



Arboricultural Report
Trees at Development at
St Michaels House
61 Dublin Road
Swords
Co Dublin
July 2021

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

Contents

| <u>Section</u> | <u>Subject</u> |
|----------------|--|
| 1 | Report Summary |
| 2 | Introduction |
| 3 | Site Description |
| 4 | Pre-Development Arboricultural Scenario |
| 5 | Planning Scenario in Respect of Tree |
| 6 | Construction Works and Trees |
| 7 | Project Works and Likely Impacts |
| 8 | Identification of Development Impacts to Trees |
| 9 | Specific Issues and Arboricultural Concerns |
| 10 | Design Iteration and Arboricultural Considerations |
| 11 | Tree Retention and Loss |
| 12 | Tree Protection Within the Scope of a Development |
| 13 | Preliminary Management Recommendations |
| 14 | Bibliography |
| A1 | Woodland management Plan |
| A2 | <u>Appendix A1 – Preliminary Arboricultural Method Statement (With Tree Protection Plan)</u> |
| A3 | <u>Appendix A2 - Tree Survey</u> Table 1 – Tree Survey Data |

Associated Drawings

This report must be read in conjunction with the drawings noted below-

| <u>Drawing Title</u> | <u>Drawing Subject</u> |
|--------------------------------------|---|
| 1) St Michaels Tree Constraints Plan | Tree Constraints Plan A plan depicting the predevelopment location, size, calculated constraints, and simplified tree quality category system |
| 2) St Michaels Tree Impacts Plan | 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. |
| 3) St Michaels Tree Protection Plan | Tree Protection Plan This plan depicts the nature, location and extent of tree protection measures required to provide for sustainable tree retention. |

1 Report Summary

- 1.1 There is a Special Objective to protect and preserve trees and woodlands in the Fingal County Development Plan 2017-2023. The development proposal includes the removal of some trees which is necessary to support the development of an essential community service in the area. The proposal also includes a combination of new replacement planting and a proposal for a tree management plan for the woodland. The woodland has suffered from a lack of management and the Tree Management Plan is an important step in sustaining and improving the woodland.
- 1.2 The cumulative works would appear to allow for the retention of much of the woodland to the south, south-east and east of the proposed car park. The ostensibly retainable woodland fragment will require further review in respect of isolation and shelter loss. This issue sees increased risks of wind-blow because of its being opened to prevailing winds. Considering the average height of trees near the proposed car park (circa 12-15 metres), then the potential for continued or further tree failure and collapse must be considered. For this reason, it will be necessary to consider additional management to create a “buffer” zone that extends beyond the immediate area of the proposed car park.
- 1.3 The “buffer” zone between any retained trees and the proposed car park will be made up of a combination of retained trees, retained and managed trees, together with newly planted trees. The zone will include two sub-zones. The belt of circa 6.00 to 7.50 metres width, nearest the proposed car park will be cleared to facilitate the planting of new trees and shrubbery. The second belt of circa 6.00 to 7.50 metres width, furthest from the proposed car park will, subject to individual tree evaluation, attempt to retaining suitable trees, but pruning them to reduce height and wind sail-effect. The evaluation of suitability for retention will consider both tree form, degree of exposure and the extent to which it will be affected by car park construction works. Where safe retention cannot be achieved, the space will be used for new planting. This tree retention will be most important to the south-west of the site where there is a strong desire to maintain as much as possible of the existing roadside screening.

2 Introduction

- 2.1 This report was commissioned by-
St. Michael's House
Ballymun Road
Glasnevin
Dublin 11

This report has been 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 An Arboricultural report has been requested in respect of the proposed development. As “BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations” is the accepted frameworks for such reports, then its composition, inclusions and recommendations have been followed, as a general basis for such reporting.

Report Context

- 2.3 This report includes a Arboricultural review of the proposed development project. This includes an assessment of the sites existing tree population within its current context, as well as an assessment of their potential for sustainable retention in the post-development scenario and the likely effects and repercussions of the development and construction process upon those trees. It also provides information regarding the necessary tree protection and the avoidance of damage to trees during the construction process, necessary to achieve sustainable tree retention.
- 2.4 This assessment summarises the Arborists findings and recommendations, arrived at after reviewing the proposed project details as provided, and after an evaluation of trees as defined and described in the tree survey at “Appendix 2”. This report also includes a preliminary “Arboricultural Method Statement” at “Appendix 1” as well as a Tree Protection Plan that illustrates the requisite conservation and protection methodologies necessary to maintain tree sustainability. This report is not intended as a critique of the proposed development but is an impartial assessment of the development implications relating to the sustainable retention of trees, whether that be any, some, or all trees. This report is for planning purposes only and may be deficient for construction phase use.
- 2.5 Note is made that the outcomes suggested in this report are based on further scrutiny and evaluation. Accordingly, this report assumes a continuity of Arboricultural input during the project and particularly regarding all aspects of tree or woodland works.

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 as 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 report context has been limited by the nature of the survey environment and particularly with topographical survey limitations within the woodland area. As individual trees cannot be located, the survey has been limited to dealing with the woodland on a group basis and as a cohesive group.
- 2.7 The “Implication Assessment” element of the report builds on assumptions and estimates, particularly in respect of how construction works might proceed on a day to day basis and appreciates the “design” stage of the project, as opposed to “detail design” or “construction” detail.
- 2.8 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.
- 2.9 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 in respect of sustainable tree retention.

3 Site Description

- 3.1 The site is located to the south Swords town, but to the north of the Pinnock Hill Roundabout on the R132. It is accessed from the Dublin Road (R836) into Swords town centre. The site area includes the existing cottage and associated structures of St Michaels House, at 61 Dublin Road. The site currently includes the above cottage and outbuildings as well as an area of hard standing to the south, currently use for car parking.
- 3.2 The review area includes the above site , as well as the area of young, planted woodland to the south, extending to the Pinnock Hill roundabout and generally bounded by the pavement adjoining the Dublin Road and the Swords bypass (R132)
- 3.3 The northern site including the existing house is highly artificial including built structures and hard standing. The wooded area to the south would appear more natural. However, the tree population is uniformly young, indicating deliberate planting. There is evidence that an earlier ditch and embankment scenario positioned in line with the southern edge of the car parking area but extending further to the east has been modified in recent decades. This bank has been removed at the car park but remains in a heavily eroded form to the east of the car park. Here it defines the edge of the young woodland from the adjoining open space.

