

Treestyle CONSULTANCY

BS 5837:2012 Development Survey

Date of the Inspection

20th September 2021

Site

200 Blackley New Road
Blackley
Manchester
M9 8FQ

Description

Proposed double story extension

Instructed By

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Executive Summary

Treestyle Consultancy was commissioned to complete a survey to specifications set out in British Standard 5837:2012 *Trees in relation to design, demolition & construction - Recommendations*. This document is an Arboricultural Impact Assessment (AIA) Arboricultural Impact Assessment (AIA) which explains the Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP).

The proposal is to develop a double story dwelling.

The Tree Survey recorded three groups of trees, within or near to the boundary of the site. The majority of trees (G1) are located along the Western boundary of the site running north to south. Another group of trees (G2) can be seen all along the northern boundary. Trees of third party ownership (G3) are beyond the northern boundary.

These three groups of trees area all C category and are of low quality with estimated remaining life expectancy of at least 10 years. The tree categorisation is in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*.

The greatest threat to the green infrastructure is the location of proposed extension within and close to the RPA's (Root Protection Areas). The removal of (G1) will allow sufficient space to facilitate the proposed development and construction.

The Proposed Developments

- Proposed double story dwelling which incur on the RPA of G1.
- The proposed development will not affect the trees to be retained.

The Arboricultural Impact Assessment (AIA)

- At this planning stage it is not anticipated the pruning of retained trees.
- The removal of G1 from the side garden as they are of low quality and limited longevity.

Tree Category	Trees to be retained	Trees to be removed
A	-	-
B	-	-
C	G2, G3	G1
U	-	-

Tree Protection Plan (TPP)

- Existing fencing along the boundary will act as form of protection throughout the development.
- The Root Protection Areas (RPA's) of the retained trees are a Construction Exclusion Zone (CEZ).
- Ground protection will be used in areas to prevent soil compaction through foot or mechanical traffic.
- Compaction must be avoided at all times.
- The prevention of contamination through the spillage of building materials into the soil profile is also discussed within this report.

The Arboricultural Method Statement (AMS)

- Will require approval by the Local Planning Authority (LPA).
- Construction methods when working in root protection areas and retaining structures and all tree protection measures.
- Pre commencement meeting to confirm all recommended protection is adequate.
- Construction of the development.
- Removal of the tree protection.

It is important that the caveats and limitations of this report are understood, these can be read in Section 11.0 of this document.

1.0 Introductions

- 1.1 Under instruction from Thafer Sulaiman an arboricultural report has been prepared to accompany a planning application for the proposed double story dwelling. This report details the arboricultural impact on the site, subsequent mitigation recommendations and protective measures. The latter part of the report explains how the construction of the proposed development will take place with regards to the protection of the trees to be retained.
- 1.2 The assessment was carried out in 20th September 2021 by Carl Riva of Treestyle Consultancy. This assessment was carried out from the ground in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*. The categorisation method identifies the quality and value of the existing green infrastructure.
- 1.3 Drawings of the existing and the proposed development has been supplied, this information has been included when mapping the existing tree population. An appropriate Tree Protection Plan (TPP) has been drafted and revised as necessary from this Arboricultural Impact Assessment (AIA).
- 1.4 It should be noted that neither soil samples or soil maps have been used to make decisions on this report. Therefore there is the possibility of minor soil movement due to tree root activity. Prior to the undertaking of foundation depths calculations of any estimated tree locations should be resolved. If there are any discrepancies with trees locations or queries relating to their location or species within the group, then Treestyle Consultancy should be contacted prior to planning submission.
- 1.5 A total of three group of trees were recorded for the purpose of this report. These can be viewed in [Appendix A – Tree Schedule](#) and [Drawing 1 - Tree Constraints Plan](#) and [Drawing 2 - Tree Protection Plan](#).
- 1.6 This report provides the results of the survey and includes the following;
 - A schedule of all tree and hedges located on or within influencing distance of the proposed development site ([Appendix A – Tree Schedule](#)).
 - An assessment based on BS 5837:2012 of trees in terms of their potential value within any future development. On the basis of this assessment trees have been categorised into one of four categories: High, medium, low or not worthy of retention (A, B, C or U). See Appendix D - BS 5837:2012 Cascade Chart for Tree Quality Assessment.
 - Advice on removal, retention and management of these trees and hedges can be read in Sections 5 & 7 of this report.
 - A Tree Constraints Plan detailing tree quality categories, canopy spread (N, E, S & W), Root Protection Areas (RPA's), life span, Diameter at Breast Height (DBH), RPA m2, tree height and condition for all of the trees surveyed.
 - A Tree Removal and Protection Plan detailing the development proposals alongside trees to be retained and removed and any temporary protection measures.

