

BS 5837:2012

Arboricultural Impact Assessment

10th September 2023

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Project: Land adjacent to 70 Kirkway

Authored by: Matthew Lally



ARBORICULTURAL IMPACT ASSESSMENT

PROJECT

Land adjacent to 70 Kirkway

Middleton

Manchester

M24 1EL

LALLY TREE MANAGEMENT

36 Goldsworthy Road,
Urmston,
Manchester,
M41 8US

[T] 07305 740120

[E] matt@lallytreemanagement.co.uk

[W] <https://www.lallytreemanagement.co.uk/>

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EXECUTIVE SUMMARY

The proposed development site is located within a residential suburb of Middleton within the Metropolitan Borough of Rochdale. The site is currently a grassed area with overgrown vegetation surrounding it. A public footpath runs along the eastern side of the site from Kirkway leading to Farmway park.

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

Category A	Category B	Category C	Category U
0	7 Trees 2 Groups	3 Trees 3 Hedges	1 Tree

It is proposed to construct 2 dwellings along with associated parking, hardstanding areas and soft landscaping. To facilitate this development, trees requiring removal or other works are as follows:

Tree Work Type	Tree Category. Trees Requiring Works			
	Category A	Category B	Category C	Category U
Tree Removal	0	4 Trees	1 x section from 1 x Hedge	1 Tree
Pruning Works	0	1 Tree 1 Group	0	0
Pile & Beam Foundations	0	2 Trees 1 Group	0	0
Cellular Confinement System	0	1 Tree	0	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 Rochdale Metropolitan Borough 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 commissioned to write this Arboricultural Impact Assessment by Mr P Henstock on the 25/08/2023 by email. I have prepared this Arboricultural Impact Assessment in relation to the proposed development at land adjacent to 70 Kirkway, Middleton, Manchester, M24 1EL.
- 1.3.2. I attach below an outline overhead photograph of the area that I assessed on the 04/09/2023. (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.

2. SITE VISIT & SURVEY METHODOLOGY

2.1. Survey Details

- 2.1.1. 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.
- 2.1.2. 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.
- 2.1.3. 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).
- 2.1.4. I have used the term 'group' where trees form cohesive arboricultural features either aerodynamically, visually or culturally.
- 2.1.5. 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.
- 2.1.6. 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.
- 2.1.7. I carried out the survey on Monday 4th September 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.
- 2.1.8. 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.'

2.1.9. 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 chart for further details.

2.1.10. 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.

2.2. Creation of Existing Site Plans

2.2.1. 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. Due to the presence of roads, structures, topography (and past tree management) the RPA is likely to be a simplified representation of the tree roots actual morphology and disposition. However, I have avoided any detailed modifications to the shape of the RPA as this would largely be based on conjecture.

2.2.2. British Standard 5837:2012 recommends the assessment of trees is made as objectively as possible, but I note that although I do my utmost 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.

- 2.2.3. 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
Existing Site Plan	3297 - 01	Extension NW	July 23
Proposed Site Plan	3297 - 02	Extension NW	July 23

- 2.2.4. I note that the supplied existing site plans did include tree positions, however, some trees were not located on the plan. I have plotted the trees not shown on the original plan myself using overhead photography. 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.
- 2.2.5. The weather conditions during the survey were dry and still.
- 2.2.6. 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.
- 2.2.7. 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.

3. PLANNING POLICY

3.1. National Planning Policy Framework (NPPF)

3.1.1. 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)

3.1.2. 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)

3.2. Local Planning Policy

3.2.1. 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, Rochdale Metropolitan Borough Council, refers to the following policies when considering the trees and development:

3.2.2. Relevant Rochdale Council Planning Policies
Rochdale Adopted Core Strategy October 2016

3.2.3. *G6 - Enhancing green infrastructure (p.95)*

We will sustain and enhance a green network to support growth and regeneration in the borough and provide a high quality environment that meets the needs of our community and visitors to the borough. We will protect and improve green spaces and water bodies and ensure that their value to sustainable development and regeneration is maximised. Our priorities are to improve opportunities for recreation in urban areas and the countryside, improve opportunities for healthy lifestyles, and to help manage and respond to environmental risks such as flooding and the impacts of climate change. We will also ensure that the network supports the sustainable growth of the Greater Manchester city region and links with a wider Greater Manchester strategic green infrastructure network. We will protect, improve and create green infrastructure to help deliver strategic sustainable development priorities and meet local needs in the following locations: (note-only relevant excerpts listed)

9. Urban areas and new development where the focus will be on incorporating green infrastructure into new development, sustainable urban drainage, increasing the number of street trees, greening housing areas and main roads, developing new green spaces, and incorporating green roofs and walls in new development.

