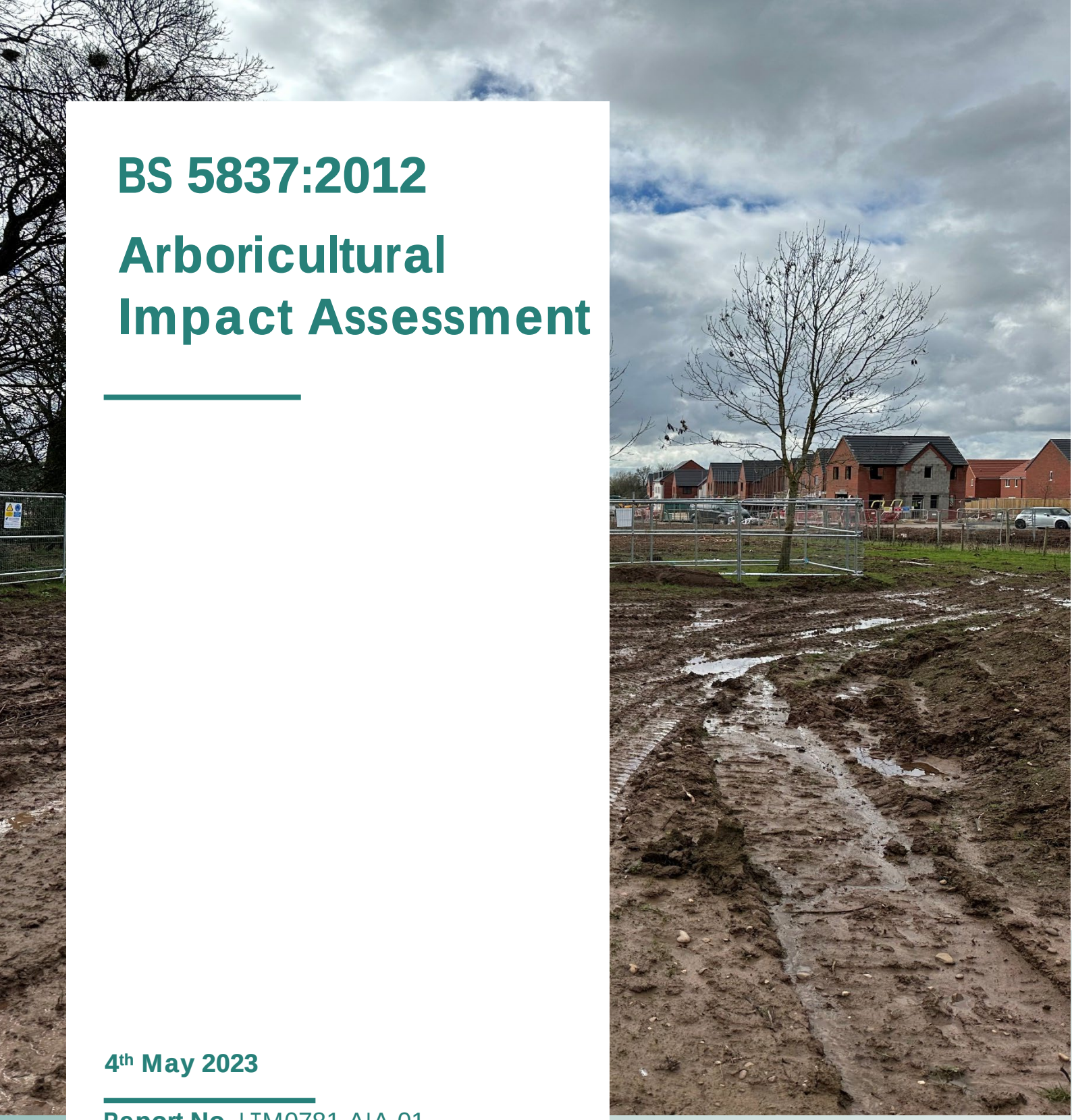


BS 5837:2012

Arboricultural Impact Assessment

4th May 2023

Report No. LTM0781.AIA.01
Project: Land at Plymouth Grove
Authored by: Matthew Lally

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ARBORICULTURAL IMPACT ASSESSMENT

PROJECT

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EXECUTIVE SUMMARY

The proposed development site is located on the corner of Plymouth Grove and Dryden Street on the outskirts of Manchester City Centre. The site is currently disused and consists of areas of hardstanding and scrub growth. Beyond the site to the north is a small cemetery with areas of park to the northeast and university halls of residence to the south. To the east is a residential block of flats.

Trees present that could potentially be affected by the development are as follows:

Category A	Category B	Category C	Category U
0	3 Trees	2 Trees 1 Group	0

It is proposed to construct a 7-floor student residential building with ground floor recreational facilities along with associated parking, hardstanding areas and soft landscaping. To facilitate this development, trees requiring removal or other works are as follows:

	Tree Category. Trees Requiring Works			
Tree Work Type	**Category A**	**Category B**	**Category C**	**Category U**
Tree Removal	0	0	1 Group 1 Tree	0
Pruning Works	0	1 Tree	0	0
Supervised Excavation into existing hardstanding layers	0	3 Trees	1 Tree	0

1. INTRODUCTION

1.1. Author Information

1.1.1. My name is Matthew Lally and I have been working with trees for over 18 years. I have experience in both practical elements of arboriculture and in consulting. I so far hold the following Arboricultural qualifications and technical memberships:

- FdSc Arboriculture
- LANTRA Profession Tree Inspection Certificate
- VALID – Validator
- QTRA Registered User
- Professional Member of the Consulting Arborist Society
- Professional member of the Arboricultural Association
- Associate Member of the Institute of Chartered Foresters.