2.0 Site and Surroundings

The Grounds

- 2.1 The property has an existing dwelling with a garden to the north and a garage to the west with trees along the northern and eastern boundaries.

Surrounding land

- 2.2 The area surrounding the property is predominately residential.

Topography

- 2.3 The topography of the land is moderately higher to the north then slopes downward to the south.

3.0 Statutory Protection and Guidance

National Planning Policy Framework (NPPF)

- 3.1 The NPPF assumes protection of all ancient woodland and veteran trees unless it can be clearly demonstrated that the need for, or benefits of, development outweigh the loss. In this respect ancient woodland is defined as an area which has been wooded continuously since at least 1600 AD and a veteran as a tree of exceptional value for wildlife, in the landscape, or culturally because of its great age, size or condition.

Tree Preservation Orders & Conservation Area Designations

- 3.2 Local authorities reserve the right to create Tree Preservation Orders (TPO) to protect the amenity value conferred to a location by a tree or group of trees. Where a TPO is in place the lopping, topping, felling, uprooting or wilful damage is prohibited. Failure to comply may lead to prosecution or large fines. Work on a TPO'd tree requires permission from the local authority.
- 3.3 Section 211 of The Town and Country Planning Act 1990 (TCPA) relates to the preservation of trees in Conservation Areas. Under Section 211 anyone proposing to remove, uproot or destroy any tree within a Conservation Area is required to give the local planning authority six weeks' prior notice (a "section 211 notice"). During this period the Council may consider serving a Tree Preservation Order to prevent the proposed work from being undertaken.

Bats as a Protected Species

- 3.4 It is not uncommon for a mature tree with cavities or hollows to be a habitat for roosting bats. Bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), as well as under Schedule 2 of the Conservation of Species and Habitats Regulations 2010 and it is therefore an offence to cause damage to a bat roost.

Birds as a Protected Species

- 3.5 Nesting birds frequently use trees for nesting. They are protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly damage or destroy an active birds nest.

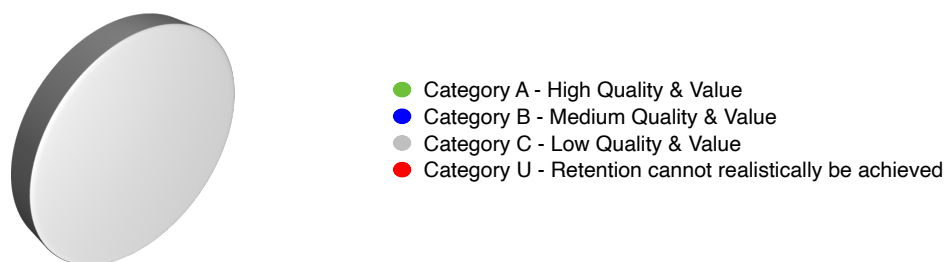
- 3.6 It is recommended that all tree work is carried out outside the bird nesting season which is March to August. If this is not possible then a detailed inspection of each tree should be undertaken by a suitably qualified ecologist prior to any tree work. Should an active nest be found then any work likely to affect the nest must be halted until the nest becomes inactive.