We shall take into account local and national planning policy requirements when considering the appropriateness of development proposals that may affect sports, recreation and open space provision.

A Green Infrastructure Strategy for the borough and Green Infrastructure Action Plans for each Township will inform and support area based masterplans and initiatives, development proposals and associated developer contributions, regeneration programmes and environmental management schemes.

We will expect development proposals and other proposals affecting green infrastructure to:

- a. be consistent with the above focus for green infrastructure and the wider than local value that green infrastructure can have;
- b. have regard to local landscape character and contribute to its conservation or enhancement;
- c. avoid the loss of existing urban greenspace or features e.g. trees unless suitable alternative provision is made, it has limited value, and its development or change of use will help to meet other sustainability or local regeneration objectives;

- d. in the case of residential development, provide or contribute financially towards recreational open space, including maintenance, in accordance with the standards set out in the Provision of Recreational Open Space in New Housing Supplementary Planning Document (SPD);
- e. take opportunities to improve access to, and the provision of, natural greenspace in accordance with local strategies and standards
- f. take opportunities to secure innovative solutions to the design of urban open space to widen its potential functions e.g. flood risk management, promoting urban wildlife or climate change adaptation;
- g. not sever, or impede the key functions of designated greenspace corridors or river valleys, or detract from their natural, visual or recreational quality, but enhance their value and accessibility;
- h. protect ancient woodlands and hedgerows, support new woodland and tree planting in new developments, and replace removed trees from a site at a ratio of 2:1; and**
- i. take opportunities, where feasible, to improve the water quality and biodiversity of water bodies and their environs in compliance with the Water Framework Directive or equivalent.

3.2.4. *G7 - Increasing the value of biodiversity and geodiversity (p.99)*

We will ensure that sites and features of biodiversity and geodiversity importance are given full and appropriate recognition and protection.

Opportunities for enhancing biodiversity and geodiversity, creating new sites and features of interest and improving opportunities for public enjoyment will be supported. No development should result in a net loss of biodiversity or geodiversity interest in the borough and overall development in the borough should result in a net gain.

Particular priorities for biodiversity and geodiversity are:

(note only relevant excerpts shown)

5. Urban Areas - our priority is to protect and enhance existing urban biodiversity and to support opportunities for new urban biodiversity corridors, sites and features including sustainable urban drainage schemes, new public realm provision, street trees and urban woodlands, ponds and lodges, green roofs and natural play areas We will expect development proposals and improvements to:

a. Protect and include existing biodiversity (including established biodiversity interest on brownfield land) within new developments, public realm and open spaces and meet the requirements of the Biodiversity and Development SPD, Greater Manchester and Local Biodiversity Action Plans;

- b. Protect and enhance existing features such as peatland, ponds, wetlands, reservoirs, mill lodges, trees, hedges, wooded areas, meadows, flora and fauna;*
- c. Take opportunities to promote biodiversity and create new habitats through new development using landscaping and building and construction features wherever possible (e.g. ponds, species of vegetation, green roofs and walls, bat boxes, roof space, appropriate nest boxes and landscaping);*
- d. Enhance strategic wildlife corridors and the most natural areas and ensure that habitats and corridors are not fragmented by development;*
- e. Improve access where appropriate to new or existing biodiversity interest for public enjoyment; and*
- f. Protect important geology and take opportunities to increase interest and accessibility.*

4. LEGISLATION

4.1. Statutory Considerations

- 4.1.1. 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.
- 4.1.2. 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.

- 4.1.3. I contacted the Local Planning Authority, Rochdale Borough Council, by email and received a reply on the 05/09/2023, this reply stated that that there are no Tree Preservation Orders or Conservation Area designations that would apply to any trees present on, or in close proximity to the assessment site and therefore no statutory constraints would apply to the development in respect of trees.

4.2. Felling Licence

- 4.2.1. 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) ..."

- 4.2.2. 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.

4.3. Protected Species

- 4.3.1. 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.
- 4.3.2. 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.
- 4.3.3. 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.

5. THE SITE, ITS SURROUNDINGS & THE TREE POPULATION

5.1. Site & Surroundings

- 5.1.1. The site under consideration is located between two dwellings, number 68 & 70 Kirkway, in the town of Middleton in Greater Manchester. The site comprises of an overgrown grassed area with a public footpath to the east from Kirkway to Farmway park.
- 5.1.2. It is bordered to the north, west and south by residential dwellings. Kirkway borders the south of the site with St Peter's RC Primary School beyond.

