

Arboricultural Report
Trees at Proposed Development at
Ballinderry Road
Mullingar
Co Westmeath

March 2022

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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	<u>Appendix A1 – Preliminary Arboricultural Method Statement (With Tree Protection Plan)</u>
A2	<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) Ballinderry Road Tree Constraints Plan	Tree Constraints Plan A plan depicting the predevelopment location, size, calculated constraints, and simplified tree quality category system
2) Ballinderry Road 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) Ballinderry Road 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 This report relates to a new and amended application. While the details of the development are different, the site area and tree population affected remain the same. In this respect, the site has been revisited and the trees reviewed as recently as March of 2022, so as to confirm the validity of the tree survey findings.
- 1.2 Because the site straddles both domiciliary garden and agricultural land, the survey has noted a diverse array of species. Nothing encountered would be regarded as rare or special in any way.
- 1.3 To the west, the land is predominantly agricultural in context, supporting a number of lapsed hedges and emergent trees. The hedges all appear to have been Hawthorn based, though many are now invaded by other species, and most suffer dilapidation and discontinuity. The trees in this area are dominated by self-seeded Ash. While many appear to be in reasonable health, some concern attached to issues surrounding the spread of Chalara Canker across the country. For this reason, these trees are of dubious sustainability.
- 1.4 The east of the site includes a dwelling and garden. The vegetation here is dominated by lapsed Cypress hedges and ornamental plantings.
- 1.5 The proposed development will require the clearance of much of the site's vegetation. This need is based on three principal reasons. The initial requirement is for space to accommodate the development. The second is an unsympathetic topography that include more than 6 metres of level change across the site and requiring extensive modification to accept a modern development and all its attendant services, access and infrastructure. Additionally, the fact that many of the trees were found to be of poor quality and broadly unsuitable for retention, regardless of development works.
- 1.6 For the above reasons, a greater emphasis has been placed replacement and new planting works within the newly developed context.

2 Introduction

- 2.1 This report was commissioned by-
Consdorf Investments ICAV

This report has been prepared by-
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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.

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 “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.
- 2.7 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 in respect of sustainable tree retention.

3 Site Description

- 3.1 The site in question is of irregular shape, not necessarily conforming to an existing field boundary system however, the site is adjoined to the east by the Ballinderry Road and to the north by the southern boundary of the Chestnut Drive estate.
- 3.2 The site area effectively excludes substantial element of nearby vegetation with the most prominent vegetation can comprising the eastern and northern boundary is together with the remnant of a hedgerow descending approximately north-south through the northern half of the site. The site is currently used for grazing. There is a highpoint within the site towards it's the centre of its northernmost end that appears to be free draining. Vegetation type would suggest poorer drainage to the south and west with the north-western corner of the site in particular, being wholly waterlogged, at the time of review.

4 Pre-Development Arboricultural Scenario

- 4.1 The vegetation associated with this site is broadly of poor quality. Much relates to effectively defunct and dilapidated field boundary is, originally dominated by Hawthorn but now usurped and becoming dominated by more invasive species including Ash, Elder, Bramble and Ivy. Many of the original Hawthorn is have failed with others remaining but in a state of ongoing breakage. Such material must be reviewed with caution in respect of incorporation into a new environment as, much of the existing hedge material exists in conjunction with notable earthworks including ditches and embankments. This is particularly the case in respect of hedge 6 to the south-west of the site. A similar scenario exists to the north-west of the site where much of the reviewed material is associated with a particularly steep embankment ascending towards the levels associated with the Chestnut Drive estate, to the north.
- 4.2 To the east of the site, the site boundary divides the subject site from adjoining domiciliary plots. The boundaries of these areas are substantially variable but typically of poor quality. In many instances, the hedges associated with the boundary have not been managed over time and are now defunct dilapidated and regarding the northernmost element, effectively lost. Some areas of hedge comprise artificial planting including "Tree line 1", "Tree Line 2" and "Hedge 4" that comprise artificial alignments of conifers. In two instances, these comprise Leyland Cypress, species typically viewed with caution regarding its minimal sustainability and particularly onerous management issues, exemplified on this site by the extensive mechanical failure of "Tree Line 1". Such alignments are not considered sustainable and would not normally be recommended for retention however, it is noted that in these instances, such material appears to relate to adjoining sites. Elsewhere on eastern side of the site, the material is of such poor quality as to not warrant retention.

