

Former MTL Site - Pop-Up Studio

Tree Survey Report

Morgan Sindall

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Quality information

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Table of Contents

1.	Introduction.....	6
1.1	Background.....	6
1.2	Trees and the Planning Process.....	6
1.2.1	Local Policy Context.....	6
1.3	Methodology.....	8
2.	General Arboricultural Principles.....	9
2.1	General Principles.....	9
2.2	Below Ground Constraints.....	9
2.3	Soils.....	9
2.4	Above Ground Constraints.....	10
2.5	Trees and Risk in the Context of Development.....	10
2.6	Trees and Wildlife.....	10
2.7	Tree Works.....	10
3.	Field Work Observations.....	10
3.1	The Site.....	10
3.2	The Trees.....	11
3.3	Statutory and Non Statutory Designations.....	12
3.3.1	Statutory Designations:.....	12
3.3.2	Non Statutory Designations.....	13
4.	Tree Related Constraints and Opportunities.....	13
4.1	Tree Categorisations as per BS5837:2012.....	13
4.2	Considerations.....	14
4.3	The Future Impact of Trees.....	14
4.4	Tree Planting.....	15
5.	Summary and Conclusion.....	16
	References.....	18
	Appendix A Tree Constraints Plan.....	19
	Appendix B Tree Survey Schedule.....	20
	Key to Abbreviations Used in the Survey.....	51
	Appendix C Site Boundary.....	52
	Appendix D Site Photography.....	53

Figures

Figure 1. Excerpt from Policy GI 8 Management of Existing Site Vegetation, Table 11, showing replacement standard for mitigation of tree loss.	7
Figure 2. Showing third party tree avenue.	54
Figure 3. Third party tree avenue with damage to surfacing.	54
Figure 4. Looking south with T45 left.	54
Figure 5. Looking east with T55.	54
Figure 6. Looking west central to the lime avenue on site.....	55
Figure 7. Looking south at G125.	55
Figure 8. View north of Innovation Boulevard.....	55
Figure 9. View west along Digital Way.	55

Tables

Table 1: BS5837:2012 Tree Categorisation process 8

Table 2 Summary of trees in each quality category. 13

1. Introduction

1.1 Background

AECOM has been instructed by Morgan Sindall (the Client) to carry out a Tree Survey to BS5837:2012 Trees in relation to design, demolition and construction – Recommendations (BS5837); to include trees with the potential to be affected by development works within or immediately adjacent to the predetermined area of the Site (hereafter referred to as 'the Site'). This report identifies preliminary information in relation to the nature and level of constraints posed by existing trees on Site and is intended to inform the development of any design proposals and working methodologies to ensure that the potential impacts on significant trees are fully considered.

1.2 Trees and the Planning Process

The National Planning Policy Framework (NPPF) seeks to ensure that new development is sustainable and underlines the importance of Green Infrastructure, of which trees form an integral part. This encompasses a recognition of the importance of trees in relation to the management of air, soil and water quality along with other associated ecosystem services and climate change adaptation. The NPPF also seeks to achieve the protection and enhancement of landscapes and a net gain in biodiversity. Finally it specifically identifies veteran and ancient trees and woodland as a highly valuable and irreplaceable habitat.

Local Planning Authorities (LPA) in the UK have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees (including those not protected by a Tree Preservation Order or other statutory designation) is therefore a material consideration.

'BS5837:2012 Trees in relation to design demolition and construction – Recommendations (BS5837)' provides a framework which sets out how trees should be considered in this context and also explicitly applies to development where planning consent is not required.

BS5837 recommends that a tree survey is undertaken to identify the quality and benefits of trees and the spatial constraints associated with them. This is then used to produce a Tree Constraints Plan showing the above and below ground constraints associated with trees. This drawing is used to inform the design process and to allow the retention of good quality trees where appropriate.

An Arboricultural Impact Assessment is then developed to identify the likely direct and indirect impacts of the Proposed Development, and a Tree Protection Plan is prepared to identify trees to be removed or retained and to illustrate how retained trees are to be protected. An Arboricultural Method Statement is often required as a condition of planning consent to detail how sensitive operations are to be achieved in close proximity to retained trees. These elements are the minimum normally required for a planning application and are intended to ensure both a sustainable and harmonious relationship between trees and new development.

1.2.1 Local Policy Context

Local Planning Authorities have a statutory duty to consider trees when granting planning permission. The Liverpool Local Plan 2013 -2033 Pre-submission draft January 2018 outlines Liverpool City Council's expectations regarding trees and development.

Tree Retention

Policy CC26 Protection and Enhancement of Green Infrastructure states regarding tree retention "*All new development proposals within the City Centre will, wherever possible, be expected to include an element of green infrastructure within the overall design of the scheme. Proposals should incorporate as many of the following design measures as possible: ...b. Street trees and other trees*".

Policy GI 3 Open Space, Sport and Recreation Provision furthers the expectation for appropriate tree retention stating "*2. The visual amenity and structural value of the open space in terms of: ...d. Important trees and landscaping features*".

Trees and the Design Phase

The consideration of trees during the design phase for new developments is highlighted in Policy GI 8 Management of Existing Site Vegetation, stating *"In order to protect and integrate existing trees and landscape features within new development, developers must demonstrate that:*

- a. The tree constraints highlighted by the survey have informed the site layout design to ensure that development is suitably integrated with trees and that potential conflicts are avoided.*
- b. Site layouts of the proposed development show adequate spacing between existing retained trees, taking into account the current and future spatial requirement of the tree both above and underground.*
- c. Any tree that is removed as part of an agreed development scheme will be replaced in accordance with the tree compensation standard set out below, which reflects the size of the tree. If replacement tree planting cannot be reasonably be located on site, then the City Council may seek funding from the developer for off-site planting in the locality".*

The importance for considering trees during the design phase is furthered emphasised in Section 12.43 *"Where a proposal would lead to significant tree loss the application may be refused"*, and Section 2.44 *"All new development should integrate important existing trees but where tree loss or damage is unavoidable and essential to allow for development, replacement trees of an appropriate species should be provided, in accordance with the tree compensation standard"*.

Tree Loss Mitigation

Mitigation for tree loss and the expectation to increase provision of new planting on development sites are highlighted in Policy GI 7 – New Planting and Design *"1. All new development should make provision on site for the planting and successful growth of new trees and landscaping, including any replacement planting provided as compensation for loss due to development. It should be demonstrated that: a. New planting is sustainable for the long-term, fit for purpose, and species selection has had regard to international, national, sub-regional and local biodiversity initiatives"*.

The requirement mitigation for tree loss is identified in Table 11, Policy GI 8 Management of Existing Site Vegetation, identifying the required number of replacement trees per size of tree lost to development (measured as trunk diameter in cm at 1.5m above ground level).

Trunk Diameter of tree lost to development (cm at 1.5m)	Number of Replacement Trees
Less than 15cm	0-1
15-19.9	1
20-29.9	2
30-39.9	3
40-49.9	4
50-59.9	5
60-69.9	6
70-79.9	7
80+	8

Figure 1. Excerpt from Policy GI 8 Management of Existing Site Vegetation, Table 11, showing replacement standard for mitigation of tree loss.

Where mitigation for tree loss cannot be achieved on the Site in question, mitigation planting may be offset where approved by Liverpool City Council, stating in Section 12.44 *"Developers are expected to plant trees, either on their own or public land. In the case that they cannot, by making a payment to the Council and signing a legal agreement the Council will plant the trees on the highway or within green space on behalf of the developer."*

The requirement for mitigation planting is justified in Explanation 12.42, stating “*This policy sets out the requirements with regard to retaining/ managing existing vegetation and trees. There will be a presumption in favour of retaining existing trees within development proposals, even where such trees are not subject to a preservation order or within a Conservation Area.*”

The above excerpts demonstrate the importance for the consideration of retaining and protecting appropriate trees on Site, and where this is not feasible, mitigation planting for tree loss.

1.3 Methodology

The tree survey has been based on the topographical survey plan provided (ref: 031650-DBS-XX-XX-DR-A-1200_Proposed Site Plan_SOP01).

A small number of trees were not included on the topographical survey plan and have been plotted indicatively with reference to site features and publicly available aerial photography. Such trees have been marked with an ‘*’ on the Tree Survey Schedule included as Appendix B. As such all positions for these trees must be considered to be indicative only and the relative distances of features must be measured out on Site as required.

The survey was otherwise conducted in accordance with the requirements of BS5837.

The initial fieldwork was undertaken on 24th and 27th July 2020, during which dimensional data and observational information were collected. A diameter tape measure was used to measure stem diameters where feasible.

The fieldwork informing this report has comprised a preliminary, non-intrusive, visual survey undertaken from ground level with the specific intention of evaluating the quality and benefits of trees on Site.

Where further inspection is deemed appropriate to ascertain the condition of the tree or other arboreal features, this has been identified within the preliminary management recommendations. Average dimensions or dimensional ranges have occasionally been used, where appropriate, to best describe features.

The Root Protection Area (RPA) is the notional extent of what is considered to be the key rooting area for tree health and function. This is generally depicted as a circle but can be amended to a polygon with an equivalent area in accordance with Section 4.6.2 of BS5837 where the RPA is likely to have developed asymmetrically. The RPA of all surveyed trees is depicted as a circle and no RPAs have been amended.

A Tree Constraints Plan showing the position of trees and the spatial constraints associated with them is included as Appendix A of this report, which corresponds with the Tree Survey Schedule presented in Appendix B.

The tree categorisation process recommended by BS5837:2012 is summarised in the table below and corresponds with the tree canopy outline shown on the Tree Constraints Plan (Appendix A) and the information in the Tree Survey Schedule (Appendix B).

Table 1: BS5837:2012 Tree Categorisation process

Category	Definition
A	High quality, minimum of 40+ years remaining contribution
B	Moderate quality, minimum of 20+ years remaining contribution
C	Low quality, minimum of 10+ years remaining contribution
U	Unsuitable for retention, <10 years remaining contribution
1	Arboricultural value
2	Landscape value
3	Conservation or cultural value

2. General Arboricultural Principles

2.1 General Principles

Trees are dynamic living organisms which provide essential benefits to society and the wider environment. Any Proposed Development with the potential to impact on trees must take into consideration the value of trees on Site; the impact of any proposed activity along with any potential future conflicts on the Site. Suitable measures to safeguard retained trees or mitigate the loss of trees (to be removed) will need to be fully considered and may be subject to a condition of planning consent.

Tree branches and roots frequently grow across Site boundaries and off Site trees can pose a significant constraint, and should be carefully considered when assessing the developable space within a Site.

2.2 Below Ground Constraints

Below ground tree roots and the soil environment in which they grow need to be protected if the tree is to be retained. Trees grow in association with fungi and other soil organisms which are of key importance to tree health. Roots are essential for anchorage, the uptake of water and nutrients, and the storage of energy (carbohydrates) for the future growth and function of the tree.

Roots can be damaged by physical severance or wounding (e.g. following excavation of the soil) which can lead to the development of decay and a decline in vitality and/or instability. Raising the soil level can bury tree roots at a depth where suitable conditions for growth are less available. Toxic materials discharged into the soil (such as cement based aggregates, fuel and chemicals) can lead to root death and dysfunction. Soils can be compacted to levels inhospitable to tree growth with even a single pass of machinery, regular pedestrian traffic or the storage of plant and materials. Relieving compaction can be problematic and may require costly remedial works. Changes in drainage/water levels can also have significant long-term impacts for tree health.

The effects of these incursions may take many years to manifest, with a resulting decline in amenity value and potentially the death or failure of the tree. It should be noted that older trees are particularly sensitive to damage and changes in conditions.