5.2. Tree Population

- 5.2.1. As noted previously, a total of eleven individual trees, two groups of trees, and three hedges were surveyed for the purpose of this appraisal. They range from young to mature in age, with heights up to approximately 18 metres, maximum diametrical crown spreads up to approximately 16 metres, and stem diameters up to approximately 750 millimetres. Detailed tree dimensions and other pertinent information, such as structural defects and physiological deficiencies, are included in the Tree Schedule in Appendix I.
- 5.2.2. 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.
- 5.2.3. 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 III). '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'.
- 5.2.4. As detailed in the Tree Schedule in appendix I, seven trees and two groups were categorised as moderate quality (i.e. 'B' category), three trees and

three hedges were categorised as low quality (i.e. 'C' category), and one tree was classed as unsuitable for retention (i.e. 'U' category) regardless of the development proposals.

6. ARBORICULTURAL IMPACT ASSESSMENT

6.1. Proposed Development

- 6.1.1. It is proposed to construct two new houses on the current plot of land with associated car parking and soft landscaping. These proposals are encapsulated in the proposed site plan titled Proposed Site Plan Ref: 3297 - 02

6.2. Impacts

- 6.2.1. I have overlayed the propped site plan titled Proposed Site Plan Ref: 3297 - 02 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.
- 6.2.2. 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.
- 6.2.3. 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 Hard Standing (m)	Distance to Proposed Development (m)	Can the Tree/s be Successfully Retained	Retention Category
T1#	5	4.00	22.40	Yes	C1
T2	92	1.80	22.20	Yes, as outlined in Section 7.2 & 7.3	B1

Tree No.	Root Protection Area identified (m ²) in Table 2 of BS 5837:2012	Distance to Proposed Hard Standing (m)	Distance to Proposed Development (m)	Can the Tree/s be Successfully Retained	Retention Category
T3	113	-	-	No	B1
T4	18	-	-	No	B1
T5	35	-	-	No	B1
H6	5	1.20	1.30	Yes	C1
T7	255	6.00	14.30	Yes, as outlined in section 7.4, 7.5 & 7.7	B1
G8#	163	4.00	13.60	Yes, as outlined in section 7.4, 7.5 & 7.7	B2
T9	255	-	-	No	B1
T10	163	11.60	6.10	Yes, as outlined in section 7.4	B1
T11#	28	8.40	4.10	Yes	C1
G12	72	16.20	11.80	Yes	B2
T13	26	18.80	15.70	Yes	C1
T14#	18	-	-	No. Remove due to condition	U
H15#	3	10.20	1.80	Yes	C2
H16	3	0.00	2.20	1 x section to be removed. Remaining parts can be retained.	C2

6.2.4. 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	G12,	T2, T7, G8#, T10,	-	T3, T4, T5, T9
Category C	T1#, H6, T11#, T13, H15#, H16	-	-	1 x Section of H16
Category U	-	-	T14#	-
TOTAL	7	4	1	4

6.2.5. As can be seen in table 3, 4 category B Trees, and 1 section of 1 category C hedgerow tree will require removal to facilitate this proposal. This can be mitigated as outlined in section 8.1. One Category U tree required removal due to its condition and not due to the development proposals.

7. MITIGATION PROPOSALS

7.1. Compensatory Planting

- 7.1.1. I have noted 4 tree removals required to facilitate this development and I therefore recommend that the loss of the trees identified in table 3 is mitigated by replacement tree planting.
- 7.1.2. 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.
 -
- 7.1.3. I propose a list of suitable replacement trees in the schedule below: -

Table 4. Replacement Tree Schedule

Tree Species	Tree Size
<i>Acer campestre</i>	12-14 cm girth
<i>Betula pendula</i> 'Fastigiata Joes' Tree	12-14 cm girth
<i>Sorbus Aria</i>	12-14 cm girth
<i>Crataegus Monogyna Stricta</i>	12-14 cm girth
<i>Sorbus aucuparia</i>	12-14 cm girth
<i>Carpinus betulus</i> 'Frans Fontaine'	12-14 cm girth

- 7.1.4. 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 at Rochdale council usually involve replacement of trees on a two for one basis.

7.2. Construction of new hardstanding within the RPA of T2

- 7.2.1. It is my opinion that the construction of hardstanding areas within the RPA of T2 will likely have an adverse effect on the Safe Useful Life Expectancy if no mitigation measures are used.
- 7.2.2. Section 7.5.3 of BS 5837:2012 advises that where new hardstanding is to be formed within the RPA it should not exceed 20% of any existing unsurfaced ground. The table below details the amount of encroachment within the RPA.

Table 5. Encroachment of hardstanding into RPAs.

