



Arboricultural Report
Part 8 Refurbishment of Wellview Park
and Avondale Place
Mulhuddart
Dublin 15

March 2022

The Tree File Ltd
Consulting Arborists
Ashgrove House
26 Foxrock Court
Dublin 18
D18 R2K1
086-3819011

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Associated Drawings

This report is for reading in conjunction with the drawings noted below

<u>Drawing Title</u>	<u>Drawing Subject</u>
1) Mulhuddart Tree Constraints Plan (West and East)	Tree Constraints Plan A plan depicting the predevelopment location, size, calculated constraints, and simplified tree quality category system
2) Mulhuddart Tree Impacts and Protection Plan (West and East)	Tree Impacts Plan This plan represents the effects of the proposed development works on the above tree population and depicts trees to be retained and removed. This plan also depicts the nature, location and extent of tree protection measures required for sustainable tree retention.

1 Report Summary

- 1.1 The proposed landscape works encompass an area that supports a substantial hedge line (Boundaries 2 and 3) as well as a notable wooded belt along the eastern edge of the site area
- 1.2 The hedge material, towards the north of the site area will remain broadly unchanged. The only exception to this relates to the small punctuations to the hedge depicted on earlier applications. These punctuations were to facilitate north-south pedestrian access.
- 1.3 The hedge material is generally separated from the bulk of the works because of its location on the northern bank of a historic field ditch. Accordingly, root spread will have been limited to the northern side of the ditch.
- 1.4 The tree belt to the east of the site and adjoining Church Road is typically mature and includes trees of varying conditions. These trees were surveyed by “Arborist Associates”. Note is made that the tree survey indicated a number of poor quality trees that may require removal on site safety grounds.
- 1.5 The proposed works can be achieved in a manner that would have little adverse effect of the tree belt. This would require the adoption of particular construction methodologies and material, all orientated towards the limiting of damage and disturbance to tree roots.
- 1.6 In respect of the main north-south cycle and pedestrian route often follows a route similar to the existing pedestrian route. Accordingly, much of the footprint of the proposed pathway is associated with previously disturbed and paved ground and is unlikely to cause further disturbance. Notwithstanding this, it will be necessary to limit the works area to the proposed path zone and to prevent inadvertent access onto and disturbance of the root protection areas associated with the tree belt.
- 1.7 Notwithstanding 1.6 above, note is made that east-west connectivity with Church road is required. This in turn requires paths to be created through the tree belt. All such structures must adopt low-impact methodologies, with preference being given to being built upon, as opposed to in the ground, thereby avoiding excavation damage. Similarly, the method by which the path is installed must be controlled so as to avoid damage to the ground environment such as compaction.

2 Introduction

- 2.1 This report was commissioned by-
Fingal County Council.

This report was prepared by-
Andy Worsnop Tech Arbor A, NCH Arb (PTI LANTRA)
The Tree File Ltd
Ashgrove House
26 Foxrock Court
Dublin 18
D18 R2K1

Report Brief

- 2.2 The Tree File Ltd has been requested by **Fingal County Council** to provide an Arboricultural report in respect of the proposed development.

Report Context

- 2.3 As "BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations" is the accepted framework for such reports, its composition, inclusions and recommendations being followed as a general basis for this report. An arboricultural review of the proposed development project is included in this report. The report includes an evaluation of the existing tree population at the site in its current context. The report evaluates their chances of long-term retention in the post-development scenario. The report also discusses the potential effects and consequences of the development and construction process on those trees. It also provides information on the necessary tree protection and avoidance of tree damage during the construction process, which is required to achieve long-term tree retention.
- 2.4 The report conclusions were created after studying the design team's proposed project specifics and evaluating trees as specified and presented in "Appendix 2". Appendix 1 has a preliminary "Arboricultural Method Statement" and a Tree Protection Plan. This plan depicts the necessary conservation and protection methods to ensure tree sustainability. However, this paper is not meant to criticise the proposed development, but rather to examine the development's implications for the sustainable retention of trees. This report is only for planning and may not be suitable for building.

Report Limitations

- 2.5 This report relates the Arborists interpretation of information provided to him before the report compilation and gained by him during the undertaking of the site review and tree survey. The site review data is subject to the limitations set out under "Inspection and Evaluation Limitations and Disclaimers" in "Appendix 2" of this report. The findings and recommendations made within this report are compiled based upon the knowledge and expertise of the inspecting Arborist.
- 2.6 The "Implication Assessment" element of the report builds on assumptions and estimates, unavoidably associated with the "design" stage of the project. This report cannot address issues that may arise at "detail design" or "construction" detail stage or in respect of how construction works might proceed on a day-to-day basis. Equally, this report cannot address issues that may arise in respect of changes or amendments required to address or comply with any conditions of a grant of permission.
- 2.7 In line with the "design" stage of the development proposals, many elements of the "Arboricultural Method Statement" are deliberately broad and generic. They will require review, amendment and consolidation at the construction stage, for example, in respect of the size and nature of the equipment, plant and machinery that might be utilised by any potential building contractor and any details as may change at "detail design" or "construction detail" stages.
- 2.8 Accordingly, this assessment is premised on all its elements/recommendations, and the omission or alteration of any part of it, particularly the application of tree protection methodologies, can radically alter outcomes regarding sustainable tree retention.