The Root Protection Area (RPA) is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. This area is deemed to be particularly important for tree stability, growth, function and health. However, roots may extend far greater distances, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients). It is generally accepted that tree roots are predominantly located in the upper 1000mm of soil; however, roots may develop at deeper levels where conditions allow.

RPAs are calculated as per BS5837: 2012 Annex C, D and Section 4.6 in the BS 5837 2012 Document.

The RPA of the existing tree stock is an important material consideration when considering Site constraints and planning development activities. The RPA of significant trees on Site is shown on the Tree Constraints Plan (Appendix A).

The default position must be that all development, including any associated services will occur outside the RPAs of retained trees. Where this is unavoidable, it may be appropriate to use special measures to install structures, services or surfacing within RPAs which allow the protection of roots and soil structure which are essential for tree growth and keep any incursion to a minimum.

Further steps to improve or increase the useable rooting area available to the tree may also be required.

2.3 Soils

On shrinkable clay soil, tree growth can lead to the differential movement of structures as moisture is removed from the soil during the growing season. Soils must be carefully assessed, and any foundations must be installed following the recommendations of National House Building Council (NHBC) Standards Chapter 4.2: *Building Near Trees (2018)* to avoid potential future damage. Where trees which predate existing structures are to be removed, this can result in heave as the soils are re-wet.

The advice of a suitably qualified engineer must be obtained to inform any potential issue of heave. Specific advice in relation to this issue is beyond the scope of this report.

2.4 Above Ground Constraints

Tree stems and branches can restrict available space on 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.

2.5 Trees and Risk in the Context of Development

Tree owners/managers have a legal duty to prevent foreseeable harm. It is generally accepted that this duty can be fulfilled by undertaking proactive inspections of significant trees to identify obvious defects and by taking appropriate remedial action or gaining further advice as appropriate.

AECOM can provide surveys and advice in relation to tree risk management if required. Further guidance is available from the National Tree Safety Group¹.

The tree survey carried out as the basis of this report is primarily for planning purposes, focusing on the quality and benefits of the trees and is not specifically designed to assess the safety of trees on Site. However, when obvious issues have been identified recommendations have been included in the Tree Survey Schedule.

The Construction (Design and Management) Regulations (2015) states that developers and contractors have responsibilities for health and safety as a result of their actions. Should trees be left in an unstable or hazardous condition the Health and Safety Executive (HSE) could seek to prosecute those responsible along with the potential for further Civil claims for damages.

2.6 Trees and Wildlife

Full consideration must be given to the presence of species protected under the Wildlife and Countryside Act (1981 - as amended), the Countryside Rights of Way Act (2000) and the Conservation of Habitats and Species Regulations (2017), in particular the presence of bats and nesting birds. It is recommended that wherever possible, significant tree/hedge works take place outside of the typical bird nesting season of March to September. The advice of a suitably qualified Ecologist is recommended in relation to any potential impacts on protected species.

2.7 Tree Works

Any tree surgery recommendations contained within this report are to be undertaken in accordance with BS3998: 2010 Tree work – Recommendations (BS3998) by suitably qualified and insured contractors. Significant pruning works are best undertaken when trees are dormant or outside periods of high functional activity to reduce the overall impact on energy available to the tree for growth and processes. In general the optimum period for works is between November to February and July to August (subject to the presence of protected species) when the tree is less active and better placed to respond to wounding and a reduction in leaf area.

3. Field Work Observations

3.1 The Site

The Site boundary is shown on the Survey Area Document included as Appendix C of this report.

¹ National Tree Safety Group (NTSG), 2011. Common sense risk management of trees. Forestry Commission.

The Site is located at The Liverpool Innovation Park, a mixture of business and industrial complexes to the east and south, with a large, likely disused, facility to the west.

The wider area is comprised of business and industrial areas to the east and south, botanical gardens approximately 250m to the west, with urban residential housing to the north beyond the A5047.

The existing use of the Site is as three distinct land parcels, comprised of peripheral footpaths and access roads, internal footpaths, hard landscaping, large central areas of grassland and boundary trees underplanted with ornamental managed hedgerows.

Site topography is typically flat with no significant slopes or changes in elevation noted at the time of surveying. The southern most grassland parcel was noted as being significantly wet underfoot, which may indicate poor drainage. This is supported by a mixture of tree species typically found in wet, flooded and riparian environments.

AECOM accessed the Geology of Britain Viewer² on 30th July 2020. Site bedrock is identified as Chester Formation - Sandstone, Pebbly (gravelly) with superficial deposits of Till, Devensian - Clay, Sandy, Gravelly, Cobbly.

Following a review of Cranfield University's Soils Mapping³ on 30th July 2020, Site soils are identified as Slowly permeable seasonally wet, slightly acid but base-rich loamy and clayey soils with impeded drainage.

3.2 The Trees

A total of 141 features were included during the survey, which includes: 109 individual trees, 16 tree groups and 16 hedges.

The trees on Site are predominantly semi mature and in a good condition. Species present include sweet gum (*Liquidambar styraciflua*), goat willow (*Salix caprea*), dawn redwood (*Metasequoia glyptostroboides*), Austrian pine (*Pinus nigra*), pine (*Pinus sp.*), paper birch (*Betula papyrifera*), Himalayan birch (*Betula utilis*), small-leaved lime (*Tilia cordata*), common lime (*Tilia X europea*), hybrid black poplar (*Populus x canadensis*), common alder (*Alnus cordata*), cherry laurel (*Prunus laurocerasus*), buddleja (*Buddleja sp.*), sycamore (*Acer pseudoplatanus*) and aspen (*Populus tremula*).

A number of ornamental shrubs were included within the survey where considered significant, including: bamboo (*Bambusoideae sp.*), red robin (*Photinia x fraseri 'Red Robin'*), box (*Buxus sempervirens*), fatsia (*Fatsia japonica*), viburnum (*Viburnum davidii*), hebe (*Hebe rakaiensis*) and cotoneaster (*Cotoneaster sp.*).

The most significant trees included within the survey are G125, a moderate quality (Category B) third party tree group, formed of hybrid black poplars, established along the southern boundary to Land Parcel C.

Previously pollarded at an approximate height of 5m, the management regime has likely lapsed due to the estimated diameter of the pollard poles (circa 200mm and over). Further to this, the majority of the trees within G125 showed signs of natural pruning of the pollard poles, including dieback of individual poles, prolific deadwood within the canopy, individual branch failures and hung up branches.

It is considered that the likelihood of pollard pole failure is high under normal weather conditions however, under the current land use (a suspected flood-prone grassland area) the trees pose little risk with no clear target. If development is to be undertaken resulting in a change in land use adjacent to these trees it is recommended that the tree owner is contacted prior to the commencement of any development in order to undertake essential safety tree works.

It is likely that re-pollarding the trees will result in significant decline and possible death of the tree group due to the maturity of the pollard bole and poles, and the subsequent effect on dormant and advantageous buds flushing post pruning. It is advised that a staged pruning programme is likely to be necessary to facilitate the safe retention of the third party boundary tree group whilst allowing for any development works and subsequent post development land use to be undertaken in reasonable safety.

To the north of the Site, 12 third party sweet gum trees of moderate quality, form a single line avenue outside the Site boundary along the A5047. Extending parallel to the Site boundary, a tree group is established close to the boundary fencing and is therefore unsuitable for retention (Category U). Formed predominantly of previously

² <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

³ <http://www.landis.org.uk/soilsmap/#>

coppiced goat willow, this tree group will require cyclical cutting back to prevent any potential infrastructure damage and is therefore unsuitable for retention in its present location.

To the northern extent of Innovation Boulevard, several Austrian pine trees of moderate quality form an avenue adjacent to the footway, with a good contribution to Site character, with an expected high future potential. Numerous groups of low lying ornamental shrubs and plants are established at the bases of these trees and within the planting areas to the north of the Site, as shown on the Tree Constraints Plan included as Appendix A.

To the northeast of the Site, numerous dawn redwoods and small hedgerows formed of bamboo, all of low quality, line Digital Way, adjacent to the footpath and access road. These trees and hedgerows contribute well to the Site's character and landscape however, due to their size and relative age, these trees and hedgerows are likely easily replaceable and have therefore been considered of lower constraint to any proposed development.

Central to the Site, numerous individual trees from the genus *Tilia*, form several single line avenue rows, underplanted with various ornamental low lying plants and shrubs, constituting as a formal landscaped walkway leading from Innovation Boulevard to a large facility within Innovation Park. Despite a high contribution to landscape character and forming a formal feature to the central Site, it is considered that due to each individual tree's overall size and relative age, each tree is likely easily replaceable and should therefore pose lesser constraint to any proposed development due to their overall replaceability within the landscape.

To the south of the Site, numerous trees of predominantly low quality are established along Innovation Boulevard, underplanted with various ornamental shrubs and low lying plants, forming small groups and formally managed hedgerows. Despite good contribution to Site and local character, these trees, tree groups and hedges, are likely easily replaceable due to their size and relative age and are therefore considered of lower constraint to any proposed development.

Across the Site, numerous groups and formally managed hedgerows of bamboo were identified. Bamboo is typically of a vigorous growth habit, with significant seasonal growth. It is considered that a continuation of regular pruning to manage the seasonal growth and prevent establishment of bamboo across the Site will be necessary to maintain the land at its present standard.

Site photography can be found at Appendix D located to the rear of this report.

3.3 Statutory and Non Statutory Designations

3.3.1 Statutory Designations:

AECOM accessed Liverpool City Council's online mapping⁴ on 30th July 2020. No Tree Preservation Orders or Conservation Area designations were identified which could affect trees within or immediately adjacent to the Site.

Following a review of Magic Map on 30th July 2020, the northern half of the Site was found to reside within a Site of Special Scientific Interest (SSSI) impact risk zone. The impact zone does not specifically reference trees and should therefore not be considered a constraint regarding trees and development.

The Hedgerow Regulations (1997) protect agricultural or countryside hedgerows which meet the requirements of an 'important hedgerow'. These include a minimum length of 20m (or meets another hedge at each end) and a minimum age of at least 30 years. A wide range of other ecological and archaeological/heritage features can constitute an important hedgerow and further advice from a qualified ecologist is recommended in advance of any planned works which could impact established hedgerows on or bordering agricultural or countryside land. Prior to the removal or destruction of a protected hedgerow an application must be made to the Local Planning Authority. Full planning consent is an exemption to this requirement.

A felling licence may be required by the Forestry Commission to fell more than 5m³ in any calendar quarter (subject to relevant exceptions including trees in gardens, designated public open spaces or churchyards).

Full planning consent is an exemption from the need to apply for consent for works to trees protected by a Tree Preservation Order, the need to give notice of the intention to undertake works within a Conservation Area and the need to apply for a Felling Licence with the Forestry Commission (to fell more than 5m³ per calendar

⁴ <http://mapspublic.liverpool.gov.uk/MapThatPublic/Default.aspx>

quarter). Prior to any tree works the status of trees to be removed or pruned must be verified with the LPA and the Forestry Commission as appropriate.

3.3.2 Non Statutory Designations

Following a review of Magic Map⁵ on 30th July 2020, the Site includes no ancient semi natural woodland, replanted ancient woodland or Biodiversity Action Plan (BAP) Priority Habitats.

An area of Priority Habitat Inventory - Deciduous Woodland (England) was identified southwest of the Site boundary by approximately 40m. Works within the Site boundary will not affect this non-statutory designation.

AECOM accessed the Woodland Trust's Ancient Tree Inventory⁶ on 30th July 2020. No trees were identified as ancient, veteran, notable or as having any other specialist designation.