4 Pre-Development Arboricultural Scenario

- 4.1 The house and roadside context supports only three trees including a Whitebeam and two Cypress. The Whitebeam arises from a broad roadside grass verge and appears to be in reasonably good health, notwithstanding hash cutting on its eastern site to alleviate encroachment on adjoining ESB lines. Within the front garden of the house, there are two small Cypress. At present both are relatively healthy, though the smaller is compromised by a compression fork. However, they both arise from particularly limited space between the current boundaries and the access drive suggesting that sustainability will be impacted by growth related encroachment and disturbance over time. Accordingly their sustainability may prove to be limited.
- 4.2 To the south of the house site and its car park, there is an area of dense woodland. The individual trees are young, including Ash, Norway Maple, Field Maple, Wych Elm, Silver Birch, Austrian Pine and Italian Alder, together with some Hawthorn, Elder, Bramble and Ivy.
- 4.3 The Elm population was found to be particularly poor with most specimens being dead because of Dutch Elm Disease. Many Ash are of better condition, though a number are in decline, suggesting the possibility that the population is already subject to Chalara Canker attack. If so, this would suggest a particularly limited sustainability in respect of the Ash population.

- 4.4 While most of the remaining trees appear healthy, many are affected by overcrowding. In some areas, trees stand at separations of less than 1.50 metres. This has led to competition, suppression and notable elongation. Throughout the area, many trees have failed, snapped or been uprooted. This illustrates that a lack of management over time has led to mechanical failure.
- 4.5 The issues noted above illustrate a scenario more far reaching than the simple impacts of the proposed car park. For this reason, it will be necessary to adopt a careful approach that will not exacerbate shelter-loss and exposure issues or result in further tree loss.

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 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 Review of current development (2017-2023) plan show that the site area supports no “tree preservation orders”.
- 5.5 Review of the current development plan map 2017-2023, sheet 8 for Swords, identifies a specific objective on part of the site ‘Protect and preserve Tress, woodlands and hedgerows’

6 Construction Activities and their Effect on Trees

General

- 6.1 There is a substantial difference between physically retaining a tree in situ and gaining any realistic expectation of it surviving into the future and remaining safe, the latter being dependent upon the extent and nature of protection it can be afforded.
- 6.2 Trees are living organisms and are highly reliant upon a continuity of environmental factors, the changing of which can easily undermine health and sustainability. As a

perennial plant, a tree's nature is to necessarily become larger on an annual basis. The survival of the plant and its funding of continued growth requires a minimum import of water and various nutrients, which are provided by the soil in which the tree is rooted.

- 6.3 A tree is highly dependent upon the ground from which it arises. The nature of that ground and a continuity of conditions and provisions that that ground provides are of particular importance to maintaining tree health and sustainability. Any change extending beyond the short-term, has the potential to affect a tree's metabolism, health, and sustainability.
- 6.4 Development works can easily result in the loss, changing or denaturing of this ground upon which a tree is dependant. Any action that removes, disturbs or denatures the existing soil environment in respect of gas flux, hydrology, soil strength or bulk density can damage tree roots and render a soil incapable of supporting plant root function. Therefore, these effects must be avoided in the areas upon which a tree is reliant.
- 6.5 Any structure or activity that results in the issues noted above must be regarded as contrary to sustainable tree retention. Where such issues arise within the minimum "root protection area" as defined under "BS5837-2012", then the affected tree is likely to be regarded as unsustainable and unsuitable for retention.

Construction Specific Issues

- 6.6 New buildings, roads, or other structures or their foundations (and/or basements) require the excavation of ground space. Foundation digs are often substantially larger than the building footprint, with depth often requiring safety related battering or benching of the excavation edges to avoid collapse. Many structures, including roads and paths, require that the ground beneath is compacted to provide a necessary bearing ratio. The combination of these typically results in the loss or denaturing of the soil volume that a tree would be reliant upon. Underground services require excavation and trenching, with the added complication that gravity led systems can often require the modification of ground levels to achieve necessary gradients and minimum overburdens, a factor that can often influence the finished levels of both the roads and buildings.
- 6.7 Most modern construction involves the use of substantial plant, equipment, and vehicles. The movement and activity of such machinery quickly denatures the ground, destroying the soil profile and structure, making them inhospitable and of no use to the supported trees.
- 6.8 Though beyond the scope of this report, consideration might be given the broader changes to the ground environment, for example relating to possible hydrological changes about the broader development area.

Contextual Issues

- 6.9 Some tree losses may be justified because of poor-quality, ill-health or other deterioration. In such instances, the potential for, and suitability for their retention, would be limited regardless of any site development. However, some poorer-quality trees, if located in areas of reduced sensitivity, might offer some degree of limited retention, dependant on the retention context and the threat they may present.
- 6.10 Where the site context changes in respect of occupation and use near trees, repercussions may include a requirement for greater scrutiny and management. Some trees may require specific attention, including structural pruning improve their safety status within the changed context as well as to deal with issues of exposure and shelter loss.
- 6.11 Tree canopy cover varies by species and can change by season. Therefore, their relationship with the post development site must be considered in respect of additions issues, including shadow-cast and light admission and littering.
- 6.12 Tree retention close to buildings should consider the blockage of views and light, and the possible effects on daylight analysis. Trees can have a material effect on these issues and can lead to post development request for more tree removal, for example based on a requirement for artificial light during daylight hours.
- 6.13 Deciduous tree shed leaves each autumn that can be subject to local wind patterns, creating local drifts and accumulations. Such issues may require management and can lead to drainage issues including the blockage of drains and gullies, or to the creation of slippery surfaces.

