Arboricultural Planning Report For:

10 Magnolia Way
Fleet
Surrey
GU52 7JZ

Client:	Jonathon Clarke
Report Date:	02/05/2024
Survey Date:	16/05/2023
Report Ref.:	24 2570 DNA Magnolia Way Rev 1
Rev. No.:	1
Checked By:	KM/JP

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Document Details

Site address:	10 Magnolia Way, Fleet, Surrey, GU52 7JZ
Ref:	24 2570 DNA Magnolia Way Rev 1
Site visit undertaken by:	Keith Macgregor Dip. Arb(RFS), M. Arbor A
Date of site survey:	16/05/2023
Report prepared by:	Keith Macgregor Dip. Arb(RFS), M. Arbor A
TPP Ref:	24 2570 TPP 001
Revision:	1

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1 Introduction

1.1 Instructions and Terms of Reference

1.1.1 Arb Consultancy Ltd was instructed by Jonathon Clarke to survey the subject tree(s) in order to assess their general condition and to provide an arboricultural report relating to the proposed development at 10 Magnolia Way, Fleet, Surrey, GU52 7JZ.

1.1.2 The purpose of this arboricultural report is to assess the direct and indirect effects of the proposed design on the surveyed tree(s) and to recommend such measures as are necessary to safeguard them in a sustainable manner.

1.1.3 An electronic copy of the existing site layout and proposal was provided and this formed the basis of the Tree Protection Plan.

1.1.4 As stated above this Report and Survey is intended for planning purposes only and in no way constitutes a safety inspection of any of the trees onsite. We recommend that all trees undergo a full safety inspection to fulfil the owner's duty of care as defined by both civil law and the Occupiers' Liability Acts of 1957 & 1984.

1.1.5 This report is a revision (rev 1) following the refusal of the original application due to insufficient details being provided regarding the foundations and how it would impact the adjacent tree. This report and the accompanying TPP have been revised to address these concerns and details of low impact foundations have now been provided.

1.2 Documents Used

Topographical Survey/Existing Site Layout: Existing Site Plan.dwg

Proposed Site Layout: Proposed Site Plan.dwg

Proposed Foundation Detail: Ref 1040_03_151 (Appendix 5)

1.3 Contact Details

Role	Contact Name	Company
Client	Jonathon Clarke	-
Architect /Agent	Daryll Westen	DNA Architecture Ltd
Project Arboriculturist	Keith Macgregor	Arb Consultancy Ltd

LPA Tree Officer	TBC	Hart District Council

1.4 Abbreviations

The following abbreviations will be used throughout this report:

BS 5837	British Standard – 'BS 5837:2012 Trees in relation to design, demolition, and construction – Recommendations'
AIA	Arboricultural Implications Assessment
AMS	Arboricultural Method Statement
LPA	Local Planning Authority
VTA	Visual Tree Assessment
RPA	Root Protection Area
TPP	Tree Protection Plan
TPO	Tree Preservation Order
CA	Conservation Area
CEZ	Construction Exclusion Zone
CCS	Cellular Confinement System

2 The Site

2.1 Site Appraisal

2.1.1 10 Magnolia Way (the 'site') is presently occupied by a two-storey detached house with integral double garage to the right-hand-side. Land to the front of the property is split evenly with hard standing to the right and gardens to the left.

2.1.2 The site was found to be rectangular, generally level and with no adverse topographical features.

2.1.3 The tree stock was deemed to be of high amenity/landscape value, with the surveyed tree appearing in average health and vigour at the time of the assessment.

2.1.4 Our basic online searches suggest there to be TPO's pertaining to trees/vegetation on or adjacent to the site, and that the site is not located within a CA.

2.1.5 Further to the above, it must be stated that searches undertaken by Arb Consultancy Ltd with specific regard to the statutory protection status of trees are preliminary in nature

and collated with information obtained from the respective LPA website. Such information is only a guide as LPA websites and the information provided within them are subject to continual change.

2.1.6 It is therefore strongly advised that information pertaining to the statutory protection status of a tree or trees, on and/or adjacent to development sites be fully investigated by contacting the respective LPA. Should a TPO or CA status be confirmed then full details should be obtained in writing from the respective LPA.

2.1.7 An aerial photograph of the site is included below:

Aerial image of site with indicative red line boundary (© Google Maps 2024)

2.2 Soils

2.2.1 Reference to the BGS Geology Viewer (BETA) indicates that the underlying geology of the site forms part of the Camberley Sand Formation - Sand. No superficial deposits are recorded in this locality.

2.2.2 Further reference to the Cranfield Soil and AgriFood Institute Soilscapes viewer suggests that the soil present within the site is likely to have a loamy/clayey texture and slightly

acidic pH. Soils are further described as having impeded drainage with above average fertility.

2.2.3 The presence of a clay element within the soil is significant in terms of both tree protection and foundation design. Clay soils can experience substantial volume changes when vegetation extracts moisture from the ground and they are also prone to compaction when wet. On this basis it is essential that all recommended tree protection measures are implemented in full and are not relaxed at any point throughout the course of the development. Any foundations should also be designed in accordance with the recommendations contained within NHBC Chapter 4.2 (National House Building Council, 2010) and should account for the possibility of both subsidence and heave.

2.3 The Subject Trees

2.3.1 A total of one individual tree was surveyed as part of the assessment.

2.3.2 One individual tree was considered a moderate quality A category specimen. Category A trees will be particularly good examples of their species, be rare or unusual, be of local/historical importance. They will be generally well-formed specimen trees, present individually or in groups and will have significant merit within the immediate locality and/or the wider treescape/landscape, alongside other benefits such as ecology that may be associated with them.

2.3.3 A schedule of the surveyed tree is included within Appendix 4 of this report. The tree has been categorised in accordance with BS 5837 and a summary is provided in Table 1 below:

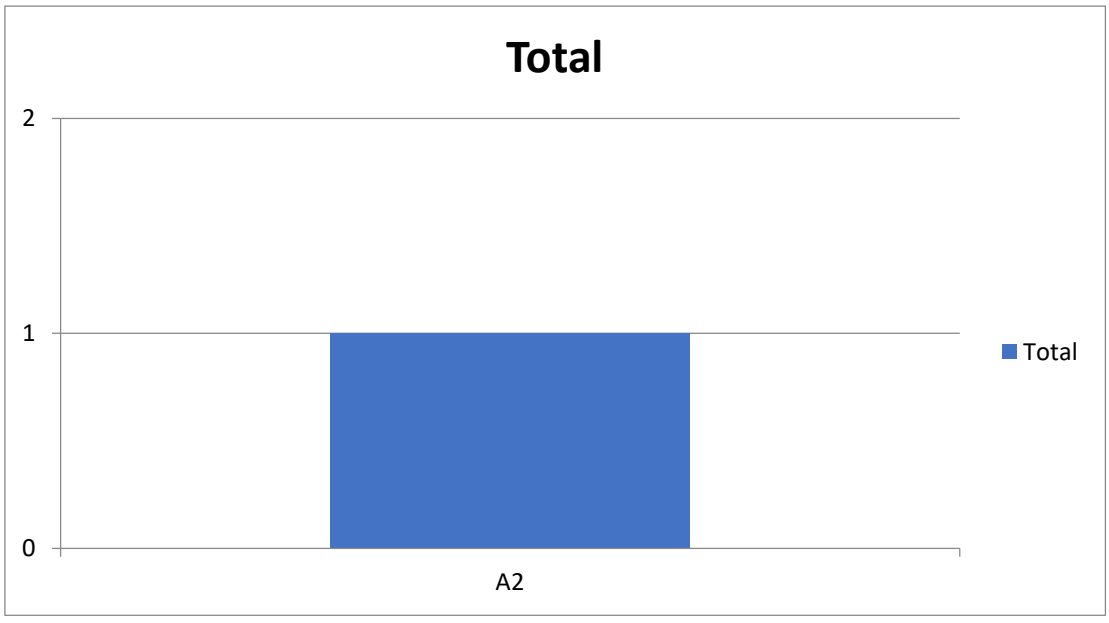


Table 1: Summary of Tree Categories

3 The Proposal

3.1.1 The proposed development is for a double-storey infill extension to the front of the property.

4 Arboricultural Impact Assessment

4.1 Arboricultural Implications

4.1.1 A summary of the arboricultural implications associated with this development are provided below and intended to be read in conjunction with the attached Tree Protection Plan ref: 24 2570 TPP 001

EXISTING BUILDING/HARD FEATURE TO BE RETAINED

Existing buildings/hard features as indicated on the TPP are to be retained.

EXISTING BUILDING/HARD FEATURE TO BE DEMOLISHED

Existing buildings/hard features as indicated on the TPP are to be demolished. Demolition works are intended to be undertaken within retained tree RPA subject to method statement requirements.

PROPOSED BUILDING/STRUCTURE

The proposed double-storey infill extension falls within the RPA of T1 which is to be retained. Due to the existing site features only a small proportion of the proposed will be within an area of existing soft ground.

TREE PROTECTION FENCING

Site-specific tree protective fencing will be used to protect all retained trees at the recommended specification, and in the locations indicated on the TPP.

TEMPORARY GROUND PROTECTION

Suitably robust ground protection will be employed within the RPA of T1 and at the recommended specification. This will allow the movement of ground workers with limited impact. The recommended ground protection is aimed at protecting the soil structure and roots from compaction damage which can lead to asphyxiation of tree roots, and hence the demise of the affected tree.

EXISTING GROUND PROTECTION

Areas of existing hard standing within the RPA of T1 will provide adequate ground protection for access subject to method statement requirements.

PILE AND RAFT FOUNDATIONS

To minimise the impact the proposed foundations may have on T1 the use of pile and slab foundation will be utilised. Only four piles will be required, with the suspended slab being constructed above the existing soil level. The inner section of the proposed floor will consist of timber joists suspended off the existing house slab and the new piled slab leaving a void below.

The area in question is identified by light blue shading on the appended TPP. The proposed foundation detail drawing can be found at Appendix 5 of this report.

4.2 Tree Protection Measures

4.2.1 The principle of permitting temporary construction access within the RPA is established in BS 5837 clause 6.2.3. Where the requirement for access is justified then this may be achieved through the setting back of the protective fencing and the use of ground protection measures to protect the underlying soil.

4.2.2 All retained trees will be robustly protected in accordance with BS 5837. Full details of the necessary tree protection measures are provided within the Arboricultural Method Statement which can be found on page 13 of this report. These issues include:

Arboricultural Monitoring and Supervision

General Precautions

Tree Surgery

Tree Protection Fencing

Ground Protection

Demolition of Structures

Installation of the piles for the pile and raft foundation

New Underground Services

5 Conclusions

5.1.1 Having considered the arboricultural implications associated with this site, I believe the proposal to be arboriculturally sound.

5.1.2 Subject to full compliance with this report and the TPP, I believe that all retained trees can be adequately protected and will be safeguarded in a sustainable manner.

6 References

Anon., 1981. Wildlife and Countryside Act (Amended). s.l.:HMSO.

Anon., 2000. Countryside and Rights of Way Act 2000 (Amended). s.l.:HMSO.

British Standards Institute, 2010. Tree work - Recommendations. London: BSI.

British Standards Institute, 2012. Trees in relation to design, demolition and construction - Recommendations. London: BSI Standards Ltd.

National House Building Council, 2010. NHBC Standards Chapter 4.2. s.l.:NHBC.

Roberts, J., Jackson, N. & Smith, M., 2006. Tree Roots in the Built Environment. Norwich: The Stationary Office.

The National Joint Utilities Group, 2007. Volume 4 - NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, s.l.: NJUG Publications.

7 Arboricultural Method Statement

The Arboricultural Implications Assessment highlights the approaches required to mitigate issues raised by the integration of existing trees into the proposed design. The Arboricultural Method Statement defines the site-specific specifications for tree protection and other details required to implement the recommendations in a realistic manner.

This Arboricultural Method Statement must be read in conjunction with the approved Tree Protection Plan Ref: 24 2570 TPP 001

7.1 Arboricultural Monitoring and Supervision

7.1.1 Effective tree protection can only be achieved by adherence to a logical sequence of works combined with effective arboricultural supervision and monitoring. Prior to the commencement of any works the site owner/manager will appoint a project arboriculturist to supervise and monitor the approved works.

7.1.2 The project arboriculturist's role is to ensure that all tree protection measures are fit for purpose, are implemented in accordance with the approved details and to the satisfaction of Hart District Council. The owner/manager will be responsible for ensuring that all site personnel are made aware of the requirements of this method statement and that any future amendments are known and understood. Copies of the approved AMS will be available onsite, the requirements of which will be incorporated into all relevant site management documents and site induction procedures.

7.1.3 A pre-commencement site meeting will be held between the site manager, local authority tree officer and the project arboriculturist. The purpose of this meeting will be to ensure that all aspects of the tree protection measures are clear and understood and that any future sequencing and supervisory arrangements are agreed. The details of this meeting will be recorded and will be circulated to all parties in writing. The pre-commencement meeting also provides the opportunity for discussion between all parties as to the practical implications/challenges that may arise in facilitating the proposals in line with the AMS. Should the meeting identify additional constraints, or a sounder arboricultural approach, a variation encompassing these factors will be submitted to the LPA.

7.1.4 Once works commence the project arboriculturist will undertake a programme of monitoring and supervision. This may include phone and email contact with the site manager, regular site visits and direct supervision of sensitive works. The frequency of any monitoring and supervision will be determined by the intensity and proximity of works to trees and will be flexible enough to accommodate changes in the scheduling of tasks as they occur on the site.

7.1.5 The project arboriculturist will maintain a record of all aspects of the arboricultural monitoring and supervision and a copy will be sent to Hart District Council upon completion of the project or as otherwise agreed. This will provide a record of compliance with any agreed tree protection measures and will assist in the efficient discharge of any relevant planning conditions.