4. Tree Related Constraints and Opportunities

The Tree Constraints Plan (Appendix A) shows the area of constraints associated with the trees on Site. As identified within the drawing key, the green shaded area shows the extent of tree canopies, the canopy outline colour indicates the quality category of the tree and the dashed black line is indicative of the RPA, which is the nominal area of tree roots which are generally considered essential to tree health and function. Roots are likely to extend outside of this point but beyond the RPA extent tree roots are not considered a significant constraint.

The default position is generally that all new features and associated works be located outside of areas where trees are to be retained.

4.1 Tree Categorisations as per BS5837:2012

The trees on Site have been assigned to a quality category as per BS5837:2012, which relates to their arboricultural, landscape and cultural/conservation value.

Category C trees are shown by a grey canopy outline on the Tree Constraints Plan (Appendix A). This means they are of relatively low quality and would not normally be considered a significant constraint to future development. However these trees may still provide some useful value and should be considered for retention where they do not pose a significant constraint to the Proposed Development.

Category B trees (blue canopy outline) are described as being of moderate quality and it is generally desirable to retain trees of this standard and incorporate them within the Proposed Development where ever feasible.

Category A trees (green canopy outline) are classified as being of high quality and trees of this nature should be retained and incorporated into the design of the Proposed Development due to the high level of benefits they provide.

Category U trees (red canopy outline) are trees with less than ten years of reasonable useful life expectancy or those in such poor condition that they should be removed, regardless of any development activity. Trees of this nature represent no constraint to development.

The table below summarises the number of trees in each category recorded within or adjacent to the Site.

Table 2 Summary of trees in each quality category.

Quality Category	A	B	C	U
Number of trees	0	24	116	1

⁵ <https://magic.defra.gov.uk/MagicMap.aspx>

⁶ <https://ati.woodlandtrust.org.uk/tree-search/?v=1741922&ml=map&z=15&nwLat=53.41135045759309&nwLng=-2.9584882050866113&seLat=53.4037012392664&seLng=-2.904286125313662>

4.2 Considerations

General

In planning terms lower quality trees can often be straightforwardly removed to facilitate development where their loss can be mitigated with replacement tree planting or where no replacement planting is necessary. This is likely to apply to Category C and Category U trees and hedgerows where there are no other constraints in place (e.g. ecological or heritage).

The default position must be that higher quality trees (Category B) be retained and protected however in some cases it may also be feasible to remove trees of this quality where there is no reasonable alternative and where the benefit of the development outweighs the impact of the loss of the tree/s. Should this be required pre application discussions with the LPA are recommended to manage the risk of refused consent.

Third Party Trees

If any of the trees are owned by third parties (such as T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, G125 and G135), prior consent must be in place before any tree works are carried out and it is recommended that this is secured prior to the submission of any planning application.

New Hard Surfacing

While it is often feasible to install new hard surfacing on existing soft ground within a tree RPA this generally requires the use of raised surfaces supported by carefully located piles or the use of proprietary load bearing surfaces (such as CellWeb, ArborRaft or equivalent) installed on top of the existing unsurfaced ground level using 'no dig' techniques. New areas of hard surfacing or building footprints should not generally occupy more than 20% of the RPA of a retained tree, as set out in Section 7.4.2.3 of BS5837.

Services

New services or the diversion or removal of existing services must be carefully considered. In general all new services should be routed outside of the RPA of retained trees. Where this is unavoidable alternative methodologies such as the use of directional drilling or equivalent trenchless techniques can facilitate service installation beneath tree root systems (likely to be at least 1m+ dependent on ground conditions and tree species affected).

Shallow service runs may be installed using hand excavation where all significant tree roots can be retained and services be threaded beneath. Existing services can be winched out from a manhole/chamber located outside of an RPA and redundant pipework can be decommissioned using pipe bursting techniques to avoid excavation which could damage roots.

These operations typically require a detailed arboricultural method statement to set out in detail how they can be successfully achieved.

Safety Works

G125, a third party boundary tree group has been identified as posing an elevated risk to any proposed development located within or near to the tree group's impact zone. This tree group requires immediate attention and it is not recommended that any development works are undertaken near to this tree group until: a safety survey is undertaken, any deadwood which may affect the Site is removed, and tree works to structurally improve the lapsed pollards, likely through the application of a staged crown reduction are actioned. Further details on G125 can be found in the Tree Survey Schedule, included as Appendix B.

4.3 The Future Impact of Trees

The future impact of trees on Site must be considered in relation to any development proposals. Trees and groups to be retained must be afforded suitable space to ensure they remain viable in the long term. Trees which are currently not fully grown will increase in size and this must be considered in conjunction with the Proposed Development and future use of the Site.

Shade

The Tree Constraints Plan shows the notional area of shade produced by the trees on Site (based on their current height) and this should inform the development of the Site layout. Due consideration must also be given to the likely future growth of the tree (which for younger trees is likely to involve a significant increase in the level of shade produced) and the advice of an arboriculturist should be obtained to inform this assessment. Key living areas and significant areas of open space should be positioned to avoid areas of shade associated with trees. This is likely to be most significant for the trees to the south and west of the Site (such as T14, T15, T16, T19, T20, T22, T24, T25, T27, T28, T29, T30, T45, T46, T49, T51, T53, T55, T57, T58, T59, T60, T61, T64, T65, T66, T67, T68 and G125).

Honeydew

Sycamore and lime trees (such as T58, T59, T60, T61, T64, T65, T66, T67, T68, T71, T73, T74, T75, T76, T77, T78, T79, G80, T81, T82, T83, T84, T85, T86, T87, T88, T89, T90, T91, T92, T93, T94, T95, T97, T98, T99, T100, T101, T102, T103, T104, T106, T107, T108, T109 and G133) are often associated with aphids which secrete a sticky liquid called 'honeydew'. This can be a nuisance for parked cars and potentially areas of hard surfacing and structures as the deposits can lead to the development of sooty moulds and staining. This can be easily cleaned with warm soapy water or equivalent and is likely to be less visible on darker surfaces. This potential future maintenance requirement should be considered in relation to the future use of the Site beneath the canopy of these trees where they are to be retained.

Future growth

The majority of trees on Site were identified as semi-mature and are likely to significantly increase in size through future incremental growth. When considering new developments, adequate provision should be made for trees to increase in size without causing foreseeable conflicts with proposed new infrastructure. This can generally be achieved by positioning structures and associated development away from any retained trees on Site which may increase significantly in size.

Leaf Fall

Deciduous trees (which includes all the trees surveyed with the exception of individuals, trees within tree groups and hedges: T15, H17, T18, T20, T21, H23, T25, H26, H31, H32, H33, H35, H37, H39, H43, T44, T45, T46, T47, T48, T49, T50, T51, G56, G62, G70, G72, G96, G105, H110, G115, G117, H119, H123, G128, G129, H131, G113, G138 and H139) will drop leaves each autumn and this is likely to result in a maintenance requirement to manage leaves on hard surfaced footways and to clear gutters where tree canopies extend over or immediately adjacent to roofs. Leaf fall can be easily cleared as required from hard surfacing. Non slip surfacing can reduce the frequency that this is required. Measures such as Gutter Guards or equivalent can be used to reduce the potential for leaves to block guttering and these should be employed where trees overhang or grow in close proximity to structures.

Evergreen trees (which includes individual and trees within tree groups and hedges: T15, H17, T18, T20, T21, H23, T25, H26, H31, H32, H33, H35, H37, H39, H43, T44, T45, T46, T47, T48, T49, T50, T51, G56, G62, G70, G72, G96, G105, H110, G115, G117, H119, H123, G128, G129, H131, G113, G138 and H139) will deposit leaves/needles, seeds and other detritus throughout the year.

Tree Protection

Trees to be retained in close proximity to areas of development activity, including areas for new surfacing, services, work site compounds and storage will need to be protected to ensure they are not damaged. This is generally achieved with the use of robust, immovable temporary tree protection fencing, to prevent access within the RPA or canopy spread of trees. Where access is unavoidable, alternative protection arrangements such as ground protection (sufficient to protect the structure of the soil from compaction), and /or access facilitation pruning (to ensure a reasonable clearance for operations is provided) may be required. The advice of an arboriculturist should be sought to inform this assessment.

4.4 Tree Planting

Where trees are to be removed due to a conflict with the proposed design, mitigation planting is likely to be required to ensure a continuity of tree cover for the Site and to address any negative impact on local amenity and

landscape character. Consideration should be given to the reasonable provision of space for new tree planting to off-set any necessary tree loss.

Where tree removals are proposed, suitable mitigation planting is required to ensure the development is in accordance with local planning policy, Policy GI 8 Management of Existing Site Vegetation, Table 11, which identifies the replacement standard for tree loss, shown as Figure 1.

Soil structure in areas for new planting will need to be maintained and may require protection during operation of the Proposed Development to ensure reasonable conditions for future tree growth are available.

New planting should consider the existing species mix present on site in relation to both arboricultural and ecological considerations. New planting also offers an opportunity to increase the species and age class diversity for a given area which can boost the resilience of the local tree stock in relation to pests, disease and climate change as well as providing a greater range of amenity and other benefits.

New trees should be planted in accordance with the guidance set out in BS8545:2014 Trees: from nursery to independence in the landscape - Recommendations (BS8545) and with the minimum distances from new structures, services and surfacing set out in Table A.1 of BS5837. AECOMs arboriculturists can provide further advice in relation to this issue if required.

5. Summary and Conclusion

The survey area contains 141 trees, tree groups and hedges which are predominantly semi-mature, in a good condition and contribute significantly to the character of the Site and local amenity.

The trees on Site do form a significant spatial constraint to any potential development works however, a large number of trees on Site, although collectively contributing significantly to the Site character and landscape, have been considered of lower quality. These trees are likely to be individually replaceable due to their overall size and age despite their collective contribution to the Site.

Where trees are removed to facilitate any development, it is likely that the mandatory replanting standard will be expected to mitigate any tree loss, shown as Figure 1. Due to the size and age of a number of trees on Site, it may be possible to transplant trees where required, and this should be considered accordingly.

One third party tree group, G125, large group of lapsed pollards of moderate quality on the Sites' southern boundary, have been identified as requiring safety tree works prior to any development being undertaken within or near to the tree group's target area. It is considered that the likelihood of failure from G125 is high under normal weather conditions. Further information regarding G125 is included within Section 2.9 and the Tree Survey Schedule, included as Appendix B.

Where it is not possible to completely avoid the area of constraint associated with significant trees it may be possible to utilise special measures to facilitate the works.

A key consideration for any development activity will be the protection of the surrounding trees including the structure of the soil in which they grow, including from indirect damage via the storage or discharge of materials and the movement and use of plant and machinery. The default position is that all RPA and canopies of retained trees be fenced off as exclusion zones with no access. Where this is not feasible limited access may be acceptable using fit for purpose ground protection or other protective measures in accordance with BS5837.

Outside of the canopy and RPA, development works are not likely to be significantly constrained by trees, however it is important not to significantly impact on ground water levels in proximity to trees and where this could be a potential impact specific arboricultural advice must be obtained.

Lower quality trees (Category C and U) are not likely to be significant constraint to development where they can be satisfactorily replaced with new tree planting (or where their loss will not have a significant impact - e.g. due to the retention of adjacent trees) and therefore some sections of lower quality tree cover may be feasible to remove from a planning perspective.

All moderate and high value trees should be afforded full protection where possible. If the potential removal of higher value trees (Category B) is unavoidable this should be discussed in advance with local planning authority (Liverpool City Council) however the default position must be that trees of this quality are to be retained and protected where possible.

As the design progresses, it is recommended that the advice of an arboriculturist is sought to inform this process, particularly in relation to new features in close proximity to trees.