1.1.2. I am the author of this report and as a Professional Member of the Arboricultural Association, the Consulting Arborist Society and an Associate Member of the Institute of Chartered Foresters, I am required to uphold ethical standards laid out by these institutions and therefore I have written this report in good faith and as objectively as possible.

1.2. Scope and Purpose of the Reports

1.2.1. An Arboricultural Impact Assessment is used to detail reasonably foreseeable conflicts that a development may have with regards to trees on a given site and is intended to assist the Local Planning Authority (LPA), in this case Manchester City Council, in their assessment of the proposed development. I therefore recommend that this report along with the associated Method Statement is supplied to LPA in support of the planning application to which it pertains.

1.2.2. I have aspired in this report to provide an analysis of the impacts that the proposed development is projected to have on trees located within the site based on the information that I have available to me at the time of writing. Where practicable I have included trees on land immediately adjacent to the site that may also be impacted. I also offer guidance on suitable retained tree management and mitigation recommendations for losses or other foreseen issues.

1.3. Instructions & Brief

1.3.1. I was instructed to write this Arboricultural Impact Assessment by RECOM Solutions on behalf of WUKPG by email. I have prepared this Arboricultural Impact Assessment in relation to the proposed development on land at Plymouth Grove, Manchester.

1.3.2. I attach below an outline overhead photograph of the area that I assessed on the 26/04/2023. (This is not necessarily the site boundary but includes trees that I deem could be impacted by the development regardless of ownership)



Figure 1. Assessment boundary plan.

3. SITE VISIT & SURVEY METHODOLOGY

3.1. Survey Details

3.1.1. I visited the site and surveyed the trees in accordance with Chapter 4 of BS5837:2012. I have recorded all the recommended tree metrics in the tree schedule which can be found in appendix I.

3.1.2. British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' includes guidance for considering the relationship between existing trees and how to integrate their needs into a successful development. A harmonious and sustainable relationship between any retained trees and new structure and/or hard surfaces is at the heart of the guidance.

3.1.3. When recording the trees as individual trees, groups of trees, woodlands or hedge groups I have included a prefix on the tree number. Explained as follows: Individual trees (T), groups of trees (G), hedgerows (H) or woodland groups (W).

3.1.4. I have used the term 'group' where trees form cohesive arboricultural features either aerodynamically, visually or culturally.

3.1.5. I have used the term 'hedgerow' for lines of trees or shrubs less than 5m wide at the base and which are managed or have been managed under an obvious regular pruning regime.

3.1.6. I have used the term 'woodland' where there are at least 10 trees and the individual tree canopies generally overlap and interlink, often forming a more or less continuous canopy and trees are the dominant plant form in this area.

3.1.7. I carried out the survey on Wednesday 26th April 2023 by means of inspection from ground level. If the inspection was restricted for any reason such as lack of access or dense climbing plants etc, then I have noted this in the site notes in appendix I. I have included pictures of the significant trees in appendix V.

3.1.8. In some cases, I may decide to group trees that share very similar characteristics. This method is in line with point 4.2.4 of BS 5837:2012 and I quote 'Trees forming groups should be identified and considered as groups where the arboriculturist determines that this is appropriate. It may be

appropriate to assess the quality and value of trees as a whole, rather than individuals.'

3.1.9. I assessed all the trees using: a grading A to C (A being of high quality and C being of the lowest quality) and 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). I attach in appendix III the British Standard 5837:2012 cascade chat for further details.

3.1.10. I have where appropriate recorded the canopy spread for each tree at four cardinal points in order to reproduce an accurate representation of the crown shape of the tree, this was generally not possible for tree groups, woodlands and hedges and therefore these were averaged and are represented by simplified representations on the plans. These representations can be seen in the plans that I have attached in appendix IV.

3.2. Creation of Existing Site Plans

3.2.1. I have shown the Root Protection Area (RPA) on the plans in appendix IV for each tree as a circle centred on the base of the stem which is based on the recommendation of the British Standard. In some cases, I will have noted onsite that there will be a root barrier likely to exist, such as roads/hard surfaces, building structures, & retaining walls that will have clearly impacted the tree roots actual morphology and disposition. In these circumstances I have amended the shape of the RPA to reflect this, without a reduction in its area.

3.2.2. British Standard 5837:2012 recommends the assessment of trees is made as objectively as possible, but I note that although I do my upmost to be as objective as possible, the findings and recommendations in this report will always be my opinion. The tree categorisation method identified in the British Standard is a tool I use on every Arboricultural impact Assessment as this guidance helps to make an objective judgment of the tree quality and value of the existing tree stock and keep the judgment as consistent and fair as possible.

3.2.3. Table 1 provides a summary of the documents that have been made available by the client to myself for use in this report:

Table 1 Documents made available by client.

Document Type	Reference No.	Author	Date
Topographical Survey	Proposed Title Plan & Topo Site Plan	DAY Architectural Ltd.	29.03.2023
Proposal	1441-21	DAY Architectural Ltd.	30.10.2022

3.2.4. I note that the supplied existing site plans did include tree positions, however, some trees were not located on the plan and I have therefore plotted these missing trees myself on the plans using overhead photograph. I note therefore that the positions plotted on the plan by myself are estimated and therefore any dimensions regarding tree positions in relation to the development and or protective fencing / ground protection must be checked on site. I do not accept any liability for inaccurately plotted trees.