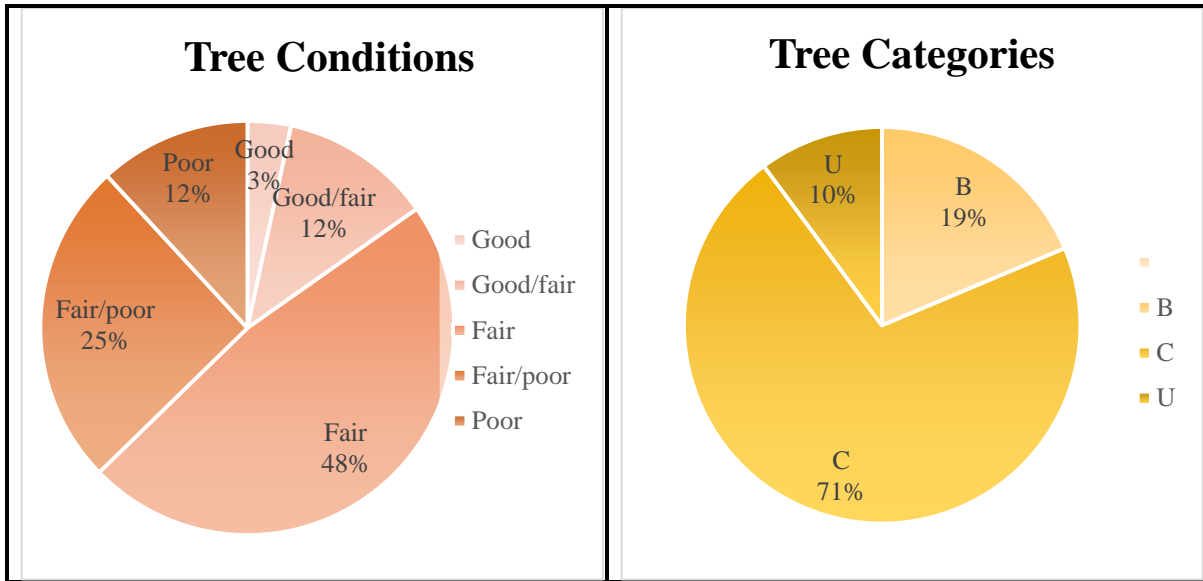


Fig 1

Fig 2

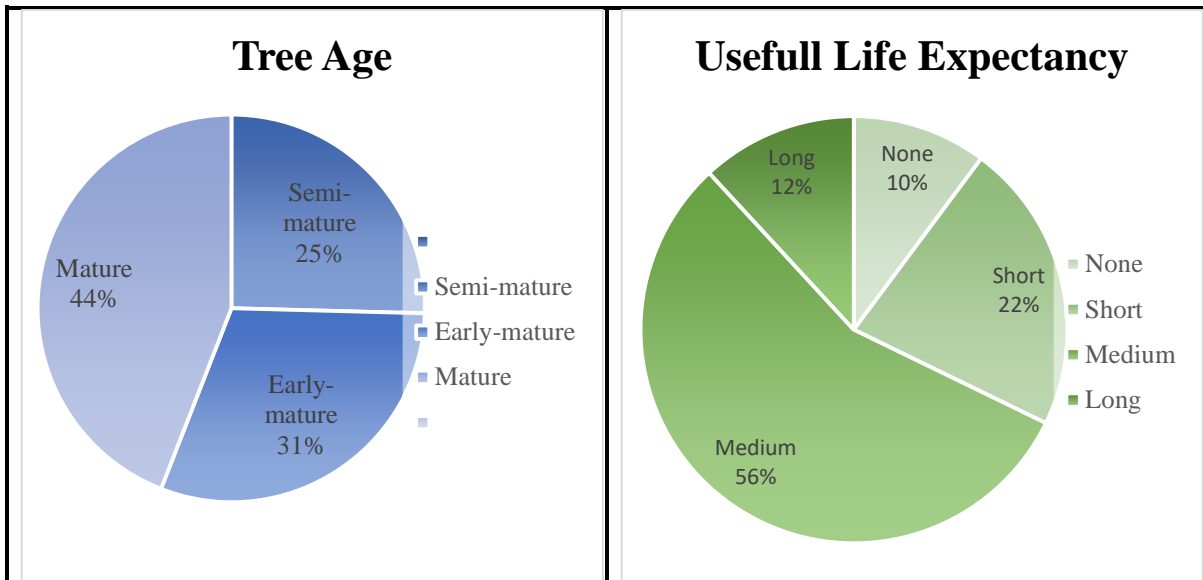


Fig 3

Fig 4

4.3 In some instances, consideration must be given to likely requirements for boundary treatments and their spatial relationship with existing hedge material. In many instances, it may be necessary to replace hedge material with new structures this raising issue, for example at “Thicket Area 1” and “Hedge 8” where the apparent boundary coincides with a dramatic disparity in levels between the subject site and those of the Chestnut Drive to the north. On the face of it, it appears that substantial modification will be required to provide any tangible degree of boundary treatment in this area and that such modification is likely to be contrary to vegetation retention.

