webb BSc (Hons) MArborA Senior Arboricultural Consultant	Stefan Harrison BSc (Hons) MArborA Senior Arboricultural Consultant
Revision E	15/07/2024	Andrew Hastings FdSc MArborA Senior Arboricultural Consultant	Stefan Harrison BSc (Hons) MArborA Senior Arboricultural Consultant
Revision F	06/11/2024	Andrew Hastings FdSc MArborA Senior Arboricultural Consultant	Stefan Harrison BSc (Hons) MArborA Senior Arboricultural Consultant
Revision G	07/11/2024	Andrew Hastings FdSc MArborA Senior Arboricultural Consultant	Stefan Harrison BSc (Hons) MArborA Senior Arboricultural Consultant

Declaration of Compliance

This study has been undertaken in accordance with British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction – Recommendations*'.

Disclaimer

The contents of this report are the responsibility of Middlemarch. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Validity of Data

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified and experienced arboriculturist to assess any changes to the trees, groups, and hedgerows on site and to inform a review of the conclusions and recommendations made.

It should be noted that trees are dynamic living organisms that are subject to natural changes as they age or are influenced by changes in their environment. As such following any significant meteorological event or changes in the growing environment of the trees they should be re-

On Site Monitoring Regime & Contact Details

All operations detailed within this AMS will be monitored by the Principal Contractor. The Principal Contractor will ensure that specifications within this document are followed (this will be built into the contract specification) and that the Project Arboriculturist will be contacted for advice in relation to works near to retained trees, where required.

The Project Arboriculturist for the site is:

Name: Andrew Hastings

Mobile: 07485 903 943

Position: Senior Arboriculturist

Email: andrew.hastings@middlemarch.eco

Action	Project Arboriculturist Attendance Required
Pre-commencement site meeting / toolbox talk / induction	✓
Audit timetable	✓
RIBA Stage 5 - Enabling Works (Demolition)	
Tree Surgery	✓
Site set up and logistics	✓
Establishment of Demolition Exclusion Zone	✓
Topsoil Stripping / Subsoil Regrading	✗
Demolition of Structures and Removal of Hard Surfaces	✓
RIBA Stage 5 - Main Works (Construction)	
Establishment of Construction Exclusion Zone	✓
Permanent and Temporary Ground Protection Measures	✓
Construction of Structures within the RPA / CEZ	✓
Working space to construct new buildings within RPAs	✗

Installation of utilities within RPAs	x
RIBA Stage 6 – Handover and Close Out	
Removal of tree protection measures	✓
Tree Safety Assessment for handover	✓

Responsibilities

It is the responsibility of the Principal Contractor to ensure that any planning conditions attached to the planning consent are always adhered to and that a monitoring regime regarding tree protection is adopted on site.

The Principal Contractor will be responsible for contacting the Local Planning Authority should any issues are raised related to the trees on site.

If pruning works to trees beyond the agreed scope within this Method Statement are required at any time, then permission must be sought from the Local Planning Authority prior to commencement. All tree surgery works must be carried out in accordance with BS3998.

The Principal Contractor will ensure the build sequence is appropriate to ensure that no damage occurs to retained trees during the construction processes. Protective measures will remain in position until completion of the construction phase of development and will only be removed to allow the commencement of soft landscaping works.

The protection measures and signs will always be maintained in position and checked daily by a designated person on site under the responsibility of the Principal Contractor.

Contents

1. Introduction.....	6
1.1 Project Background	6
1.2 Site Description, Drawings and Appendices	6
1.3 Development Proposals	7
1.4 Documentation Provided	7
2. Statutory Designation	9
2.1 Tree Preservation Order and Conservation Area Protection	9
2.2 Protected Species	9
3. Arboricultural Method Statement.....	11
3.1 Introduction.....	11
3.2 Enabling Works (Preparation and Demolition) - COMPLETED	11
3.3 Main Works (Construction).....	12
3.4 Post Construction Works.....	18
3.5 Handover and Close Out.....	19

1. Introduction

1.1 Project Background

This Arboricultural Method Statement (AMS) was commissioned by Reading Borough Council to accompany a planning application for residential development at Amethyst Lane, Reading. A survey of the trees on site and within influencing distance of the boundaries was undertaken on the 23rd September 2022 as part of a Preliminary Arboricultural Assessment (PAA) to aid design and avoid unnecessary tree removal.

An Arboricultural Impact Assessment (AIA) was subsequently undertaken to identify the potential impact of the development on the existing trees surveyed during the PAA in accordance with British Standard 5837:2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (hereafter referred to as BS5837).

This Revision-F AMS has been produced to specifically address the comments made by Nathalie Weekes, Reading Borough Councils' Senior Planning Officer on the 8th October 2024 and in relation to:-

Application Number: 230613 - Condition 27, and to cross reference with comments for PL/24/0838 (remediation) and PL/24/0978 SuDs / drainage strategy condition 26.

Application Type: Regulation 3 Planning Approval

Address: Amethyst Lane Reading

Proposal: Redevelopment of the Site at Amethyst Lane to deliver a new respite care facility alongside 21 new houses, soft and hard landscaping, parking and ancillary works.

Following completion of the approved demolition phase, this Arboricultural Method Statement has been compiled to meet the conditions above and adhere to BS5837 and provide the information specified in RIBA Stage 5 including:

- Audit schedule
- Specific tree protection measures
- Specific tree-friendly construction operations
- Tree pruning specification
- Arboricultural Clerk of Works (ACoW) supervision

1.2 Site Description, Drawings and Appendices

Attribute	Description
Location	Amethyst Lane, Reading, Berkshire, RG30 2EZ
National Grid Reference	SU 69480 72640
Topography	Mostly flat

Tree Cover	Medium to low-quality individual trees and groups of trees
Drawings attached	Tree Survey Plan – C158951A-01-01 Rev A Tree Retention Plan – C158951A-02-01 Rev E Tree Protection Plan – C160031-02-01 Rev F
Appendices	Appendix A – Tree Schedule Appendix C – Tree Protection Fencing Sign Appendix D – Tree Protection Fencing Drawing Appendix E – Cellweb TRP Installation Guide

Table 1.1: Summary of Site and Surroundings

1.3 Development Proposals

The proposed development of the site includes the demolition of the vacant care home facility, followed by the construction of seventeen new houses with eighteen car parking spaces as well as a six-bedroom respite facility with an additional 6 car parking spaces. The development of the site will also require various hard and soft landscaping works, infrastructure, and utilities installations to implement the project.

1.4 Documentation Provided

This statement is based upon the information provided by the client, in addition to information collected by Middlemarch during the Preliminary Arboricultural Assessment, as detailed below.

Author	Document	Drawing Number	Date
HTA Design LLP	Proposed Site Plan	HTA-A_DR_0101_M	17.11.23
HTA Design LLP	Tree Pit Details	RBC-ALR_HTA-L_DR_8900 A	05.11.24
HTA Design LLP	Landscape Hard works Plan	RBC-ALR_HTA-L_DR_2903 Rev G	05.11.24
HTA Design LLP	Soil Plan	RBC-ALR_HTA-L_DR_0901_Rev C	05.11.24
Infrastruct CS Ltd	Drainage Design	LAAL ICS 01 XX DR C 0200 P08	07.11.24
Infrastruct CS Ltd	Paving and Kerb Details	LAAL ICS 01 XX DR C 0402 P04	07.11.24
HTA Design LLP	Landscape Panting Plan	RBC-ALR_HTA-L_DR_0902 Rev H AMEND THE G3 CUT BACK TO FENCE	05.11.24
GEO Integrity - Report	Remedial Method Statement	Report No: 24-06-06 – Version 3	November 2024

Table 1.2: Documentation Provided

2. Statutory Designation

2.1 Tree Preservation Order and Conservation Area Protection

A desk-based study was undertaken to identify if any of the trees present within or near the site are affected by statutory constraints as detailed below.

Statutory Constraint	Present	Source	Tree Affected	Details
TPO	✓	Consultation – Reading Borough Council	Trees in close proximity to site on Liebenrood frontage	TPO186/06 No TPO'd trees within redline boundary
Conservation Area	✗	Consultation – Reading Borough Council	N/A	N/A
Ancient Woodland	✗	MAGIC	N/A	N/A

Table 2.1: Summary of Statutory Constraints that Affect the Site

Where a tree preservation order, conservation area or ancient woodland applies to trees within the assessment area, statutory constraints will apply to the development in respect of trees.

No works must be undertaken on the protected trees without prior permission from the Local Authority unless authorised as part of an approved planning application. Works include pruning, topping, lopping, uprooting or wilful damage or wilful destruction of these trees. Any proposed pruning works not currently approved will need to be fully specified and agreed within a future planning application.

2.2 Protected Species

Bats

Mature trees often contain cavities, hollows, peeling bark or woodpecker holes which provide potential roosting locations for bats. Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017)¹. They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981², as amended. Consequently, causing damage to a bat roost constitutes an offence.

Generally, should the presence of a bat roost be suspected whilst completing works on any trees on site then an appropriately licensed bat worker should be consulted for advice.

¹ HM Government – The National Archives (2017) [online] The Conservation of Habitats and Species Regulations 2017. Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

² HM Government – The National Archives 2017. *Wildlife and Countryside Act 1981*. [online] Available at: <http://www.legislation.gov.uk/ukpga/1981/69/contents>

Birds

Trees offer potential habitat for nesting birds which are protected under the Wildlife and Countryside Act (WCA) 1981, as amended. Some species (listed in Schedule 1 of the WCA) are protected by special penalties. This legislation makes it an offence to intentionally or recklessly damage or destroy an active bird nest or part thereof.