7.1.6 A recommended programme of works detailing the necessary arboricultural inputs is included within Table 2 below:

7.2 Table of Arboricultural Supervision

	Prior to any Demolition, Site Preparation or Construction Works Onsite
Stage	**Action/Operation**
1.	Pre-commencement meeting between site manager, project arboriculturist and local authority tree officer. To discuss the precise location and timing of all tree protection measures.
2.	Installation of all protective fencing and ground protection measures.
	After any Demolition and Prior to any Site Preparation or Construction Works Onsite
Stage	**Action/Operation**
3.	Demolition of existing structures and hard standing within RPA of T1.
4.	Installation of the four piles within the RPA of T1
5.	During all external works which occur within, or immediately adjacent to, the RPA of any retained tree.
	Once All Construction Activities are Complete
Stage	**Action/Operation**
6.	Removal of all protective fencing and ground protection measures.
7.	Sign off by project arboriculturist.

Table 2: Recommended programme of works requiring arboricultural monitoring and supervision

7.3 Importance of Arranging Pre-commencement Site Meeting

7.3.1 Prior to the importation of machinery, materials, and any commencement of groundworks, we advise that a suitable period be allowed for the arrangement of a pre-commencement site meeting with all relevant parties.

7.3.2 In our experience, this can vary between a few days to a few weeks and has the potential to delay the start of works onsite. Further guidance on this matter should be sought from the respective LPA.

7.4 General Precautions

7.4.1 All trees which are being retained onsite will be protected by protective fencing and/or ground protection as detailed in the following sections. Protective fencing will be erected before any materials or machinery is brought onto the site and before any demolition, development or stripping of soil commences. Once erected fencing will be regarded as sacrosanct and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the LPA.

7.4.2 Care will be taken to avoid damage in the following ways:

7.4.3 Oil, bitumen, cement, or other material likely to be injurious to a tree will not be stored or mixed within 10m of any trunk unless contained within a bunded structure. Concrete mixing will not be carried out within 10m of a tree unless undertaken within a bunded container. Any spillage shall be immediately reported to the project arboriculturist who will determine what mitigation is required.

7.4.4 Fires will not be lit nearer than 5m the limit of the crown spread, will be downwind of the tree and will be prevented from becoming so large as to affect the tree.

7.4.5 Notice boards, telephone cables or other services will not be attached to any part of the tree. Trees to be retained will not be used as anchors for equipment used to remove stumps, roots, other trees or for any other purposes.

7.4.6 Care will be exercised when using cranes or similar equipment near the spread of the canopy of a tree.

7.4.7 It is essential that allowance be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.

7.4.8 Stumps within the RPA will not be dug or pulled out but are to be ground out. Where possible, and with the agreement of all parties involved, standing stumps and debris should be left as a habitat for wildlife if circumstances allow. (British Standards Institute, 2012) (National House Building Council, 2010) (Wildlife and Countryside Act (Amended), 1981).

7.5 Tree Protection Fencing

7.5.1 Tree protection fencing will be used to prevent access to the RPAs of retained trees and will be erected within the locations shown on TPP ref. 24 2570 TPP 001. Unless agreed in writing by the project arboriculturist and/or Hart District Council the following shall apply:

7.5.2 Protective fencing (shown as a magenta line on the TPP) will be erected prior to any works onsite including demolition, groundwork or the importation of plant and materials.

7.5.3 Once erected protective fencing shall remain in situ until all construction activities are complete and shall only be varied with the written consent of the project arboriculturist and/or Hart District Council.

7.5.4 The area to the rear of the protective fencing shall be considered to form a CEZ. No construction activities, storage of materials or pedestrian or vehicular access shall take place within the CEZ without the written consent of Hart District Council.

7.5.5 Confirmation that the protective fencing has been correctly installed will be sought from the project arboriculturist prior to the start of any demolition works, construction activities or the importation of any plant or materials.

7.5.6 Protective fencing will comply fully with BS 5837 and will be erected to the standard described in Figure 1. All weather notices will be attached to the protective fencing at suitable intervals, an example of which is given in Figure 2.

7.5.7 Regular daily checks will be carried out by the site manager to ensure that the barriers are still in place and functioning and any damage will be rectified without delay.

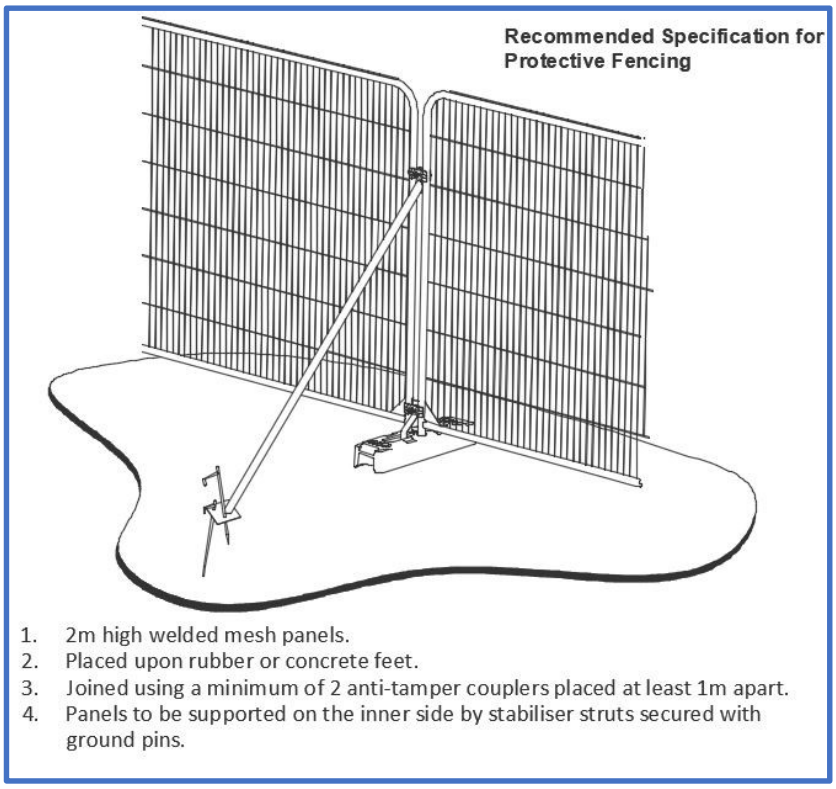


Figure 1: Example of protective fencing (BS 5837:2012)

Figure 2: Example signage to be securely attached to fencing

7.6 Ground Protection

7.6.1 Ground protection will be used to protect the RPAs of retained trees and will be installed within the locations shown on TPP ref. 24 2570 TPP 001. Unless agreed in writing by the project arboriculturist and/or Hart District Council the following shall apply:

7.6.2 Ground protection will be installed prior to any works onsite including demolition, groundwork or the importation of plant and materials. Areas of ground protection are highlighted in orange on the TPP.