3.2.5. The weather conditions during the survey were dry and still.

3.2.6. Assessing the potential influence of trees upon load bearing soils and the potential impact to existing and proposed structures was not included in the contract brief and I have therefore not considered this in the report. I cannot be held responsible for damage arising from such action.

3.2.7. During the site visits I have inspected the trees in line with the British Standard recommendations for potentially hazardous trees and I have made appropriate recommendations where required. I note, however, that this report is not a substitute for a full tree risk assessment or management plan which are specifically designed to minimise risk and liability associated with responsibility for trees.

4. PLANNING POLICY

4.1. National Planning Policy Framework (NPPF)

4.1.1. It is my understanding that when determining planning applications, Local Planning Authority's (LPA) should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternate site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.
- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons, and a suitable compensation strategy exists.
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity. (paragraph 180)

4.1.2. Consideration should also be taken of paragraph 131 of the NPPF which states:

Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined50, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users. (Paragraph 131)

4.2. Local Planning Policy

4.2.1. The NPPF sets out Government planning policies for England and how they should be applied. The Local Planning Authorities each use this information to guide Local Planning Policies which are used as the basis for determining planning applications. The local authority in this case, Manchester City Council, refers to the following policies when considering the trees and development:

4.2.2. Local Planning policy – Manchester City Council

Core Strategy Development Plan Document

Policy EN 9

Green Infrastructure

New development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function. Where the opportunity arises and in accordance with current Green Infrastructure Strategies the Council will encourage developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure. Where the benefits of a proposed development are considered to outweigh the loss of an existing element of green infrastructure, the developer will be required to demonstrate how this loss will be mitigated in terms of quantity, quality, function and future management.

4.2.3. Guide to Development in Manchester Supplementary Planning Document and Planning Guidance Adopted April 2007

2. Design - Quality of the Public Realm: A place with attractive and successful public areas

Trees and other types of planting are important elements of new developments

2.36 UDP Part 1 Policy E2.6 encourages the retention and planting of broad leaved trees. The Council has determined to increase the City's tree coverage, as detailed in its Tree Strategy, adopted in 2006. The introduction of quality landscaped areas is sought in the City Centre, and in other appropriate locations where they would be beneficial. Planting softens the urban environment and can contribute to sustainability by reducing the effects of carbon dioxide emissions through carbon capture. Sufficient space should be allowed for on-site planting, which should be of a stature and species appropriate to the character and context of the development. Poorly considered mass planting with no clear purpose will not, however, be considered as a way of filling in areas of incidental open space.

Street trees are encouraged

2.37 UDP Development Control Policy DC16.1 sets out the City Council's stance on street trees. In fulfilling this policy developers should have regard to those street trees, which are a common feature of some parts of the City, but virtually absent in others. These create attractive, interesting routes through an area and help to give it a clear identity and sense of place. The Council wants to increase the provision of street trees of an appropriate species, so that they become an important feature of the City's

neighbourhoods and spaces, and will look to new developments to assist this aim.

The City's existing landscapes should be conserved and enhanced

2.38 UDP Development Control Policy DC16.1 also relates to trees within a development site. New developments will fit more easily into their surroundings if they incorporate existing landscapes, and there will be a presumption to retain existing trees and planting with a high amenity and ecological value. If it is not possible to retain existing trees in situ, developers will be required to include appropriate replacement within the development site or the immediate area.

5. LEGISLATION

5.1. Statutory Considerations

5.1.1. The Town and Country Planning Act (1990) (the Act) and associated Regulations empower Local Planning Authorities (LPAs) to protect trees in the interests of amenity by making Tree Preservation Orders (TPOs). The Act also affords protection for trees with a diameter at breast height over 75 mm diameter that stand within the curtilage of a Conservation Area. An application must be made to the LPA in question to carry out works upon or to remove trees that are subject to a TPO, whilst six weeks' notice of intention must be given to carry out works upon or to remove trees within a Conservation Area that are not protected by a TPO.

5.1.2. A Tree Preservation Order (TPO) is an order made by a local planning authority to protect specific trees, groups of trees or woodlands in the interests of amenity. A TPO prohibits the:

- cutting down
- topping
- lopping
- uprooting
- willful damage
- willful destruction

of trees without the LPA's written consent. If consent is given, it can be subject to conditions which have to be followed. In the Secretary of State's view, cutting roots is also a prohibited activity and requires the authority's consent. Anyone found guilty of such an offence is liable and in serious cases, may result in prosecution and incur an unlimited fine.

5.1.3. I contacted the Local Planning Authority, Manchester City Council, by email and received a reply on the 05/05/2023, this reply stated that that there are no Tree Preservation Orders or Conservation Area designations that would apply to any trees present on the assessment site and therefore no statutory constraints would apply to the development in respect of trees on site. However, if the trees are outside the boundary of the property on the public highway, you must contact the Council's Arboricultural team as they are responsible for the maintenance of these trees. If this is the case, email contact@manchester.gov.uk with your request for works.

5.2. Felling Licence

5.2.1. Tree felling is also restricted under the Forestry Act 1967. Felling licences are Under this act, there is an exemption from the need for a felling licence for "Felling trees immediately required for the purpose of carrying out development authorised by planning permission (granted under the Town and Country Planning Act 1990) ..."

5.2.2. If full planning permission is granted, then any trees which require felling to implement the approved plans are exempt from this statutory protection. Outline planning permission does not provide an exemption to the regulations that control tree felling in the Forestry Act 1967.