National House Building Council

- 3.7 This report has been written in accordance with BS 5837:2012
- 3.8 The soils on site were not recorded or assessed for the purpose of this survey. There could be however a possibility of movement due to trees being present on site.
- 3.9 A topographical map was not provided and therefore, Treestyle Consultancy have utilised the information provided for the plans within this report.

4.0 Tree Population

Figure 1. Breakdown of BS5837 categorisation of all trees surveyed.



- 4.1 A total of three groups were recorded. There is one group of category C low quality with 10 years life potential that cannot be realistically retained to achieve the proposed development, the other two groups are also category C low quality with 10 years life potential, however, these could be retained. The breakdown of quantities for each retention category are also shown below in Figure 1. A cascade chart explaining the process used to reach these categorisations can be found in Appendix D – Tree Categorisation Chart.
- 4.2 A summary of the trees in each of the four categories is given below in Table 1, for ease of reference.

Tree Category	Trees Numbers
A	-
B	-
C	G1, G2, G3
U	-

5.0 Impacts of the Proposed Development

- 5.1 Proposed double story dwelling impacts on one group of trees (G1) incurred RPA's highlighted by the diagonal pink lines at (Appendix B TCP).
- 5.2 Table 1 shows the effects of the proposal on the trees of the BS 5837 quality categorisation.

Table 1. Summary of trees to be retained and removed.

Tree Category	Trees to be retained	Trees to be removed
A	-	-
B	-	-
C	G2, G3	G1
U	-	-

6.0 Tree Protection Requirements

- 6.1 The following information sets out the primary consideration for determining the requirement for tree protective measures and with the assessment impact of the development. The retained trees and groups of trees will be protected by boundary existing fencing. The greatest threat to the green infrastructure is compaction and soil contamination.

Root Protection Areas

- 6.2 The BS5837:2012 RPA is calculated using the trees Diameter at Breast Height (DBH) at 1.5 m and represents the minimum area around each tree that must be left undisturbed to ensure its longevity. Tree roots can be found twice the width of the crown and beyond depending on the tree species and its environment. Most tree roots are found in the top 600mm of soil and most fine roots that absorb water and nutrients are located at the top horizon of soil profile. These near surface tree roots allow the tree to breath and oxygenate. The tree roots can extend well beyond the recommended distances within BS5837:2012 and they may not follow the typical circular area centred from the trees stem.

Ground Contamination

- 6.3 Storage areas for liquids such as fuels, oil or paint should not be located within 10m of any tree due to the risk of soil contamination caused by accidental spillage. Particular care must be taken when working on or close to sloping ground to avoid unintentional runoff into the RPA of trees to be retained.

Underground Utilities

- 6.4 Detailed drawings have not been provided and therefore the position of tree roots can't be gauged. Where the installation of services within the RPA of retained trees is unavoidable, appropriate methods will be required to ensure the safe long term longevity of the trees. This process will require additional consultation with Treestyle Consultancy.

Ground Level Changes

- 6.5 Any changes to the landscape and its levels can have major implication on the longevity and health of a tree. It is essential the trees are allowed to have a breathable surface allowing for the continuous gaseous exchange of the trees root system. Ground level changes have been addressed within this report.

6.6 Drainage & Storm Water Run-off Issues

- 6.7 Drainage and storm water run-off requires due consideration to prevent excessive and/or polluted run-off into the rooting area of trees to be retained.

Soil Compaction

- 6.8 It is imperative the surface of the soil be protected from compaction from plant machinery and/or machinery. This can create a capping effect on the surface which can stop the tree root from oxygenating and preventing any precipitation.