7.6.3 Areas of existing hard surfacing which are to be retained to act as temporary ground protection are highlighted on the TPP with solid blue. Hard surfacing within these areas shall not be removed during demolition but shall be retained in situ throughout the course of the development and until all other works are complete.

7.6.4 Ground protection will be sufficiently robust to prevent damage occurring to the structure of the underlying soil. In order to accord with BS 5837 temporary ground protection will be installed in accordance with the following specification:

7.6.5 For pedestrian activities and plant up to 2 tons in weight, proprietary interlinked ground protection boards will be used and placed on top of 150mm depth of compression resistant material (e.g., woodchip) laid onto a geotextile membrane.

7.6.6 Once installed ground protection shall remain in situ until all construction activities are complete and shall only be varied with the written consent of the project arboriculturist and/or Hart District Council.

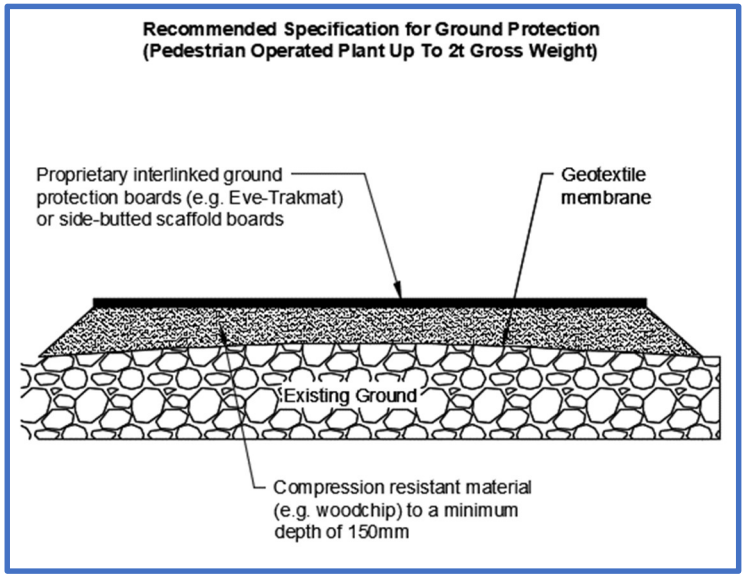


Figure 3: Example of ground protection (pedestrian operated plant up to a gross weight of 2t)

7.7 Demolition of Structures

7.7.1 Demolition works associated with the removal of any existing site features will be undertaken with due regard to nearby trees. No demolition works shall commence until the tree protection measures detailed in TPP ref. 24 2570 TPP 001 have been erected and approved by the project arboriculturist.

7.7.2 All plant and vehicles engaged in demolition works should either operate outside the RPA or should run on an existing or temporary surface designed to protect the structure of the underlying soil.

7.7.3 Floor slabs shall be either broken up using hand tools and removed or shall be lifted mechanically and deposited outside the RPA for further processing and disposal.

7.7.4 In some instances, it may be appropriate to leave part of the foundation in situ and landscape on top, or complete removal may also be appropriate. The methodology employed should be determined on site during the supervised foundation removal.

7.8 Installation of Piled Foundations

7.8.1 In general, over 90% of tree roots, growing in average conditions, will be found within the upper metre of soil (Roberts, Jackson, & Smith, 2006). Therefore, the use of traditional strip foundations close to trees can result in extensive root severance and loss and must be avoided. However, foundations may still be built in close proximity to trees provided that they minimise the need for excavation and can be designed to accommodate existing roots.

7.8.2 Those structures identified on TPP ref. 24 2570 TPP 001 will be constructed using piled foundations supporting an above ground reinforced concrete slab. The design of the piles and slab will adhere to the following criteria:

7.8.3 Foundations will be designed by an engineer on a site-specific basis. Advice will be sought from an arboriculturist to ensure that any design takes sufficient account of the biological requirements of the tree.

7.8.4 The smallest practical pile diameter will be used. This is necessary to minimise the risk of striking tree roots and to reduce the size of the piling rig that is required for their installation.

7.8.5 Where uncured concrete is to be used then piles will be sleeved to a minimum depth of 1m in order to prevent leachate from entering the rooting zone.

7.8.6 Where there is a risk that piles may strike major tree roots then site investigations will be employed to ensure that important roots will not be hit. Investigations will include excavation to a depth of 0.6m using hand tools or compressed air or probing with a steel rod if soil conditions allow. If major roots are found, then piles will be relocated to an alternative position.

7.9 Method of Installation of Piled Foundations

7.9.1 The RPAs of adjacent trees will be marked out using non-toxic marker paint. All staff engaged in the operation shall be briefed as to the agreed methodology of work and made aware of the constraints imposed by the nearby tree(s).

7.9.2 The pile locations will be identified and, if not already undertaken, exploratory investigations conducted to ensure that major roots will not be struck. If major roots are found, then an alternative pile location will be specified by a structural engineer or other appointed person.

7.9.3 A piling mat will be installed to prevent compaction of the underlying soil. The design of the piling mat will conform to paragraph 6.2.3.3 of BS 5837:2012.

7.9.4 The piles will be installed and once complete the piling mat will be removed.

7.9.5 If required void formers should be put into position with all the necessary reinforcing bars fitted along with uncured concrete, then an impermeable membrane should be used to prevent leachate from entering the underlying soil.

7.9.6 The above ground slab or beams will now be installed. At no point should any wheeled or tracked machinery be used on any unprotected ground during the installation process.

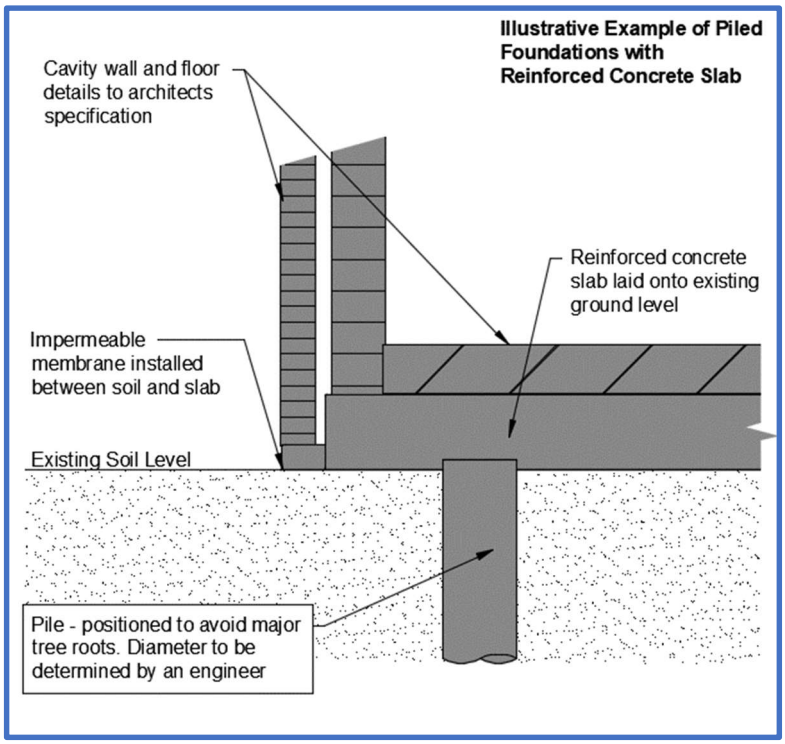


Figure 4: Illustrative example of piled foundations supporting an above ground reinforced concrete slab

7.10 New Underground Services

7.10.1 Wherever possible any underground services shall be located outside the RPA of any retained tree. Underground services shall only be routed through the RPA of a retained tree with the written consent of the project arboriculturist and/or Hart District Council.