As the trees on, and adjacent, to the site provide potential habitat for nesting birds all tree work should ideally be completed outside the nesting bird season (Generally March to September).

If this is not possible then the vegetation should be subject to a nesting bird inspection by a suitably experienced ecologist prior to commencement of works. If any active nests are identified then the vegetation, and a defined buffer zone, will need to remain in place until the young have naturally fledged.

3. Arboricultural Method Statement

3.1 Introduction

The following sections of this report detail the specific protection measures, working methodologies and pruning requirements to be adopted as part of the demolition and construction phases of the project.

The principal contractor must ensure that they read and understand all of the following sections prior to commencement of site occupation.

Pre-commencement site meeting and site inductions

A pre-commencement site meeting involving the Project Arboriculturist and Principal Contractor will be undertaken at the beginning of the, Main Construction Phase, and Post Construction Phase.

Details of tree protection and methods of working around trees will be included within site inductions to new members of site staff. A copy of this document and the related Tree Protection Plan will be kept on site and referred to by operatives working near retained trees.

Monitoring/Audits

An inspection audit will be implemented by the Project Arboriculturist once the protective measures have been installed and prior to site occupation to ensure they provide the level of protection required for retained trees. Feedback will be provided to the Local Planning Authority Arboricultural Officer on completion of this visit and monthly audits of the tree protection measures will be undertaken by the Project Arboriculturist to ensure they remain in position and fit for purpose.

Use of Subcontractors

The Principal Contractor will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any retained tree. If any issues arise in relation to the retained trees the Project Arboriculturist will be contacted for advice.

3.2 Enabling Works (Preparation and Demolition) - COMPLETED

Tree Work

As per the specification in the comments section below for group G3, it is confirmed that following the approved demolition enabling works phase group G3 has been lateral pruned back to the boundary fence line and reduce in height. The Tree Protection Plan drawing TPP – C160031-02-01 – REV E, attached with the revised AMS shows the canopy cut back to the boundary.

Tree/ Group Reference	Species	BS5837 Category	Canopy Clearance	Comments
T3	Sycamore	C	4m	Undertake crown lifting works to the western side of the canopy to 5.50m to allow sufficient highway clearance via the existing access road. This should be done in accordance with BS3998 by removing/reducing secondary or tertiary growth where feasible and minimising pruning cuts.
T4	Norway maple	C	2m	Once the removal of T5 has been completed then a crown reduction of 1-2m should be undertaken in accordance with BS3998 to establish a balanced crown shape. If required following the reduction, then minimal access facilitation pruning can be undertaken to allow sufficient clearance for the construction of the adjacent dwelling.
G3	Mixed species	C	0.5m	Reduce overhanging canopies and stems by a maximum of 3m to provide adequate space for the proposed gardens. Reduce overall height of the group by a maximum of 30% to approximately 8-9m so that the group can be managed as a high hedge/ boundary screening feature.
T11	Silver birch	B	2m	Undertake crown lifting of lower branches to 4.50m to provide adequate clearance for the respite care garden and to facilitate construction activities throughout the project. This should be done in accordance with BS3998 by removing/reducing secondary or tertiary growth where feasible and minimising pruning cuts.

Table 3.1: Trees to be Pruned.

3.3 Main Works (Construction)

Construction Exclusion Zone

Protective barriers from the DEZ will be retained and relocated where necessary to define the Construction Exclusion Zone (CEZ). Signs will be retained on the barriers to inform site contractors of the importance of the tree protection measures and no works that cause physical damage to retained trees, compaction of the soil or severance of tree roots will occur within any exclusion zone. The extent of the CEZ encompasses the Root Protection Area (RPA) and / or tree canopy where possible. No works, including storage of construction materials shall take place within the Construction Exclusion Zone as defined by the protective barriers.

The proposed location of the protective barriers surrounding the CEZ is identified on the Tree Protection Plan attached (C160031-02-01-RevF). The barriers will remain in place until project completion unless otherwise authorised by the Project Arboriculturist.

Existing Hard Surfacing within RPAs of Retained Trees

An area of hardstanding to the east of the site that makes up the existing road surface will be utilised to provide ground protection for the RPAs of T3 and T4 throughout the construction phases of the project (refer to drawing C160031-02-01-RevF), until resurfacing works for the carparking is required at a later project phase, under Arboricultural Clerk of Works supervision this work will be completed with the use of a Cellular Confinement System (CCS) following removal of the existing hard surface and sub-base, ensuring minimum disturbance to the retained trees root network in the affected area of the RPA, as a result, it is not expected that the RPAs of retained trees will be impacted. This work will only be completed in consultation with the Project Arboriculturist to ensure that a BS5837 compliant methodology is followed.

New Hard Surfacing within RPAs of Retained Trees Installation Methodologies

With regards to the specification of the of the Cellular Confinement System (CCS) and the requirement of a second geotextile layer above the CCS, the Project Arboriculturist considers that a second layer is not required. Appendix E: Cellweb TRP Installation Guide confirms the steps of installation of this industry recognised CCS product.

Ground protection measures will be required within the RPAs of T3, T4 and T11 to allow the installation of proposed areas of hard landscaping without causing long-term effects to the retained trees. The RPAs of T3 and T4 are affected by a proposed pedestrian footpath and car parking, whilst the RPA of T11 is affected by a small area of garden patio as well as an area of the respite care garden. A cellular confinement system (CCS) as part of a no-dig methodology should therefore be utilised to prevent potential impact upon the retained tree cover through soil compaction or root severance. It is recommended that the CCS should be at least 100mm in depth in order to provide adequate protection, however this specification should be confirmed by the structural engineer for the project. Where hardstanding is to be located within the RPAs of trees, the final finished surface should be water and gas permeable to allow water and oxygen ingress.

All areas of proposed ground protection will be installed according to a no-dig construction methodology, as detailed below:

1. Prior to works commencing, the areas of 'no-dig' hardstanding will be marked out.
2. The existing ground cover and any other vegetation present within the area will be carefully stripped / strimmed, where the hard surface is to be removed the use of a pneumatic hand held breaker or small mechanical mounted breaker will be used to break the surface and the material moved by hand or a small flat toothed excavator bucket used to avoid disturbance of the root system beneath the subbase material.
3. No waste material will be stored within the RPAs of retained trees.
4. The exposed soil will be covered with a permeable geotextile membrane such as Terram. The geotextile layer shall be confirmed by the structural engineer and laid in accordance with manufacturer's recommendations and temporarily retained with pins, stakes, or weights.
5. A cellular confinement system will then be installed and fixed in position in accordance with the manufacturer's recommendations. The cellular confinement system used should be specified by the manufacturer or engineer, appropriate for weight capacity required.

6. The cellular confinement system will then be filled with the manufacturer's specified aggregate.
7. All plant movements involved in filling the cellular confinement system with aggregate shall be undertaken while supported by the filled system.
8. The infill aggregate will then be lightly rolled or whacked to ensure cohesion with the cellular confinement system.
9. The desired permeable and gas porous finished surface shall then be installed.

All works to install new hard surfacing according to no-dig methodology shall be carried out under supervision of the Project Arboriculturist.

Temporary Ground Protection Measures

Temporary ground protection will be utilised to protect an area of the RPA of retained tree T11 whilst construction works are ongoing. This is to ensure that no damage is caused to the root zone of the retained tree as a result of construction activities. All temporary ground protection shall support the expected loads in accordance with Structural Engineers recommendations to avoid permanent compaction and soil.

It should be noted that any ground protection must be capable of supporting and spreading the expected loads to avoid compaction and damage to the soil. The following examples provide adequate load spreading within the RPA of retained trees:

- Ground Protection for Pedestrians: 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 is sufficient to prevent soil compaction or poaching.
- Ground Protection 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 is sufficient to prevent soil compaction or poaching.
- Ground Protection for wheeled construction traffic weighted between 2 t and 60 t gross weight: Load spreading cellular confinement system to manufacturers specification to accommodate the likely loading to which it will be subjected.

Temporary Ground Protection Installation

A flexible, bolt together track mat system made from ultra-high-molecular-weight polyethylene is to be used for temporary ground protection where necessary. The ground protection should be installed in accordance with any manufacturer's recommendations and should be supervised by the Project Arboriculturist to the following methodology:

1. Prior to commencement of the works the location of the ground protection will be marked out and the existing ground cover and vegetation present within the area will be carefully stripped / trimmed using hand tools.
2. The exposed soil will be covered with a permeable geotextile membrane. The geotextile layer shall be laid with overlaps of 300 mm beyond the edge of the proposed extent of the ground protection and it shall be temporarily retained with pins, stakes, or weights.

3. A 200 mm deep layer of woodchip shall then be placed over the geotextile membrane, any plant equipment used to facilitate this must only operate from areas of existing hard standing outside the Root Protection Areas of retained trees.
4. The edges of the woodchip filled area shall be retained by timber boards staked into place with road pins or similar to prevent lateral movement.
5. The track mat system shall then be installed on top of the woodchip layer. The track mats shall be transported to the working area from the existing areas of hard standing outside the Root Protection Areas of retained trees. Where plant equipment is required to assist in placing the track mats, it must only operate from ground outside the Root Protection Areas of retained trees.