Draft layouts should be overlaid onto the Tree Constraints Plan to allow an assessment of the impact of the Proposed Development, including the identification of any trees which are to be removed.

An Arboricultural Impact Assessment is typically required to support a planning application and this allows the identification and assessment of the direct and indirect effects of the Proposed Development along with appropriate mitigation measures where necessary.

References

British Standards Institution (BSI), BS5837:2012. Trees in relation to design, demolition and construction – Recommendations. BSI

British Standards Institution (BSI), BS3998:2010. Tree work – Recommendations. BSI

British Standards Institution (BSI) BS8545: 2014 Trees: from the nursery to independence in the landscape - Recommendations

National House Building Council (NHBC) Standards, (2018). Chapter 4.2: Building Near Trees

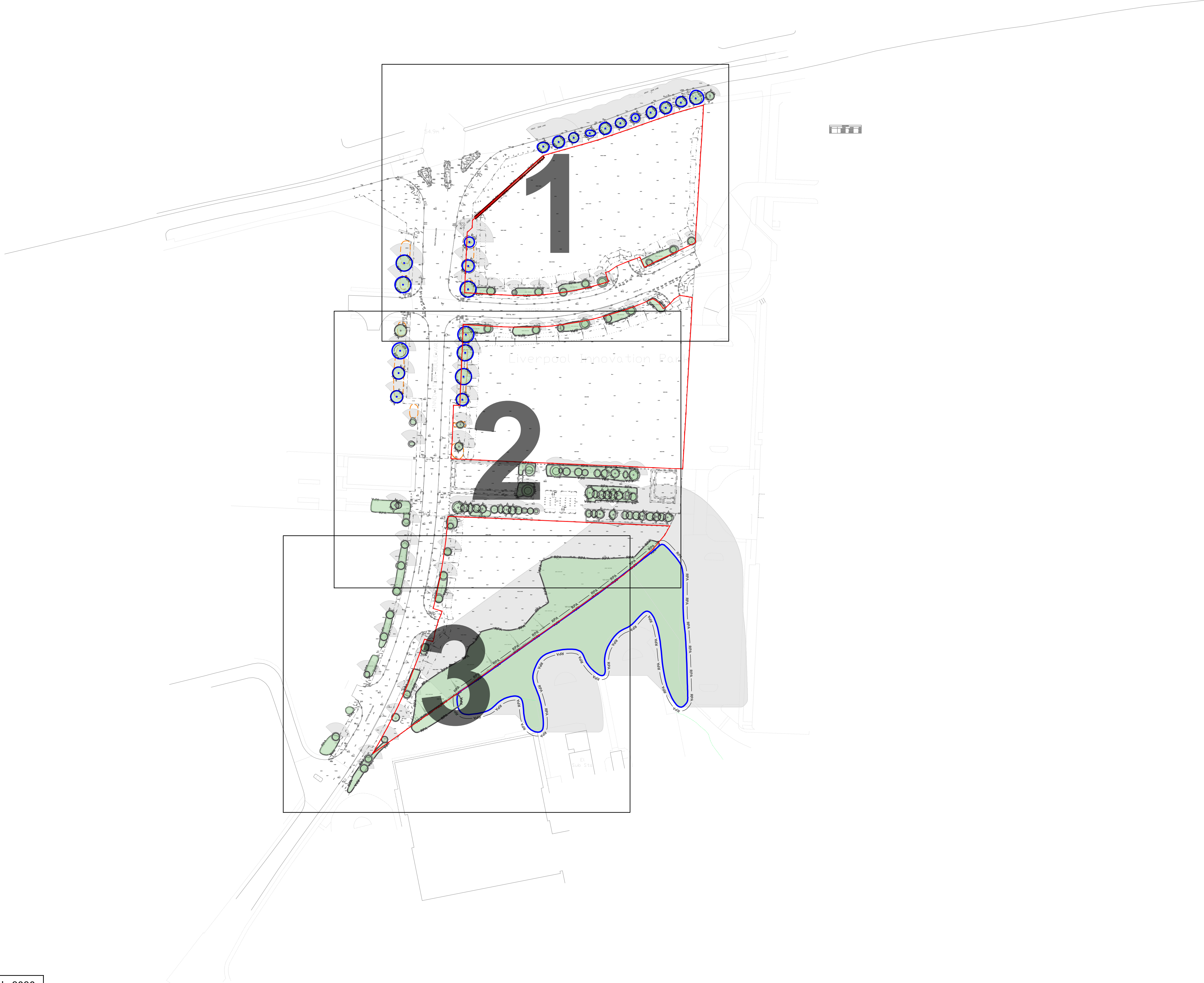
National Joint Utilities Group (NJUG) Volume 4, Issue 2, (2007). NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

National Tree Safety Group (NTSG), 2011. Common sense risk management of trees. Forestry Commission.

Department for Communities and Local Government (DCLG), 2018. National Planning Policy Framework (NPPF). DCLG

Liverpool City Council (2018) Liverpool Local Plan 2013 -2033 Pre-submission draft January 2018

Appendix A Tree Constraints Plan

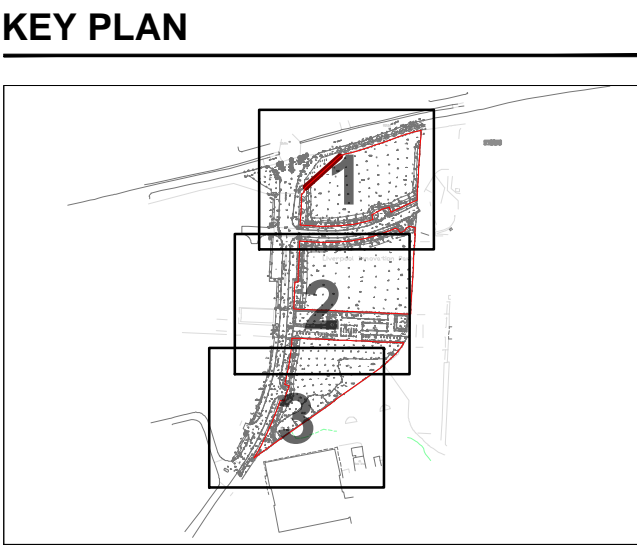


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- GENERAL NOTES**
1. TREE CATEGORIES AS DEFINED BY BS 5837:2012
 2. TREE LOCATIONS ARE BASED ON THE TOPOGRAPHICAL SURVEY AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
 3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS.
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KEY

- SITE BOUNDARY**
- A - CATEGORY TREES, GROUPS, HEDGES, AND WOODLAND (HIGH QUALITY & VALUE)**
- B - CATEGORY TREES, GROUPS, HEDGES, AND WOODLAND (MODERATE QUALITY & VALUE)**
- C - CATEGORY TREES, GROUPS, HEDGES, AND WOODLAND (LOW QUALITY & VALUE)**
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- ORNAMENTAL SHRUBS**
- ROOT PROTECTION AREAS (RPA) (AS DEFINED BY BS 5837:2012)**
- APPROXIMATE SHADING ARC (AS DEFINED BY BS 5837:2012)**

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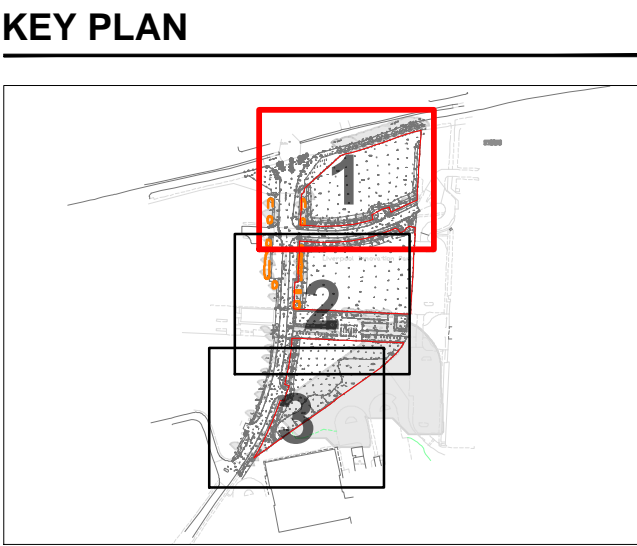


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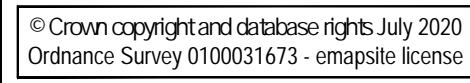
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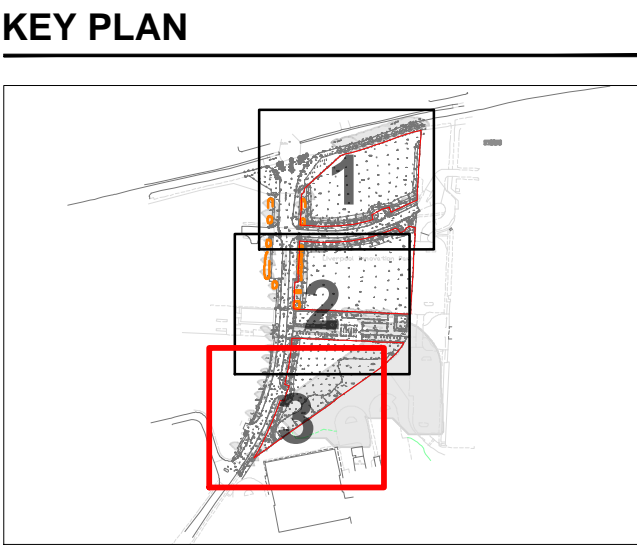


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Appendix B Tree Survey Schedule