7.10.2 Wherever possible services will be grouped together, will utilise common ducts and have all inspection chambers located outside of the RPA.

7.10.3 In situations where services must pass through the RPA of a retained tree then trenchless techniques will be used wherever possible. Receptor pits will be located outside the RPA and potentially toxic external lubricants will not be used.

7.10.4 In situations where trenchless techniques are impractical then the use of open trenches will only be considered if they can be excavated without the need for shoring of the sides.

The method of excavation will be through the use of an 'air-spade' or similar to ensure that soil can be removed from around the tree roots whilst causing only minimal damage.

7.10.5 Any new services installed within the zone of influence (not just the RPA) of any proposed, or retained, tree will incorporate sealed and flexible joints and be sufficiently robust to avoid damage due to differential soil movement.

7.10.6 Both the installation of new services and the renovation of existing services must be carried out in accordance with NJUG Volume 4 (The National Joint Utilities Group, 2007), BS 5837:2012 Clause 7.7 and any other relevant best practice guidance relating to trees.

BRITISH STANDARD BS 5837:2012

7.7 Underground and above-ground utility apparatus

7.7.1 Mechanical trenching for the installation of underground apparatus and drainage severs any roots present and can change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the routeing and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts. Inspection chambers should be sited outside the RPA.

7.7.2 Where underground apparatus is to pass within the RPA, detailed plans showing the proposed routeing should be drawn up in conjunction with the project arboriculturist. In such cases, trenchless insertion methods should be used (see Table 3), with entry and retrieval pits being sited outside the RPA. Provided that roots can be retained and protected in accordance with **7.2.2**, excavation using hand-held tools (see **7.2.1**) might be acceptable for shallow service runs.

NOTE The suitability of these for differing applications is summarized in Table 3.

Table 3 Trenchless solutions for differing utility apparatus installation requirements

Method	Accuracy	Bore dia. [A]	Max. sub. [B] length	Applications	Not suitable for
	mm	mm	m		
Microtunnelling	<20	100 to 300	40	Gravity-fall pipes, deep apparatus, watercourse/ roadway undercrossings	Low-cost projects due to relative expense
Surface-launched directional drilling	≈100	25 to 1 200	150	Pressure pipes, cables including fibre optic	Gravity-fall pipes, e.g. drains and sewers [C]
Pipe ramming	≈150	150 to 2 000	70	Any large-bore pipes and ducts	Rocky and other heavily obstructed soils
Impact moling [D]	≈50 [E]	30 to 180 [F]	40	Gas, water and cable connections, e.g. from street to property	Any application that requires accuracy over distances in excess of 5 m

[A] Dependent on strata encountered.

[B] Maximum subterranean length.

[C] Pit-launched directional drilling can be used for gravity fall pipes up to 20 m subterranean length.

[D] Impact moling (also known as thrust-bore) generally requires soft, cohesive soils.

[E] Substantial inverse relationship between accuracy and distance.

[F] Figures given relate to single pass: up to 300 mm bore achievable with multiple passes.

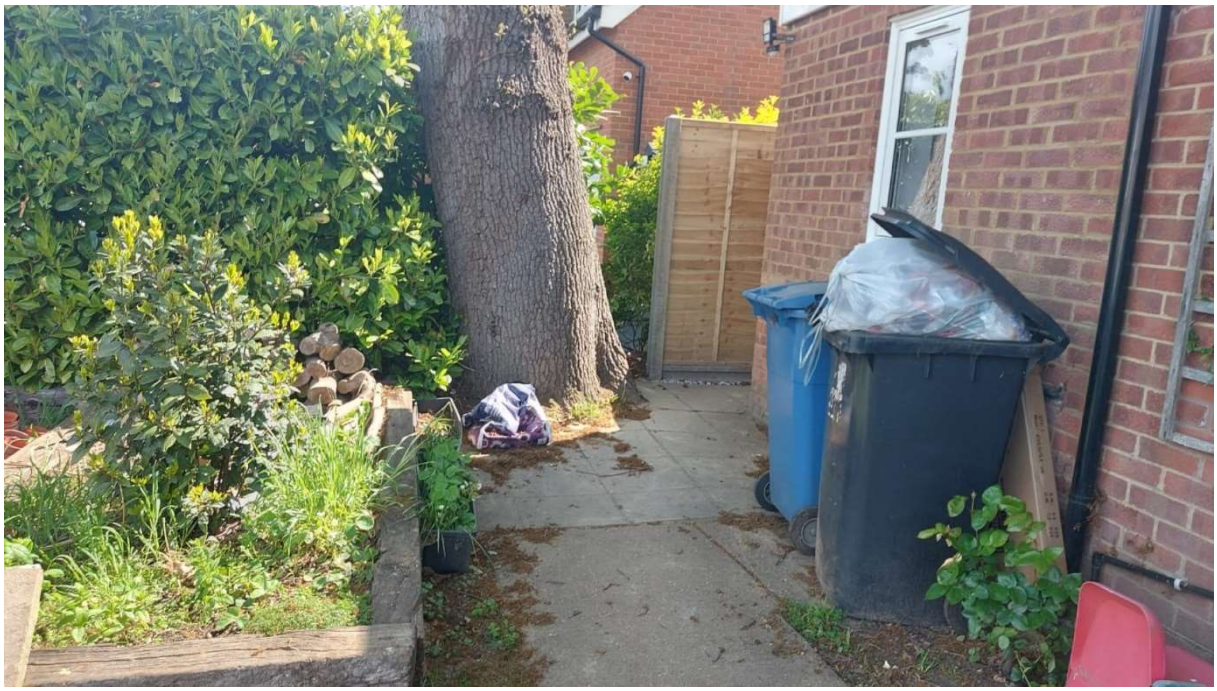
7.7.3 Above-ground apparatus (including CCTV cameras and lighting) should be sited to avoid the need for detrimental tree pruning. In this regard, the current and future crown size of the tree should be assessed. Tree branches can be pruned back with care to provide space, though it is not appropriate for repetitive and significant tree work to be an initial design solution unless this is a suitable management outcome for the tree. Pruning should be undertaken in accordance with BS 3998:2010.