3 Site Description

- 3.1 The site in question is located between Church Road and the existing Wellview development in Mulhuddart, Dublin 15.
- 3.2 The site area is broadly open. Towards its northern end, it supports and outgrown hedge associated with a ditch, as well as a substantial belt of trees, along its eastern Church Road boundary.

4 Pre-Development Arboricultural Scenario

- 4.1 A clear majority of the site area is devoid of vegetation and is dominated by grass. The only exceptions to this involve “boundary part of “boundary 3” near the northern edge of site area, as well as a substantial strip along the sites eastern edge as it adjoins Church Road.
- 4.2 Boundaries 2 and 3 exist in conjunction with a drainage ditches. The material associated with these lines of vegetation arises predominantly from the northern side of the ditch void. Accordingly, works carried out upon and result in disturbance to the south of the ditch considered unlikely to materially affect the hedge. The material encountered is of poor, comprising a lapsed thorn based hedge now inundated by other species, including Bramble.
- 4.3 To the east of the site there is a substantial woodland belt adjoining Church Road. This belt includes many mature trees and appears to coincide with a historic border planting as depicted on the historic ordnance survey mapping both 1837 and 1909. This material was surveyed by Arborist associates who have provided a full manifest and tree survey of the population. A graphic representation of the survey has been incorporated into the plans associated with this report. That’s representation depicts trees of diverse conditions qualities, including a number of category “U” trees that likely to be recommended for removal.

5 Planning Scenario in Respect of Tree

- 5.1 In respect of trees as they relate to planning within the Fingal County Council area, note is made of two areas of guidance including - **The Forest of Fingal A Tree Strategy for Fingal** and **Fingal Development Plan 2017-2023**.
- 5.2 **The Forest of Fingal A Tree Strategy for Fingal**, a draft strategy document that outlines various intents and desires surrounding trees and woodlands within the county area
- 5.3 **Fingal Development Plan 2017-2023**, that sets out both a tree policy, as well as specific tree related objective across 5 different chapters of the plan, including, **Chapter 3 – Placemaking** (Objective PM64), **Chapter 5 – Rural Fingal** (Objectives RF24, Objective RF52, Objective RF57 and Objective RF59(b)), **Chapter 8 – Green Infrastructure** (Objective GI16 and Objective GI19) , **Chapter 9 - Natural Heritage** (Objective NH23, Objective NH27 and Objective NH28) , **Chapter 12 - Development Management Standards** (Objective DMS39, Objective DMS78, Objective DMS79,

Objective DMS80, Objective DMS81, Objective DMS82, Objective DMS83 and Objective DMS84)

- 5.4 Notwithstanding the notes above, the current development plan shows no Tree Preservation Orders on or near the site area. However, note is made that specific objectives to protect and preserve trees and woodland are depicted in respect of the woodland belt to the east of the site

6 Other Legislative and Legal Constraints

- 6.1 Under the Forestry Act 2014, the felling of a tree standing in a county area requires a felling license unless the trees are exempted under Section 19 of the Act. Section 19(1)(M)(ii), where "the removal of which is specified in a grant of planning permission".

- 6.2 Other non-specific exemptions may also be applicable, including-

- Trees standing in an urban area.
- Trees within 30 metres of a building (other than a wall or temporary structure), but excluding any building built after the trees were planted.
- Trees removed by a public authority in the performance of its statutory functions.
- A tree that is, in the opinion of the planning authority, dangerous on account of its age, condition or location.
- A tree within 10 metres of a public road and which, in the opinion of the owner (being an opinion formed on reasonable grounds), is dangerous to persons using the public road on account of its age or condition.