5.3. Protected Species

5.3.1. Nesting birds are afforded statutory protection under the Wildlife & Countryside Act (1981) (as amended) and their potential presence should therefore be considered when clipping hedges, removing climbing plants and pruning and removing trees. The breeding period for woodlands runs from March to August inclusive. Hedges provide valuable nesting sites for many birds and clipping should therefore be avoided during March to July. Trees, hedges and ivy should be inspected for nests prior to pruning or removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged.

5.3.2. All bat species and their roosts are protected under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and under Schedule 2 of the Conservation of Habitats & Species Regulations 2010 (as amended). In this respect it should be noted that it is possible that unidentified bat habitat features may be located high up in tree crowns and all personnel carrying out tree works at the site should therefore be vigilant and mindful of the possibility that roosting bats may be present in trees with such features. If any bat roosts are subsequently identified, then it is essential that works are halted immediately and that a suitably qualified and experienced ecologist investigates and advises on appropriate action prior to works continuing.

5.3.3. In turn, any subsequent works carried out in relation to any protected species must be carried out under guidance from a suitably qualified and experienced ecologist and in strict accordance with the guidance provided in BS42020:2013 - Biodiversity – Code of Practice for Planning and Development and, with regard to bats, in strict accordance with BS8596:2015 - Surveying for Bats in Trees and Woodlands.

6. THE SITE, ITS SURROUNDINGS & THE TREE POPULATION

6.1. Site & Surroundings

6.1.1. The site under consideration is located on the junction of Plymouth Grove and Dryden Street which lies approximately 2km south east from Manchester City Centre and lies within the administrational boundaries of Manchester City Council.

6.1.2. The site itself appears to be an old demolition site from a previous building and foundations of this building are visible on the site. The grounds of the site appear to have been extensively excavated and modified in the recent past and it is not possible to establish where the natural ground levels are. The entire site appears to be compacted hard surface. There is a large trench to the south of the site.

6.2. Tree Population

6.2.1. As noted previously, a total of five individual trees & one tree group were surveyed for the purpose of this appraisal. They range from young to mature in age, with heights up to approximately 14 metres, maximum diametrical crown spreads up to approximately 10 metres, and stem diameters up to approximately 600 millimeters. Detailed tree dimensions and other pertinent information, such as structural defects and physiological deficiencies, are included in the Tree Schedule at Appendix I.

6.2.2. Only one low quality tree and one low quality group were present within the site boundary, the remaining trees are third party owned and are outside of the site boundary. T1 & T2 are both third party owned and are considered to be of moderate quality. There has been some excavation within the RPA of both T1 & T2 and there appears to be some significant root severance as a result (see photographs in appendix V). It is likely that much of the roots of these trees have been removed during the land modifications of the demolition process but as I cannot prove this I have not modified the RPAs of the trees. T3# is another third party tree of moderate quality, this tree was not plotted on the topographical survey so I have plotted this tree on the plans using overhead photography, the roots of this tree are likely to be deflected away from this site by the foundations of the previous building (see photograph in appendix V) and therefore I have modified the RPA on the plans to reflect this assumption.

6.2.3. In respect of the survey it should be noted that tree quality is categorised within the existing context without taking any site development proposals into account.

6.2.4. Under the UK's planning system trees are a material consideration in the planning and development process. Nonetheless, only trees of a suitable quality and value should be considered a material constraint to development. In this respect the tree schedule includes a column ('Cat. Grade') listing the trees' respective retention values, where they are rated either 'A', 'B', 'C' or 'U', as per BS5837:2012 Table 1 (Appendix One). 'A' category trees are those considered to be of 'high quality' and, accordingly, the most suitable for retention, whilst 'B' category trees are those considered to be of 'moderate quality', and 'C' category trees are those considered to be of 'low quality' with a correlated low retention value. In turn, 'U' category trees are those that are considered to be 'unsuitable for retention'.

6.2.5. As detailed in Table 2 in section 7 and in appendix I, three trees were categorised as moderate quality (i.e. 'B' category), two trees & one group as low quality (i.e. 'C' category).

7. ARBORICULTURAL IMPACT ASSESSMENT

7.1. Proposed Development

7.1.1. It is proposed to construct a 7-floor student accommodation development with ground floor recreational facilities and outdoor communal seating areas. Multiple hardstanding areas to the front and northern side to facilitate access and soft landscaping areas to the rear and north and south of the site including ornamental planting, herb gardens and native hedging. These proposals are encapsulated in the proposed site plan 1441-21 by DAY Architectural Ltd.

7.2. Impacts

7.2.1. I have overlayed the proposed site plan 1441-21 by DAY Architectural Ltd onto the existing site plan using computer aided design software and found a number of locations in which there are conflicts with existing trees. I have made this plan available in appendix IV titled Arboricultural Implications plan.

7.2.2. In order to fully assess the impact of the proposals, I have created an Impact Table below (Table 2) in which I detail each tree, showing the proximity of the associated works to the trees and if they can or cannot be retained.

7.2.3. I used the aforementioned Impact Table and Arboricultural Implications Plan in my analysis to determine whether the development will have an impact on the health of each tree. Where I have determined there is an impact, I have then decided upon any mitigation measures that could be implemented to reduce the impact the proposals will have on the treescape.