Tree No	Total Area m² of RPA	Total m² of Structure within the RPA	Percentage of Hardstanding within the RPA
T2	92	12.30	13.30

7.2.3. As can be seen from table 5 the proposed structure does not exceed 20% of the RPA and is line within the recommended guidance limits.

7.2.4. If ground levels remain the same, the detrimental effects the driveway would have on this tree would be: -

- Compaction, resulting in oxygen depletion, caused from creating the access way.
- The loss of a permeable surface.

7.2.5. It is now possible with the use of a cellular confinement system to be able to create hard surfaces very close to trees without having a detrimental effect.

7.2.6. A cellular confinement system provides a load transfer mattress which prevents direct loads on tree roots and reduces the bearing pressure on subsoil's by stabilising aggregate surfaces against rutting under wheel loads.

7.2.7. It is my opinion that should a cellular confinement system be used for the construction of the hardstanding within the RPA of T2 then the proposals should not have a detrimental effect on the Safe Useful Life Expectancy of the trees.

7.3. Uplift & Re-laying of Existing Hardstanding Adjacent to T2

7.3.1. During my analyses I noted that the uplift & re-laying of the existing hardstanding could have implications for T2 and may adversely affect the Safe Useful Life Expectancy of this tree.

7.3.2. I believe that these negative implications can be avoided if during the uplift & re-laying of the existing driveway within the RPA of any retained trees, all excavation within the RPA is limited to the existing hard standing layer and work is undertaken with the smallest machinery that can undertake the task.

7.4. Piled Foundations

- 7.4.1. The proximity of the proposed new buildings to T7, G8# & T10 could have negative implications for the Safe Useful Life Expectancy of these trees.
- 7.4.2. It is my opinion that this impact can be reduced should the following design principal be implemented: -
- a) The buildings should have a designed foundation to reduce the amount of excavation required for its construction. This can be achieved by constructing the extension with a pile and beam foundation, where the beams are laid above ground level.
 - b) If the above foundation is implemented and in general the ground levels remain the same the only detrimental effect the proposals would have on this tree would be slight root severance in localised areas.
 - c) Where piling is to be installed near to trees, the smallest practical pile diameter should be used, as this reduces the possibility of striking major tree roots and reduces the size of the rig required to sink the piles.
 - d) Use of the smallest practical piling rig for the proposed piling will be used to reduce pressure on the soil and also to prevent the need for access facilitation pruning.
 - e) The pile type should be selected bearing in mind the need to protect the soil and adjacent roots from the potentially toxic effects of uncured concrete, e.g. sleeved bored pile or screw pile.
- 7.4.3. Should these designs be utilised in the construction of the buildings then the Safe Useful Life Expectancy of the retained trees will not be adversely affected.

7.5. Boundary Fence Construction

- 7.5.1. The proposed developments new boundary fence could have negative implications for T7 & G8# and could have negative implications for the Safe Useful Life Expectancy of the trees.
- 7.5.2. It is my opinion that any adverse effects of the installation of this fence 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.
- 7.5.3. If the above measures are adhered to then the installation of the fence will not adversely affect the Safe Useful Life Expectancy of T7 & G8#.

7.6. Installation of Utilities

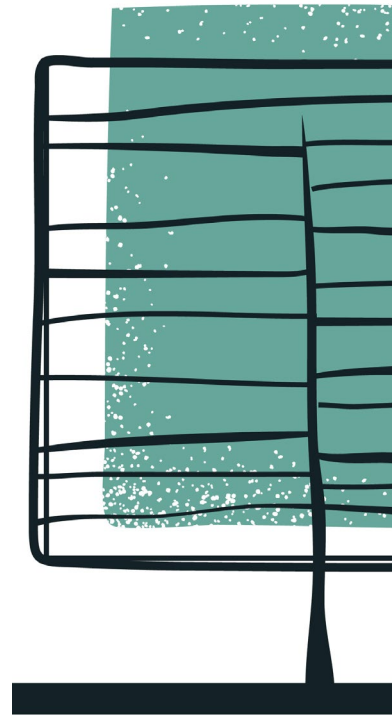
- 7.6.1. I have not been informed about the locations of any new utilities; however, it is expected that utilities will be installed and therefore the excavation for the installation of new utilities could have negative implications for the retained trees on this site.
- 7.6.2. It is my opinion that 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 the retained trees will not be adversely affected.