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
T1*	Sweet Gum (<i>Liquidambar styraciflua</i>)	5	185	2	2	2	2	2.5/SW	1	Good	SM	Good	- Within likely made for purpose planting pit. Assumed sealed wearing course in monolithic line down avenue. - Squat height, unknown cause. Apical meristem visible through crown with no obvious dysfunction. Normal crown form and leaf density. - Likely easily replaceable. - Third party tree.		10+	C1,2
T2*	Sweet Gum (<i>Liquidambar styraciflua</i>)	9	240	4	3	4	3	3.0/W	1.5	Good	SM	Good	- Within likely made for purpose planting pit. - Crown extending over street sign. - Normal crown form and leaf density. - Third party tree. - High contribution and future potential.		20+	B2
T3*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	215	3	2	3	2.5	2.0/NE	1	Good	SM	Good	- Within likely made for purpose planting pit. - Within slightly raised planting area, metal pit edge with stone infill. Cracking of gravel/bonded surface. - Normal crown form and leaf density. - Third party tree. - Minor leaf scorch with minor volumes of leaf curl. - High contribution and future potential.		20+	B2
T4*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	205	3	3	3	3	3.0/S	1	Good	SM	Good	-Within likely made for purpose planting pit. - Within slightly raised planting area, metal pit edge with stone infill. Cracking to gravel/bonded surface. - Normal crown form and leaf density. - Third party tree. - Minor leaf scorch with minor volumes of leaf curl.		20+	B2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													- High contribution and future potential.			
T5*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	210	3	3	3	2	2.0/S	1	Good	SM	Good	- Within slightly raised planting area, metal pit edge with stone infill. Cracking of gravel/bonded surface. - Normal crown form and leaf density. - Third party tree. - Minor leaf scorch with minor volumes of leaf curl. - High contribution and future potential.		20+	B2
T6*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	225	2	2	2	2	2.0/SW	2	Good	SM	Good	- Within slightly raised planting area, metal pit edge with stone infill. Cracking to gravel/bonded surface. - Normal crown form and leaf density. - Third party tree. - Minor leaf scorch with minor volumes of leaf curl. - High contribution and future potential.		20+	B2
T7*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	200	2.5	2	3	2.5	2.0/N	2	Good	SM	Good	- Within slightly raised planting area, metal pit edge with stone infill. Slight Cracking to gravel/bonded surface. - Normal crown form and leaf density. - Third party tree. - Minor leaf scorch with minor volumes of leaf curl. - High contribution and future potential.		20+	B2
T8*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	210	3	3	3	3	2.0/N	1.2	Good	SM	Fair	- Within slightly raised planting area, metal pit edge with stone infill. Cracking to gravel/bonded surface. - Normal crown form and leaf density. - Third party tree. - Contact wound to base north, partially occluded. Likely to fully occluded. - High contribution and future potential.		20+	B2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
T9*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	210	1.5	1.5	3	2	2.0/E	1.5	Good	SM	Good	- Third party tree. - Minor leaf scorch with small volume of leaf curl. - High contribution and future potential.		20+	B2
T10*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	210	2.5	2.5	2.5	2.5	2.0/W	1	Good	SM	Good	- Within slightly raised planting area, metal pit edge with stone infill. Slight cracking to wearing course around basal ring. - Third party tree. - Small volume of leaf curl. - High contribution and future potential.		20+	B2
T11*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	215	3	3	3	3	2.5/N	1.5	Good	SM	Good	- Within slightly raised planting area, metal pit edge with stone infill. Set concrete or similar visible in patches around planting ring. - Third party tree. - Small volume of leaf curl. - High contribution and future potential.		20+	B2
T12*	Sweet Gum (<i>Liquidambar styraciflua</i>)	12	205	2	3	3	3	3.0/N	2	Good	SM	Good	- Within slightly raised planting area, metal pit edge with stone infill. Heave of planting pit ring. Tree stem straight, no discernible structural tree issue, likely highways design/installation error. - Normal crown form and leaf density. - Third party tree. - Small volume of leaf curl. - High contribution and future potential.		20+	B2
G13*	Goat Willow (<i>Salix caprea</i>)	2	40	1	1	1	1	n/a	n/a	Fair	Y	Fair	- Row of small diameter likely previously coppiced trees, circa 500mm from metal railing, forming shrub mass. - If left, will likely self thin and develop into multi stem tree line. Likely too close to railing and will cause future infrastructure conflict		< 10	U2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													although unlikely to cause any issues at present.			
T14*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	145	2	2	2	2	2.0/NW	1.3	Good	SM	Fair	- Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Likely easily replaceable. Consider transplanting tree if required. - Surface rooting up to 2m southeast of main stem. Contact wounding to stem and base, likely mechanical.	Consider implementing 2 inches deep of woodchip mulch around base to protect surface roots. (When funds allow)	10+	C1,2
T15*	Austrian Pine (<i>Pinus nigra</i>)	12	280	2.5	2.5	2.5	2.5	2.0/N	0.5	Good	SM	Good	- Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Normal crown form and leaf density.		20+	B2
T16*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	130#	2	2	2.5	2	2.0/S	1.5	Good	SM	Good	- No access to base. - Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required.		10+	C1,2
H17*	Bamboo (<i>Bambusoideae sp.</i>)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge.		10+	C2
T18*	Austrian Pine (<i>Pinus nigra</i>)	10	315	4	4	4	4	2.0/SE	1.5	Good	EM	Good	- Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Normal crown form and leaf density.		20+	B2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
T19*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	130#	1	2	2	1	2.0/W	2	Fair	SM	Good	<ul style="list-style-type: none"> - No access to base - Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required. - Dieback of mid northern crown. Young branch flush present in area. Specific crown foliage loss may be due to specific associated root loss. Dense underplanting likely to be decreasing water availability, inducing drought stress. 		10+	C1,2
T20*	Austrian Pine (<i>Pinus nigra</i>)	10	300	3	3	3	3	2.0/E	1.5	Good	SM	Good	<ul style="list-style-type: none"> - Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established on edge of low lying shrub mass, of ornamental plants, such as box. - Normal crown form and leaf density. 		20+	B2
T21*	Austrian Pine (<i>Pinus nigra</i>)	111	300	4	4	4	4	2.0/SE	1	Good	EM	Good	<ul style="list-style-type: none"> - Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Normal crown form and leaf density. 		20+	B2
T22*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	6	150#	2.5	2.5	2.5	2.5	2.0/W	2	Good	SM	Good	<ul style="list-style-type: none"> - No access to base. - Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed and 		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required.			
H23*	Bamboo (<i>Bambusoideae</i> sp.)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge.		10+	C2
T24*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	140#	2	2	2	2	2.0/SE	2	Fair	SM	Good	- No access to base. - Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required. - Minor crown dieback to the northeast of small diameter limbs. - Leaf scorch. Likely from drought stress induced by dense understory planting.		10+	C1,2
T25*	Austrian Pine (<i>Pinus nigra</i>)	10	300	4	4	4	4	2.0/NE	0.5	Good	EM	Good	- Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Normal crown form and leaf density.		20+	B2
H26*	Bamboo (<i>Bambusoideae</i> sp.)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge.		10+	C2
T27*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	6	140#	2	2	2	2	2.0/NW	2	Good	SM	Good	- No access to base. - Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within dense shrub bed and		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required. - Leaf scorch visible.			
T28*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	6	120#	1	1	1	1	2.0/S	2	Good	SM	Good	- No access to base. - Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required. - Leaf scorch and small diameter limb dieback visible. Likely drought stress from dense understory planting.		10+	C2
T29*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	7	160	2	2	2	2	2.0/NW	2	Good	SM	Good	- Limited access to base. - Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required. - Dominant in line.		10+	C1,2
T30*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	6	140#	2	2	2	2	2.0/S	2	Good	SM	Good	- No access to base. - Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required. - Leaf scorch visible.		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
H31*	Bamboo (<i>Bambusoideae</i> sp.)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge, managed.		10+	C2
H32*	Bamboo (<i>Bambusoideae</i> sp.)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge, managed.		10+	C2
H33*	Bamboo (<i>Bambusoideae</i> sp.)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge, managed.		10+	C2
T34*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	140#	2	2	2.5	2.5	2.0/E	2	Good	SM	Good	- No access to base. - Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required.		10+	C1,2
H35*	Bamboo (<i>Bambusoideae</i> sp.)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Mix of low lying ornamental shrubs present.		10+	C2
T36*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	6	155	2	2	2	1	2.0/S	2	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required.		10+	C1,2
H37*	Bamboo (<i>Bambusoideae</i> sp.)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge, managed.		10+	C2
T38*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	130	2	2	2.5	2	2.5/E	2	Good	Y	Good	- Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within dense shrub bed and		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required.			
H39*	Bamboo (<i>Bambusoideae sp.</i>)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge, managed.		10+	C2
T40*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	140	2	2	2	2	2.0/N	1.8	Good	Y	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required.		10+	C1,2
T41*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	140#	2.5	2.5	2.5	2.5	2.0/N	2	Good	Y	Good	- No access to base. - Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required.		10+	C1,2
T42*	Dawn Redwood (<i>Metasequoia glyptostroboides</i>)	5	135	2	2	2	1	2.0/W	2	Good	Y	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed and bamboo hedge, formally managed. - Likely easily replaceable. Consider transplanting tree if required.		10+	C1,2
H43*	Bamboo (<i>Bambusoideae sp.</i>)	1.5	50	1	1	1	1	n/a	n/a	Good - Fair	SM	Good - Fair	- Bamboo hedge, managed.		10+	C2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
T44*	Austrian Pine (<i>Pinus nigra</i>)	5	265	3	3	3	3	2.0/N	1.5	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Normal crown form and leaf density. Squat height, dense upper crown formation restricting view, potentially previous loss of apical leader, resulting in prolific lateral growth of previously subordinate branches.		10+	C1,2
T45*	Austrian Pine (<i>Pinus nigra</i>)	6	280	4	4	4	4	2.0/NW	1	Good	SM	Fair	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Codominant stem at circa 5m, U shaped union, with interlocking branches.	Consider pruning to remove interlocking branches to stimulate adaptive growth of union. (When funds allow)	20+	B2
T46*	Austrian Pine (<i>Pinus nigra</i>)	8	305	4	4	4	4	1.8/SE	0.1	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Secondary limb west at 2.5m growing straight up through crown. Formative prune to remove limb cutting back to branch collar.	Remove limb at 2.5m west extending into crown back to branch collar. (When funds allow)	20+	B2
T47*	Austrian Pine (<i>Pinus nigra</i>)	8	250	4	4	4	4	2.0/S	1.5	Fair	SM	Good	- Forms part of single line avenue adjacent o footway. - High contribution and future potential. - Established within low lying shrub mass, of		20+	B2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													ornamental plants, such as box. - Normal crown form and leaf density. - Minor crown sparsity, minor small diameter deadwood, no deviation in branching pattern. Small branch shedding likely cause by drought stress.			
T48*	Austrian Pine (<i>Pinus nigra</i>)	8	270	3	3	3	3	2.0/S	1	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Normal crown form and leaf density. - Previously pruned back from footpath, internodal branch dieback, dead stub retained. No target.		20+	B2
T49*	Austrian Pine (<i>Pinus nigra</i>)	8	315	4	4	4	4	2.0/SE	0.1	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Previous internodal pruning to lower crown, branch dieback. Stubs retained. No target.		20+	B2
T50*	Austrian Pine (<i>Pinus nigra</i>)	8	270	3	3	3	3	3.0/NW	1.7	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Bird's nest within crown. - Patch of resin exudate on main stem northwest at circa 1.3m. Likely minor cambial damage, unknown cause. Normal crown form and leaf density.		20+	B2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
T51*	Austrian Pine (<i>Pinus nigra</i>)	8	285	3	3	3	3	2.0/S	0.5	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within low lying shrub mass, of ornamental plants, such as box. - Lower crown previously pruned back from footway. Internodal pruning, one limb with dieback to lateral branch, other limb likely dead.		20+	B2
T52*	Paper Birch (<i>Betula papyrifera</i>)	7	140	2.5	1	2	1	2.0/E	1.5	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed. - Likely replaceable. - No visual of base due to shrubs mass.		10+	C1,2
T53*	Paper Birch (<i>Betula papyrifera</i>)	6	135	1	2	2	2	2.0/W	1.5	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed. - Likely replaceable.		10+	C1,2
T54*	Paper Birch (<i>Betula papyrifera</i>)	7	135	1	1	2	1	2.0/E	1	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed. - Likely replaceable. - No visual of base due to shrubs mass.		10+	C1,2
T55*	Paper Birch (<i>Betula papyrifera</i>)	8	165	2	2	2	2	2.0/N	1.5	Good	SM	Good	- Forms part of single line avenue adjacent to footway. - High contribution and future potential. - Established within dense shrub bed. - Likely replaceable. - No visual of base due to shrubs mass.		10+	C1,2
G56*	Pine (<i>Pinus sp.</i>), Bamboo	3	50	1	1	1	1	n/a	n/a	Good	Y-SM	Good	- Assorted ornamental planting.		10+	C2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
	<i>(Bambusoideae sp.)</i> , Box (<i>Buxus sempervirens</i>).												- Pine densely planted, typical of standard hedge planting densities. Potentially a dwarf ornamental pine cultivar. Short needles, two to a peg.			
T57*	Himalayan Birch (<i>Betula utilis</i>)	7	150#	3	3	3	3	2.0/W	1.3	Good	SM	Good	- No access to base. - Within dense ornamental planting. - Crown form and leaf density typical of species. - Likely easily replaceable. - Ornamental Fatsia plantings around stem.		10+	C1,2
T58*	Small-leaved Lime (<i>Tilia cordata</i>)	5	90#	1.5	1.5	1.5	0.5	2.0/SE	1.7	Fair	SM	Fair	- No access to base. - Within dense ornamental planting. - Slight chlorosis of assumed younger growth. Suppressed form, no obvious suppression from neighbouring limes or birch. Potentially due to limited water and nutrient availability from dense ornamental planting. - Likely easily replaceable due to size and estimated age.		10+	C2
T59*	Small-leaved Lime (<i>Tilia cordata</i>)	6	150#	2	2	2	2	2.0/SE	1	Good	SM	Good	- No access to base. - Within dense ornamental planting. - Dominant in group. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T60*	Small-leaved Lime (<i>Tilia cordata</i>)	6	150#	2	2	2	2	2.0/SE	1.8	Good	SM	Good	- No access to base. - Within dense ornamental planting. - Codominant in group. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T61*	Small-leaved Lime (<i>Tilia cordata</i>)	5	140#	1.5	1.5	1.5	1.5	2.0/S	1.8	Good	SM	Fair	- No access to base. - Within dense ornamental planting. - Codominant in group. - Likely easily replaceable.		10+	C2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													- Part of single line formal avenue planting. - Lean of main stem east by circa 10 degrees. No gravitropic reorientation or corrective growth. No gaps in adjacent avenue canopy.			
G62*	Pine (<i>Pinus sp.</i>), Bamboo (<i>Bambusoideae sp.</i>), Box (<i>Buxus sempervirens</i>)	3	50	1	1	1	1	n/a	n/a	Good	Y-SM	Good	- Assorted ornamental planting. - Pine densely planted, typical of standard hedge planting densities. Potentially a dwarf ornamental pine cultivar. Short needles, two to a peg.		10+	C2
T63*	Himalayan Birch (<i>Betula utilis</i>)	6	145	3	3	3	2	2.0/E	1.3	Good	SM	Good	- Limited access to base. - Within dense ornamental planting. - Crown form and leaf density typical of species. - Likely easily replaceable.		10+	C1,2
T64*	Small-leaved Lime (<i>Tilia cordata</i>)	6	140#	2	2	2	1	2.0/S	1.5	Good	SM	Good	- No access to base. - Within dense ornamental planting. - Codominant in group. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T65*	Small-leaved Lime (<i>Tilia cordata</i>)	6	190	2	2	2	2	2.0/E	1.5	Good	SM	Good	- Very limited access to base. - Within dense ornamental planting. - Codominant in group. - Likely easily replaceable. - Part of single line formal avenue planting. - Avenue of moderate quality however, each tree which forms the collective group is likely easily replaceable and is therefore of lower constraint.		10+	C1,2
T66*	Small-leaved Lime (<i>Tilia cordata</i>)	6	165	2	2	1	2	2.0/S	1.5	Good	SM	Good	- Very limited access to base. Within dense ornamental planting. - Codominant in group. - Likely easily replaceable.		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													- Part of ingle line formal avenue planting.			
T67*	Small-leaved Lime (<i>Tilia cordata</i>)	5	120	2	2	1	1	2.0/NW	2	Fair	SM	Good	- Very limited access to base, within dense ornamental planting. - Subdominant in group. - Signs of structural suppression. - Likely easily replaceable. - Part of ingle line formal avenue planting.		10+	C2
T68*	Small-leaved Lime (<i>Tilia cordata</i>)	7	190	3	3	3	2	2.0/NW	1.5	Good	SM	Good	- Very limited access to base. Within dense ornamental planting. - Dominant in group. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T69*	Himalayan Birch (<i>Betula utilis</i>)	6	150#	3	3	3	3	2.0/NW	1.2	Good	SM	Good	- No access to base. - Within dense ornamental planting. - Crown form and leaf density typical of species. - Likely easily replaceable.		10+	C1,2
G70*	Pine (<i>Pinus sp.</i>), Bamboo (<i>Bambusoideae sp.</i>), Box (<i>Buxus sempervirens</i>)	3	50	1	1	1	1	n/a	n/a	Good	Y-SM	Good	- Assorted ornamental planting. - Pine densely planted, typical of standard hedge planting densities. Potentially a dwarf ornamental pine cultivar. Short needles, two to a peg.		10+	C2
T71*	Small-leaved Lime (<i>Tilia cordata</i>)	8	210	3	3	2	2	2.0/N	1	Good	SM	Good	- Very limited access to base. Within dense ornamental planting. - Identified as small leaved lime from orange tufts at leaf petiole base. – Central formal group planting of collectively on average larger stem size, crown spread and height. Likely due to assumed increased size of dedicated central planting area. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													- Avenue of moderate quality however, each tree which forms the collective group is likely easily replaceable and is therefore of lower constraint.			
G72*	Pine (<i>Pinus sp.</i>), Bamboo (<i>Bambusoideae sp.</i>), Box (<i>Buxus sempervirens</i>)	3	50	1	1	1	1	n/a	n/a	Good	Y-SM	Good	Assorted ornamental planting.		10+	C2
T73*	Small-leaved Lime (<i>Tilia cordata</i>)	7	150#	2	2	1	1	2.0/SE	1.5	Good	SM	Good	- No access to base. Within dense ornamental planting. - Codominant in group. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T74*	Small-leaved Lime (<i>Tilia cordata</i>)	7.5	180#	2	2	2	1	3.0/N	2	Good	SM	Good	- No access to base. - Within dense ornamental planting. - Codominant in group. - Likely previously crown raised due to slight swelling of main stem at 3m, typical of occluded wounds. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T75*	Small-leaved Lime (<i>Tilia cordata</i>)	7	175	2	2	2	2	2.0/E	1.8	Good	SM	Good	- Limited access to base. - Within dense ornamental planting. - Small diameter deadwood throughout eastern crown, adjacent onto streetlight. - Codominant in group. Likely previously crown raised due to slight swelling of main stem at 3m, typical of occluded wounds. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T76*	Small-leaved Lime (<i>Tilia cordata</i>)	7	170	3	3	2	2	2.0/S	0.5	Good	SM	Good	- Limited access to base. Within dense ornamental planting - Codominant in group.		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													-Adjacent to overhead light, basal position circa 1m southeast of lighting column base. - Likely easily replaceable. - Part of single line formal avenue planting.			
T77*	Small-leaved Lime (<i>Tilia cordata</i>)	7	180	2	2	2	2	2.0/N	1	Good	SM	Good	- Limited access to base. - Within dense ornamental planting. - Codominant in group. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T78*	Small-leaved Lime (<i>Tilia cordata</i>)	6	185	2	2	1	1	2.0/S	1	Good	SM	Good	- Limited access to base. - Within dense ornamental planting. - Codominant in group. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
T79*	Small-leaved Lime (<i>Tilia cordata</i>)	6	150#	2	2	2.5	1	2.0/S	1.8	Good	SM	Good	- No access to base. - Within dense ornamental planting - Codominant in group. - Likely easily replaceable. - Part of single line formal avenue planting.		10+	C1,2
G80*	Small-leaved Lime (<i>Tilia cordata</i>), Common Lime (<i>Tilia X europaea</i>)	8	170	2	2	2	2	n/a	n/a	Good	SM	Good	- 10 individual trees within group. Viewed from footway. - Good contribution to local character however, likely easily replaceable due to size and likely age.		10+	C1,2
T81*	Small-leaved Lime (<i>Tilia cordata</i>)	5	135	1.5	1.5	1.5	1	2.0/NE	2	Good	SM	Good	- Established within single line avenue. - Very limited access to base due to low lying shrubs. - Crown form and leaf density typical of species. - Likely easily replaceable.		10+	C1,2
T82*	Common Lime (<i>Tilia X europaea</i>)	6	185	2	2	2	2	2.0/N	1	Good	SM	Good	- Established within single line avenue. Very limited access to base due to low lying shrubs.		10+	C1,2