Table 2. Impact Table

Tree No.	Root Protection Area identified (m^2) in Table 2 of BS 5837:2012	Distance to Proposed New Hard Standing (m)	Distance to Proposed Development (m)	Can the Tree/s be Successfully Retained	Retention Category
T1	55	1.10	6.60	Yes, as outlined in section 8.2, 8.4 & 8.5	B1
T2	22	0.75	8.80	Yes, as outlined in section 8.2, 8.4 & 8.5	B1
T3#	163	1.80	3.40	Yes, as outlined in section 8.2 & 8.4	B1
G4#	3	-	-	No Remove due to development	C2
T5#	5	-	-	No Remove due to development	C1
T6	5	0.7	1.10	Yes, as outlined in section 8.2	C1

7.2.4. I have created an Assessment Table (Table 3) to help visualise the number of trees that will or will not be impacted by the proposed development. To assess the implications of the Impact Table each tree can be categorised in the following way: -

Table 3. Assessment Table

	Trees to be Retained		Trees to be Removed	
	With No Impact	With detailed construction	Due to Condition	Due to Development
Category A	-	-	-	-
Category B	-	T1, T2, T3#	-	-
Category C	-	T6	-	G4#, T5#
Category U	-	-	-	-
TOTAL	0	4	0	2

7.2.5. As can be seen in table 3, 1 category C tree and 1 category C group require removal to facilitate this proposal. This can be mitigated as outlined in section 8.1.

8. MITIGATION PROPOSALS

8.1. Compensatory Planting

8.1.1. I have noted 1 tee removal and 1 group removal to facilitate this development and I therefore recommend that the loss of the trees identified in table 3 is mitigated by replacement tree planting.

8.1.2. This will have a number of benefits for the development and the character of the area. These being: -

- Give a greater diversity of age class on the site, increasing sustainability.
- Give a greater diversity of species and therefore wildlife habitat.

8.1.3. I propose a list of suitable replacement trees in the schedule below: -

Table 4. Replacement Tree Schedule

Tree Species	Tree Size
Prunus 'Sunset Boulevard'	25 - 30 cm girth
Liriodenron	25 - 30 cm girth

8.1.4. The extent of mitigation planting required will need to be confirmed in agreement with the Local Planning Authority once the development proposal is finalised. Requirements usually involve replacement of trees on a one for one basis. This is based on tree sizes of 10-12cm girth; however, the proposed three replacements are significantly larger and it is considered that the increased size will mitigate for the tree loss.

8.2. Uplift & Re-laying of Existing Hardstanding T1, T2 & T3#

8.2.1. During my analyses I noted that the construction of the new hard surfaces adjacent to T1, T2 &T3# could have negative implications for these trees. I note, however that the area to be developed within the RPA is already hardstanding and also it is likely that there has already been significant if not complete root loss in this area for T1 & T2 (See picture appendix V).

8.2.2. I believe that these negative implications can be avoided if during the uplift & construction of the new hardstanding area within the RPA of T1, T2 & T3#, all excavation within the RPA is limited to the existing hard standing layer only, work is with the smallest machine capable of undertaking the task and is supervised by an Arboricultural Consultant.

8.3. Installation of Utilities

8.3.1. I have not been informed about the locations of any new utilities; however, it is expected that utilities will be installed and therefore the excavation for the installation of new utilities could have negative implications for the retained trees on and adjacent to this site.

8.3.2. It is my opinion that if the excavation for the installation of the utilities is undertaken in line with NJUG Volume 4. 'Guidelines for the planning, installation, and maintenance of utility apparatus in proximity to trees' the safe useful life expectancy of these trees will not be adversely affected.

8.4. Access Facilitation Pruning

8.4.1. I note that the proposed new building will be in close proximity to the crown of T3# and therefore this tree will require the pruning on the northwestern side of the crown by 1.5 metres.

8.4.2. During my site visit I noted that the crowns of T1 & T2 were quite low over the proposed development site and these low branches will likely come into conflict with machinery and may impede the construction of the new hard standing area. I therefore recommend that T1 & T2 are crown lifted on the development side of the crown to a height of 4 metres.

8.4.3. I believe that if all pruning works are undertaken in line with British Standard 3998:2010 Tree Work – Recommendations then the Safe Useful Life Expectancy of the trees will not be adversely affected.

8.5. Green Screen Construction adjacent to T1 & T2

8.5.1. I note that the construction of the proposed Green Screen adjacent to T1 & T2 will require driving posts into the ground which could result in root severance and therefore could have negative implications for the Safe Useful Life Expectancy of the trees.

8.5.2. It is my opinion that any adverse effects of the installation of this green screen could be mitigated if the following precautions and guidelines are adhered to:

- A fence design that allows for varying distances between fence posts will be selected.
- Each fence post will have trial holes dug by hand to ensure that no major roots are severed.
- If major roots are found during the digging of the trial holes, then the fence post will not be placed in this hole and the trial hole will be backfilled.
- Posts will be placed at least 0.5 metres from any stems.
- Panels will be no closer than 300mm to a stem to allow for yearly incremental growth.

9. CAVEATS AND LIMITATIONS

9.1.1. The report is for the sole use of the client and its reproduction or use by anyone else is forbidden unless written consent is given by myself (Matthew Lally).