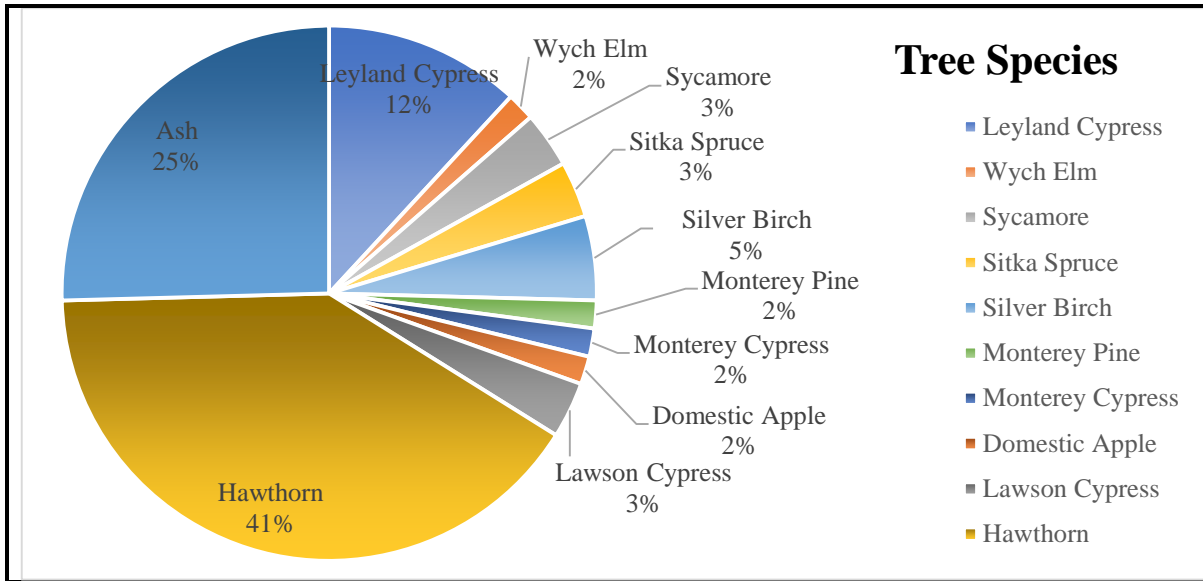


Fig 5

4.14 As can be seen from the graphs above, the species diversity (fig 5) illustrates the extent of garden planting, while the dominance of Ash and Hawthorn illustrates natural regeneration and a prior agricultural landscape. The review of tree categories and conditions appear to correlate with category “C” and “Fair” and Fair-poor” trees dominating. This apparently reduced quality is equally reflected in the dominance of medium-term sustainability and limited long-term sustainability. These issues should be regarded in respect of the dominance of mature trees that suggests a need for additional planting of young trees to improve sustainability over time.