Temporary Ground Protection Removal

The ground protection should be removed in accordance with the manufacturer's recommendations and should be supervised by the Project Arboriculturist to the following methodology:

1. The works shall be planned so that the ground protection is removed in stages with works progressing out of the Root Protection Areas of retained trees.
2. Working from the ground protection the first section of the installed track mat shall be unbolted and removed.
3. The underlying woodchip shall be mechanically removed from the area beneath the removed track mat using an excavator with a smooth bucket. No soil disturbance will occur.
4. These works shall be completed sequentially until all sections of the ground protection to be removed have been lifted.
5. The underlying geotextile fabric will then be rolled up and removed. Only pedestrian access into the Root Protection Areas of retained trees will be permitted during removal.

Upon completion of the removal of the ground protection measures, tree protection barriers must be installed to prevent access to any areas of unprotected ground within the Root Protection Areas of retained trees.

Construction of Fencing within RPAs

The following details will be adhered to for the erection of fencing within the Root Protection Areas of retained trees.

The following guidance will be adhered to for any fencing works undertaken within the site:

1. The exact route of the proposed fencing shall be marked out in conjunction with the Project Arboriculturist avoiding all significant trees on site.
2. The location of fence posts will be carefully considered, to ensure the potential for root damage to the adjacent trees is minimised. Particular attention will be given to the location of all fence posts to ensure that no fence posts are sited within 2.0 m of the stem of any retained tree.

3. Excavation for the fence post holes within the RPA of any retained tree will be completed manually using handheld tools. Care should be taken not to damage tree roots that may be present to avoid ingress of decay.
4. If large roots (>25 mm) are identified, then the fence post location will be relocated where possible to avoid damage and / or severance of roots. Special construction techniques may be used where fence posts are likely to sever significant roots to 'bridge' these areas and avoid severance of any significant roots.
5. If any roots are damaged during the excavation for the fence posts, they will be cut using sharp cutting tools such as bypass secateurs or handsaws to leave a clean wound with as small a surface area as possible. No roots of greater than 25 mm in diameter will be cut without the agreement of the Project Arboriculturist.
6. The holes excavated for the fence posts shall be lined with an impermeable membrane to prevent concrete leaching into the surrounding soil.
7. The fence posts and panels shall be installed, and the post holes backfilled with concrete. All fence posts and other materials will be brought to the working area by hand.

All works to install new fencing within the RPAs of retained trees should be carried out under supervision of the Project Arboriculturist.

Construction of Walls within RPAs

New walls will be constructed partially within the RPAs of T1 and T11. The location of the wall piers will be determined in consultation with the Project Arboriculturist, to ensure that the potential for harm to occur to the roots of retained trees is minimised.

The final specification for the construction of the walls should be determined in consultation with the Project Arboriculturist and the Site Engineer. At this stage it is recommended that where walls will traverse the RPA of retained trees the sections between the piers should be suspended above existing ground level upon beams.

The works shall be completed in accordance with the following methodology:

1. The location of the new wall including pad foundations shall be set out by the Site Engineer and the areas investigated to establish if any large roots are present in the presence of the Project Arboriculturist.
2. Temporary ground protection measures will have already been installed in the applicable area adjacent to the proposed wall location to prevent soil compaction and contamination of the ground through the spilling of concrete or mortar. Materials for the wall construction are to be brought to the working area by hand by using the temporary ground protection. All works involved in the construction of the walls shall be undertaken from the installed ground protection and no materials are to be transported, loaded, or stored on areas of unprotected ground within the Root Protection Areas of retained trees.
3. The pad foundations will be excavated mechanically under supervision of the Project Arboriculturist. Where roots of less than 25 mm in diameter are encountered, they may be pruned back to the edge of the excavation, using clean, sharp tools. Where roots of

greater than 25 mm in diameter are encountered, the proposed foundation location should be adjusted, if possible, to avoid the roots present. Where the foundation location cannot be moved any roots of greater than 25 mm in diameter must be retained and protected during the works.

4. If applicable, retained roots should be wrapped in damp hessian sacking to prevent desiccation and to minimise the risk of mechanical damage as foundation excavation is completed. Following this any retained roots shall be encased in a suitably sized plastic pipe filled with a compressible inert material, to permit future expansion growth, which will then be wrapped with an impermeable membrane.
5. If large tree roots are found during supervised excavation works, brick piers supported by pad foundations or piles will be constructed either side of the root, providing sufficient space for lateral root growth.
6. The foundation pit shall then be lined with an impermeable membrane to prevent the leaching of concrete into the surrounding soil. Once lined the pad foundation can be formed in accordance with the Structural Engineers specifications.
7. Once all pad foundations have been installed, brick piers will be built and tied into the proposed wall.
8. If required, a supporting lintel above existing ground level will be used to bridge any retained large root/s and brickwork will then be completed in accordance with advice from a suitably qualified Structural Engineer.
9. The proposed walls shall then be constructed off the newly installed lintels (if applicable) and tied into the rising piers.

Installation of utilities/underground services within RPAs

Following review of the latest drainage design drawing number LAAL IC 01 XX DR C 0200 P07, it is considered that there is no significant impact to retained trees.

A small area at the periphery of the RPAs T3 and T4 where the CCS permeable and non-permeable surfacing is to be installed will intersect with the RPAs, however the methodology as set out in this report should be adhered to and as a result there will be no detrimental effect on the trees structural/physiological integrity.

Remediation Measures

Remediation is required to an area of soft landscaping within the RPA of T4, and following liaison and consultation between Middlemarch, Geo Integrity and HTA to review options for the Remedial Method Statement, it is confirmed that an extension of defensive shrub planting as part of wider planned shrub planting scheme will provide deterrent to the affected area.

All soft landscaping within the exclusion zone will be undertaken by hand and in accordance with BS8545³. This will ensure minimal impact within the affected RPA.

³ British Standards Institution. (2014). *British Standard 8545:2014, Trees: from nursery to independence in the landscape – Recommendations*. British Standards Institution, London.

Arboricultural Supervision/ Site Audits

It should be noted that all works to be completed within the RPAs of retained trees will be done under the supervision of the Project Arboriculturist and in accordance with the methodologies specified in this document.

It is recommended that the Tree Protection features that have specified for this project (refer to Tree Protection Plan – C160031-02-01-RevF) are routinely checked by the Project Arboriculturist to ensure compliance with BS5837 and the conditions set out by the Local Planning Authority. Site audits will comprise of a site visit to assess the position, integrity and suitability of protection features. Evidence of each visit will be documented in a report consisting of a written and photographic record which will be provided to the LPA within 5 working days of the site visit. The frequency of visits is recommended to be once every 6 weeks, commencing after all enablement works, protection features, and Exclusion Zones have been established and will continue until the project has been completed, unless otherwise specified by the LPA.

3.4 Post Construction Works

Removal of Protective Barriers

Protective barriers will be removed once all external main construction works have been completed to allow the completion of hard and soft landscaping. Barriers shall be removed carefully to ensure no damage to retained trees occurs.

Hard Landscaping

Hard landscaping works that have the potential to cause physical damage to retained trees, compaction of the soil or severance of tree roots shall not occur within the precautionary zones (RPA / canopy) unless under supervision of the Project Arboriculturist. Any hard landscaping works taking place within the precautionary zones surrounding retained trees should be completed in accordance with this AMS following advice from the Project Arboriculturist.

No unsupervised works or storage of hard landscaping construction materials shall occur within the Precautionary Zones (former CEZ).

Soft Landscaping

All soft landscaping within the exclusion zone will be undertaken by hand and in accordance with BS8545⁴.

A 500 mm radius from any tree stem will remain uncovered by turf or other planting to allow penetration of water and air into the soil. It is recommended that a propriety mulch is applied to a depth of 100mm to inhibit weed and growth, reduce groundwater evaporation, resist and mitigate soil compaction, reduce maintenance requirements and act as a slow release fertiliser.

Tree Planting

Any proposed tree planting should be conducted in accordance with BS8545:2014. Where any planting is proposed within the RPAs of retained trees it should be completed in consultation with the Project Arboriculturist to ensure that the root systems of existing trees are not damaged.

⁴ British Standards Institution. (2014). *British Standard 8545:2014, Trees: from nursery to independence in the landscape – Recommendations*. British Standards Institution, London.