- 6.3 The above derogations do not apply where-

- The tree is within the curtilage or attendant grounds of a protected structure under Chapter 1 of Part IV of the Act of 2000.
- The tree is within an area subject to a special amenity area order
- The tree is within a landscape conservation area under section 204 of the Act of 2000.
- The tree is within a monument or place recorded under section 12 of the National Monuments (Amendment) Act 1994, a historic monument or archaeological area entered in the Register of Historic Monuments under section 5 of the National Monuments (Amendment) Act 1987, or a national monument in the ownership or guardianship of the Minister for the Arts, Heritage and the Gaeltacht under the National Monuments Acts 1930 to 1994 or is within a European Site or a natural heritage area within the meaning of Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)

- 6.4 For further clarification, contact should be made with Forest Service (Department of Agriculture, Fisheries and Food). The Felling Section of the Forest Service is based in Johnstown Castle, Co. Wexford

- 6.5 Other legislation may affect tree cutting and felling. Particular note should be made of the "Wildlife Act 1976 (as amended), as well as the EU Habitats Directive. These offer protection to animals, including Bats that often roost or even breed in trees. The protection afforded by the above legislation means that particular care must be taken in the pruning or felling of trees that may contain Bats. For this reason, specific specialist advice should be sought.

7 Construction Activities and their Effect on Trees

- 7.1 Retaining trees takes up space. There is a big difference between physically preserving a tree and ensuring its future survival. Sustainable tree retention often depends on the extent and nature of construction protection.
- 7.2 Like all living things, trees are highly dependent on their environment in which they exist. A tree's continuity in supplies of water and nutrients from the soil. Any long-term change in ground conditions can easily affect a tree's metabolism, health, and sustainability.
- 7.3 Particularly, development and construction activities can easily damage the soil environment. Removing, disturbing or denaturing soil can irreparably damage tree roots and can render the soil incapable of supporting plant root function. Most modern construction requires large plants, equipment, and vehicles. Such machinery causes soil profile destruction and compaction that denatures the soil.
- 7.4 Where the above issues occur within the minimum "root protection area" as defined by "BS5837-2012", the tree's sustainability and safety may be compromised.
- 7.5 Sustainable tree retention must accept changing contexts and increased management in the future. Where rates of occupation and use increase, then any retained trees have a potential to cause harm or damage. This issue may be exacerbated where shelter-loss and exposure occur regarding the retention of individual trees.
- 7.6 Retained trees should be considered in respect of shadow-cast, light admission, and view-blocking. Wind patterns can affect leaf shedding, causing drifts and accumulations creating management issues around drains and gullies, or the creation of slippery surfaces.

8 Nature of Project Works

- 8.1 The proposed works are described as-
- 8.1.1 The proposed development consists of the refurbishment of the existing Wellview Park, situated at Church Road, Dublin 15 as well as two existing areas of public realm at Avondale Place and Wellview Green, Dublin 15, totalling approximately 5.2ha. The proposed development includes: landscape and external works; pedestrian access points to existing footpath on west side of Church Road; paving and associated drainage

works; regrading of existing grassland areas; planting; public lighting; play areas, signage, street furniture and associated fixtures and fittings; including all ancillary site development. The site area is proposed to be crossed by a north-south cycle and pedestrian route as part of the wider proposed Church Fields Link Road and Cycle Network subject to a separate planning grant (planning register reference Part XI/011/19).

- 8.2 within the scope of the landscape proposals, there are requirements to provide constructive details at positions that have the potential to affect trees. Such details scale new structures.
- 8.2 Considering the scope and scale of the proposed development, it appear that few impacts are likely to affect trees. Those that require consideration include-
- a) A partial conflict where the "Root Protection Area" is encroached upon by works or ground amendments that would require the amendment of standard exclusion based tree protection.
 - b) Environmental damage e.g. compaction, capping, sealing – changing the existing ground environment to one that can no longer support or would limit tree root function.
 - c) Construction activity and the use of plant and machinery that can denature the ground.

9 Development Related Issues and Arboricultural Concerns

- 9.1 A review of the design proposals reveals that the landscape project can be achieved without the removal of any trees.
- 9.2 Notwithstanding 9.1 above, note is made of the diverse nature of the tree and Hedge population associated with the site. Attention is drawn to the findings and recommendations made by “Arborist Associates” in respect of the tree survey of the woodland belt adjoining the eastern boundary of the site. Note is made that trees in this area have been categorised as you grade trees and therefore may require removal.
- 9.3 note is made that with specific regard to areas adjoining the northern edge of the proposed landscape works, small zones of the proposed north-south connectivity will require a punctuation of the hedge line.
- 9.4 the promotion of pedestrian permeability in an east – west manner between the parking area and Church Road requires that paving and pedestrian access be provided through and beside the tree belt at the eastern edge of the site. In this respect, low impact and no gig options would be advised so as to minimise and/or avoid direct damage to trees and the routing environment.