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													- Crown form and leaf density typical of species. - Likely easily replaceable.			
T83*	Common Lime (<i>Tilia X europaea</i>)	6	190	3	3	3	3	2.0/N	1	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs. - Identified as common lime due to white tufts of hair at leaf petiole base. - Within grass formal planting area. - Avenue feature is of overall high landscape value however, each constituent tree is of low value due to overall size, age and therefore likely ease of replaceability. - Consider potential to transplant tree stock if required. - Low lying shrubs and bamboo restricting access to inspect base.		10+	C1,2
T84*	Common Lime (<i>Tilia X europaea</i>)	6	165	2.5	2.5	1	1	2.5/SW	2	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs. - Identified as common lime due to white tufts of hair at leaf petiole base. - Within grass formal planting area. - Low lying shrubs and bamboo restricting access to inspect base.		10+	C1,2
T85*	Common Lime (<i>Tilia X europaea</i>)	6	170	2	2	2	2	2.5/NE	2	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs. - Identified as common lime due to white tufts of hair at leaf petiole base. - Within grass formal planting area. - Low lying shrubs and bamboo restricting access to inspect base.		10+	C1,2
T86*	Common Lime (<i>Tilia X europaea</i>)	6	155	2	2	2	2	2.0/SW	2	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs.		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													<ul style="list-style-type: none"> - Identified as common lime due to white tufts of hair at leaf petiole base. - Within grass formal planting area. - Low lying shrubs and bamboo restricting access to inspect base. - Epicormic development from base, typical of species. 			
T87*	Small-leaved Lime (<i>Tilia cordata</i>)	5	140	2	2	2	2	2.0/W	2	Good	SM	Good	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs. - Identified as small leaved lime due to as small leaved lime due to orange tufts of hair at leaf petiole base. - Within grass formal planting area. - Low lying shrubs and bamboo restricting access to inspect base. - One Small diameter limb dying back within crown. - Previous crown raising works to stem, wounds with asymmetrical woundwood, most fully occluded. 		10+	C2
T88*	Small-leaved Lime (<i>Tilia cordata</i>)	6	165	2	2	2	1	2.0/E	1.5	Good	SM	Good	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs. - Identified as small leaved lime due to orange tufts of hair at leaf petiole base. - Within grass formal planting area. - Low lying shrubs and bamboo restricting access to inspect base. - Dominant in avenue. 		10+	C1,2
T89*	Small-leaved Lime (<i>Tilia cordata</i>)	4	130	1.5	1.5	1.5	1.5	2.0/N	2	Fair	SM	Good	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs. - Identified as small leaved lime due to orange tufts of hair at leaf petiole base. 	Consider removing asphalt or similar wearing course, replace with 2 inches of wood chip	10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													- Low lying shrubs and bamboo restricting access to inspect base. - Established within area of hard landscaping, formed of a mix of block paving and asphalt type material or visually similar laid up to base. - Avenue feature is of overall high landscape value however, each constituent tree is of low value due to overall size, age and therefore likely ease of replaceability. - Consider potential to transplant tree stock if required. - Inappropriate graffiti on stem, etched into bark. May require removal to mitigate if deemed necessary for sensitive sites. - . Minor decline of crown. - Dominant in immediate group, showing signs of comparative least stress.	mulch. (When funds allow)		
T90*	Small-leaved Lime (<i>Tilia cordata</i>)	4	130	1	1	1.5	1.5	2.0/N	2	Poor	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as small leaved lime due to orange tufts of hair at leaf petiole base. - Established within area of hard landscaping. - Decline of crown, dieback of crown with symmetrical chlorosis of leaves with scorching of leaf edges.	Consider removing asphalt or similar wearing course, replace with 2 inches of wood chip mulch. (When funds allow)	10+	C1,2
T91*	Small-leaved Lime (<i>Tilia cordata</i>)	5	140	2	2	2	2	2.0/N	1.8	Poor	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as small leaved lime due to orange tufts of hair at leaf petiole base.	Consider removing asphalt or similar wearing course, replace with 2 inches of wood chip mulch. (When funds	10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													- Established with area of hard landscaping with assumed sealed surface. - Decline of crown, dieback of crown with symmetrical chlorosis of leaves with scorching of leaf edges.	allow)		
T92*	Small-leaved Lime (<i>Tilia cordata</i>)	6	150	2.5	2	1	1	2.0/N	1.5	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as small leaved lime due to orange tufts of hair at leaf petiole base. - Within grass formal planting area. - Significant leaf scorch throughout crown. - Main stem leaning east with slight corrective growth. Asymmetrical crown. Dense herb layer preventing inspection of ground for cracks or signs of root plate heave.		10+	C2
T93*	Small-leaved Lime (<i>Tilia cordata</i>)	6	165	2	2	2	2	2.0/E	1	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as small leaved lime due to orange tufts of hair at leaf petiole base. - Within grass formal planting area. - Significant increase in visual crown vitality outside of hard surfaced planting pits. - Consider potential to transplant tree stock if required. - Children's scooter hung up in crown.	Remove children's scooter. (< 12 months)	10+	C1,2
T94*	Small-leaved Lime (<i>Tilia cordata</i>)	6	180	2	2	2	2	2.0/N	0.5	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as small leaved lime due to		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													orange tufts of hair at leaf petiole base. - Within grass formal planting area. - Consider potential to transplant tree stock if required. - Epicormic shoot development on main stem, typical of species.			
T95*	Small-leaved Lime (<i>Tilia cordata</i>)	4	135	1	1	1	1	2.0/S	2	Poor	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as small leaved lime due to orange tufts of hair at leaf petiole base. - Established with area of hard landscaping, formed of block paving and asphalt type material wearing course or visually similar laid up to base. - Decline of crown, dieback of crown with symmetrical chlorosis of leaves with scorch.	Consider removing asphalt or similar wearing course, replace with 2 inches of wood chip mulch. (When funds allow)	10+	C2
G96*	Bamboo (<i>Bambusoideae sp.</i>), Box (<i>Buxus sempervirens</i>)	1	25	1	1	1	1	n/a	n/a	Good	Y	Good	Bamboo with significantly high growth rate, likely requires intensive management cycle.		10+	C2
T97*	Common Lime (<i>Tilia X europaea</i>)	5	150	2	2	1	1	2.0/NW	2	Fair	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as common lime due to white tufts of hair at leaf petiole base. - Limited visuals of base due to herb layer. - Minor lower stem epicormic development, typical of species. - Minor swelling on main stem likely from previous pruning, with signs of previously fully occluded wound.		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
T98*	Common Lime (<i>Tilia X europaea</i>)	7	195	2	2	2	2	2.0/N	2	Good	SM	Good	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as common lime due to white tufts of hair at leaf petiole base. - Limited visuals of base due to herb layer. - Minor lower stem epicormic development, typical of species. - Mass of secondary stems originating at circa 3m. Included bark seams visible. Typical growth habit and attachment point formation of species. - Dominant in avenue. 		10+	C1,2
T99*	Common Lime (<i>Tilia X europaea</i>)	5	135	2	2	1	2	2.0/SW	1.8	Fair	SM	Good	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as common lime due to white tufts of hair at leaf petiole base. - Limited visuals of base due to herb layer. - Minor lower stem epicormic development, typical of species. - Swelling on main stem likely from previous pruning, with signs of occluded tissue. 		10+	C2
T100*	Small-leaved Lime (<i>Tilia cordata</i>)	6	150	2	2	2	1	2.0/W	1.8	Good	SM	Good	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as small leaved lime due to tufts of orange hair at leaf petiole base. - Limited visuals of base due to herb layer. - Minor lower stem epicormic development, typical of species. - Codominant stem from circa 4m with bark ridge and minor adaptive growth. Likely part of 		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													similar genetic stock resulting in similar growth habits.			
T101*	Common Lime (<i>Tilia X europaea</i>)	6	170	2.5	2.5	1	2	2.0/S	2	Good	SM	Fair	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as common lime due to white tufts of hair at leaf petiole base. - Limited visual of base due to herb layer. - Likely previously crown raised due to signs on stem of occluded wounds. - Minor lower stem epicormic development, typical of species. - Mass of secondary stems originating at circa 3m. Included bark seams visible. Higher potential for branch union failure due to stress of multiple attachments in the same area on parent stem. 		10+	C1,2
T102*	Small-leaved Lime (<i>Tilia cordata</i>)	6	155	2	2	2	2	2.0/S	1.8	Good	SM	Good	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as small leaved lime due to tufts of orange hair at leaf petiole base. - Limited visuals of base due to herb layer. - Minor lower stem epicormic development, typical of species. 		10+	C1,2
T103*	Common Lime (<i>Tilia X europaea</i>)	6	155	2	2	1	2	2.0/W	1.8	Good	SM	Good	<ul style="list-style-type: none"> - Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Identified as common lime due to white tufts of hair at leaf petiole base. - Limited visual of base due to herb layer. - Minor lower stem epicormic development, typical of species. - Codominant stem from 		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													circa 4m with bark ridge and minor adaptive growth. Likely part of similar genetic stock to neighbouring limes.			
T104*	Small-leaved Lime (<i>Tilia cordata</i>)	6	180	2	2	1	2	2.0/N	2	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Limited visuals of base due to herb layer. - Minor lower stem epicormic development, typical of species. Codominant stem from circa 4m. Bark ridge visible, adaptive growth.		10+	C1,2
G105*	Bamboo (<i>Bambusoideae sp.</i>), Fatsia (<i>Fatsia japonica</i>)	2	50	1	1	1	1	n/a	n/a	Good	SM	Good	Bamboo and fatsia forming pseudo screen, utilising dense ornamental shrubs. Highly replaceable with like for like planting.		10+	C2
T106*	Small-leaved Lime (<i>Tilia cordata</i>)	6	160	2	2	2.5	2.5	2.0/E	2	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Minor lower stem epicormic development, typical of species.		10+	C1,2
T107*	Small-leaved Lime (<i>Tilia cordata</i>)	6	170	2	2	2	2	2.0/N	1	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Limited visuals of base due to herb layer. - Minor lower stem epicormic development, typical of species.		10+	C1,2
T108*	Small-leaved Lime (<i>Tilia cordata</i>)	6	155	2	2	1	2	2.0/E	1.5	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Limited visual of base due to herb layer. - Consider potential to transplant tree stock if required. - Minor lower stem epicormic development, typical of species.		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
T109*	Small-leaved Lime (<i>Tilia cordata</i>)	7	175	2	2	3	1	2.5/E	1.5	Good	SM	Good	- Forms part of formal planting scheme, forming tree avenue with adjacent mixed shrubs, predominantly bamboo. - Limited visuals of base due to herb layer. - Minor lower stem epicormic development, typical of species.		10+	C1,2
G110*	Bamboo (<i>Bambusoideae sp.</i>)	1	25	1	1	1	1	n/a	n/a	Good	Y	Good	Managed bamboo hedge. High growth rate, likely requires intensive management cycle.		10+	C2
T111*	Paper Birch (<i>Betula papyrifera</i>)	7	140	2	2	2	2	2.0/SW	1.3	Good	SM	Good	Established within bamboo hedge. - Very limited access to base. Crown form and leaf density typical of species. - Likely easily replaceable due to size and estimated age.		10+	C1,2
T112*	Paper Birch (<i>Betula papyrifera</i>)	6	110	1.5	1.5	1.5	1.5	2.0/W	2	Good	SM	Good	- Good future potential. - Part of single line widely spaced path side avenue. - Likely good future contribution. - Established within bamboo hedging.		10+	C1,2
T113*	Paper Birch (<i>Betula papyrifera</i>)	7	150	2	2	2	2	2.0/E	1.2	Good	SM	Good	- Established within group of formal ornamental planting. - Very limited access to base. - Crown form typical of species. Minor crown sparsity and leaf scorch, likely environmental stress. - Likely easily replaceable.		10+	C1,2
T114*	Paper Birch (<i>Betula papyrifera</i>)	7	150#	2	2	2	2	2.0/SE	1.2	Good	SM	Good	- Good future potential. - Part of single line widely spaced path side avenue. - Good contribution. - Likely good future contribution. - No access to base. Established within likely box hedging.		10+	C1,2
G115*	Box (<i>Buxus sempervirens</i>),	1	25	1	1	1	1	n/a	n/a	Good	Y	Good	Ornamental shrubs of box and red robin.		10+	C2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
	Red Robin (<i>Photinia × fraseri</i> 'Red Robin')															
T116*	Paper Birch (<i>Betula papyrifera</i>)	8	150	2	2	2	2.5	2.0/E	1.5	Good	SM	Good	- Established within group of ornamental planting. – Very limited access to base. - Crown form and leaf density typical of species.		10+	C1,2
H117*	Bamboo (<i>Bambusoideae</i> sp.), Red Robin (<i>Photinia × fraseri</i> 'Red Robin')	2	50	1	1	1	1	n/a	n/a	Good	SM	Good	- Bamboo and red robin, forming pseudo screen, utilising dense ornamental shrubs. - Easily replaceable with like for like planting.		10+	C2
T118*	Paper Birch (<i>Betula papyrifera</i>)	7	150	2	2.5	2	2	2.0/SW	1.5	Good	SM	Good	- Established on edge of bamboo. - Very limited access to base. - Crown form and leaf density typical of species. - Likely easily replaceable.		10+	C1,2
H119*	Bamboo (<i>Bambusoideae</i> sp.)	1	25	1	1	1	1	n/a	n/a	Good	Y	Good	Manged bamboo hedge with small boundary ornamental planting, likely box.		10+	C2
T120*	Paper Birch (<i>Betula papyrifera</i>)	7	150	2	2	2.5	2	0.1/S	0.5	Good	SM	Good	- Established on edge of bamboo. - Very limited access to base. - Crown form and leaf density typical of species. - Likely easily replaceable. - Multiple birch shoots arising at assumed base of stem, no visual. - Young shoots potentially self-sown as no physiological signs or symptoms present in crown to indicate stress response.		10+	C1,2
T121*	Paper Birch (<i>Betula papyrifera</i>)	7	155	2.5	2	2	2	2.0/W	1.8	Good	SM	Good	- Good future potential. - Part of single line widely spaced path side avenue. - Likely good future contribution.		10+	C1,2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													- Likely easily replaceable due to size and estimated age. - Established on edge of bamboo hedge. - Very limited access to base.			
T122*	Paper Birch (<i>Betula papyrifera</i>)	7	160	2	2	2	2	2.2/E	1.5	Good	SM	Good	- Established within ornamental shrub bed. - Very limited access to base. - Crown form and leaf density typical of species. - Likely easily replaceable.		10+	C1,2
H123*	Red Robin (<i>Photinia × fraseri</i> 'Red Robin')	2	50	2	2	2	2	n/a	n/a	Good	SM	Good	Red robin, forms screen utilising dense ornamental shrubs forming pseudo hedgerow. - Easily replaceable with like for like planting.		10+	C2
T124*	Paper Birch (<i>Betula papyrifera</i>)	7	150#	2	2	2	2	2.2/S	1.5	Good	SM	Good	- Established within red robin 'hedgerow'. - No access to base. - Crown form and leaf density typical of species. - Likely easily replaceable.		10+	C1,2
G125*	Hybrid black poplar (<i>Populus x canadensis</i>)	< 30	500#	4	4	4	4	n/a	n/a	Fair - Poor	EM-M	Fair - Poor	- Third party trees. - Very limited access to view trees due to field conditions. - Total group height estimated from footway. - Previously pollarded at an average height of circa 5m. - Overcrowding of boles. - Significant decline of numerous trees with structural defects throughout. Numerous dead and dying back pollard poles. - Requires safety survey and will require tree works to make target area safe prior to any proposed development. - High risk. Stems around 200mm and over in diameter. Likely that	Safety survey. (< 1 month) Re pollard above previous points and remove deadwood. May require staged reduction to stimulate dormant and epicormic buds near bole. (Following safety survey)	20+	B2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
													lapse in pollard pruning is too great to pollard back to original bole, likely requiring staged pole removal.			
G126*	Hybrid black poplar (<i>Populus x canadensis</i>), Goat Willow (<i>Salix caprea</i>), Common Alder (<i>Alnus glutinosa</i>)	10	150	2	2	2	2	n/a	n/a	Good - Fair	Y-SM	Good - Fair	- Likely self-sown on assumed floodplain or wet grassland area. Very wet conditions underfoot at time of survey. - Species indicative of wet environments.		10+	C2
T127*	Paper Birch (<i>Betula papyrifera</i>)	7	160	2	2	2	2	2.0/NW	1.3	Good	SM	Good	- Good future potential. - Part of single line widely spaced path side avenue. - Likely easily replaceable. - Established on edge of bamboo hedge.		10+	C1,2
G128*	Red Robin (<i>Photinia x fraseri</i> 'Red Robin')	1	25	1	1	1	1	n/a	n/a	Good	Y	Good	Ornamental shrubs, predominantly red robin.		10+	C2
H129*	Bamboo (<i>Bambusoideae</i> sp.)	2	50	2	2	2	2	n/a	n/a	Good	Y-SM	Good	Bamboo hedge, managed.		10+	C2
T130*	Paper Birch (<i>Betula papyrifera</i>)	7	135	1.5	1.5	1.5	1	2.0/SE	1.5	Good	SM	Good	- Established within bamboo 'hedgerow'. - Very limited access to base. - Crown form and leaf density typical of species. - Likely easily replaceable.		10+	C1,2
H131*	Bamboo (<i>Bambusoideae</i> sp.)	2	50	2	2	2	2	n/a	n/a	Good	Y-SM	Good	Bamboo hedge, managed.		10+	C2
T132*	Paper Birch (<i>Betula papyrifera</i>)	7	135	2	2	2	2	2.0/NW	2	Good	SM	Good	- Good future potential. - Part of single line widely spaced path side avenue. - Likely good future contribution. - Likely easily replaceable. - Established on edge of bamboo hedge.		10+	C1,2
G133*	Red Robin (<i>Photinia x fraseri</i> 'Red Robin'), Buddleja	2	50	1	1	1	1	n/a	n/a	Good	Y-SM	Good	Red robin, and ornamental planting. Buddleja and young sycamore likely self-		10+	C2