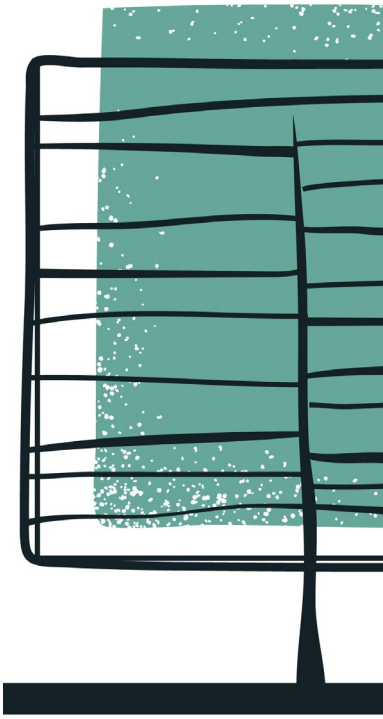
9.1.2. This is an arboricultural report and as such no reliance should be given to comments relating to buildings, engineering, soils ecological or archaeological data. If either is commented upon within the report further professional advice should be sought.

9.1.3. This is not a Tree Risk Assessment. As such this report should not be taken to mean or imply that any of the inspected trees should be considered safe. A Tree Risk Assessment can be provided but would be subject to additional survey requirement and further fees.

9.1.4. Trees are growing dynamic structures. Whilst all reasonable effort has been made to identify defects within the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. No tree is ever absolutely safe due to the unpredictable laws and forces of nature. As a result of this, natural failure of intact trees will occur; extreme climatic conditions can cause damage to even apparently healthy trees.

9.1.5. For the purposes of this survey all dimensions of trees and their associated parts are based on estimation unless otherwise stated.

9.1.6. Trees are living organisms whose health, condition and structure can change quickly and without warning. Therefore, the contents of this report are valid for a period of one year from the date of this survey.



Appendix I

Tree Survey Data & Site Notes

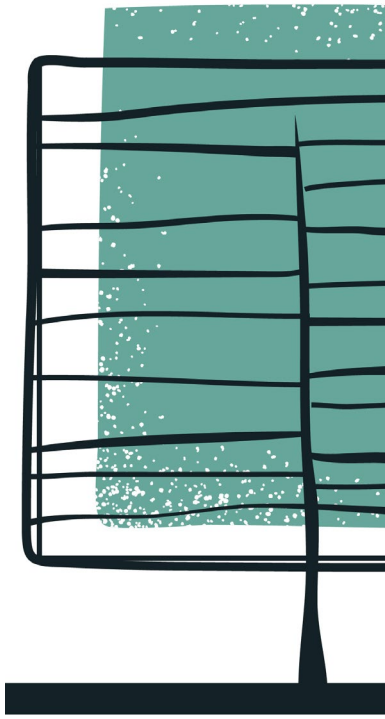
***The recommendations in this section are based on the site survey only and are NOT recommendations to facilitate the development plans. See the Arboricultural METHOD STATEMENT for tree works required to facilitate the development.**

BS5837:2012
TREE SCHEDULE

DATE OF SURVEY: 26/04/2023 **JOB REFERENCE:** LTM0781.AIA.01 **SITE ADDRESS:** Land at Plymouth Grove

Tree No.	Species	Stem Dia (mm)	RPA (m^2)	RPA Radius (m)	Height (m)	Age Class	Crown Spread (m)				Crown Clearance (m)	Condition	Comments	Recommendations	Remaining Contribution	BS5837 Retention Category
							N	E	S	W						
T1	Cherry	350	55	4.2	9	EM	4	5	4	5	1.5N	B	A third party tree located on third party land. Extensive root severance and ground level changes on development land. Codominant stems. Vitality appears normal.	**No action**	20+	**B1**
T2	Birch	220	22	2.64	10	EM	4	3	4	4	1.5W	B	Extensive excavation and ground level changes in root plate on development side of crown. Vitality appears unaffected. Tree appears stable.	**No action**	20+	**B1**
T3#	Alder	600	163	7.2	14	M	3	5	5	4	3S	B	Third party owned. No access to inspect. Codominant form with included unions. Retaining wall on development side has likely restricted roots into the site.	**No action**	20+	**B1**
G4#	Alder. Willow. Buddleia	75	3	0.9	3	Y	1.5	1.5	1.5	1.5	0N	A	Self-set group on site boundary. Low arboricultural value. Easily replaced.	**No action**	40+	**C2**
T5#	Ash	100	5	1.2	3	Y	1	1	1	1	1W	B	Self-set tree located on foundations of previously removed building. Low arboricultural value. Easily replaced.	**No action**	10+	**C1**
T6	Ash	100	5	1.2	3	Y	1	1	1	1	1W	B	Self-set tree located outside of boundary fence. No significant risk features observed. Low arboricultural value.	**No action**	40+	**C1**

* = Average measurement ~ = Estimated measurement # = Position estimated on site



Appendix II

Glossary of Terms

The following terms are concurrent with best Arboricultural practice and within the guidelines set by the International Society of Arboriculture (ISA), the Arboricultural Association (AA) and the British Standards Institute (BSI).

Age Range:

Age is site specific and categorised:

Young (Y)	Out-planted trees that have not yet established.
Semi-Mature (SM)	Established trees up to 1/3 of expected height and crown.
Early Mature (EM)	Between 1/3 and 2/3 of expected height and crown.
Mature (M)	Between 2/3 and full expected height and crown.
Fully Mature (FM)	Full expected height and crown.
Over Mature (OM)	Crown beginning to break-up and decrease in size.
Senescent (S)	Crown in advanced stage of break-up.

Height: Height is estimated and recorded in metres.

DBH: Diameter at Breast Height is measured at 1.5m and recorded in metres. Where a tree becomes multi-stemmed below 1.5m the highest possible diameter is measured and indicated. Alternatively, above 1.5m the diameter of each stem or an average diameter is measured and indicated.