7.7. Pruning of T7 & G8#

- 7.7.1. I note that the proposals will require the reduction of the crown of T7 on the southeastern side by 3.8 metres.
- 7.7.2. I note that the proposals will require the reduction of the crown of G8# on the southeastern side by 2.7 metres.
- 7.7.3. 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. CAVEATS AND LIMITATIONS

- 8.1.1. 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).
- 8.1.2. 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.
- 8.1.3. 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.
- 8.1.4. 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.
- 8.1.5. For the purposes of this survey all dimensions of trees and their associated parts are based on estimation unless otherwise stated.
- 8.1.6. 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: 04/09/2023

JOB REFERENCE: LTM0891.AIA.01

SITE ADDRESS: Land adjacent to 70 Kirkway, Middleton

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#	Yew	110	5	1.32	3	Y	0.5	1	1	0.5	0S	A	An ornamental tree located in brick planter adjacent to Kirkway. Vitality is within normal range. Tree appears stable. Easily replaced.	No action	40+	C1
T2	Eucalyptus	450	92	5.4	10	SM	2.5	2.5	2.5	2.5	3N	A	A multi-stemmed eucalyptus tree located in brick planter adjacent to Kirkway. Vitality is within normal range. Tree has been reduced in height approx. 3 to 5 years previous with good response to pruning works. Highly visible from public viewpoints.	No action	20+	B1
T3	Ash	500	113	6	15	EM	6	5	5	5.5	2.5E	A	An ivy clad specimen located in garden area. Vitality is within normal range with no evidence of of ash dieback disease. Ivy prevented a detailed inspection. DBH estimated. Highly visible from public viewpoints.	No action	40+	B1
T4	Plum	200	18	2.4	9	EM	1	2.5	1	1.5	3.5E	B	Ivy clad specimen located adjacent to public footpath. Vitality is within normal range. Tree appears stable.	No action	20+	B1
T5	Rowan	280	35	3.36	8	EM	3	3	0.5	2	2.5N	A	Asymmetrical crown due to adjacent trees. Dense ivy on main stem. Codominant stems. Tree appears stable.	No action	40+	B1
H6	Cypress	110	5	1.32	8	SM	1	1	1	1	0N	B	A boundary hedge group. Lapsed. Vitality is within normal range. Multi-stemmed trees in group with included unions. Trees providing screen to adjacent garden.	No action	20+	C1
T7	Sycamore	750	255	9	17	M	7.5	8	7.5	7	1E	A	A third party owned tree. No access to inspect. Estimated measurements. Codominant stems. Vitality is within normal range and tree appears stable.	No action	40+	B1

BS5837:2012 TREE SCHEDULE



DATE OF SURVEY: 04/09/2023

JOB REFERENCE: LTM0891.AIA.01

SITE ADDRESS: Land adjacent to 70 Kirkway, Middleton

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						
G8#	Sycamore x 2	600	163	7.2	16	EM	6	6	6	6	2E	A	A third party owned group. No access to inspect. 1 x tree is double stemmed and has been historically topped on 1 x stem. Estimated measurements. Vitality appears normal. No significant risk features observed.	No action	40+	B2
T9	Sycamore	750	255	9	18	EM	5	7	6	4	6E	A	A double stemmed tree located on bank on site boundary. Very dense vegetation around base prevented a detailed inspection. Vitality appears normal. Tree appears stable. Estimated measurements.	No action	40+	B1
T10	Sycamore	600	163	7.2	17	EM	7	6	5	5	5E	A	A third party owned tree. No access to inspect. Estimated measurements. Vitality is within normal range and tree appears stable.	No action	40+	B1
T11#	Laburnum	250	28	3	5	EM	2	4	3	0.1	3E	B	Asymmetrical crown due to adjacent trees. Suppressed. Codominant stems. No access to inspect base due to dense vegetation. Estimated measurements and location.	No action	20+	C1
G12	Norway Maple x 2	400	72	4.8	18	EM	5	5	5	5	3E	A	A third party group located on bank adjacent to public foot path. Vitality is within normal range. No significant risk features observed. Trees appear stable.	No action	40+	B2
T13	Normal Maple	240	26	2.88	11	SM	3	6	5	0.1	2.5E	B	Asymmetrical crown due to adjacent trees. Suppressed. Vitality is within normal range. Tree appears stable.	No action	40+	C1
T14#	Rowan	200	18	2.4	4	M	1	1	1	1	3N	D	A dead standing tree adjacent to footpath.	Remove	<10	U