Figure 5: BS5837:2012 section 7.7

Appendices

Appendix 1 Site Photographs

Photograph 1: 10 Magnolia Way, viewed from the northwest



Photograph 2: T1 Stem, viewed from the southwest

Photograph 3: T1, viewed from the southwest

Appendix 2 Glossary of Terms and Abbreviations

TO (Tree Officer)	Representative officer of the LPA for tree related matters within the area of the authority.
LPA (Local Planning Authority)	The local government body that deals with all planning related issues within the area of the authority.
RPA (Root Protection Area)	Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m^2.
TPP (Tree Protection Plan)	Scale drawing prepared by an arboriculturist showing the finalised layout proposals, tree retention and tree and landscape protection measures detailed within the AMS, which can be shown graphically.
CEZ (Construction Exclusion Zone)	Area based on the RPA (in m2), identified by an arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection, fit for purpose to ensure the successful long-term retention of a tree.
AIA (Arboricultural Implications/Impacts Assessment)	Study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.
AMS (Arboricultural Method Statement)	Methodology for the implementation of any aspect of development that has the potential to result in loss of or damage to a tree.
TPO (Tree Preservation Order)	A TPO is an order made by the LPA in respect of trees or woodlands. The principal effect of a TPO is to prohibit the: • cutting down, • uprooting, • topping, • lopping, • wilful damage, or • wilful destruction of trees without the LPAs consent. The cutting of roots, although not expressly covered in (1) – (4) above, is potentially damaging and so, in the Secretary of State's view, requires the LPAs consent.
CA (Conservation Area)	The law relating to CAs is in Part II of the Planning (Listed Buildings and Conservation Areas) Act 1990. CAs are areas of special architectural or historical interest the character or appearance of which it is desirable to preserve or enhance. They are designated by LPAs and are centred on listed buildings. Other buildings and landscape features, including trees, may also contribute to the special character of a CA.
NJUG (Nation Joint Utilities Group)	Trade Association for street works issues. Promotes best practice, self-regulation and a two-way relationship with Government and other relevant stake holders.

Appendix 3 Tree Survey

Scope and Method of Survey

- The report is concerned with the arboricultural aspects of the site only.
- The survey has been carried out in accordance with BS 5837: 2012 T*rees in relation to design, demolition, and construction - Recommendations*.
- The reference numbers of surveyed trees and tree groups are shown on the TCP/TPP, which is based on the scale drawings supplied.
- The tree survey was carried out from ground level only.
- No tissue samples were taken nor was any internal investigation of the subject trees undertaken.
- Tree heights were estimated to the nearest 1m.
- Trunk diameters have been measured in accordance with Annex C of BS 5837: 2012. Diameters of single stem trees on level ground have been measured at 1.5m above ground level. The diameters of other commonly encountered stems have been measured where most appropriate and this is recorded within the schedule.
- The combined stem diameters for multi-stemmed trees have been calculated in accordance with BS 5837: 2012 paragraph 4.6.1. RPAs are calculated as an area equivalent to a circle with a radius 12 times the stem diameter.
- Tree canopies have been measured either by use of a laser range finder, tape measure or estimated where access has not been possible.
- No access was made onto third party property. Dimensions for trees on adjacent property, and those that at the time of the survey were inaccessible due to dense vegetation or adverse topography, have been estimated.
- The positions of trees not included on a topographical survey have been measured as accurately as possible. These positions must be considered approximate only. If the position of these trees is of critical importance, then a surveyor should be engaged to accurately record their location.
- This report in no way constitutes a health and safety survey. Where concerns for tree health and safety exist the necessary and appropriate tree inspections should be carried out.

Summary of Categories BS 5837:2012

Trees unsuitable for retention	
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. Identified by dark red colouration on the TCP/TPP. These trees should not be a consideration in the planning process.
Trees to be considered for retention	
A	Trees of high quality with an estimated remaining life expectancy of at least 40 years. Identified by light green colouration on the TCP/TPP.
B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Identified by mid blue colouration on the TCP/TPP.
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. Identified by grey colouration on the TCP/TPP. The following subcategories are applied. Trees may be allocated more than one subcategory, but this will not increase their overall value.
1: Mainly arboricultural values	
A1	Trees that are of particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups, or of formal or semi-formal arboricultural features (e.g., the dominant and/or principal tree within an avenue).
B1	Trees that might be included in category A, but are downgraded because of impaired condition (e.g., the presence of significant though remediable defects including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention beyond 40 years; or trees lacking the special quality necessary to merit category A designation.
C1	Unremarkable trees of very limited merit or of such impaired condition that they do not qualify in higher categories.
2: Mainly landscape values	
A2	Trees, groups, or woodlands of particular visual importance as arboricultural and/or landscape features.
B2	Trees present in numbers, usually as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.
C2	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.
3: Mainly cultural values, including conservation	
A3	Trees, groups, or woods of significant conservation, historical, commemorative, or other value (e.g., veteran trees or wood-pasture).
B3	Trees with material conservation or other cultural value.
C3	Trees with no material conservation or other cultural value.

Table 3: Categories and descriptions as described in BS 5837:2012 Table 1

Explanation of Tree Survey Schedule

TREE No:	Allocated tree number, this may or may not be tagged onsite.
HEIGHT:	Height of tree in metres.
DBH:	Diameter of the tree at 1.5m from ground level or as otherwise described within Annex C of BS 5837:2012.
CROWN SPREAD:	Shown as compass points N, E, S, W.
CROWN HEIGHT:	Height of lowest branch foliage.
FIRST SIGNIFICANT BRANCH:	Height above ground level of lowest significantly sized branch.
AGE CLASS:	Y Young (less than 1/3 through life expectancy). MA Middle aged (from 1/3 to 2/3 through life expectancy). M Mature (over 2/3 through life expectancy). OM Over-mature (beyond average life expectancy). V Veteran (of biological, cultural, or aesthetic value, usually beyond typical age range).
ESTIMATED REMAINING CONTRIBUTION:	The estimated number of years the tree will continue to make a safe and useful contribution to its surroundings, taking into account its current age and physiological and structural condition. (NB. This assumes that there will be no physical changes to its immediate environment).
BS CATEGORY:	(Please refer to the BS 5837:2012 Table 1 for detailed descriptions) U: Trees unsuitable for retention – those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. A: Trees of high quality – with an estimated remaining life expectancy of at least 40 years. B: Trees of moderate quality – with an estimated remaining life expectancy of at least 20 years. 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.
PHYSIOLOGY, STRUCTURE, WORKS REQUIRED:	Description of general form, including presence of physical defects, disease or decay and other appropriate details based on health, vitality, and overall structural integrity.
ESTIMATED:	Y/N (Estimated stem dimension).