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
	(<i>Buddleja sp.</i>), sycamore (<i>Acer pseudoplatanus</i>).												sown to the immediate west.			
T134*	Paper Birch (<i>Betula papyrifera</i>)	7	150	2	2	2	2	2.0/E	1.3	Good	SM	Good	- Good future potential. - Part of single line widely spaced path side avenue. - Likely easily replaceable. - Wounding to base, likely mechanical contact damage, good adaptive growth, partially occluded.		10+	C1,2
G135*	Aspen (<i>Populus tremula</i>),	15	200#	3	3	3	3	n/a	n/a	Good - Fair	Y-SM	Good - Fair	- Third party trees. - Stems within 1m of fence line. - High stand density. - Growth habit typical of suckering species. - Future growth increments will likely cause future damage to infrastructure.		10+	C1,2
T136*	Paper Birch (<i>Betula papyrifera</i>)	7	140	1.5	1.5	1.5	1.5	2.0/N	1.7	Good	SM	Good	- Good future potential. - Part of single line widely spaced path side avenue. - Likely easily replaceable.		10+	C1,2
T137*	Paper Birch (<i>Betula papyrifera</i>)	7	145	2	2	2	2	2.0/E	2	Good	SM	Good	- Established on edge of within bamboo 'hedgerow'. - Very limited access to base. - Crown form and leaf density typical of species. - Likely easily replaceable.		10+	C1,2
G138*	Bamboo (<i>Bambusoideae sp.</i>)	2	50	2	2	2	2	n/a	n/a	Good	SM	Good	Bamboo hedge, managed.		10+	C2
H139*	Bamboo (<i>Bambusoideae sp.</i>), Cherry Laurel (<i>Prunus laurocerasus</i>)	3	100	2	2	2	2	n/a	n/a	Good - Fair	Y-SM	Good - Fair	Mixed Laurel and bamboo hedge, managed.		10+	C2
T140*	Paper Birch (<i>Betula papyrifera</i>)	7	130#	2	2	2	2	2.0/S	2	Good	SM	Good	No access to base , within dense bamboo and laurel hedge. - Likely easily replaceable.		10+	C1,2