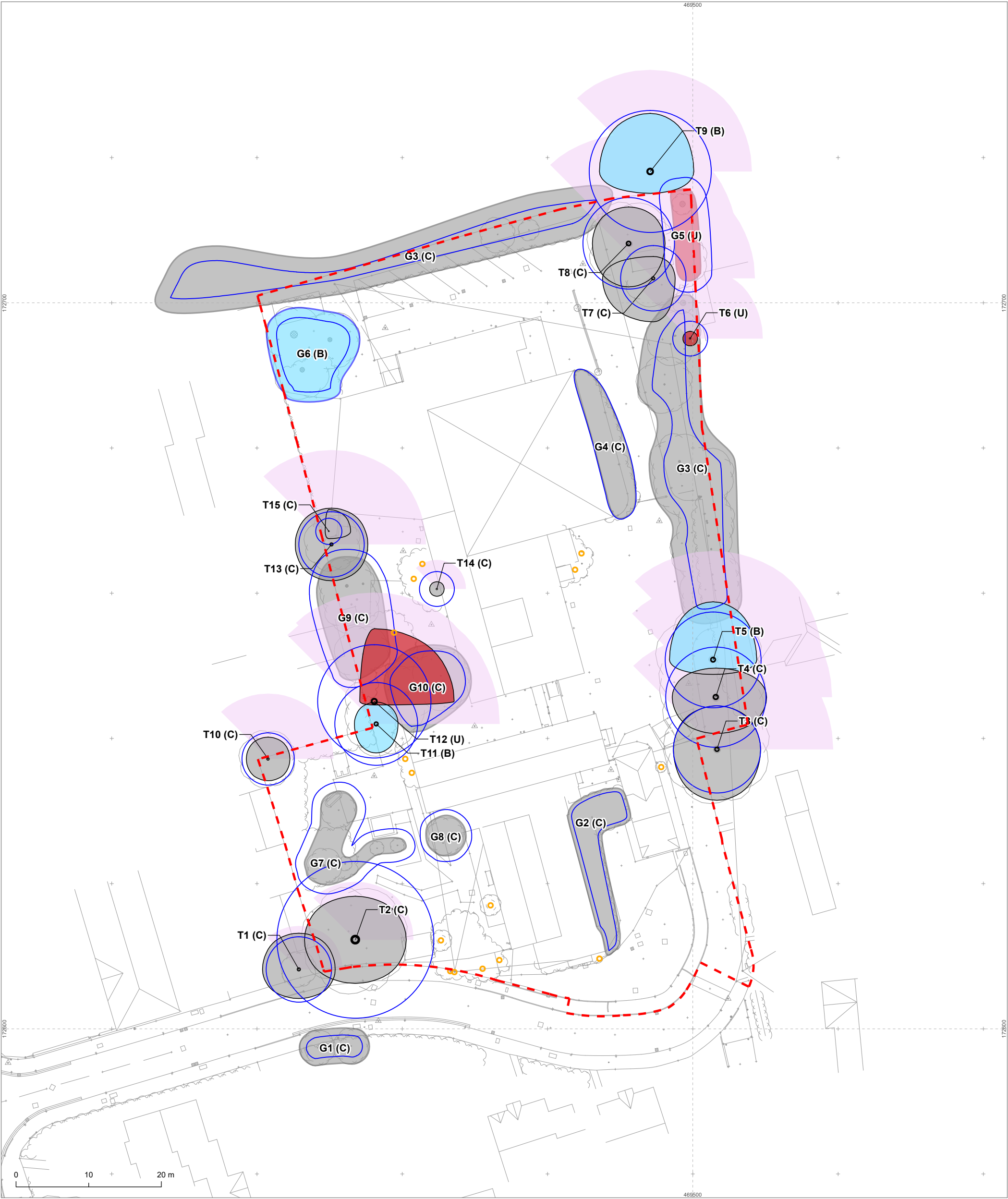
In addition, it is recommended that in the case of T3 that at least one growing season is permitted between the specified crown reduction works and any proposed planting within the RPA in an effort to manage additional extrinsic stress that could affect the retained tree.

3.5 Handover and Close Out

Tree Safety Assessment

A tree safety assessment will be required prior to handing over the site to the client for final site use to ensure all retained trees are in good condition and any potential hazards are mitigated sufficiently. All retained trees should positively contribute to the new development and should be included as part of a management plan to ensure the long-term safety of site users.

This BS5837:2012 survey is not a full or thorough assessment of the health and safety of the trees on or adjacent to the site; and therefore, it is recommended that detailed tree inspections are undertaken on a regular basis with the express purpose of complying with the landowner's duty of care to satisfy health and safety requirements.



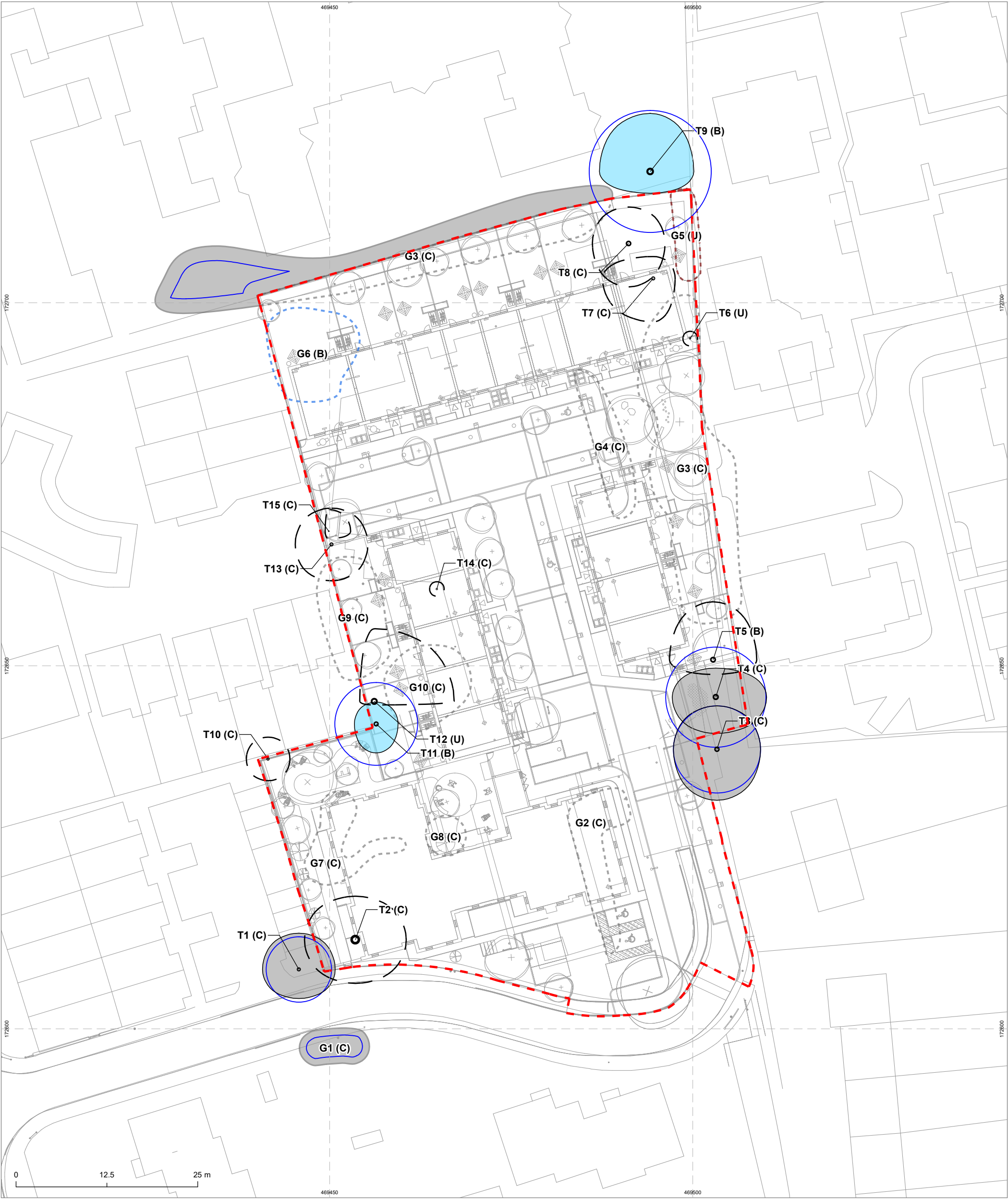
Legend

- Tree location and stem diameter
- Category B
- Category C
- Category U
- Current canopy extent
- Root Protection Area
- Indicative tree shadow
- Self-set tree
- - Site boundary

NOTES
All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with Project Arboriculturist. Drawing to be read in conjunction with Preliminary Arboricultural Assessment and Tree Schedule.
The positions of trees and their current crown spread, root protection area and shade pattern (where appropriate) haven been shown on the Tree Survey Plan.
All survey data is based on a topographical survey where possible, supplied by the client.
Where topographical information has not identified tree positions or Ordnance Survey mapping has been utilised, trees have been positioned using GPS and aerial photography to provide approximate locations in relation to existing surrounding features. Further confirmation of tree and hedgerow locations through a topographical survey of the site is recommended to ensure future design accuracy.
The original of this drawing was produced in colour - a monochrome copy should not be relied upon.
The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken.
Further survey work would be required for calculating foundation depths in accordance with current Building Regulations requirements.
Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the Project Arboriculturist should works commence 12 months after the date of this survey.
TREES INCLUDED DURING THE ASSESSMENT MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.
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Project Amethyst Lane, Reading, Berkshire	
Drawing Tree Survey Plan	
Client Reading Borough Council	
Drawing Number C158951-01-01-RevA	Revision Rev A
Scale @ A3 1:500	Date November 2024
Approved By AH	Drawn By JR
 MIDDLEMARCH Triumph House, Birmingham Road, Allesley, Coventry CV5 9AZ T:01676 525880 E:admin@middlemarch-environmental.com	
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C158951-01-01-RevA



Legend

- Tree location and stem diameter
- Category B
- Category C
- Category U
- Category B group removed
- Category C group removed
- Category U group removed
- Current canopy - tree to be removed
- Current canopy - tree to be retained
- Root Protection Area
- Site boundary
- Category C group

NOTES

All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with Project Arboriculturist. Drawing to be read in conjunction with Preliminary Arboricultural Assessment and Tree Schedule.

The positions of trees and their current crown spread, root protection area and shade pattern (where appropriate) have been shown on the Tree Survey Plan.

All survey data is based on a topographical survey where possible, supplied by the client.