7 Nature of Project Works

- 7.1 The development proposals that intend to extend the day car facilities of the existing St Michaels House complex will principally consist of the creation of new buildings together with new and extended parking for staff.
- 7.2 Considering the scope and scale of the proposed works, it is likely that most of the issues dealt with at “Construction Works and Trees” above, will apply at various points and particularly regarding-
- a) Direct conflict with proposed structures, thus requiring tree removal.
 - b) A partial conflict where the “Root Protection Area” is encroached upon by works or ground amendments and cannot be preserved/protected in full.
 - c) Environmental damage e.g. compaction, capping, sealing – changing the existing ground environment to one that can no longer support tree root function.
 - d) Construction activity and the use of large plant and machinery that can denature the ground.
 - e) A change in site context or a change in occupation or use that makes a tree unsuitable for retention.

8 Specific Issues and Arboricultural Concerns

- 8.1 The greatest issues affecting trees is the requirement for space and how this conflict with tree locations. This is particularly pertinent in respect of the creation of the new access and parking to the south of the proposed building works.
- 8.2 The tree survey has noted management issues relating to the woodland block to the south of the site. The woodland area is artificial and dense, an issue that has led to suppression, elongation and a widespread predisposition to mechanical damage and failure of individual trees. Management programs, that would normally include timely population thinning, may at this stage exacerbate the problem and increase the risks of failure for any trees retained. For this reason, some concern exists about the sustainability of the woodland, the potential threat it might present through ongoing failure, and there for its suitability for retention, regardless of the development impacts.

9 Design Iterations and Arboricultural Considerations

- 9.1 A tree survey was undertaken in February of 2021 as part of a request to assess a pre-developed development scenario.
- 9.2 Notwithstanding minor changes to the design proposals, 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.
- 9.3 Notwithstanding 9.2, it is noted that substantial amendments have been made to the extent of the proposed car parking area and that new perimeter planting will be included to create a new “buffer” zone between the car park and the retained woodland. This will help to address potential safety concerns as well as creating a new woodland edge that will in turn help to address issues of tree sustainability and continuity of cover within the woodland.

10 Identification of Development Impacts to Trees

- 10.1 The expected tree impacts have been represented graphically on the tree impacts drawing “**St Michaels Tree Impacts Plan**”, as well as within the narrative of this report. This drawing combines the tree constraints plan information with the current stage development details including the architectural and services layouts below,

thereby allowing for simple direct comparisons to be made between the existing site context and the development proposals in respect of new structures.

- 10.2 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.
- 10.3 Detail of the development proposals where gained from drawings provided by-
- Michael Mohan Architects – St Michaels House Development Proposals
 - Eamonn Doyle & Associates – Drainage and Engineering proposals
 - AIT landscape and Urbanism – Landscape Design
- 10.4 The evaluation is primarily based on minimum protection ranges as defined paragraphs 4.6.1, 4.6.2 and 4.6.3 of BS 5837:2012. Any structure, action or apparent need to enter or otherwise disturb/convert the “root protection area” of a site tree has been considered likely to have a negative impact, with the potential to render a tree wholly unsuitable for retention, unsafe or unsustainable.
- 10.5 The broader assessment attempts to consider both direct and indirect implications, based on perceived construction requirements, as well as how a tree will likely interact with the development in respect of growth, hazard development and other social concerns in respect of the changing context, including its effect on tree amenity value.

11 Tree Retention and Loss

- 11.1 The drawing “St Michaels Tree Impacts Plan” comprises the tree survey drawings overlaid by the development drawings, thus providing a graphic representation of the relationship between tree constraints and the development elements. In this drawing, the trees that will be removed, are highlighted in “pink dashed” outlines.
- 11.2 There appears to be no reason to require the removal of Whitebeam no.815 from its roadside position. However, and while they may not be directly affected by new structures, it appears that the two Cypresses, nos.816 and 817 will be lost because of general construction activity. Additionally, it will be necessary to lose the trees whose locations have been estimated including nos.818 to 828.
- 11.3 Within the woodland area, a lack of topographical information means it is not possible to show specific trees that will be lost. This is because their position relative to the edges of the proposed carpark is, in many instances, unknown. Additionally, issues of shelter loss and exposure will extend beyond the immediate edges of the proposed car park and may require the management of or removal of more trees beyond the car park extents.
- 11.4 There would appear to be potential to retain much of the existing woodland to the east, south-east and south, as well as some to the south-west of the proposed car park. This potential will require further investigation in respect of feasibility, safety and concerns

relating to tree exposure and shelter loss, as well as the extent to which trees may be disturbed by the proposed car park construction works. Particularly, it is note that such a woodland fragment would be particularly exposed from the west, south-west and south, thereby making is liable to prevailing winds and increased risks of wind-blow. Such consideration would include the application of management procedures orientated towards the minimising of potential threats.

12 Tree Protection within the Scope of a Development

- 12.1 The design and management recommendations as set out in “BS5837:2012” are considered as “best practice” regarding the selection, retention, protection, and management of tree within the scope of new developments.
- 12.2 In respect of tree protection, whether vertical or horizontal, all must conform or equate to the recommendations of Section 6, BS5837: 2012, must be fit for purpose and commensurate with the nature of development and the expected day-to-day activities of the site works.
- 12.3 This report provides a “Preliminary Arboricultural Method Statement” at “Appendix 1” to this report, as well as the associated “Tree Protection Plan” drawing “St Michaels Tree Protection Plan”.
- 12.4 In the drawing, the “Construction Exclusion Zone” is defined by an orange hatching with bold “Orange” lines representing the proposed location of the primary protective “Construction Exclusion Fencing”.
- 12.5 The above drawing provides only a representation of the protection locations and extents that must be located, positioned and erected under the guidance of the project Arborist. This drawing may require referral to a figured and dimensioned, “construction stage” version of the “Tree Protection Plan” drawing. All recommended protection measures will be installed before the commencement of any site works and must remain in situ (unless under the guidance of the site Arborist) until the completion of all site works.