10 Design Iterations and Arboricultural Considerations

- 10.1 This report relates to clause 4.4.2.1 of BS5837-2012 in that its finding relate to a predefined concept that was issued for review. Accordingly, the report assesses Arboricultural implications and impacts of the proposals, making recommendations in respect of tree protection relating to those trees that might be retained and as outlined below.
- 10.2 Notwithstanding 10.1 above, the design team in possession of tree survey information and aware of tree constraints associated with the vegetation upon the site prior to and during the design process.

11 Identification of Development Impacts to Trees

- 11.1 Though listed in this report, the expected tree impacts have also been represented graphically on the tree impacts drawing "**Mulhuddart Tree Impacts and Protection Plan (West and East)**". This drawing combines the tree constraints plan information (survey data) with the development details, including the architectural and services layouts below, thereby allowing for simple and direct comparisons between the existing site context and the development proposals regarding new structures.
- 11.2 In this drawing, trees denoted with "Broken Pink" crown outlines are to be removed, and those denoted with "Continuous Green" crown outlines are to be retained.
- 11.3 Detail of the development proposals where gained from project drawings provided by Dermot Foley Landscape Architecture.
- 11.4 The assessment attempts to consider both direct and indirect consequences. Estimated construction requirements and a tree's likely interaction with the development are considered. In addition to growth, the assessment considers changes in the context and their impact on tree amenity value.

12 Tree Retention and Loss

- 12.1 As noted above, the project has the potential to be completed without requiring the loss of any trees. However, note is made that the tree survey completed by "Arborist Associates" has identified a number of poor quality trees within the woodland belt near the eastern edge of the site. It is likely that site safety related concerns will require the removal of these trees.

14 Preliminary Management Recommendations

- 14.1 Provided in the tree survey table (Table 1) are "Preliminary Management Recommendations". These recommendations relate to the trees as they existed at the time of the tree review. Therefore and in line with the changing context of the site, such recommendations may no longer apply. Examples include where the felling of trees or other specific works are necessary to facilitate development requirements.

- 14.2 Many of the concerns raised in the tree survey relate to evidence suggesting mechanical failure to trees, ill-health or contextual issues. These may continue to a point where the suitability of a tree for retention may change over time.
- 14.3 Additionally, any development related loss of trees can result in exposure and shelter loss issues. Therefore all retained trees must be reviewed immediately after the primary site clearance works. A review will allow for the updating and amending of the "preliminary management recommendations" of the primary survey. Such amendments would address such issues as may arise and may include additional structural pruning works. Regular reviews of all retained trees must be maintained, so that early and prompt intervention and action can be applied as required.

15 Bibliography

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A1 Appendix 1 - Arboricultural Method Statement (and Tree Protection Plan)

Method Statement Outline

- A1.1 This method statement intends to provide guidance in respect of tree protection on a development site. This is a broad and prescriptive method statement, intended to provide general advice and guidance in respect of trees and tree protection on a typical development site, dealing with issues known at planning stage.
- A1.2 Any inability to conform to the recommendations of this method statement or the associated tree protection plan could readily change the sustainability of trees and/or their suitability for retention.
- A1.3 This method statement addresses, amongst others, two primary issues, those being –
- a) The avoidance/prevention of physical damage to a tree to be retained.
 - b) The avoidance/prevention of physical damage or disturbance to the ground/earth upon which a tree is reliant.

Drawings

- A1.4 This Arboricultural Method Statement must be read with the associated "Tree Protection Plan" drawing, "Mulhuddart Tree Impacts and Protection Plan (West and East)". The "planning stage" drawing must be updated for "Construction" stage purposes, to include tree protection ranges/dimensions as defined for that tree within the tree survey table or unless otherwise defined by the project Arborist.

Method Statement Use

- A1.5 This Method Statement should be used under the direct guidance of the project Arborist. As limited "construction stage" detail was available at planning stage, it may require amendment and adjustment to address construction stage issues.

Amendments and Modifications to Tree Protection Plan

- A1.6 Any amendment to the tree protection plan must be agreed with the project Arborist, including the adoption of specific methodologies and/or procedures and structures for access into/use of certain parts of the above defined "Construction Exclusion Zones". Such procedures, including the provision of suitable ground protection may allow for the relocation of the "Construction Exclusion Fencing" to provide access to and across the previously protected areas.

Works Related Impacts

- A1.7 In respect of any necessary and unavoidable structures/works required within or entry into the "RPA" zone, all efforts must be made to minimise impacts. Aerial issues may

require "access facilitation pruning" or clearance pruning. Subterranean works that require excavation must, by design, location, and action, minimise impacts to trees.

Tree Works Specification Updates

A1.8 Many of the tree management recommendations stipulated within the "Preliminary Management Recommendation" section of the primary tree survey, relate to the "as was" site scenario. Because of changing site contexts, these may no longer apply and may require modification to account for the changes that the built project will cause.