5 Planning Scenario in Respect of Tree

- 5.1 In respect of planning, it is noted that the site area does not appear to assert any specific tree related constraints and the site supports no tree preservation orders.
- 5.2 Trees, woodlands and hedges are considered to be of importance within the planning context and are dealt with under the “Natural Heritage” section 5.13 of the development plan. In respect if this, particular attention is made of the development plan policies P-TWH1 to P-TWH7 and objectives O-TWH1 and O-TWH2.

6 Construction Activities and their Effect on Trees

General

- 6.1 Tree retention is costly in respect of available space. 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 trees 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.

7 Nature of Project Works

- 7.1 The proposed works involve a residential development 130 dwelling with a mixture of, open space and play areas, associated internal roads, pedestrian paths, landscaping, lighting, car parking, connectivity works, infrastructure and site services.
- 7.2 Considering the scope and scale of the proposed development, it is considered 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 It should be appreciated that many of the issue noted in section 6, apply to various degrees to this development. However, two issues in particular apply.
- 8.2 Firstly, the simple consumption of space has meant that the ground associated with some trees will be consumed for the purposes of development.
- 8.3 Site topography and levels are not sympathetic to tree retention. Much of the site area require modification, grading or filling to a degree that is contrary to tree retention.

9 Design Iterations and Arboricultural Considerations

- 9.1 An earlier tree survey was provided to the broader design team. Accordingly, there was an early appreciation of the site’s tree cover, its quality, condition, and the constraints it presented.

10 Identification of Development Impacts to Trees

- 10.1 The expected tree impacts have been represented graphically on the tree impacts drawing “**Ballinderry Road 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-
- Structural Design Solutions Consulting Engineers – Drainage and Engineering
 - Doyle & O’Troithigh Landscape Architecture
 - Coughlan Associates Architects – architectural 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, light blockage 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 “Ballinderry Road 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 As noted within the survey data, the “red line” area supports a total of 57no. individually described trees and 2 tree groups that comprise multiple specimens, which, for the purposes of this report, will be regarded as 59no. tree items that have been categorised as:
- No category “A” trees,
 - 11no, category “B” trees,
 - 42no. category “C” trees,
 - 6no. category “U” trees,
- 11.3 Normally, all category “U” trees (16 in total across survey area) identified in the survey would be removed. Many should be removed regardless of development works. These include nos. 1, 3, 34, 35, 41 and Tree Line 1.
- 11.4 Of the site’s category “good” quality “B” trees, the development works appears to require the removal of nos. 6, 9, 16, 28, 29, 38, 46, 52 and 53.