13 Preliminary Management Recommendations

- 13.1 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.
- 13.2 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 a trees suitability for retention may change over time.

- 13.3 Appreciating that the loss of trees can result in exposure and shelter loss issues, it will be to adopt a controlled works approach that addresses this issue. It is intended to create a “buffer” zone between the proposed car park and the remainder of the woodland that combines tree removal with replacement and new plants, as well as tree management. The zone will include two belts, one, nearest that car park will comprise replacement planting, while the second will attempt to retain as many trees as possible by applying tree pruning works. Where pruning cannot be applied without damaging the trees, then the trees will be relaced as part of the new planting works. The overall intention will be to create a robust woodland edge that presents the minimum of threat and maximum sustainability.

14 Bibliography

- 14.1 British Standards Institution (2010) BS 3998:2010: Tree Work - Recommendations. London: British Standards Institution.
- 14.2 British Standards Institution (2012) BS 5837:2012: Trees in Relation to Design, Demolition and Construction - Recommendations. London: British Standards Institution.
- 14.3 Jackson, R.B et al (1996) A Global Analysis for Root Distribution in Terrestrial Biomes *Oecologica*, 108 (1996) pp389-411, Springer Verlag
- 14.4 Lonsdale, D. (2005) *Principals of Tree Hazard Assessment and Management*, London, TSO
- 14.5 Mattheck, C. and Breloer, H. (1994) *The Body Language of Trees*, London, TSO
- 14.6 Roberts, J. and Jackson, N. and Smith, M. (2006) *Tree Roots in the Built Environment*, London, TSO
- 14.7 Strouts, R.G. and Winter, T.G. (1994) *Diagnosis of Ill-Health in Trees*, London, HMSO

A1 Appendix 1 – Woodland Management Plan

Method Statement Context

A1.1 This method statement and the recommendations made within it are based on a visual review of the site's trees, as well as a review of the development proposals and the effects they are likely to have on the trees.

Woodland Location

A.1.2 Woodland area is located to the south Swords town. It is located immediately to the north of the Pinnock Hill Roundabout on the R132. It is accessed from the Dublin Road (R836) into Swords town centre. The review area includes an area of young, planted woodland bounded to the south and east by the pavement adjoining the Dublin Road and the Swords bypass (R132)

Existing Woodland Scenario

A1.3 The woodland area includes numerous individual young trees, including Ash, Norway Maple, Field Maple, Wych Elm, Silver Birch, Austrian Pine and Italian Alder, together with some Hawthorn, Elder, Bramble and Ivy.

A1.4 The Elm population was found to be particularly poor with most specimens being dead because of Dutch Elm Disease. Those Elm which remain, appear to offer particularly limited sustainability.

A1.5 Many of the Ash are of better condition, though a number are in decline, suggesting the possibility that the population is already subject to Chalara Canker attack. If so, this would suggest a particularly limited sustainability in respect of the Ash population.

A1.6 While most of the remaining trees appear healthy, many are affected by overcrowding. In some areas, trees stand at separations of less than 1.50 metres. This has led to competition, suppression and notable elongation and the development of tall, leggy trees.

A1.7 Throughout the area, many trees have failed, snapped or been uprooted. This is believed to relate to instability and reduced mechanical strength relating overcrowding and suppression.

A1.8 This illustrates the effects of no management over time. Furthermore, concern exists that management intervention now, may well exacerbate the issues by way of shelter-loss and exposure, whereby any retained trees may well be subject to wind-blow (wind-throw) if the cohesive form of the current woodland is interfered with to any great extent.

Intention of Management Interventions

A1.9 Ultimately, the management of any woodland intends to provide a sustainable woodland by the management of existing at the installation of new plants. Within this context, it intends to maximise the amenity value, to improve biodiversity and local ecological values.

Woodland Context

A1.10 Currently, the woodland consists of a relatively young amenity planting in a roadside position. The trees would appear to have been installed as a landscape facet of the earlier road development works, intending to visually soften the road structures and to provide screening and separation between the roadway and nearby residential areas.

A1.11 In respect of woodland safety, the area, particularly the woodland edges, must be regarding areas of high use and occupation, relating specifically to the adjoining road and footpaths.

Management Systems

A1.12 Whilst all management systems should preferably take on a proactive approach, reactive necessities cannot be avoided.

A1.13 The basis of any management plan must relate to the results of constant and regular review, the information and guidance from which will direct, moderate, and focus any management scheme.

A1.14 Considering that the context between trees and rates of occupation and use is high, then tree and site safety will be of particular importance.

A1.15 The preliminary site tree survey carried out as part of the planning process in relation to this development has already highlighted several issues in respect of individual trees. Some specimens are noted to be defective or of poor quality while others are affected by pathological issues and as such may prove to be of limited longevity or suitable only for limited retention on safety grounds. Therefore, note is made that the existing site tree population is partially flawed and some specimens are not suitable for retention. It is possible that more trees will be lost over time, over and above those associated with site development or immediate defect. This appreciation illustrates the need for replacement planting because of both natural tree loss and planned tree removal. These issues may continue to generate ongoing issues over time that will require management.

A1.16 This should not be regarded as wholly counterproductive as new planting is critical to population turnover, replacement planting, the provision of greater age diversity that promotes better sustainability over time.

Future Monitoring

- A1.17 Any woodland/tree management plan should be reviewed on a regular basis. Only regular review can hope to identify defective, faulty, or deteriorating trees at an early stage, thereby allowing timely intervention and the minimising of risks. It is equally appreciated that the review of trees can prove onerous and sometimes, would appear to be of variable urgency. In respect of this, it is advised that the site's tree population be divided into various zones, to better identify areas where trees must be reviewed most regularly, as opposed to those areas where less frequent review might suffice. Such zoning will inevitably relate to degrees of occupation and use and the associated potential threat the trees may present to persons or property.
- A1.18 An ongoing tree review will over time, identify specimens that need removal on safety grounds. It is also advised that over time and regarding fine-tune works that safety related to extent, and where necessary, the removal of trees to provide for population thinning and space for ongoing growth. This may prove necessary regarding the provision of additional planting space and the maintenance of a diverse age profile, as well as to prevent/reduce the extent of competition within the existing tree population.