General Method Statement

1.0) Overview and Implementation

- 1.1 **Prior to any site works or construction/demolition related works or access, this method statement will be addressed and discussed by all member of the construction team management.**
- 1.2 The project Arborist or another suitably qualified person will oversee the application of all tree protection measures and any necessary modifications to this Method Statement (any issues as may have arisen in respect of planning conditions or details as may have changed between the design stage) to provide a basis upon which tree protection will be managed on the construction site.
- 1.3 Any situation that requires entry into the "root protection zones" of a tree intended for retention must be brought to the attention of the Project Arborist regarding the adoption/amendment of suitable tree protection measures.
- 1.4 As unforeseen tree losses may compromise project planning permissions, it is imperative that issues relating to tree protection and/or tree damage be brought to the immediate attention of the project Arborist for review and possible discussion with the relevant planning authority.

2.0) Works Sequence

- 2.1 No construction related works or mechanised site access will occur until the agreed level of tree protection, in accordance with the "Tree Protection Plan", is completed.
- 2.2 The only exception to the above will relate to the undertaking of tree works and felling as defined in the Arboricultural report and/or grant of permission.
- 2.3 On completion of tree felling/site clearance works, the tree management plan will be reviewed, accounting for (if necessary) the updating of the "preliminary Management Recommendations" stipulated in the original Tree Survey.

- 2.4 Any revised pruning/cutting works will be agreed with the local authority and applied at the earliest possible opportunity.
- 2.5 After the completion of primary tree clearance, but prior to the commencement of construction works, all "Construction Exclusion" and "Protective" fencing must be erected and "signed-off" as complete, by the Project Arborist.
- 2.6 Only on completion of all construction works will any/all tree protective measures be removed, and only then in a manner, that does not compromise the "Protection Zones". Such works must be agreed and overseen by Project Arborist.
- 2.7 At construction works completion stage, all retained trees will be reviewed regarding their condition and longer-term management recommendations and regarding site hand-over,

3.0) Tree Protection

- 3.1 All tree protection measures and locations must be agreed, overseen, and verified by the Project Arborist prior to works commencement.
- 3.2 All construction, works or access areas must be enclosed and defined by protective fencing, this comprising the "Construction Exclusion Zone" based upon drawings "Mulhuddart Tree Impacts and Protection Plan (West and East)" (Construction Stage version).
- 3.3 Unless specifically stipulated by the project Arborist, the default minimum range of the protective fencing from a tree is the range stipulated for that tree within the "RPA" (root protection area) column of the original survey.
- 3.4 Such a fence must be fit for purpose and commensurate with the nature of activity expected upon the site and should comply with "Section 6.2" of BS5837: 2012.
- 3.5 The fence should be affixed with notification signs such as "TREE PROTECTION AREA - KEEP OUT"
- 3.6 Structures such as "lock-ups", offices or other temporary site building, not requiring excavation or underground ducting, might be positioned such as to comprise part of the "Construction Exclusion Zone" fencing. All remaining fencing must be continuous with such features and effectively prevents access to protected ground.
- 3.7 If entry into the "RPA" (Root Protection Area) zones becomes unavoidable, ground protection systems agreed with the project Arborist, will be utilised.
- 3.8 No amendment, alteration, relocation, or removal of the tree protection fencing shall occur without prior liaison and approval from the Project Arborist.

4.0) Provision of Ground Protection (If Required)

- 4.1 No vehicular/mechanised access whatsoever will be allowed onto unprotected "Construction Exclusion Area" ground.
- 4.2 Ground protection can comprise the use of proprietary materials/structures (installed to manufacturer's specifications and recommendations) or procedures that avoid ground damage/disturbance/compaction, or the use of procedures that avoid such effects e.g. manual/pedestrian installation procedures.
- 4.3 Any system utilised must effectively spread load-weight, avoid compaction, maintain drainage/percolation/aeration, and be installed in a manner that avoids these issues.
- 4.4 Newly provided access will be strictly limited to the area of the new protection structure.
- 4.6 Protection installation will require a progressive laying down of ground protection, with previously laid material providing vehicular access to the next zone will be accepted as an approved methodology.

5.0) Works within "RPA" Zone

- 5.1 Only works and construction practices, agreed with the Project Arborist prior to commencement, will be allowed in the "RPA" area.
- 5.2 All works will be undertaken under the supervision and guidance of the Project Arborist who will have the authority to stop works if activities are considered such as to have the potential to damage trees.
- 5.3 Preference must be given to manual labour and techniques within the fenced "RPA" zone.
- 5.4 On completion of the required works, the area will be inspected by the Project Arborist regarding the reinstatement of the original protection and the relocation of the protective fencing to a position relating to the original "RPA" area.