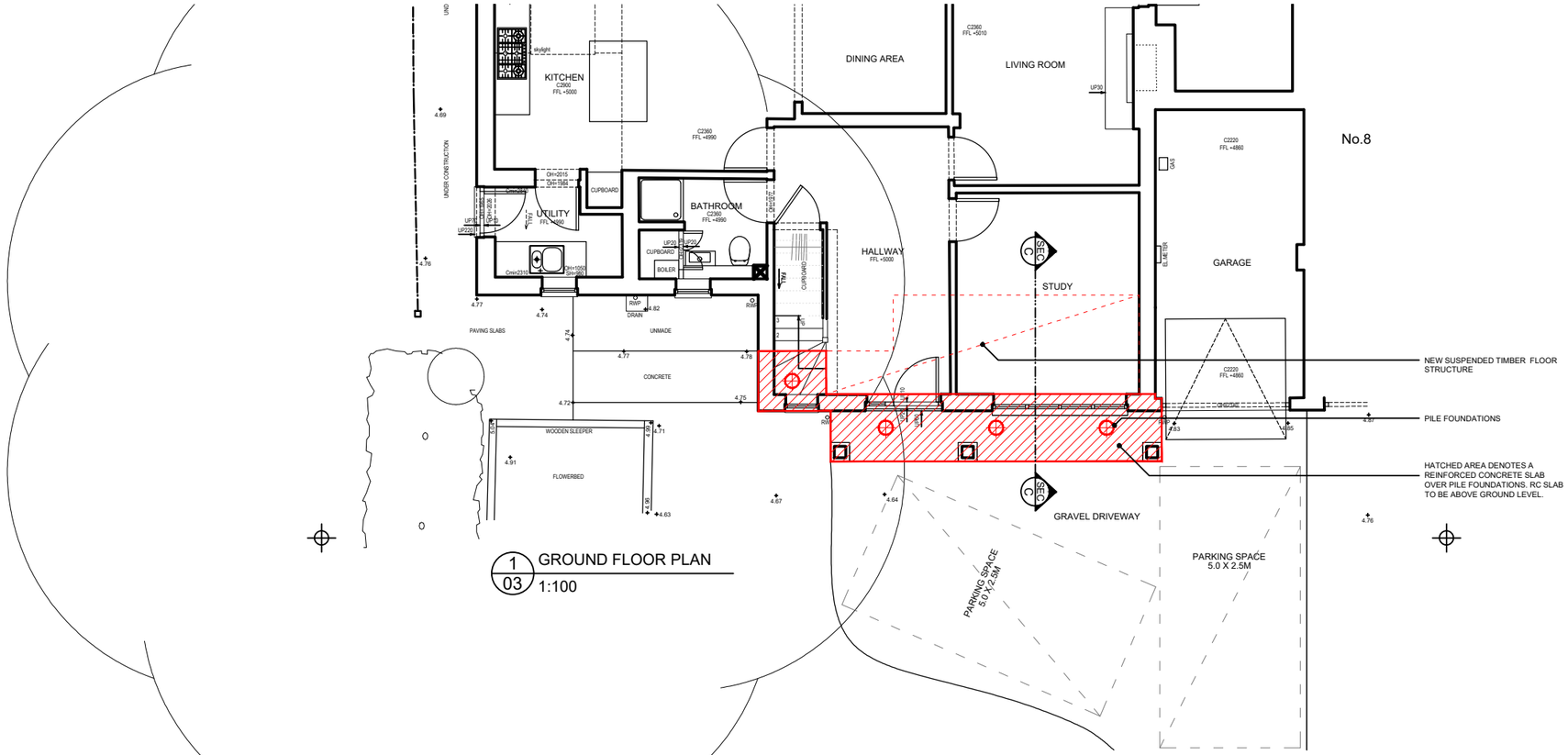
Table 4: Explanation of Tree Survey Schedule

Appendix 4 Tree Schedule

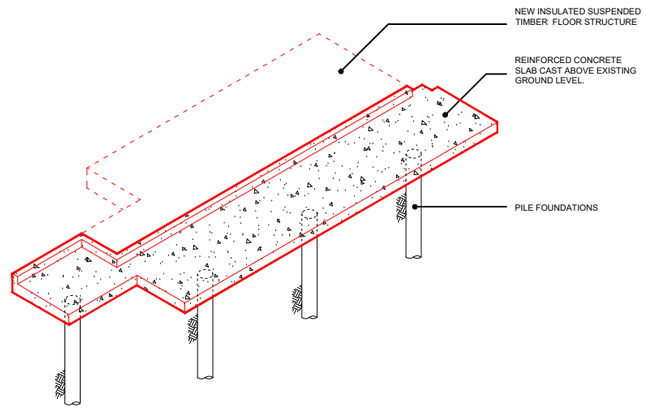
Site: 10 Magnolia Way Surveyor: Keith Macgregor Dip. Arb(RFS), M. Arbor A Date of Survey: 16/05/2023

TREE NO	TYPE	SPECIES	HEIGHT	DIAMETER AT 1.5m or arf (mm)	ESTIMATED?	NO. OF STEMS	N	E	S	W	LOWEST CROWN HEIGHT	LCH ORIENTATION	LOWEST BRANCH HEIGHT	LOWEST BRANCH ORIENTATION	AGE CLASS	PHYSIOLOGICAL CONDITION	STRUCTURAL CONDITION	PRELIMINARY MANAGEMENT RECOMMENDATIONS	ESTIMATED REMAINING CONTRIBUTION	CATEGORY	NOTES
1	T	Oak	20	950	N	1	11	7	8	10	6	W	8	S	Mature	Fair	Fair	No works	40+	A2	A tree with high landscape value located near to the east boundary.

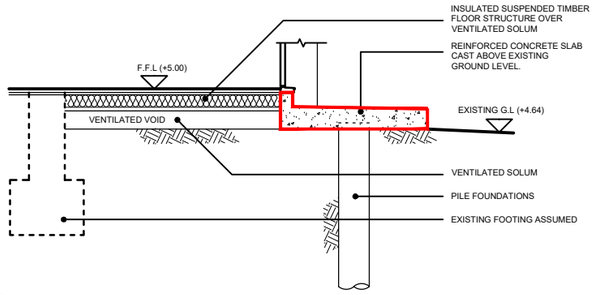
Appendix 5 Proposed Foundation Detail Ref: 1040_03_151



1/03 GROUND FLOOR PLAN
1:100



1/06 PROPOSED FOUNDATION ISOMETRIC
NTS



1/04 SECTION CC'
1:50 @ A3

PLANNING DRAWING – NOT FOR CONSTRUCTION

0M 1M 2M 3M 4M 5M 10M
0FT 5FT 10FT 20FT 30FT

These plans are based on measured survey undertaken MAY 2023 Due care is exercised in surveying but no liability can be accepted for any inaccuracy. the client and third parties should rely on their own information. notwithstanding this the drawings are a fair representation of the premises for present purposes. copyright is held by the author: no unauthorised use shall be made of the drawings. given dimensions are in mm.