Where topographical information has not identified tree positions or Ordnance Survey mapping has been utilised, trees have been positioned using GPS and aerial photography to provide approximate locations in relation to existing surrounding features. Further confirmation of tree and hedgerow locations through a topographical survey of the site is recommended to ensure future design accuracy.

The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken.

Further survey work would be required for calculating foundation depths in accordance with current Building Regulations requirements.

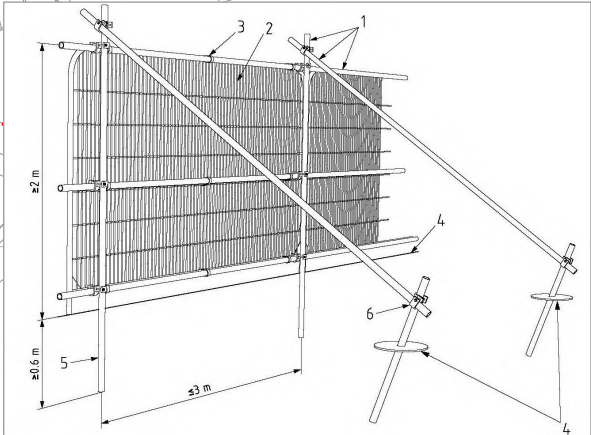
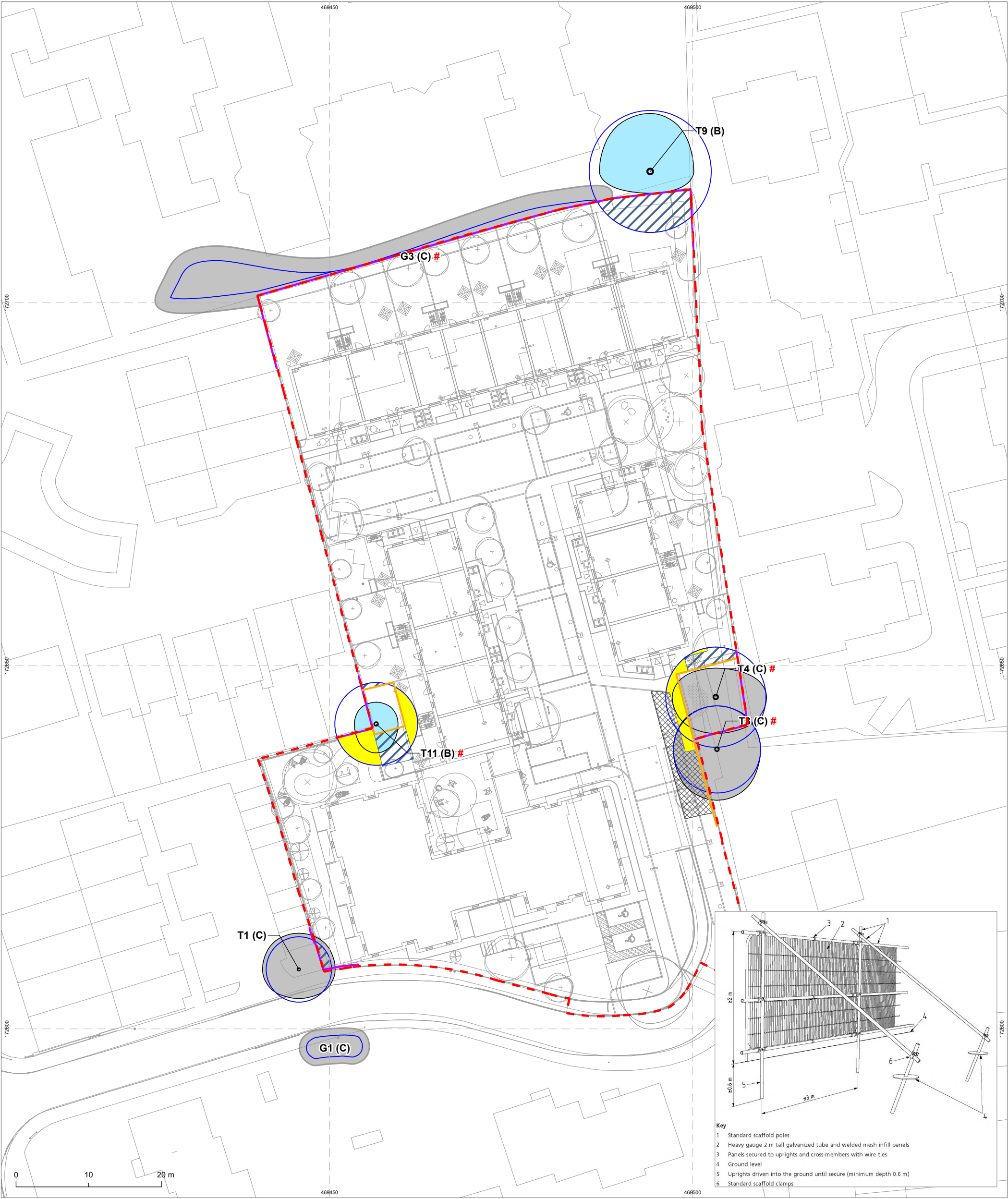
Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the Project Arboriculturist should works commence 12 months after the date of this survey.

TREES INCLUDED DURING THE ASSESSMENT MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.

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Project	Amethyst Lane, Reading	
Drawing	Tree Retention Plan	
Client	Reading Borough Council	
Drawing Number	C159851A-02-01-RevE	Revision
Scale @ A3	1:500	Date
Approved By	AH	Drawn By
		JR/CD/AW
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C159851A-02-01-RevE



Legend

- Tree location and stem diameter
- Category B
- Category C
- Category U
- Current canopy - tree to be retained
- Root Protection Area
- Existing fence line to act as tree protection barrier
- Tree protection barrier subject to BS5837
- Existing road surface to act as ground protection
- Permanent ground protection for hard landscape areas - cellular confinement system
- Temporary ground protection to be used throughout construction phases
- Site boundary
- Tree subject to Tree Preservation Order (TPO)
- Tree pruning works required

NOTES

All dimensions to be verified on site. Do not scale this drawing, use figured dimensions only. All discrepancies to be clarified with Project Arboriculturist. Drawing to be read in conjunction with Preliminary Arboricultural Assessment and Tree Schedule.

The positions of trees and their current crown spread, root protection area and shade pattern (where appropriate) haven't been shown on the Tree Survey Plan.

All survey data is based on a topographical survey where possible, supplied by the client.

Where topographical information has not identified tree positions or Ordnance Survey mapping has been utilised, trees have been positioned using GPS and aerial photography to provide approximate locations in relation to existing surrounding features. Further confirmation of tree and hedgerow locations through a topographical survey of the site is recommended to ensure future design accuracy.

The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken.

Further survey work would be required for calculating foundation depths in accordance with current Building Regulations requirements.

Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the Project Arboriculturist should works commence 12 months after the date of this survey.

TREES INCLUDED DURING THE ASSESSMENT MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.

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Project Amethyst Lane, Reading	
Drawing Tree Protection Plan - Construction Phase	
Client Reading Borough Council	
Drawing Number C160031-02-01-RevF	Revision Rev F
Scale @ A3 1:500	Date January 2024
Approved By AH	Drawn By JR/AW/BD/CD
 MIDDLEMARCH	
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C160031-02-01-RevF

Appendix A - Tree Schedule

Measurements	Age Class	Overall Condition	Root Protection Area (RPA)
Height - measured from ground level at base of stem/s (m).	YNG: Juvenile trees that have been recently planted.	G - Good: Trees with only a few minor defects and in good overall health needing little, if any attention.	• The RPA column gives the required area (m²). • The RPA Radius column gives the radius (m) of an equivalent circle. • The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the required rooting area in order for a tree to be retained.
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837.	SM: Semi-mature, trees upto 1/3 life expectancy.	F - Fair: Trees with minor, but rectifiable, defects or in the early stages of stress from which it may recover.	
Crown - crown spread estimated radially from the main stem (m).	EM: Early mature, trees 1/3 – 2/3 life expectancy.	P - Poor: Trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term.	
Abbreviations Est - Estimated stem diameter Avg - Average stem diameter Max - Maximum stem diameter	M: Mature trees, upto 2/3 life expectancy.	D - Dead: Trees no longer alive. This could also apply to trees that are dying and unlikely to recover.	
	OM: Over mature, declining or moribund trees of low vigour.	In the assessment, of the BS category, particular consideration has been given to the following • The health, vigour and condition of each tree • The presence of any structural defects in each tree and its future life expectancy • The size and form of each tree and its suitability within the context of a proposed development • The location of each tree relative to existing site features e.g. its screening value or landscape features	
	V: Veteran, tree possessing certain attributes relating to veteran trees.	• Age class • Life expectancy	

Structural Condition

The following has been considered when inspecting structural condition:

- The presence of fungal fruiting bodies around the base of the tree or on the stem, as they could possibly indicate the presence of possible internal decay.
- Soil cracks and any heaving of the soil around the base.
- Any abrupt bends in branches and limbs resulting from past pruning.
- Tight or weak 'V' shaped forks and co-dominant stems.
- Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994).
- Cavities as a result of limb losses or past pruning.
- Broken branches or storm damage.
- Canker formations.
- Loose or flaking bark.
- Damage to roots.
- Basal, stem or branch / limb cavities.
- Crown die-back or abnormal foliage size and colour.
- Any changes to the timing of normal leaf flush and leaf fall patterns.