7.0 Recommendations

- 7.1 The Proposed Development will require the removal of one group of trees (G1) which will allow more available space for demolition, excavation works and foundations for the proposed double story dwelling.
- 7.2 The proposals have been designed to avoid future conflicts between retained trees and occupants. The proposals do not result in any significant concerns, with regard to the need to unacceptably prune or remove retained trees.
- 7.3 When tree work is required, all tree work must adhere to BS3998 2010 Tree Work - Recommendations. This must be carried out by qualified, experienced and insured arborists.
- 7.4 No long term adverse Arboricultural impacts are considered reasonably foreseeable provided the recommendations of this report are complied with in full.
- 7.5 The landscape opportunities on the site for new trees and shrubs can, over a relatively short space of time after the development is completed, mitigate for the loss of the trees through a planting scheme that will offer site biodiversity through careful selection of tree species.
- 7.6 Where impacts will occur, these are identified specifically in this report and are all demonstrably acceptable (subject to the appropriate methods of protection, which will broadly negate these impacts).

8.0 Tree Protection Plan

- 8.1 The RPA of the trees to be retained are to be measured up and marked out in the order stated in the recommendations, these are CEZ and are no dig areas with the exception of hand tools.
- 8.2 It is proposed to work within the site, where the existing hard surfacing will act as ground protection where possible. The site will be protected through a combination of fencing and ground protection throughout the construction, when the existing hardstanding has been removed, ground protection will be used in areas to prevent soil compaction,
- 8.3 Existing boundary fencing will protect retained trees and the secondary function will be to control access by the public into the work site. The work site will be fenced from public footpath to prevent work operations extending beyond. As an additional precaution to protect the trunks of tree and the fencing from accidental damage, they may be individually protected with a robust hoarding if required.
- 8.4 Additional protection would be from building materials, specifically cement. This leaches through the soil profile potentially contaminating the growing medium for existing, future plantings and pollution of the waterways. The trees and hedges to be retained will require protection, this will require the storage of cement and other such pollutants off site and away from the water courses. If pesticides are to be used in the clearing of vegetation from the soil profile, then these must be species specific so as not to damage the trees and hedges to be retained. This may help to highlight the RPA's of the trees (Drip line) so that they maybe marked out prior to work the commencement of construction and machinery.

9.0 Tree Constraints

- 9.1 One group of C low quality trees will need to be removed (G1) to allow the demolition, excavation works and to facilitate the foundations for the proposed development. However, the remaining trees and group of trees can be retained with considerate protection practices.
- 9.2 The current site has an existing driveway and a rear hardstanding garden area which could house construction materials being used for storage. This is the greatest threat to the remaining trees and groups of trees through the leaching of building material such as cement, normally a minimum of 10 m distance from vegetation is required.
- 9.3 Tree stems and branches can restrict available space on the site. Damage or wounding (including excessive pruning) can significantly reduce the amenity contribution of the tree and may lead to the development of dysfunction and decay with significant long-term implications for tree health. The future impact of existing trees should be carefully considered, including individual species characteristics (such as potential future size, fruit fall, shade etc.) and how the tree will interact with any proposed development and future land use. Annual tree growth can lead to direct damage if stems/branches (or roots) come into physical contact with structures and this must also be taken into consideration.
- 9.3 No underground services can pass through the RPA of any of the trees, groups of trees or hedges that are to be retained.

10.0 Arboricultural Method Statement (AMS)

- 10.1 The AMS has been written as guidance on how the construction has to be carried out with regards to the protection of the green infrastructure. It is imperative that this is carried out correctly.

An overview of Sequence of Operations

- 10.2 In overview, it is necessary to undertake the following sequence of operations in relation to arboricultural input for development operations.

1. Method Statement approved by the LPA.
2. Undertake tree works as recommended in [Appendix A - Tree Schedule](#).
3. Install tree protection measures.
4. Pre commencement meeting confirming tree and public protection is adequate and to the correct specification.
5. Construction of the development.
6. Removal of tree protection.