Tree Planting Works

- A1.19 The size, location and composition of existing woodland and tree groups is considered such as to provide minimal likelihood of natural regeneration other than in respect of locally dominant species including Ivy, Bramble, Sycamore and Ash. In respect of this, great concern attaches to the Ash and Elm populations in light of pathological issues relating to Chalara Canker and Ash, and Dutch Elm disease and Elm trees. Therefore, artificial replacement planting must be relied upon to provide any valuable degree of species and age diversity. In respect of this, envisaged occupation, use, desired amenity and ecological factors, species selection must be addressed on an area specific basis.
- A1.20 Age diversity across the existing site is somewhat poor and this can be addressed by spreading new planting works over staggered period, for example on a 5 or 10-year basis as well as on a staggered and progressive basis in accordance with available space associated with natural tree losses.

Areas (Zoning)

- A1.21 The overall site can be divided into two principal areas/types:
- a) Woodland edges (adjoining roads, footpaths and proposed car parking)
 - b) Woodland centres (wooded areas set back from or more distant from areas noted at "a" above)
- A1.22 The existing nature of woodland areas and the expectations of future use, may allow for substantially differing degrees of intervention and management. Such differences must be advised by estimations and expectation of use and occupation. Available resources must be applied in a manner commensurate with tree related risk that in turn

will relate to the usage levels of a given area.

- A1.23 Where trees and woodlands directly adjoin areas of high use and occupation, such as thoroughfares, roads, paths, buildings or areas of know occupation or congregation, then such trees must be given the highest degree of scrutiny in respect of suitability for retention and ongoing review over time in respect of the potential development of hazards.
- A1.24 Where trees are in areas of limited or reduced use and occupation, or where access is specifically restricted, then the need for intensive management and/or intervention would appear to be less onerous. Accordingly, it may be reasonable to assume that such areas might be specifically designated for “minimal intervention”, for example of ecological grounds and, should the context allow, all including dead and dying trees might be retained in situ.
- A1.25 The differences as outlined above may allow for differing strategies, attaining different outcomes over time. Such differences can readily be adopted under the auspices of any management scheme, but expectations should nonetheless be discussed and agreed with all stakeholders.
- A1.26 Similar issues arise elsewhere about the site whereby the longer-term strategies may be modified to accommodate or adopt specific stakeholder expectations or goals.

Proposed Management Plan Framework

- A1.27 Set out below is the basis of a strategic woodland management plan, separated into its short, medium, and longer-term elements.
- A1.28 In its current format, it provides a basis for management, though equally, it provides for the simple adoption of medium and longer-term goals as may be desired by stakeholders, including site visitors, residents, and by Fingal County Council.
- A1.29 In respect of this and with the intention of satiating the needs and desires of all parties, this plan should be reviewed regularly, and any additions or amendment should be raised and considered for adoption and inclusion as deemed appropriate.
- A.1.30 The main woodland area remains outside the extent of the St Michael’s House site boundary. Immediate plan works as outlined will be completed as part of the development. Future Plan works as outlined will revert to Fingal Co Co as the landowner responsible for the woodland.

Immediate Plan

- A1.31 Works to be completed prior to/during development works.
- a) Undertake clearance/felling works required to facilitate development works.
 - b) Review retained trees in respect of effects of tree felling, shelter loss and exposure

- or construction activity and produce a secondary works program to address same.
- c) Undertake agreed planting works in accordance with Landscape proposals.
 - d) Produce and adopt a monitoring, inspection, and review plan.

A1.32 It is intended to create a “buffer” zone between the broader woodland area and the proposed car park of some 12 to 15 metres width. Within this belt, the half (6.00 to 7.50 metres) nearest the car park will be cleared of all but the sapling trees to make way for new planting. The second belt (6.00 to 7.50 metres) furthest from the proposed car park will see retained trees pruned and reduced in height where possible. Only where such pruning cannot be applied without damage/disfigurement, will such trees be removed and the space used for new planting.

A1.33 In respect of “b” above, it is noted that the proposed clearance works will expose hitherto sheltered trees. This puts such trees at increased risk of damage/failure and therefore, actions must be applied to address this issue.

A1.34 This should include structural “crown reduction” pruning where it can be applied, intending to reduce wind load on the new edge trees, while allowing for their safer retention to contribute to the shelter of those trees to their rear.

A1.35 In some instances, and likely exacerbated by suppression related “draw-up” tree forms, it may not be possible to apply these works to some trees. Where this occurs, consideration should be given to losing that tree and applying the works to the next tree in line, and so on. This process may best be dealt with relevant stakeholders on a tree-by-tree basis.

A1.36 It is advised that “a” above be considered in respect of the broader woodland. Concern has been expressed in respect of unstable, partially collapsed, dead or dying trees. Any such trees should be identified and removed at the same time as initial felling works, intending to remove any current hazards and/or threats from the woodland area.

A1.37 It is advised that “d” above be based on a regime of annual reviews/inspections. These assessments are to be directed towards the development of the existing management plan and the adoption of any works considered necessary at the time of review, to improve/promote/maintain site safety, and to maximise the successful establishment of the new plantings, including the management of weed species.

Future Plan

The completion of the works at development time should be followed up by ongoing works as required. Particularly, it is advised that all retained trees are reviewed on an annual basis or after severe weather events.

A1.38 The should continue over time, but adding additional but less urgent facets. These are

set out below in respect of 1, 5 and 15 year review rotation considerations.