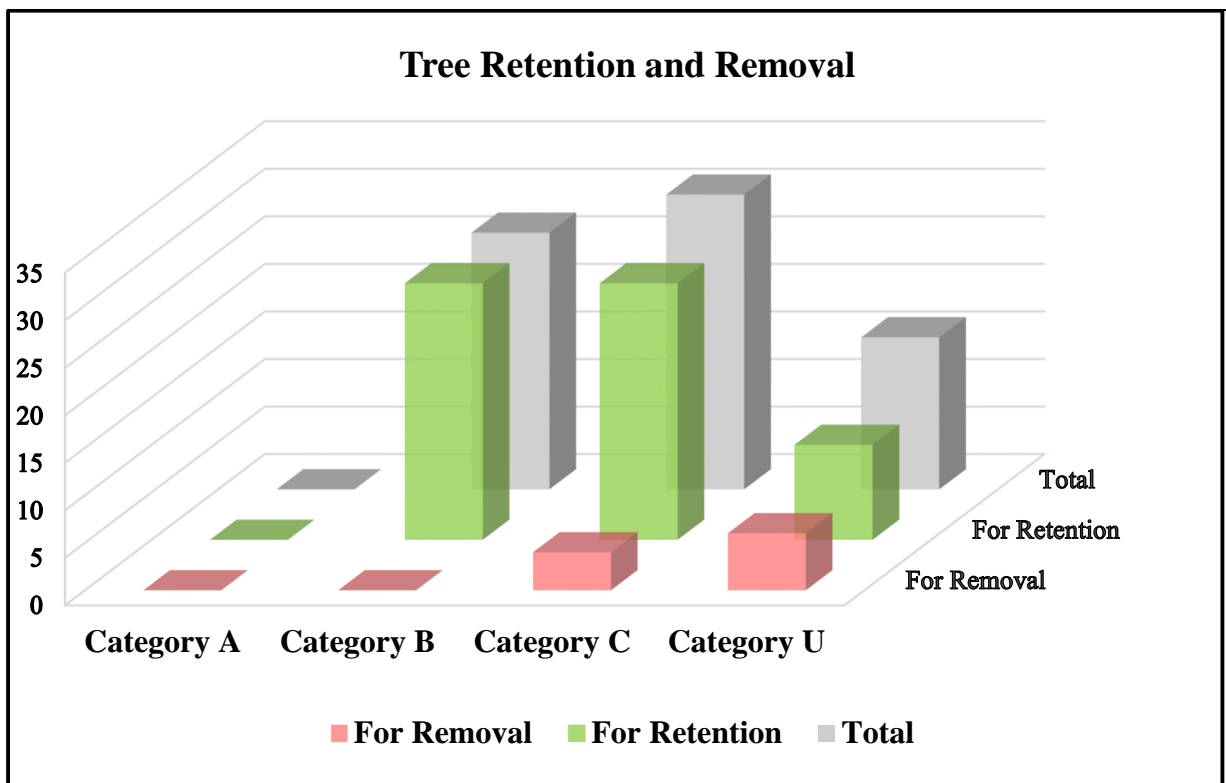


Fig 5 Graphic Representation of Tree Loss/Retention Scenario

11.5 Of the site’s category “poor” quality “C” trees, the development works appears to require the removal of nos. 4, 5, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 30, 31, 32, 33, 36, 37, 47, 48, 49, 50, 51, 54, 55, 56 and 57.

11.6 The tree loss breakdown for the proposed development will be-

- 9no. Category “B” items
- 35no. category “C” items
- 5no. category “U” trees and 1no. tree line
- In addition to tree losses, the development will require the removal of substantial length of often dilapidated hedging within the field context, as well as hedging and shrubbery within the domiciliary garden contexts.

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 “Ballinderry Road 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 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. This will allow for the updating and amending 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.

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 - 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, “Ballinderry Road 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

- 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 “Ballinderry Road 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.

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 “Ballinderry Road 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 “Ballinderry Road Tree Constraints Plan”. 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 The original survey was carried out in February and September of 2019 and was reviewed and updated in April of 2021 and March of 2022. 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 assessment 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 The original survey was carried out during various 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 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
1	Leyland Cypress (<i>Cupressocyparis leylandii</i>)	S/M	F/P	6.00	1.00	3.00	1.00	0.50	1.50	1	229	2.75	Distorted and unbalanced to north. Appears to have been previously cut and comprises an outgrown element of the adjoining hedge. Is considered unsuitable for retention.	Remove and replace.	N/A	R
2	Lawson Cypress (<i>Chamaecyparis lawsoniana</i>)	S/M	F	7.00	1.00	3.00	2.00	2.00	2.50	1	226	2.71	A distorted relic of an adjoining hedge. A large and dominating specimen within immediate environs, tree is beginning to overhang the site but arises wholly from outside of site jurisdiction.		M	C2
3	Ash (<i>Fraxinus excelsior</i>)	S/M	P	5.50	0.00	3.50	2.50	2.50	3.00	2	229	2.75	A large and distorted sucker exhibiting evidence of early life collapse and failure in northerly direction. Is unsuitable for retention.		N/A	U
4	Ash (<i>Fraxinus excelsior</i>)	S/M	F/P	5.00	1.00	2.50	1.50	1.00	2.00	1	188	2.25	Distorted and heavily divided at 1.00 m. A poor-quality specimen but remains vigorous.		M	C2
5	Hawthorn (<i>Crataegus monogyna</i>)	M	F/P	5.00	1.00	2.50	5.00	2.50	0.00	1	197	2.37	Wholly one-sided and heavily unbalanced to east suggesting early life instability. Entire crown is wholly enveloped in ivy cover with minimal viable crown remaining. Is of poor quality and dubious suitability for retention.		S	C2
6	Hawthorn (<i>Crataegus monogyna</i>)	M	G/F	6.00	1.25	3.00	3.00	3.00	3.00	3	230	2.76	A typical remnant of a previous hedgerow but remains vigorous and healthy. Supports notable and developing ivy cover.	Cut ivy.	L	B2