6.0) Service Installation

- 6.1 The "Project Arborist" must be consulted for advice and procedural recommendations, in respect of any installation of services within or requiring entry into the "Root Protection Area" of any tree intended for retention.
- 6.2 Any such works found to be unavoidable, must be undertaken with special care, incorporating the recommendations of both "BS5837: 2012 and the National joint utility groups, guidelines for the planning, installation and maintenance of utility services in proximity to trees (NJUG 10)

- 6.3 Preference must be given to trench-less techniques including Mole-piping, Directional-drilling manual hydro-trenching (high-pressure water), "Air-Spade" or broken-trench techniques.

7.0) Tree Management and Works

- 7.1 All tree works should be undertaken under the guidance of the project Arborist
- 7.2 The primary site clearance and felling should be undertaken at the earliest stage of the overall development works, to enable the re-assessment of all ostensibly retainable trees and the updating of the "Preliminary Management Recommendations" to account for context changes and construction access and/or other issues coming to light.
- 7.3 All Tree Works must adopt safe work procedures and must be undertaken by staff suitably trained for the purpose at hand and compliant with all legislative, safety and insurance requirements.
- 7.5 All additional works will be agreed with the local authority and/or other stakeholders and applied at the earliest possible opportunity.
- 7.6 On completion of site works, the retained tree population will be reviewed and re-evaluated regarding its ongoing condition and the likely requirements of any ongoing or future monitoring or management needs.

8.0) Demolition

- 8.1 All demolition procedures must be agreed and overseen by the Project Arborist or other suitably skilled staff to monitor for damage and to protect exposed roots/cut-trim exposed roots/oversee backfilling of exposed roots.
- 8.2 Where access into unprotected "RPA" zone becomes unavoidable then suitable ground protection, provided in accordance with an engineer's direction and agreed with the Project Arborist will be installed.
- 8.3 Care will be taken to avoid damage to soil volumes beneath and adjoining demolished structures that may contain tree root material.
- 8.4 Whilst existing foundations/structures may provide temporary protected access to areas within the "RPA" zone, preference must be given to the location of demolition plant outside of the "RPA" zone.
- 8.5 Where tree(s) exist near a structure to be demolished then the demolition should be undertaken inwards within the footprint of the existing building (top down, pull back).
- 8.6 Underground structures (services etc.) within the "RPA" zone should be reviewed with regards to decommissioning and retention in situ in the interest of avoiding tree damage.

8.7 Preference should be given to the retention existing sub-bases where hard surfaces are removed, particularly if the hard surface is to be replaced.

9.0) Ancillary Precautions

- 9.1 The methodologies as set out in this document apply to all undertakers of work upon or adjoining the site as may require access to the "Construction Exclusion Zone" or the "RPA" area of any tree.
- 9.2 This document will be disseminated to all persons requiring access to the work site, with all persons undertaking works either before or after the principal development (site investigation works, Landscape Contractors) are subject to the above requirements
- 9.3 Works outside the "Construction Exclusion Zone" must be controlled to create no potential secondary hazard to tree health.
- 9.4 Large loads accessing the site must be reviewed regarding clearance and potential tree damage.
- 9.5 Care must be taken regarding materials that may contaminate the ground. No concrete mixings, diesel or fuel, washings or any other liquid material may be discharged within 10 metres of a tree.
- 9.6 No fires can be lit within 5 metres of any tree canopy extent.
- 9.7 No tree will be used for support regarding cables, signs etc.
- 9.8 The trees should be reviewed on a regular basis throughout the development process and on completion. At that time, additional recommendations regarding tree management may be required.
- 9.9 Any issue that has the potential to affect site trees must be brought to the attention of the Project Arborist for review and comment.
- 9.10 Any circumstances that become known whilst the development project is ongoing that either involves trees or access to/works within the construction exclusion zone must be brought to the attention of the Project Arborist for evaluation and advice regarding approach and methodology.
- 9.11 It is possible that liaison/agreement will be required with the Local Planning Authority regarding compliance with, as well as the verification of the required tree protection measures.

A2 Appendix 2 - Tree Survey

Nature of Survey

- A2.1 The criteria put forward in "BS5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations" have provided a basis for this report.
- A2.2 The data collected has been represented in table form as "Table 1" within "Appendix 1" to this report. This appendix includes a Survey Methodology, Survey Key, Survey Abbreviations, Condition Category Definitions and a brief resume of the typical application of Tree Protection measures as defined within the above standard and as relates to the "RPA" zones defined both within the survey table and on the "TCP" drawing.
- A2.3 The survey, its findings and management recommendations relate to the site and the conditions thereon at the time of the survey. It relates to a "do nothing" or "as is" scenario and intends to provide an impartial representation of the site's tree population, regardless of any possible development works. It is likely that changes in site usage, development or other environmental changes will require an amendment of any tree's potential retention status and its preliminary management recommendations, and in some instances, may require the re-classification of a tree's suitability for retention.