Quality Assessment of Retention Category

Category U - 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.

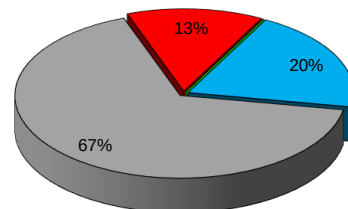
Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

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 150mm.

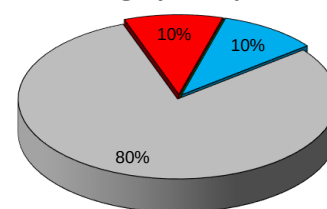
Sub-categories: (i) - Mainly arboricultural value
(ii) - Mainly landscape value
(iii) - Mainly cultural or conservation value

BS5837 category: Individuals



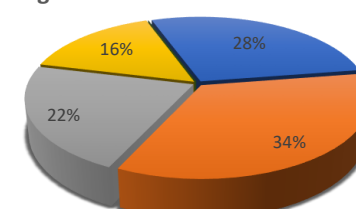
■ Category U
 ■ Category A
 ■ Category B
 ■ Category C

BS5837 category: Groups of trees



■ Category U
 ■ Category A
 ■ Category B
 ■ Category C

Age distribution of tree stock



■ Young
 ■ Semi Mature
 ■ Early Mature
 ■ Mature
 ■ Over Mature
 ■ Veteran

Appendix A - Summary

	Individual Trees	Totals	Tree Groups	Totals
Category U	T6, T12	2	G5	1
Category A		0		0
Category B	T5, T9, T11	3	G6	1
Category C	T1, T2, T3, T4, T7, T8, T10, T13, T14, T15	10	G1, G2, G3, G4, G7, G8, G9, G10	8
	Total	15	Total	10

	Hedgerows	Totals	Woodlands	Totals
Category U		0		0
Category A		0		0
Category B		0		0
Category C		0		0
	Total	0	Total	0

Tree No	Species	Height (m)	Crown Clearance (m)	No. of Stems	Stem Dia. (mm)	Crown Radius				Age Class	Structure	Vigour	RPA (m)	RPA Radius (m)	Cat	Comments
						N	E	S	W							
T1	Wild cherry	6.0	2.5	1	360	5.0	5.0	4.0	5.0	EM	F	F	64	4.5	C 1	Pruning wounds observed Minor deadwood in the crown Branch stubs observed
T2	Goat willow	8.0	1.0	15	900	6.0	7.0	6.0	7.0	EM	P	F	366	10.8	C 1	Estimated dimensions Area of included bark observed Included unions observed Lateral dieback observed Light ivy on stem Limited inspection due to ivy Limited inspection due to access Minor deadwood in the crown Spreading crown form Multi stemmed coppice stool
T3	Sycamore	16.0	4.0	1	500	6.0	6.0	7.0	6.0	EM	F	F	113	6.0	C 1	Epicormic growth observed in the crown Epicormic growth on the main stem Dense ivy on the stem Dense ivy in the crown Estimated dimensions Hard surfaces within the rooting area Area of included bark observed Included unions observed Limited inspection due to dense vegetation Limited inspection due to ivy Minor deadwood in the crown Topped tree Extremely dense ivy impeding thorough inspection
T4	Norway maple	16.0	2.0	2	360 430	4.0	7.0	5.0	6.0	M	P	F	150	6.9	C 1	Hard surfaces within the rooting area Area of included bark observed Included unions observed Light ivy on stem Minor deadwood in the crown Major deadwood in the crown Compression union at 0.5m
T5	Norway maple	15.0	2.0	1	550	8.0	6.0	2.0	6.0	M	F	G	137	6.6	B 1	Hard surfaces within the rooting area Light ivy on stem Minor deadwood in the crown Branch stubs observed Branch socket cavity observed Wound present on main stem
T6	English elm	10.0	5.0	1	190	1.0	1.0	1.0	1.0	SM	D	D	18	2.4	U	Minor deadwood in the crown Major deadwood in the crown Dead tree in close proximity of neighbouring property

Tree No	Species	Height (m)	Crown Clearance (m)	No. of Stems	Stem Dia. (mm)	Crown Radius				Age Class	Structure	Vigour	RPA (m)	RPA Radius (m)	Cat	Comments
						N	E	S	W							
T7	Norway maple	14.0	1.0	1	370	3.0	3.0	6.0	7.0	EM	F	F	64	4.5	C 1	Branch stubs observed Branch socket cavity observed Minor deadwood in the crown Major deadwood in the crown Light ivy on stem Wound present on main stem Extensive squirrel damage Woundwood formation in upper canopy
T8	Norway maple	15.0	1.5	1	520	5.0	5.0	6.0	5.0	M	P	F	124	6.3	C 1	Wound present on main stem Topped tree Minor deadwood in the crown Tear wounds present Included unions observed Area of included bark observed Compression union at 1m Extensive woundwood formation on limb towards west
T9	Sycamore	14.0	4.0	2	600 350	8.0	6.0	3.0	7.0	M	F	G	222	8.4	B 1	Estimated dimensions Tree is located off site but overhangs the study area Minor deadwood in the crown Pruning wounds observed Limited inspection due to access
T10	Ash	9.0	2.0	1	290	3.0	3.0	3.0	3.0	SM	F	F	41	3.6	C 1	Apical dieback Included unions observed Limited inspection due to safety concerns Limited inspection due to dense vegetation Pruning wounds observed
T11	Silver birch	17.0	2.0	1	470	3.0	3.0	4.0	3.0	EM	F	G	102	5.7	B 1	Branch stubs observed Large hanging branches in the crown Minor deadwood in the crown Pruning wounds observed Tear wounds present Limited inspection due to ivy Light ivy on stem Historically severed limbs left hung up in crown

Tree No	Species	Height (m)	Crown Clearance (m)	No. of Stems	Stem Dia. (mm)	Crown Radius				Age Class	Structure	Vigour	RPA (m)	RPA Radius (m)	Cat	Comments
						N	E	S	W							
T12	Eucalyptus	15.0	1.0	4	350 300 320 300	10.0	11.0	0.5	2.0	EM	P	F	191	7.8	U 1	Branch stubs observed Branch socket cavity observed Estimated dimensions Exposed heartwood Area of included bark observed Included unions observed Large hanging branches in the crown Limited inspection due to dense vegetation Limited inspection due to safety concerns Minor deadwood in the crown Storm damage observed Tear wounds present Wound present on main stem Large failed limb hung up on fenceline towards East Heavily leaning stems Multi stemmed compression union at 1m Visible cracking at union
T13	Robinia	13.0	1.0	1	370	5.0	5.0	5.0	5.0	M	P	F	64	4.5	C 1	Building within the rooting area Estimated dimensions Area of included bark observed Included unions observed Limited inspection due to dense vegetation Minor deadwood in the crown Major deadwood in the crown Pruning wounds observed Storm damage observed Tree is showing signs of decline Wound present on main stem Bark necrosis Soil level change Dysfunction observed around some branch unions
T14	Goat willow	4.0	0.5	7	190	1.0	1.0	1.0	1.0	Y	P	G	18	2.4	C 1	Basal epicormic growth observed Estimated dimensions Building within the rooting area Included unions observed Area of included bark observed Limited inspection due to access
T15	Sweet chestnut	4.0	0.5	2	100 110	3.0	3.0	1.0	0.5	Y	F	G	10	1.8	C 1	Estimated dimensions Limited inspection due to dense vegetation

Tree No	Species	Height (m)	Crown Clearance (m)	No. of Stems	Stem Dia. (mm)	Crown Radius				Age Class	Structure	Vigour	RPA (m)	RPA Radius (m)	Cat	Comments
						N	E	S	W							
G1	Hornbeam	5.0	0.5	-	170	3.0	3.0	3.0	3.0	SM	F	G	14	2.1	C 1	Group is located off site but overhangs the study area No obvious defects observed
G2	Sycamore Bay laurel Cotoneaster Goat willow	5.0	0.1	-	90	3.0	3.0	3.0	3.0	Y SM	F	G	5	1.2	C 2	Conjoined canopy Building within the rooting area Hard surfaces within the rooting area Included unions observed Limited inspection due to access Limited inspection due to dense vegetation Self seeded trees present
G3	Hawthorn Sycamore Ash Purple leaved plum Holly Hazel Blackthorn	13.0	0.5	-	250	5.0	5.0	5.0	5.0	Y SM	G,F	F,G	28	3.0	C 2	Conjoined canopy Dense ivy in the crowns Dense ivy on the stems Hard surfaces within the rooting area Included unions observed Ivy restricts inspection Ivy suppressing a number of trees Limited inspection due to dense vegetation Limited inspection due to ivy Minor deadwood in the crowns Provides screening Self seeded trees present Dense ivy impeding thorough inspection Group extends around boundary
G4	Purple leaved plum Hazel Cherry laurel Sycamore	5.0	0.5	-	90	1.0	1.0	1.0	1.0	Y	F	G	5	1.2	C 2	Conjoined canopy Building within the rooting area Included unions observed Self seeded trees present Limited inspection due to dense vegetation