Short Term Plan –

A1.39 Annual

- Review and update the tree conditions (survey) to identify ongoing conditions and site safety, and need for specific action.
- Review planted material for establishment failure, need for replacement and weed control.
- Amend “Short Term Plan” inclusions to include works recommended by above reviews.

Medium Term Plan –

A1.40 5 Year basis

- Review age profile
- Review patterns of tree loss
- Assess need and extent of planting works in respect of short-term tree management and longer-term population management desires and objectives.

Long Term Plan –

A1.41 15 Year basis

- Review management plan to date.
- Assess for need to amend adjust plan.
- Assess for need/benefits of proactive tree removal to provide for planting space or for allocation of new planting areas/zones.

A2 Appendix 1 - Arboricultural Method Statement (and Tree Protection Plan)

Method Statement Outline

- A2.1 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.
- A2.2 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.
- A2.3 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

- A2.4 This Arboricultural Method Statement must be read with the associated “Tree Protection Plan” drawing, “St Michaels Tree Protection Plan”. 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

- A2.5 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

- A2.6 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

- A2.7 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

A2.8 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 “St Michaels Tree Protection Plan” (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.

A3 Appendix 2 - Tree Survey

Nature of Survey

- A3.1 The criteria put forward in “BS5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations” have provided a basis for this report.
- A3.2 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.
- A3.3 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

- A3.4 The survey must be read with the “Tree Constraints Plan” drawing “St Michaels Tree Constraints Plan” 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 “St Michaels Tree Constraints Plan”. Any such trees should be located and plotted by professional means to identify the constraints such trees have upon the site.
- A3.5 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.
- A3.6 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”.

- A3.7 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

- A3.8 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

- A3.9 This survey was carried out in February of 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.
- A3.10 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

- A3.11 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.
- A3.12 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.

A3.13 A competent and experienced Arborist has completed all inspection and tree assessment. The inspection involves visual assessment only, which has been carried out from ground level. No below ground, internal, invasive, or aerial (climbing) inspection has been carried out.

A3.14 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.

A3.15 Throughout the undertaking of the survey, several factors acted against the inspectors, contriving to reduce the accuracy of the survey.

Seasonality

A3.16 The original survey was carried out during the winter periods. 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 generalized 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.

Table 1 – Tree Data Table

| No. | Species | Age | Con | Ht. | CH | N | E | S | W | Stm | Dia. | RPA | Structural Condition | PMR | Yrs. | Cat |
|-----|---|-----|-----|------|------|------|------|------|------|-----|------|------|--|-----|------|-----|
| 815 | Whitebeam (<i>Sorbus aria</i>) | E/M | G/F | 7.50 | 2.25 | 4.50 | 3.00 | 4.50 | 4.50 | 1 | 462 | 5.54 | This tree appears vigorous. Has been heavily cut back on eastern side as result of proximity to overhead power cables. Will require ongoing management. | | L | B2 |
| 816 | Lawson Cypress (<i>Chamaecyparis lawsoniana</i>) | E/M | F | 5.00 | 1.25 | 1.50 | 1.50 | 2.00 | 1.75 | 1 | 197 | 2.37 | Tree is young and still vigorous but arising from Heavily constrained position adjoining entrance. Trees compromised by compression fork at 1.75 m. | | M | C2 |
| 817 | Lawson Cypress (<i>Chamaecyparis lawsoniana</i>) | E/M | F | 6.50 | 1.50 | 1.50 | 1.25 | 1.00 | 1.00 | 1 | 293 | 3.51 | Tree is young and still vigorous but arising from constrained position adjoining paved entrance. | | M | C2 |
| 818 | Sycamore (<i>Acer pseudoplatanus</i>) | S/M | P | 9.00 | 1.50 | 4.00 | 1.00 | 3.50 | 4.50 | 1 | 328 | 3.93 | One-sided and typically unbalanced to west, towards road. Tree has suffered early life failure of compression fork resulting in major wound and early decay at 2.00 m. Tree offers limited sustainability. | | S | C2 |
| 819 | Field Maple (<i>Acer campestre</i>) | S/M | G/F | 8.00 | 2.00 | 3.50 | 2.00 | 3.00 | 5.00 | 1 | 360 | 4.32 | Suppressed distorted from proximity to near neighbours but is of good general vigour and vitality. | | L | B2 |
| 820 | Wych Elm (<i>Ulmus glabra</i>) | S/M | D | 5.00 | 1.00 | 1.00 | 0.00 | 1.50 | 2.50 | 1 | 229 | 2.75 | Completely dead and requiring removal. | | N/A | U |