BS5837:2012 TREE SCHEDULE

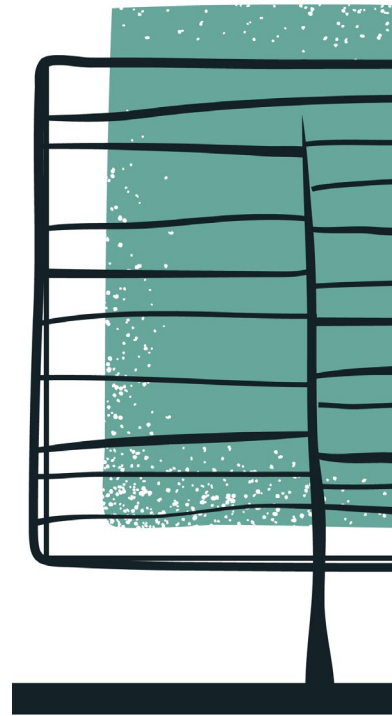


DATE OF SURVEY: 04/09/2023

JOB REFERENCE: LTM0891.AIA.01

SITE ADDRESS: Land adjacent to 70 Kirkway, Middleton

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						
H15#	Holly. Hawthorn	85	3	1.02	3	EM	1	1	1	1	1	A	A boundary hedge group.	No action	40+	C2
H16	Privet. Holly	75	3	0.9	2	EM	0.8	0.8	0.8	0.8	0N	A	A boundary hedge group.	No action	40+	C2



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 split 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, it 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.).

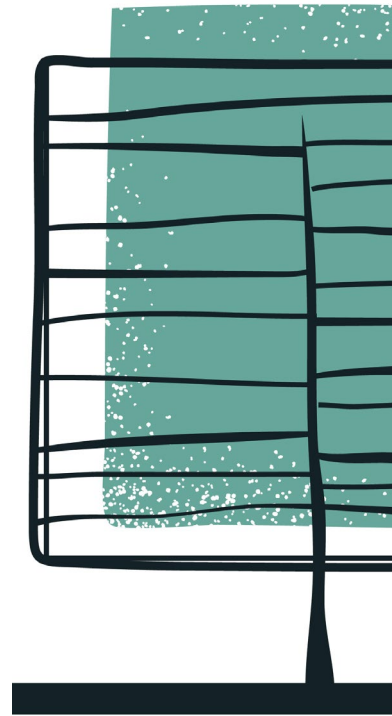
End Weight - The concentration of foliage at the distal ends of stems and deficient in secondary branches.

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.

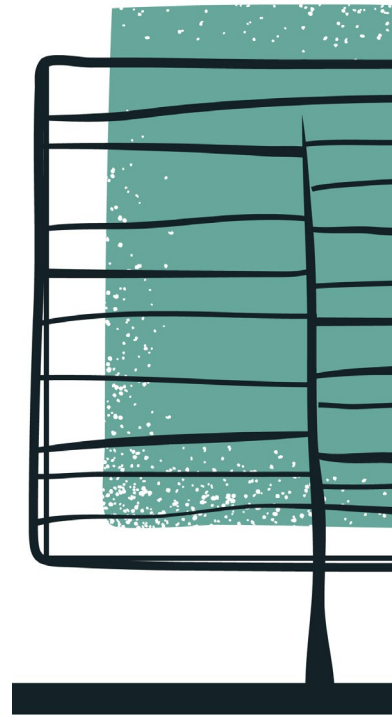
Note: The definitions described above, may not necessarily be included within the Arboricultural Survey Data.



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	○ 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) ○ Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. ○ 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: <i>Category U trees can have existing or potential conservation value which might be desirable to preserve; see section 4.7.5</i>		
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

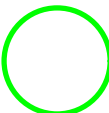
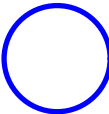
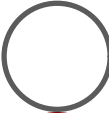


Appendix IV

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..