Tree No	Species	Height (m)	Crown Clearance (m)	No. of Stems	Stem Dia. (mm)	Crown Radius				Age Class	Structure	Vigour	RPA (m)	RPA Radius (m)	Cat	Comments
						N	E	S	W							
G5	Sycamore	12.0	1.5	-	380	3.0	3.0	3.0	3.0	EM SM	P	P	72	4.8	U	Branch socket cavities Dead and dying trees present Dense ivy in the crowns Dense ivy on the stems Included unions observed Ivy restricts inspection Ivy suppressing a number of trees Large hanging branches in the crowns Limited inspection due to safety concerns Limited inspection due to ivy Major deadwood in the crowns Minor deadwood in the crowns Storm damage observed Tear wounds observed Extremely dense ivy Heavily damaged stems leaning towards neighbouring property
G6	Norway maple	14.0	2.0	-	470	7.0	7.0	7.0	7.0	SM EM	F	G,F	102	5.7	B 1,2	Branch stubs observed Conjoined canopy Hard surfaces within the rooting area Ivy restricts inspection Limited inspection due to dense vegetation Limited inspection due to ivy Minor deadwood in the crowns Pruning wounds observed Light ivy on stems Three trees with conjoined canopies form group
G7	Apple Ash Whitebeam	6.0	0.5	-	270	2.0	2.0	2.0	2.0	SM Y	F	F,G	34	3.3	C 1	Dense ivy on the stems Branch stubs observed Dead and dying trees present Group is sparse in areas Ivy restricts inspection Tear wounds observed Pruning wounds observed Minor deadwood in the crowns Limited inspection due to ivy Light ivy on stems Typical crown forms Wounds on stems Estimated dimensions

Tree No	Species	Height (m)	Crown Clearance (m)	No. of Stems	Stem Dia. (mm)	Crown Radius				Age Class	Structure	Vigour	RPA (m)	RPA Radius (m)	Cat	Comments
						N	E	S	W							
G8	Leyland cypress Golden Ash	4.0	0.1	-	150	1.0	1.0	1.0	1.0	Y SM	P	F	10	1.8	C 1	Building within the rooting area Conjoined canopy Hard surfaces within the rooting area Included unions observed Ivy restricts inspection Limited inspection due to dense vegetation Limited inspection due to ivy Small hanging branches in the crowns
G9	Leyland cypress	8.0	0.1	-	210	1.0	2.0	1.0	2.0	SM Y	F	F	23	2.7	C 2	Conjoined canopy Included unions observed Light ivy on stems Limited inspection due to dense vegetation Limited inspection due to safety concerns Minor deadwood in the crowns Provides screening
G10	Wild cherry Sycamore Plum Ash	5.0	0.5	-	100	2.0	2.0	2.0	2.0	Y SM	G,F	G	5	1.2	C 2	Conjoined canopy Included unions observed Light ivy on stems Limited inspection due to dense vegetation Minor deadwood in the crowns Self seeded trees present Small hanging branches in the crowns



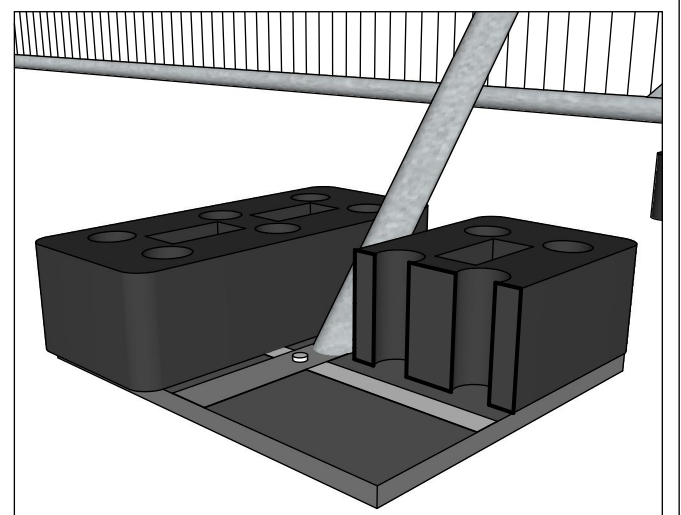
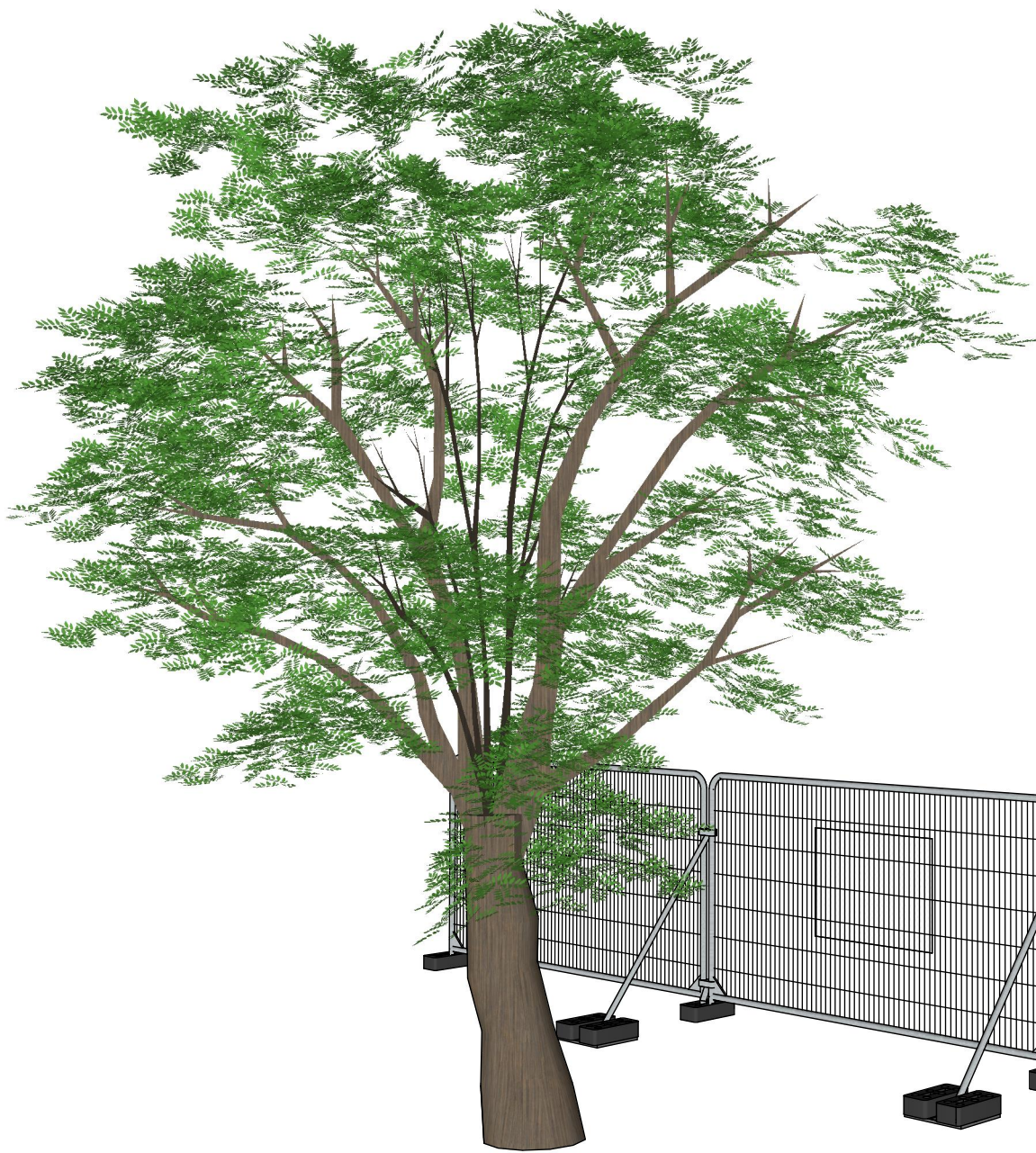
**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