Condition: Assessment of current physiological condition and structural morphology incorporating vigour and vitality and categorised:

A - Tree needing little, if any attention

B - Tree with minor, but rectifiable defects, or in the early stages of physiological stress

C - Tree with significant structural and physiological flaws and/or extremely stressed

D - Tree that is dead, biologically/physically moribund or dangerous.

Desirability to Retain – As Outlined in Table 1 of BS 5837:2005 (Trees in Relation to Construction - Recommendations)

Definition of Physiological & Morphological Terms

Adaptive Growth - The process whereby wood formation is influenced both in quantity and in quality by the action of gravitational force and mechanical stresses on the cambial zone.

Bifurcation – Forked or divided union.

Brown Rot - Form of decay where cellulose is degraded, while lignin is only modified.

Cankers- A localised area of dead bark and cambium on a stem or branch, caused by fungal or bacterial organisms, characterised by wound wood development on the periphery. This may be annual or perennial.

Cavity - An open wound, characterised by the presence of extensive decay and resulting in a hollow.

Chlorotic Leaf - Lacking in chlorophyll, typically yellow in colour.

Compartmentalisation - The physiological process that creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms.

Crack - Longitudinal spilt in stem or branch, involving bark and/or underlying wood. These may be vertically and horizontally orientated.

Decay - Process of degradation of woody tissues by fungi and bacteria through decomposition of cellulose and lignin.

Deadwood - Deadwood is often present within the crown or on the stems of trees. In some instances, is may be an indication of ill health, however, it may also indicate natural growth processes. If a target is present beneath the tree, deadwood may fall and cause injury or damage and should be removed, otherwise deadwood can remain intact for conservation purposes (insects, fungi, birds etc.).

End Weight - The concentration of foliage at the distal ends of stems and deficient in secondary branches.

Girdling Root - Root which circles and constricts the stem or roots causing death of phloem and/or cambial tissue.

Hazard Beam - An upwardly curved branch in which strong internal stresses may occur without the compensatory formation of extra wood (longitudinal splitting may occur in some cases).

Included Bark Union - Pattern of development at branch junctions where bark is turned inward rather than pushed out. Potential weakness due to a lack of a woody union.

Ivy Growth - Ivy growth may ascend into the tree's crown, increasing wind resistance, concealing potential defects and reducing the tree's photosynthetic capacity. Ivy growth is often acceptable in woodland areas as a conservation benefit.

Live Crown Ratio - The relative proportion of photosynthetic mass (leaf area) to overall tree height.

Reaction Wood - Specialised secondary xylem, which develops in response to a lean or similar mechanical stress, attempting to restore the stem to the vertical.

Root Plate Lift - The physical movement of the rooting plate causing soils to shift and crack. May occur during adverse weather conditions. Trees may become unstable.

Structural Defect - Internal or external points of weakness, which reduce the stability of the tree.

Suppressed - Trees which are dominated by surrounding vegetation and whose crown development is restricted from above.

Topping - A highly disfiguring practise, likely to cause severe xylem dysfunction and decay in major structural parts of the wood.

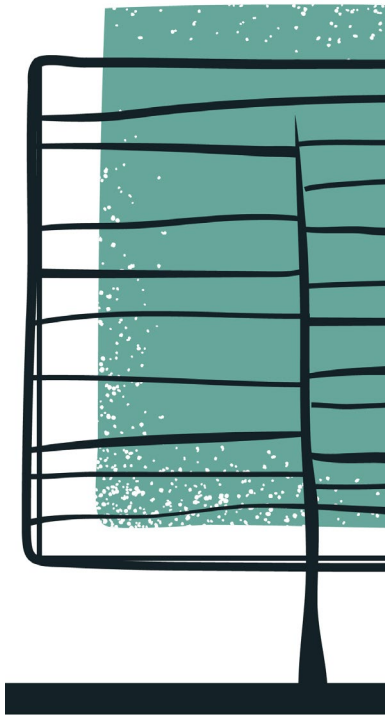
White Rot - Form of decay where both cellulose and lignin are degraded.

Wound - Any injury, which induces a compartmentalisation response.

Wound wood - Wood with atypical anatomical features, formed in the vicinity of a wound and a term to describe the occluding tissues around a wound as opposed to the ambiguous term "callus."

Woodland Structure - The vertical and horizontal arrangement of trees within a group or woodland i.e. Dominant - trees with a crown above the upper layer of the canopy, Co-dominant - trees that define the general upper edge of the canopy, Intermediate - trees that have been largely overgrown by others, Suppressed - trees that have been overgrown and occupy an understorey position and grow slowly, often severely asymmetrical.

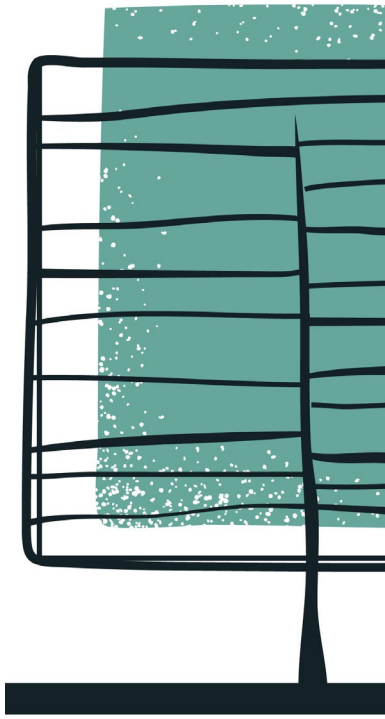
Note: The definitions described above, may not necessarily be included within the Arboricultural Survey Data.