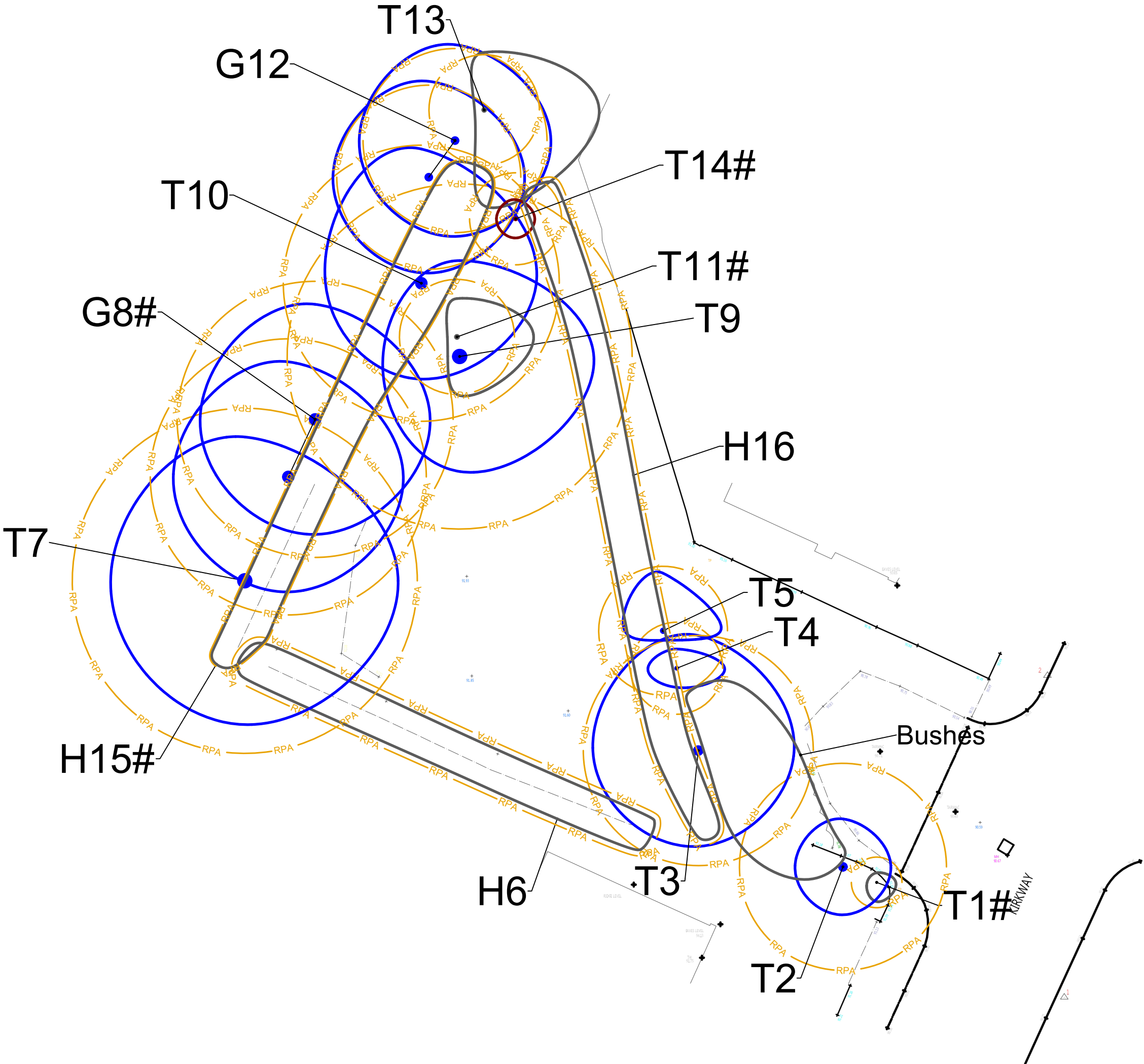


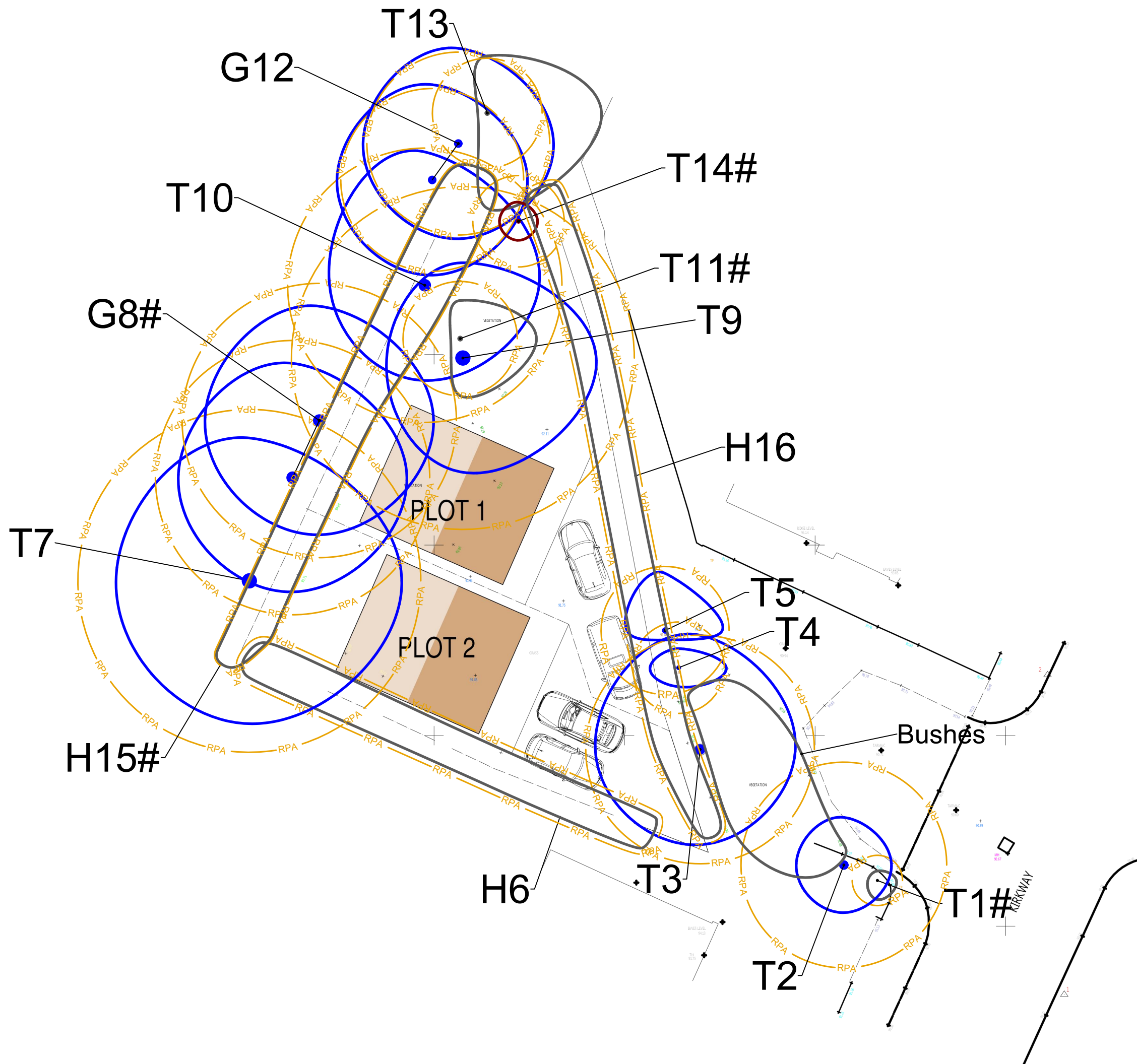
-  Category A
-  Category B
-  Category C
-  Category U
-  Root Protection Area (RPA)
-  Position estimated on site



Scale:	1:200 @ A3	Date:	09/09/2023
Job:	LTM0891.AIA.01		
Address	Land adjacent to 70 Kirkway Middleton M24 1EL		
Client:	Mr P Henstock		
Drawing Number:	LTM0891.TCP.01		
Drawn by:	Matthew Lally		

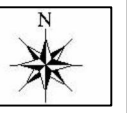
TREE CONSTRAINTS PLAN

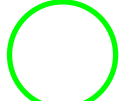
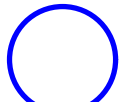
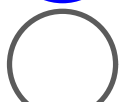
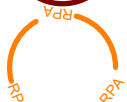