Drawing References

- A2.4 The survey must be read with the "Tree Constraints Plan" drawing "Mulhuddart Tree Constraints Plan (West and East)" regarding the representation of tree positions, crown forms, "RPA" extents and colour reference to category systems. Trees omitted from the supplied drawing may be "sketched in" to "Mulhuddart Tree Constraints Plan (West and East)". Any such trees should be located and plotted by professional means to identify the constraints such trees have upon the site.
- A2.5 A green coloured outline represents each tree crown. It is scaled to represent the north, east, south, and west crown radii as denoted in the survey table. Each tree (categories A-green, B-blue, and C-grey only) have been apportioned a "Root Protection Area" (RPA see below) denoted as a dashed orange circle.
- A2.6 The development of a Tree Constraints Plan (TCP) provides a design tool regarding tree retention. Such a plan combines the topographical land survey drawing with additional information as provided by the tree survey. The aspects of the tree's existence recorded on the "TCP" are, firstly, the tree canopies, represented by the four cardinal compass point radii (Sp: R in survey Table 1). Secondly, and following paragraphs 4.6.1, 4.6.2 and 4.6.3 of BS5837: 2012, we represent each tree's "Root Protection Area" (RPA). For design purposes, it approximates the position of the tree protection fencing to be erected before the commencement of any site works, thus excluding all site

activities other than those dealt with by way of the "Arboricultural Implication Assessment" and "Arboricultural Method Statement".

- A2.7 The "Tree Constraints Plan" (TCP) depicts the extent and location of constraints, placed upon the site by the trees. The "TCP" represents both the true canopy form (north, east, south, and west radii) but also the "RPA" as defined above. These constraints are provided to advise regarding the design and layout of a proposed development.

Survey Intent and Context

- A2.8 This document intends to highlight the extent and nature of the material of Arboricultural interest on the site in question.

Survey Data Collection and Methodology

The Survey

- A2.9 An earlier survey was updated in March 2021. This survey portion of the overall report is not an Implication Assessment though but provided some of the basic information regarding its compilation. The compilation of this survey was guided by the recommendations of BS 5837: 2012. This survey typically includes trees of stem diameters exceeding 150mm at approximately 1.50 metres from ground level. The survey relates to current site conditions, setting and context.
- A2.10 Each tree in the survey has a consecutive number that relates directly to the survey text. Measurements are metric and defined in metres and millimetres. All trees referred to in the survey text have been measured to provide information regarding canopy height and canopy spread (north, east, south, and west radii), level of canopy base and stem diameter at 1.50 meters from ground level. The dimensions provided are intended to provide a reasonable representation of a tree's size and form. While efforts are made to maintain accuracy, visual obstruction, especially regarding trees in groups, requires that some tree dimensions be estimated only.

Inspection and Evaluation Limitations and Disclaimers

- A2.11 The information set out in this report relates to the review of a tree population on the site in question. As such, the information provided is based on a general review of trees and does not constitute a detailed review of any one of the individual specimens. Such an evaluation (tree report) would require the gathering of substantially more information than that dealt with in this survey.
- A2.12 The survey is not a safety assessment and the parameters reviewed within this survey context would be substantially deficient in extent to provide for a reliable safety assessment. The survey is intended to provide a general and qualitative review to assist

in gauging the suitability of an individual tree for retention within a development context. All trees are subject to impromptu failure and damage. The assessment of risk as may be presented by a tree requires the review of numerous factors more than those noted herein and as such, remains outside the scope of this document and any attempt to use the information herein for such purposes will render the information invalid.

A2.13 A competent and experienced Arborist has completed all inspection and tree assessment. The inspection involves visual tree assessment (Mattheck and Breloer 1994) only, which has been carried out from ground level. No below ground, internal, invasive, or aerial (climbing) inspection has been carried out.

A2.14 Trees are living organisms whose health, condition and safety can change rapidly. All trees should be re-evaluated regarding their condition on an annual basis or after substantial trauma such a storm event, other damage, or injury. The results and recommendations of this survey will require review and reassessment after one year from the date of execution. This survey does not constitute a review of tree or site safety. Attempts to use the contents herein for such purposes will render the contents invalid.

A2.15 Throughout the undertaking of the survey, several factors acted against the inspectors, contriving to reduce the accuracy of the survey.