N

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MR J. CLARKE

PROPOSED FOUNDATION DETAIL

Scale 1/100 @ A3
Date 15.03.2024
Drawn JM

Drg No 1040_03_151

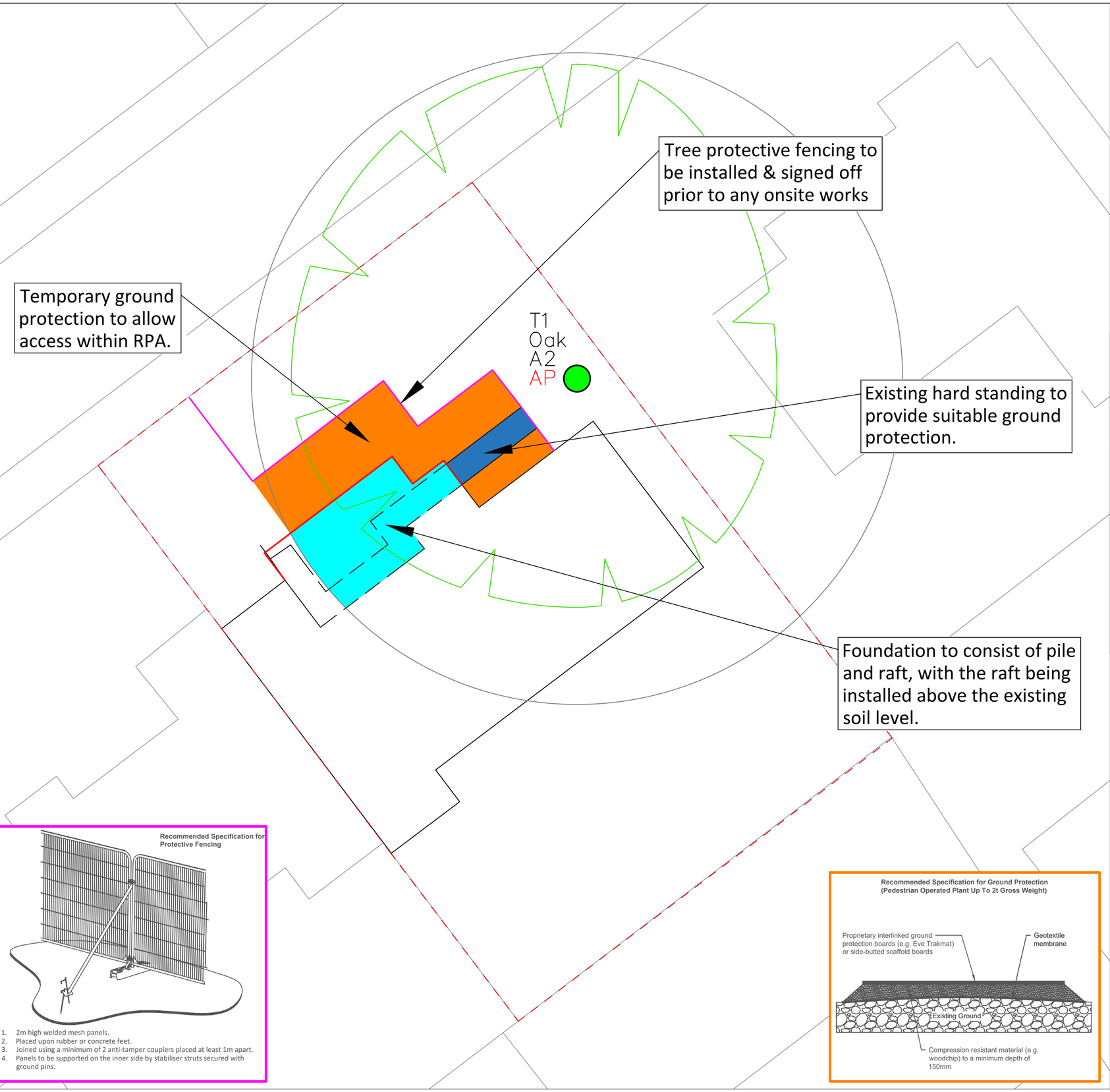
Appendix 6 Tree Protection Plan

General Precautions

All trees which are being retained onsite will be protected by protective fencing and/or ground protection as detailed in the following sections. Protective fencing will be erected before any materials or machinery is brought onto the site and before any demolition, development or stripping of soil commences. Once erected fencing will be regarded as sacrosanct and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the Local Planning Authority.

Care will be taken to avoid damage in the following ways:

- Oil, bitumen, cement or other material likely to be injurious to a tree will not be stored or mixed within 10m of any trunk unless contained within a bunded structure.
- Concrete mixing will not be carried out within 10m of a tree unless undertaken within a bunded container. Any spillage shall be immediately reported to the project arboriculturist who will determine what mitigation is required.
- Fires will not be lit nearer than 5m to the limit of the crown spread, will be down-wind of the tree and will be prevented from becoming so large as to affect the tree.
- Notice boards, telephone cables or other services will not be attached to any part of the tree. Trees to be retained will not be used as anchors for equipment used to remove stumps, roots, other trees or for any other purposes.
- Care will be exercised when using cranes or similar equipment near the spread of the canopy of a tree.
- It is essential that allowance be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Stumps within the RPA will not be dug or pulled out but are to be ground out. Where possible, and with the agreement of all parties involved, standing stumps and debris should be left as a habitat for wildlife if circumstances allow. (British Standards Institute, 2012) (National House Building Council, 2010) (Anon., 1981).



Recommended Specification for Protective Fencing

1. 2m high welded mesh panels.
2. Placed upon rubber or concrete feet.
3. Joined using a minimum of 2 anti-tamper couplers placed at least 1m apart.
4. Panels to be supported on the inner side by stabiliser struts secured with ground pins.

Recommended Specification for Ground Protection (Pedestrian Operated Plant Up To 2t Gross Weight)

KEY

- CATEGORY 'A' TREE
- CATEGORY 'B' TREE
- CATEGORY 'C' TREE
- CATEGORY 'U' TREE
- THEORETICAL CIRCULAR ROOT PROTECTION AREA(S) DEPICTING APPROXIMATE AREA(S) CONTAINING ROOTS
- RETAINED/PROTECTED TREE(S)
- BASE PLAN/TOPOGRAPHICAL SURVEY DETAIL
- INDICATIVE SITE BOUNDARY
- EXISTING BUILDING(S)/HARD FEATURE(S) TO BE RETAINED
- EXISTING BUILDING(S)/HARD FEATURE(S) TO BE DEMOLISHED
- PROPOSED BUILDING(S)/STRUCTURE(S)
- TREE PROTECTION FENCING
- EXISTING GROUND PROTECTION
- TEMPORARY GROUND PROTECTION
- PILE AND RAFT FOUNDATIONS

N

Approximate North

0m 1 2 3 4 5m
Metres

Notes:

Drawing is based upon Existing Site Plan.dwg

Proposed drawing details taken from Proposed Site Plan.dwg

This drawing must be read in conjunction with Arboricultural Report Ref. 24 2570

AP = Approximate Position

PRINT IN COLOUR ON A2 PAPER
All measurements in millimeters

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Client
Jonathon Clarke

Site
10 Magnolia Way, Fleet, Surrey, GU52 7JZ

Drawing Title
Tree Protection Plan

Rev.	Details	Date
-	-	-

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Project No 24 2570	*Surveyed by* JB
Drawn by JB/RA	*Checked by* KM/JP
Date 02/05/2024	*Scale* 1:100@A2
Drawing Number 24 2570 TPP 001	*Rev* 1