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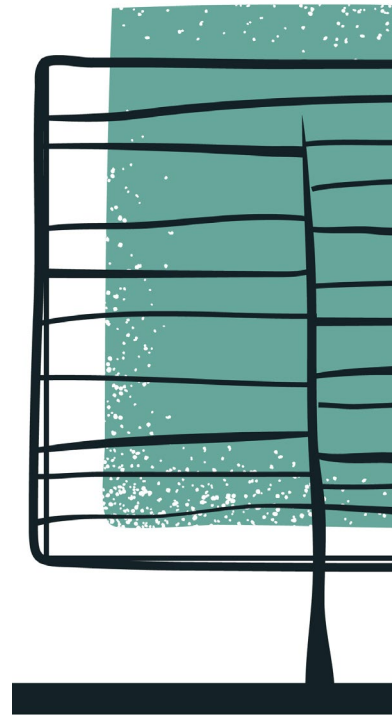
LEGEND



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



Scale:	1:200 @ A3	Date:	09/09/2023
Job:	LTM0891.AIA.01		
Address	Land adjacent to 70 Kirkway Middleton M24 1EL		
Client:	Mr P Henstock		
Drawing Number:	LTM0891.AIP.01		
Drawn by:	Matthew Lally		
ARBORICULTURAL IMPLICATIONS PLAN			



Appendix v

Pictorial Evidence



Picture 1. T1 & T2 are highly visible from public viewpoints.



Picture 2. T3.



Picture 3. T4 & T5



Picture 4. H6



Picture 5. T7



Picture 6. G8#



Picture 7. T9 & T11



Picture 8. T9 seen from public footpath.



Picture 9. G12 & T13



Picture 10. T14



Picture 11. H16