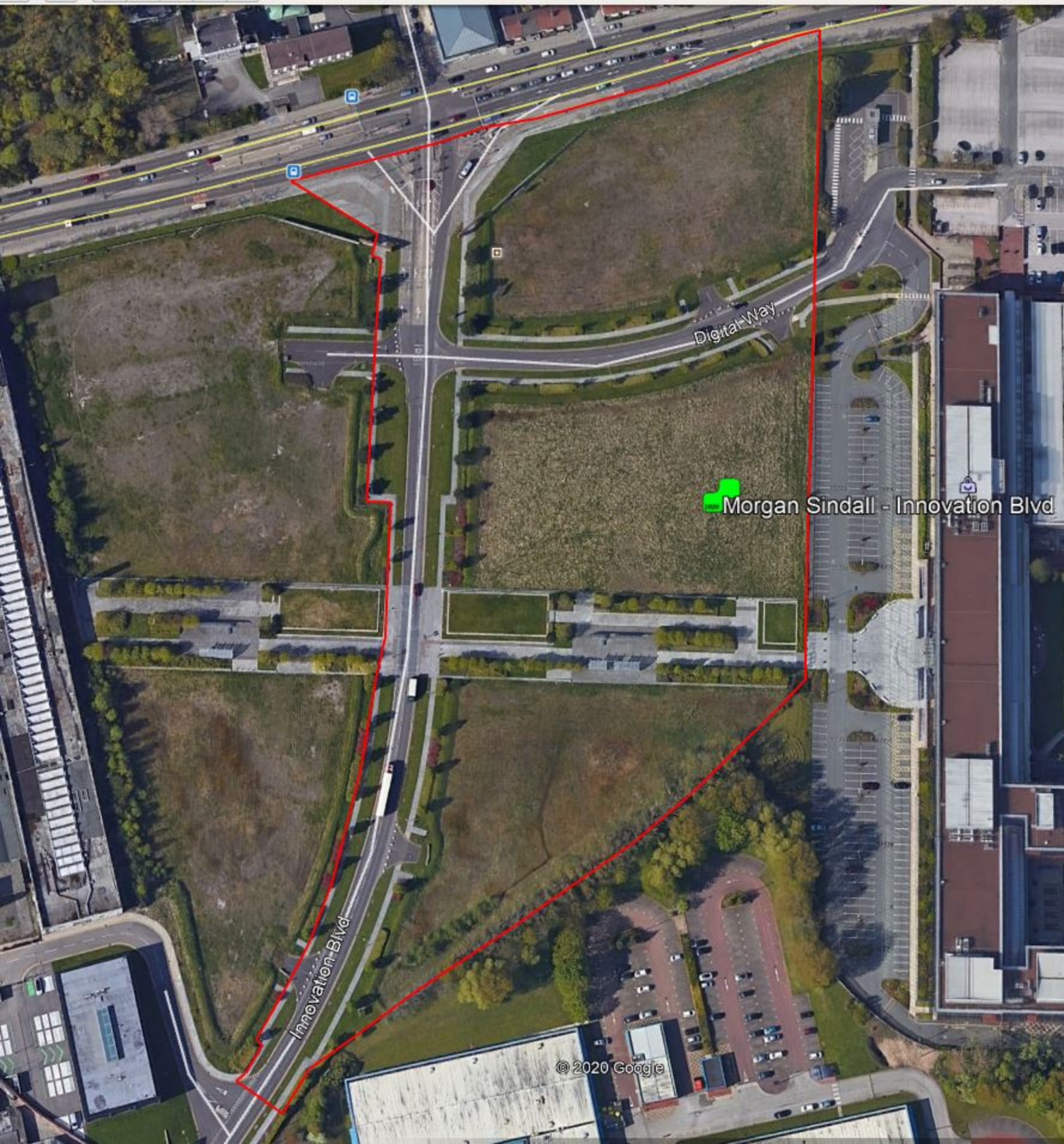
Project number: 60539643

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category
T141*	Paper Birch (<i>Betula papyrifera</i>)	5	150#	2	2	2	2	2.0/W	2	Good	SM	Good	No access to base, within dense bamboo and laurel hedge. - Likely easily replaceable.		10+	C1,2

Key to Abbreviations Used in the Survey

Ref No	Specific identification number given to each tree or group. T=Tree/H=Hedge/G=Group.	
Species	Common name followed by botanical name shown in <i>italics</i>	
RPA	Root Protection Area (As defined by BS5837)	
Stem diameter	Diameter of main stem, measured in millimetres at 1.5 m above ground level. (MS = Multi-stem tree measured in accordance with BS5837 Annexe C)	Av / Average: indicates an average representative measured dimension for the group or feature
Spread	The width and breadth of the crown. Estimated on the four compass points in metres.	
Crown clearance	The estimated height (in metres) above ground level of the lowest significant branch attachments.	
#	Estimated dimensions	
*	Indicates estimated position of tree (not indicated on topographical survey).	
Category	Categorisation of the quality and benefits of trees on Site as per Table 1 and 2 of BS5837:2012. 1=Arboricultural quality/value 2=Landscape quality/value 3=Cultural quality/value (including conservation)	
	A=High quality/value 40yrs+ (light green). B=Moderate quality/value 20yrs+ (mid blue) C=Low quality/value min 10yrs/stem diameter less than 150mm (grey). U=Unsuitable for retention (dark red).	
Life stage	Young (Y): Newly planted tree 0-10 years. Semi-Mature (SM): Tree in the first third of its normal life expectancy for the species (significant potential for future growth in size). Early Mature (EM): Tree in the second third of its normal life expectancy for the species (some potential for future growth in size) Mature (M): Tree in the final third of its normal life expectancy for the species (having typically reached its approximate ultimate size). Over Mature (OM): Tree beyond the normal life expectancy for the species. Veteran (V): Tree which is of interest biologically, aesthetically or culturally because of its condition, size or age.	
Structural condition	Good: No significant structural defects Fair: Structural defects which can be resolved via remedial works. Poor: Structural defects which cannot be resolved via remedial works. Dead: Dead.	
Physiological condition	Good: Normal vitality including leaf size, bud growth, density of crown and wound wood development. Fair: Lower than normal vitality, reduced bud development, reduced crown density, reduced response to wounds. Poor: Low vitality, low development and distribution of buds, discoloured leaves, low crown density, little extension growth for the species. Dead: Dead Fair/Good = Indicates an intermediate condition Fair – Good = Indicates a range of conditions (e.g. within a group)	
Preliminary management recommendations	Works identified during the tree survey as part of sound arboricultural management, based on the current context of the Site (where relevant reference has been made to tree management based on the potential future context of the site).	

Appendix C Site Boundary



Digital Way

Morgan Sindall - Innovation Blvd

Innovation Blvd

Appendix D Site Photography



Figure 2. Showing third party tree avenue.



Figure 3. Third party tree avenue with damage to surfacing.



Figure 4. Looking south with T45 left.



Figure 5. Looking east with T55.



Figure 6. Looking west central to the lime avenue on Site.



Figure 7. Looking south at G125.



Figure 8. View north of Innovation Boulevard.



Figure 9. View west along Digital Way.