| No. | Species | Age | Con | Ht. | CH | N | E | S | W | Stm | Dia. | RPA | Structural Condition | PMR | Yrs. | Cat |
|-----|---|-----|-----|-------|------|------|------|------|------|-----|------|------|--|-------------------------|------|-----|
| 821 | Ash Group (<i>Fraxinus excelsior</i>) | S/M | P | 11.00 | 3.00 | 4.00 | 3.00 | 2.50 | 5.00 | 3 | 465 | 5.58 | Originally triple stemmed, one stem has failed and collapsed in south westerly direction. Remaining stem is affected by collapse of neighbouring hung-up Elm with evidence of crown dieback and decline within higher crown, suggestive of possible Chalara Canker attack. Tree offers limited sustainability. | Consider early removal. | S | C2 |
| 822 | Wych Elm (<i>Ulmus glabra</i>) | S/M | D | 5.00 | 0.00 | 5.00 | 7.00 | 0.00 | 0.00 | 1 | 283 | 3.40 | Tree has collapsed in a north-westerly direction. | Remove immediately. | N/A | U |
| 823 | Wych Elm (<i>Ulmus glabra</i>) | S/M | D | 9.00 | 4.00 | 1.00 | 4.00 | 0.00 | 0.00 | 1 | 197 | 2.37 | A completely dead, drawn up, whip. | Remove. | N/A | U |
| 824 | Wych Elm (<i>Ulmus glabra</i>) | | D | 9.00 | 5.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1 | 226 | 2.71 | Completely dead and in need of immediate removal. | | N/A | U |
| 825 | Wych Elm (<i>Ulmus glabra</i>) | S/M | D | 10.00 | 1.50 | 2.50 | 5.00 | 1.00 | 0.00 | 1 | 325 | 3.90 | Partially collapsed in easterly direction. Completely dead and partially collapsed in easterly that direction. | Remove immediately. | N/A | U |
| 826 | Norway Maple (<i>Acer platanoides</i>) | S/M | F | 9.00 | 2.00 | 4.00 | 2.00 | 2.50 | 2.50 | 1 | 296 | 3.55 | Heavily suppressed and triple stemmed from low level. | | N/A | U |
| 827 | Ash (<i>Fraxinus excelsior</i>) | S/M | F | 11.00 | 5.00 | 4.00 | 2.50 | 1.00 | 2.00 | 1 | 261 | 3.13 | Drawn up with crown limited to higher levels only. | | L | B2 |
| 828 | Wych Elm (<i>Ulmus glabra</i>) | S/M | D | 5.50 | 0.00 | 1.00 | 2.00 | 1.00 | 0.00 | 1 | 216 | 2.60 | Completely dead and in need of removal. | | N/A | U |
| 829 | Italian Alder (<i>Alnus cordata</i>) | E/M | G/F | 15.00 | 2.50 | 5.00 | 4.00 | 0.00 | 3.50 | 1 | 407 | 4.89 | Large specimen heavily unbalanced to North because of suppression. | | L | B2 |

| No. | Species | Age | Con | Ht. | CH | N | E | S | W | Stm | Dia. | RPA | Structural Condition | PMR | Yrs. | Cat |
|-----|---|-----|-----|-------|------|------|------|------|------|-----|------|------|--|---|------|-----|
| 830 | Italian Alder (<i>Alnus cordata</i>) | E/M | F | 17.00 | 6.00 | 3.50 | 3.00 | 3.00 | 3.50 | 1 | 322 | 3.86 | Tall and drawn-up. May not suit retention in isolation or if exposed. | Review regarding changed retention context. | M | B2 |
| 831 | Italian Alder (<i>Alnus cordata</i>) | E/M | F | 16.00 | 7.00 | 1.00 | 2.50 | 3.50 | 2.00 | 1 | 261 | 3.13 | Tall and drawn up with limited high crown. | | M | B2 |
| 832 | Italian Alder (<i>Alnus cordata</i>) | E/M | G/F | 18.00 | 5.00 | 3.00 | 4.50 | 5.00 | 3.00 | 1 | 407 | 4.89 | Large and dominant specimen. May be affected by isolation and exposure. | Review regarding changed retention context. | L | B2 |
| 1 | Field Maple (<i>Acer campestre</i>) | S/M | G/F | 12.00 | 1.25 | 3.00 | 2.50 | 2.50 | 2.00 | 3 | 350 | 4.20 | Young and vigorous, multi-stem from low level. | | L | B |
| 2 | Grey Alder (<i>Alnus incana</i>) | S/M | F | 12.00 | 5.00 | 3.00 | 1.50 | 2.00 | 2.00 | 2 | 296 | 3.55 | Heavily divided from near ground level raising concern regarding mechanical integrity. General vigour and vitality remain good. Crown is elevated. | | M | C |
| 3 | Field Maple (<i>Acer campestre</i>) | S/M | G/F | 6.00 | 0.00 | 2.50 | 2.00 | 2.50 | 3.50 | 1 | 293 | 3.51 | A small, squat but vigorous specimen. | | L | B |
| 4 | Crack Willow (<i>Salix fragilis</i>) | S/M | F | 14.00 | 9.00 | 5.00 | 2.00 | 1.00 | 3.00 | 1 | 251 | 3.02 | Tall and slender with limited high crown only. | | L | B |
| 5 | Oak (<i>Quercus robur</i>) | S/M | G/F | 15.00 | 9.00 | 2.50 | 2.00 | 2.50 | 2.50 | 1 | 251 | 3.02 | Particularly tall and slender specimen supporting canopy cover at higher levels only. | | L | B |
| 6 | Field Maple (<i>Acer campestre</i>) | S/M | G/F | 8.00 | 0.00 | 4.00 | 1.50 | 2.00 | 5.00 | 1 | 274 | 3.29 | A close-knit group of 3 individual stems combining to create singular crown form. Trees notably unbalanced and north-west. | | L | B |
| 7 | Field Maple (<i>Acer campestre</i>) | S/M | F | 7.00 | 2.00 | 2.00 | 1.50 | 1.25 | 1.00 | 1 | 143 | 1.72 | Small and slightly suppressed specimen. | | M | C |
| 8 | Field Maple (<i>Acer campestre</i>) | S/M | F | 11.00 | 2.50 | 2.00 | 2.50 | 1.50 | 1.50 | 1 | 242 | 2.90 | Tall and slender, heavily divided from 1.00 m. Vigour and vitality remains good. | | M | C |