Appendix III

Cascade Chart

Trees for removal			
Category and definition	**Criteria**		
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	o Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U Category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) o Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. o Trees infected with pathogens of significance to the health and/or safety of other trees nearby) e.g. Dutch elm disease), or very low-quality trees suppressing adjacent trees of better quality. NOTE: *Category U trees can have existing or potential conservation value which might be desirable to preserve; see section 4.7.5*		
Trees to be considered for retention			
Category and definition	**Criteria and sub-categories**		
	1) Mainly arboricultural values	**2) Mainly landscape values**	**3) Mainly cultural values (including conservation)**
Category A **Trees of high quality**: with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and or landscape features	Trees, groups or woodlands of significant conservation, historical commemorative or other value (e.g. veteran trees or wood-pastures)
Category B **Those of moderate quality**: with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider area	Trees with clearly identifiable conservation or other cultural benefits
Category C **Those of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in the higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit.	Trees with no material conservation or other cultural value



Appendix IV

Tree Constraints Plan & Arboricultural Implications Plan

Do not scale this drawing (printed or electronic version).

Contractors must check all dimensions from site

This drawing is for use on this site only and should be used in conjunction with all relevant consultants drawings..

LEGEND

- Category A
- Category B
- Category C
- Category U
- Root Protection Area (RPA)
- # Position estimated on site

Lally TREE MANAGEMENT

Scale: 1:200@A3	Date: 02/05/2023
Job: LTM0781.AIA.01	
Address: Land at Plymouth Grove Manchester M13 9NT	
Client: RECOM Solutions	
Drawing Number: LTM0781.TCP.01	
Drawn by: Matthew Lally	

TREE CONSTRAINTS PLAN

Do not scale this drawing (printed or electronic version).

Contractors must check all dimensions from site

This drawing is for use on this site only and should be used in conjunction with all relevant consultants drawings..

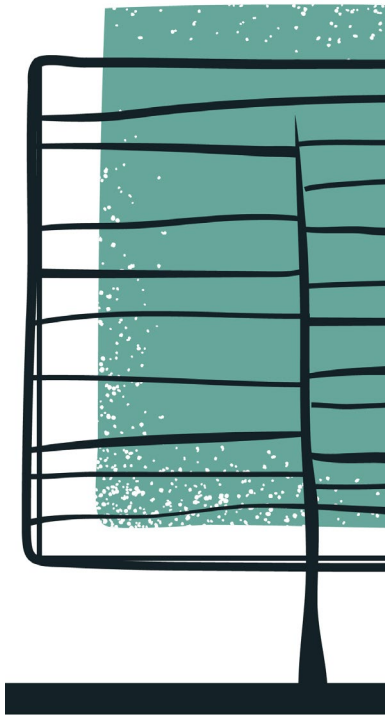
LEGEND

- Category A
- Category B
- Category C
- Category U
- Root Protection Area (RPA)
- # Position estimated on site

Lally TREE MANAGEMENT

Scale: 1:200@A3	Date: 02/05/2023
Job: LTM0781.AIA.01	
Address: Land at Plymouth Grove Manchester, M13 9NT	
Client: RECOM Solutions	
Drawing Number: LTM0781.AIP.01	
Drawn by: Matthew Lally	

ARBORICULTURAL IMPLICATIONS PLAN



Appendix V

Pictorial Evidence



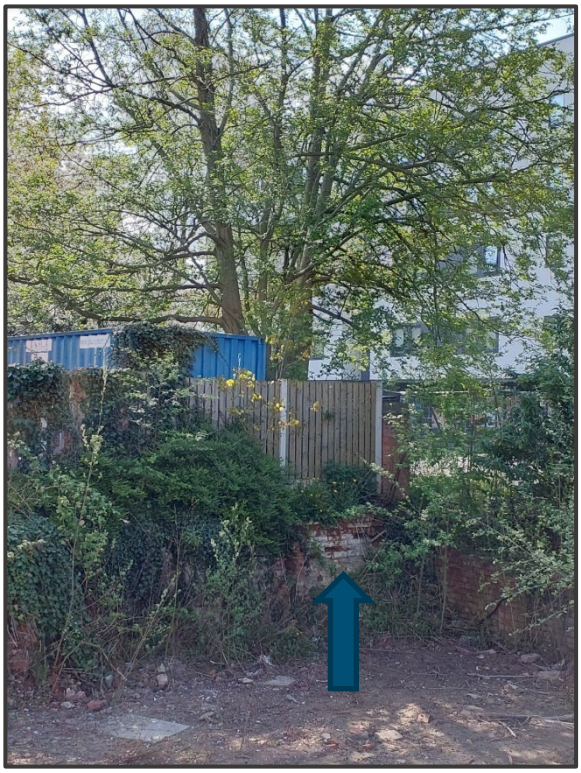
Picture 1. T1 is a third-party tree located in close proximity to site boundary. Note the ground modifications suggesting the natural soil level is lower.



Picture 2. T1. Arrows indicate significant root severance.



Picture 3. T2 is a third-party tree located in close proximity to site boundary. Note the ground modifications suggesting the natural soil level is lower.



Picture 4. T3 is a third-party tree located in close proximity to the boundary line. Arrow indicates foundations of previous building acting as root barrier.



Picture 5. G4 Located on site boundary is low value self-set scrub.



Picture 6. G4, note the trench which is likely the foundations of the previous building.



Picture 7. T5, Low value self-set tree.



Picture 8. T6 Low value, self-set third-party tree.