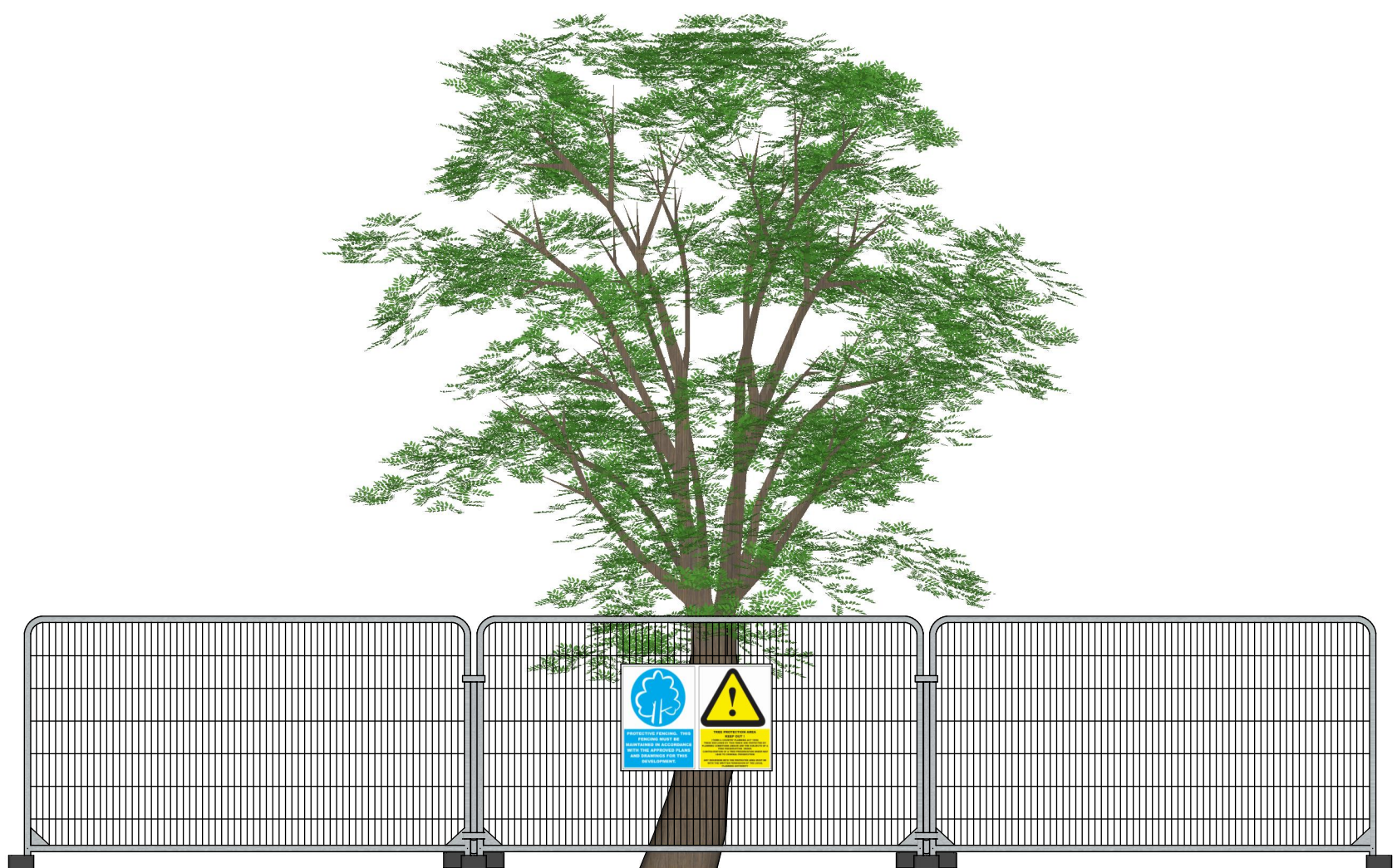
**TREE PROTECTION AREA
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS 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**



Block tray and block cross-section



Tree Protection Barrier in Accordance with BS 5837:2012 Figure 3b.

Tree protection barrier consists of 2 metre tall meshed panels that span up to 3 metres wide. The panels are supported with stabilizer struts mounted on block trays.



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Geosynthetics

Adopted Road and
Footpath Examples
Cellweb[®]TRP



Adopted Roads

Cellweb® Tree Root protection is the UK's market leading 3D cellular confinement tree root protection system and is widely specified for the construction of new hard surfaces within root protection areas in accordance with BS5837.

Difficulties when specifying the system often occur for the construction of public roads, footpaths and carparks where there is a requirement for the local authority to take responsibility for the maintenance of the new structure and formally adopt it.

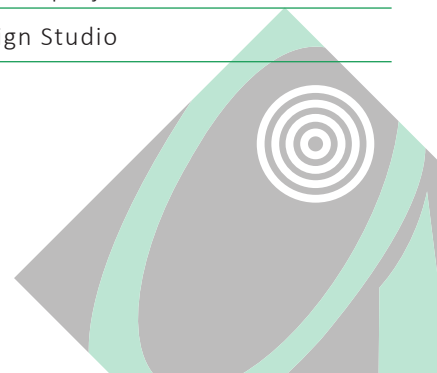
This document provides examples of where new hard surfaces, constructed using the Cellweb®TRP system have been adopted by local authorities. This document is designed to provide examples to specifiers of the system and local authorities. This is a working document and will be regularly updated with new examples of schemes which have been adopted. When providing examples of adopted schemes please contact Geosynthetics Limited who will be happy to provide the most recent and up to date version.

This document is designed to be used in conjunction with technical advice and site specific recommendations which are also available free of charge from Geosynthetics Limited. If you would like to discuss any tree root protection application please do not hesitate to contact us on 01455 617139 and one of our technical specifiers will be happy to help.

Castle Gardens, Leicester



Location:	Castle Gardens Castle view Leicester
Project details:	This project was undertaken by Leicester City Council in 2015. The aim of the project was to create a new access and footpath from St Nicholas Circle in the centre of Leicester down into the Castle Gardens. This would create improved access to the Castle Gardens and enable the public to pass through the gardens to access other parts of the city. The project required thoughtful design to overcome significant changes in levels within the root protection areas of several mature trees and utilise Cellweb®TRP as a no dig solution. A full case study is available on this project.
Architect:	Levitate Architecture and Design Studio
Council:	Leicester City Council





Oak Meadow, Shipdham

Location:	Oak Meadow Shipdham Norfolk
Project details:	This project and design was for the construction of a new access road from the A1075 onto a new housing development developed by Able Homes. The Cellweb®TRP no dig construction starts at the entrance to the development and extends approximately 110m into the site.
Architect:	Plandescil Consulting Engineers
Council:	Norfolk County Council



Shortwood, Gloucestershire

Location:	Shortwood Pucklechurch South Gloucestershire
Project details:	This section of footpath and cycle route was designed and constructed by South Gloucestershire Council and runs along the stretch of the B4465, between Siston Lane and Horseshoe Cottage. This forms part of a phased plan to create a shared footpath connecting Shortwood with Pucklechurch. Although this was not a tree root protection application Cellweb®TRP was chosen to form the sub-base as it reduced the quantities of materials being removed from and delivered to the site, making it the economically and environmentally favourable choice.
Architect:	South Gloucestershire
Council:	South Gloucestershire



Stoke Road, Norfolk

Location:	Stoke Road Poringland Norfolk NR14 7JL
Project details:	This no dig access road has been approved for formal adoption by Norfolk County Council. The road currently provides access to a newly constructed doctor's surgery, but will ultimately become the access to approximately 100 new homes to be built by developers David Wilson Homes. The road will be formally adopted on completion of the development.
Architect:	Plandescil Consulting Engineers
Council:	Norfolk County Council





Stanford in the Vale

Location:	Stanford in the Vale Faringdon Oxfordshire
Project details:	This footpath which runs adjacent to the railings was constructed on a David Wilson Homes development, to protect the roots and rooting environment of the Willow seen in the photograph. Both the Cellweb®TRP footpath and the road are surfaced with permeable blocks and has been adopted under a section 38 agreement by Oxfordshire County Council.
Architect:	Infrastruct CS Ltd
Council:	Oxfordshire County Council



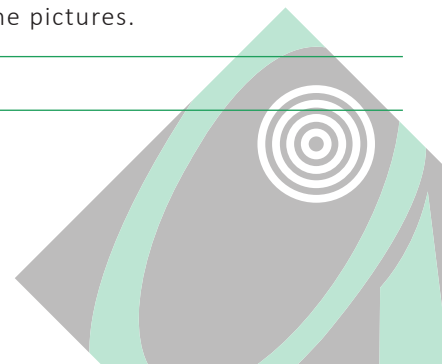
Woolbrook Cycle Link, Devon

Location:	Woolbrook Cycle Link Long Park Sidmouth Devon
Project details:	In 2014 Devon County Council replaced and widened an existing footpath though Long Park to create a new Cycle Path. The path passes through the RPA's of some mature Beech which required a no dig solution. The Cycle Path is surfaced with a permeable asphalt wearing course.
Architect:	Devon County Council
Council:	Devon County Council



Page Park Footpath, Bristol

Location:	Page Park Staple Hill Bristol BS16 5LB
Project details:	The construction of this no dig footpath was undertaken for South Gloucestershire Council in early 2016. The new footpath passes through the root protection areas of numerous parkland trees including those of the mature pines which can be seen in the pictures.
Architect:	South Gloucestershire
Council:	South Gloucestershire





Gravel Hill, Poole

Location:	Gravel Hill Poole Dorset
Project details:	In 2016 the Borough of Poole embarked on a Highways improvement scheme. This involved the widening of the existing footpath to create a cycle path. The widening of the path resulted in the incorporation of existing trees along the route, requiring the use of Cellweb® TRP for its construction. Cellweb® TRP was also used at this location for the construction of a service track beneath the highway embankment, through an area of existing woodland.
Architect:	Borough of Poole
Council:	Borough of Poole



Keats Way, Northamptonshire

Location:	New Development off Keats Way Rushden Northamptonshire NN10 6EE
Project details:	Geosynthetics Limited were approached by JPP Consulting Civil and Structural Engineers regarding a new residential development on land off Keats Way, Rushden Northamptonshire. The area of land to be developed could only be accessed from Keats Way and a new access road would need to be constructed. The only feasible route for the new road would pass through the RPA of a large Beech tree. The Beech was considered to be of high amenity value and was to be retained within the new development, which meant that a 'no dig' tree root protection system would need to be used for the construction of the access road.
Architect:	JPP Consulting Civil & Structural Engineers
Council:	East Northamptonshire Council



A689 Queens Meadow Cycleway

Location:	Queens Meadow Cycleway A689 Stockton Rd Hartlepool
Project details:	This project was for the Construction of a Cellweb® TRP reinforced 3m wide unsegregated footway/cycleway route between the traffic signal junctions at Queens Meadow Business Park and Truro drive, running along the north side of the A689 route in Hartlepool.
Architect:	Hartlepool Borough Council
Council:	Hartlepool Borough Council





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