Specific Sequence of Operations

- 10.3 The following timeline table informs the key principles for development operations proceeding in relation to arboricultural requirements conditioned as part of this method statement. The action and timescales within this table must be adhered to in order to discharge the arboricultural method statement planning condition for this site.

The precise time and order of some of the development operations may need to be changed due to site specific operational requirements, yet any operations that may affect the trees on the site must be done so under arboricultural supervision by a suitably qualified and experience arboricultural consultant.

- 10.4 This should be read in conjunction with the Arboricultural Implications Assessment (AIA) and the Tree Protection Plan (TPP).

Please refer to this link for guidance on any of the above;

<https://www.barrelltreecare.co.uk/resources/technical-guidance/>

or

Appendix E - Guidance for Working in Root Protection Areas (RPAs)

Sequence of Operations		
Stages	Action	Arboricultural Input
1 Approval	This AMS is submitted to and approved in writing by the LPA	If necessary, liaise with contractor and LPA to discuss methodologies detailed
2 Tree Works	If required, the tree removals should be carried out as the first operation on site and in accordance with Appendix A - Tree Schedule	Review the tree work requirements with the tree contractor. If necessary liaise with the contractor on site during tree work
3 Tree Protection	Installing the tree protective measures will take place prior to any demolition and to any storage of plant, materials and machinery	If necessary, liaise with contractor installing the tree protection and the specialised temporary surfacing until completed to the standard specified in Appendix E - Fencing and ground protection
4 Site Meeting	Following installation of tree protective measures, the LPA shall be invited to inspect the fencing and discuss any other site operations that have implication for the trees	Meeting with the representative of the LPA and the site manager. Alternatively, contractor can confirm the fencing and tree works are as specified by taking photographs of the tree protection measures
5 Construction	Alter the width of the path for a driveway and remove the existing driveway, as described within this report.	If necessary liaise with the local authority and the site foreman to ensure any issues are adequately resolved
6 Site Finishing	Removal of the tree protection measures must only be undertaken when all site traffic and machinery has left the site	If acceptable to the LPA the contractor can take photos of the site to give to the LPA to gain approval for the removal of protective fencing
7 Tree Planting	It is recommended that tree planting is carried out and can be part of a planting scheme for the site	Replanting can mitigate tree removals and further enhance the amenity value of the area and the property

11.0 Caveats and Limitations

- 11.1 This survey was carried out from ground level. No aerial inspection was undertaken and, as such, this report can only identify defects clearly visible from the ground. A VTA (Visual Tree Assessment) is a level two arboricultural tree survey. This normally involves a full 360 degree visual of the buttress, stem and crown of the tree. While every attempt has been made to provide a realistic and accurate assessment of the trees' condition at the time of inspection, it may have not been appropriate, or possible, to view all parts or all sides of every tree to fulfil the assessment criteria of a risk assessment.
- 11.2 No tree is entirely safe given the possibility that exceptionally strong winds could damage or uproot even a mechanically 'perfect' specimen. It is therefore usually accepted that hazards are only recognisable from distinct defects or from other failure-prone characteristics of the tree or the site.
- 11.3 Underground services were not confirmed around any of the trees surveyed. The potential influences of trees upon building or other structures resulting from the effects of trees upon shrinkable load-bearing soils or the effect of incremental root growth are specifically excluded from this report.
- 11.4 The report reflects the tree stock as found on the day surveyed. Change of ground levels, soil conditions, surrounding tree cover or land use, or any ground works within the root zone of any tree may invalidate the content of this report. No root zone excavation was undertaken.
- 11.5 Change of circumstance as a result of unusual weather conditions may invalidate the content of this report. It is recommended that trees should be reassessed after strong gale, 39 – 46 mph wind Beaufort scale 8.
- 11.6 The content of this report is valid for 12 months from the cover date. Any works recommended for beyond this time period are based on expectations rather than in response to currently identified defects. Trees should have their condition re-inspected by a qualified arboricultural consultant within three years of this report being written.