Seasonality

A2.16 Various surveys have been completed during different seasons. Some of the signs, typically symptomatic of ill-health or defect within a tree, may not have been available to view at the time of the survey or may have been obscured by seasonality related factors. Some of the fruiting bodies of various fungi, parasitic upon or causing decay or disease in trees, may have been out of season and unavailable to view. This survey can only comment upon symptoms of ill-health or defects visible at the time of the inspection.

Survey Key

Species	Refers to the specific tree species
Age	Referred to in generalised categories including: -
Y - Young	A young and typically small tree specimen.
S/M - Semi-Mature	A young tree, having attained dimensions that allow it to be regarded independently of its neighbours but typically, would be less than 50% of its ultimate size.
E/M - Early-Mature	A specimen, typically 50% - 100% of ultimate dimensions but with substantial capacity for mass and dimensional increase remaining.
M - Mature	A specimen of dimensions typical of a full-grown specimen of its species. Future growth would tend to be extremely slow with little if any dimensional increase.

O/M - Over-Mature	An old specimen of a species having already attained or exceeded its naturally expected longevity.
V - Veteran	An extremely old, veteran specimen of a species, usually of low vigour and typically subject to rapid decline and deterioration or of very limited future longevity.

Tree Dimensions All dimensions are in meters. See notes regarding limitation of accuracy.

Ht. Tree Height

CH Lowest canopy height

N, E, S, W Tree Canopy Spread measured by radii at north, east, south, and west

Dia. Stem diameter at approx. 1.50m from ground level.

RPA Root Protection Area, as a radius measured from the tree's stem centre.

Con Physical Condition

G Good A specimen of generally good form and health

G/F Good/Fair

F Fair A specimen with defects or ill health that can be either rectified or managed typically allowing for retention

F/P Fair/Poor

P Poor A specimen whom through defect, disease attack or reduced vigour has limited longevity or maybe un-safe

D Dead A dead tree

Structural Condition Information on structural form, defects, damage, injury, or disease supported by the tree

PMR – Preliminary Management Recommendations Recommendation for Arboricultural actions or works considered necessary at the time of the inspection and relating to the existing site context and tree condition. Works considered as urgent will be noted.

Retention Period

S – Short Typically, 0 -10 years

M – Medium Typically, 10 -20 years

L – Long Typically, 20 – 40 years

L+ Typically, more than 40 years

Category System The Category System is intended to quantify a tree regarding its Arboricultural value as well as a combination of its structural and physical health.

Category U Particularly poor quality, dangerous or diseased trees that offer no realistic sustainability

Category A A typically a good quality specimen, which is considered to make a substantial Arboricultural contribution

Category B Typically including trees regarded as being of moderate quality

Category C Typically including generally poor-quality trees that may be of only limited value.

The above categories are further subdivided regarding the nature of their values or qualities.

- Sub-Category 1 Values such as species interest, species context, landscape design or prominent aspect.
- Sub-Category 2 Mainly cumulative landscape values such as woods, groups, avenues, lines.
- Sub-Category 3 Mainly cultural values such as conservation, commemorative or historical links.

Tree Lines, Groups and Hedges

B2	Boundary 2 Hawthorn (<i>Crataegus monogyna</i>) Bramble (<i>Rubus fruticosus</i>) Elder (<i>Sambucus nigra</i>) Ivy (<i>Hedera helix</i>)	M	F	2.00-5.00	0.00	<p>This alignment is effectively a continuation of Boundary 1. The vegetation associated with this boundary exists in a position north of a notable but dry ditch and arising from the southern edge of a raised embankment located to the north of the ditch thereby creating an “S” profile landform. The original Hawthorn is in broadly good condition but is intermittent with numerous gaps. Some gaps have been filled by Elder and at lower levels, Bramble thicket is nearly continuous. Retention of the hedge will be intrinsically linked with the retention or otherwise of the ditch and embankment from which they arise.</p> <p>Where this hedge is directly adjoined by ongoing development works to the south, it is noted that much of the ditch has undergone partial and varying degrees of disturbance.</p>	L	C2
B3	Boundary 3 Hawthorn (<i>Crataegus monogyna</i>) Elder (<i>Sambucus nigra</i>) Dog Rose (<i>Rosa canina</i>) Bramble (<i>Rubus fruticosus</i>) Ivy (<i>Hedera helix</i>)	M	F/P	3.00-6.00	0.00	<p>Boundary 3 is effectively a continuation of Boundary 2. In comparison to boundaries 1 and 2, this boundary, though a continuation of both, is of reduced quality and continuity. There remains a number of individual hawthorns at dispersed locations, enough to suggest the original alignment however, these are often 20 m apart with a vegetative corridor comprising little more than Bramble thicket with some elder, in between.</p>	L	C2