| No. | Species | Age | Con | Ht. | CH | N | E | S | W | Stm | Dia. | RPA | Structural Condition | PMR | Yrs. | Cat |
|-----|---|-----|-----|-------|------|------|------|------|------|-----|------|------|---|---------------------|------|-----|
| 9 | Field Maple (<i>Acer campestre</i>) | S/M | G/F | 10.00 | 2.00 | 2.50 | 1.00 | 2.50 | 4.50 | 1 | 325 | 3.90 | Heavily one-sided and typically unbalanced to west. Remains vigorous. | | L | B |
| 10 | Field Maple (<i>Acer campestre</i>) | S/M | F | 6.00 | 1.75 | 1.50 | 0.00 | 1.00 | 3.00 | 1 | 175 | 2.10 | Heavily suppressed but maintaining reasonable vigour and vitality. | | M | C |
| 11 | Field Maple (<i>Acer campestre</i>) | S/M | G/F | 10.00 | 2.50 | 1.50 | 3.00 | 2.00 | 1.50 | 1 | 251 | 3.02 | distorted through suppression but maintaining reasonable vigour and vitality. | | L | B |
| 12 | Field Maple (<i>Acer campestre</i>) | S/M | F | 5.50 | 1.50 | 1.00 | 2.50 | 1.50 | 1.50 | 1 | 162 | 1.95 | Distorted through suppression but maintaining reasonable vigour and vitality. | | L | B |
| 13 | Norway Maple (<i>Acer platanoides</i>) | S/M | G/F | 11.00 | 1.75 | 2.00 | 0.00 | 1.00 | 4.50 | 1 | 194 | 2.33 | Heavily one-sided through suppression though vigour and vitality remains good. | | L | B |
| 14 | Ash (<i>Fraxinus excelsior</i>) | S/M | D | 7.50 | 7.50 | 1.00 | 1.00 | 1.00 | 1.00 | 1 | 175 | 2.10 | Completely dead | Remove immediately. | N/A | U |
| 15 | Field Maple (<i>Acer campestre</i>) | S/M | G/F | 7.50 | 0.50 | 2.50 | 1.00 | 1.50 | 2.50 | 1 | 207 | 2.48 | Relatively small and suppressed specimen that is maintaining reasonable vigour and vitality. | | L | B |
| 16 | Field Maple (<i>Acer campestre</i>) | S/M | G/F | 13.00 | 1.50 | 2.50 | 2.50 | 2.50 | 3.50 | 1 | 328 | 3.93 | Slightly one-sided and unbalanced to west through suppression. Tree is heavily divided with compression fork at 0.50 m. | | L | B |
| 17 | Norway Maple (<i>Acer platanoides</i>) | S/M | G/F | 12.00 | 2.25 | 1.50 | 2.00 | 3.00 | 3.50 | 1 | 232 | 2.79 | Suppressed and slightly unbalanced though maintaining good vigour and vitality | | L | B |
| 18 | Crack Willow (<i>Salix fragilis</i>) | S/M | G/F | 12.00 | 2.00 | 3.50 | 0.00 | 1.00 | 4.00 | 1 | 271 | 3.25 | Tall and slender, typically unbalanced to north-west. General vigour and vitality remains good. | | L | B |
| 19 | Monterey Pine (<i>Pinus radiata</i>) | E/M | G/F | 18.00 | 7.00 | 4.00 | 3.00 | 4.00 | 3.50 | 1 | 452 | 5.42 | Young and vigorous specimen whose dominant and large form received minimal shelter from broader group. | | L | B |

| No. | Species | Age | Con | Ht. | CH | N | E | S | W | Stm | Dia. | RPA | Structural Condition | PMR | Yrs. | Cat |
|-----|---|-----|-----|-------|------|------|------|------|------|-----|------|------|--|-----|------|-----|
| 20 | Monterey Pine (<i>Pinus radiata</i>) | E/M | G/F | 19.00 | 6.00 | 3.00 | 4.50 | 5.00 | 4.00 | 1 | 493 | 5.92 | Young and vigorous specimen whose dominant and large form received minimal shelter from broader group. | | L | B |

| | | | | | | | | | | | | |
|-----|--|-----------------|---|------------|-----------|----------------------------------|---|------|------|--|-----|------|
| WA1 | Woodland Area 1 Ash (<i>Fraxinus excelsior</i>) Norway Maple (<i>Acer platanoides</i>) Field Maple (<i>Acer campestre</i>) Sycamore (<i>Acer pseudoplatanus</i>) Silver Birch (<i>Betula pendula</i>) Austrian Pine (<i>Pinus nigra</i>) Wych Elm (<i>Ulmus glabra</i>) Italian Alder (<i>Alnus cordata</i>) Elder (<i>Sambucus nigra</i>) | S/M - E/M | F | 8.00-18.00 | 0.00-6.00 | Spread Contiguous Woodland | 1 | 0.90 | 3.44 | <p>A young and highly variable population of artificial planting. The group is of high density with some areas being of less than 1.50 metre centres. This has led to suppression and the development of many tall and spindly trees whose canopy extent is limited to higher levels only. Instability and collapse are noted throughout the woodland, potentially worsened by competition led elongation.</p> <p>There is some evidence to suggest elements of natural growth, particularly along the north-eastern boundary. Here, we encounter elements of Elderberry and Wych Elm both of which are unlikely to have been planted. Unfortunately, the Elms throughout the zone were all found to have been killed by Dutch Elm disease.</p> <p>Pathological concerns arise also in respect of the Ash. Though acknowledging a winter review and issues arising therefrom, many specimens show evidence of good vigour and vitality. However, a notable number equally show signs of twiggy decline and crown dieback as well as a longitudinal canker development all of which may readily be indicative of Chalara Canker attack.</p> <p>There is notable potential for a pathological diminution in sustainability, particularly for the Ash. This would appear likely to result in a potential population proportion loss of circa 20 – 25%.</p> <p>Of the remaining trees, concerns exist in respect of planting density, elongation, and stability. This may impart be alleviated by management however belated management, including population thinning, could result in exacerbated wind blow and increased rates of tree failure.</p> <p>Loss of parts of the woodland must be reviewed in detail. Any trees hitherto sheltered but become exposed must be reviewed considering potential increases in risk relating to exposure related wind-blow. This issue cannot be over emphasised considering the current extent of mechanical failure noted within the woodland zone.</p> | 286 | 3.44 |
|-----|--|-----------------|---|------------|-----------|----------------------------------|---|------|------|--|-----|------|

| No. | Species | Age | Con | Ht. | CH | N | E | S | W | Stm | Dia. | RPA | Structural Condition | PMR | Yrs. | Cat |
|-----|---------|-----|-----|-----|----|---|---|---|---|-----|------|-----|--|-----|------|-----|
| | | | | | | | | | | | | | In respect of this, consideration must be given both to the car park, thereby exposing any retained trees from the west, south-west and south. | | | |