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
7	Hawthorn (<i>Crataegus monogyna</i>)	M	G/F	6.00	1.00	3.00	3.00	3.00	3.00	1	216	2.60	Remains vigorous but supports extensive ivy cover that smothered much of available crown.	Cut ivy and review.	M	C2
8	Hawthorn (<i>Crataegus monogyna</i>)	M	G/F	6.00	1.00	3.50	3.00	1.50	2.50	1	248	2.98	Slightly unbalanced and supporting extensive ivy cover.	Cut ivy and review.	M	C2
9	Ash (<i>Fraxinus excelsior</i>)	E/M	G	10.00	2.25	4.50	4.50	4.50	4.50	1	372	4.47	A young and vigorous specimen arising from a steep slope descending from high point within the site. Tree supports minor ivy cover.	Cut ivy and review regarding retention context.	L	B2
10	Hawthorn Group (<i>Crataegus monogyna</i>)	M	F	5.00	1.00	3.00	3.00	3.00	3.00	1	239	2.86	A relic remnant of a prior hedgerow. Supports ivy but remains vigorous.		M	C2
11	Hawthorn Group (<i>Crataegus monogyna</i>)	M	F	6.00	0.00	2.50	2.50	2.50	2.50	1	223	2.67	Part of an original hedgerow thicket. Supports developing ivy cover.		M	C2
12	Hawthorn Group (<i>Crataegus monogyna</i>)	M	F	6.00	0.00	3.00	3.00	3.00	3.00	1	229	2.75	Supports extensive ivy cover, enough to result in mechanical damage to north-east of crown.		S	C2
13	Hawthorn (<i>Crataegus monogyna</i>)	M	F	5.50	0.00	2.50	2.50	2.50	2.50	1	216	2.60	Young and still vigorous but exposed aspect as resulted in substantial mechanical failure to eastern crown.		M	C2
14	Hawthorn Group (<i>Crataegus monogyna</i>)	M	F	5.00	0.00	2.50	2.50	2.50	2.50	1	207	2.48	Part of a broadly continuous thicket development. Has sustained notable mechanical damage to crown.		S	C2
15	Hawthorn (<i>Crataegus monogyna</i>)	M	F	5.00	1.00	4.00	1.50	1.00	3.00	1	366	4.39	Heavily unbalanced to north and supports extensive ivy cover.		S	C2
16	Hawthorn (<i>Crataegus monogyna</i>)	M	F	7.00	2.00	4.00	3.00	2.50	3.50	1	229	2.75	Large and slightly dominating specimen within broader thicket development. Supports extensive ivy cover.		L	B2

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
17	Hawthorn (<i>Crataegus monogyna</i>)	M	F/P	6.50	1.50	3.00	3.00	3.00	3.00	1	357	4.28	Apparently vigorous though majority of crown is smothered with ivy cover.	Cut ivy and rereview.	M	C2
18	Hawthorn (<i>Crataegus monogyna</i>)	M	F	6.50	1.50	2.50	4.00	4.00	3.00	1	271	3.25	Part of a broader thicket development. Lower crown is affected by bramble encroachment.	Review regard retention context.	M	C2
19	Hawthorn (<i>Crataegus monogyna</i>)	M	F	5.50	1.00	2.00	3.00	3.00	2.50	1	255	3.06	Comprises typical element of broader thicket development.		M	C2
20	Hawthorn (<i>Crataegus monogyna</i>)	M	F/P	7.00	1.50	4.00	3.00	2.50	3.00	1	385	4.62	Has suffered prior removal of lower limb to east. Much of higher crown is smothered with ivy cover.		M	C2
21	Hawthorn (<i>Crataegus monogyna</i>)	M	P	6.00	1.00	2.50	4.50	3.00	3.00	1	369	4.43	Has suffered major collapse of eastern crown. General vigour and vitality appear reduce suggesting ill-health.		S	C2
22	Hawthorn (<i>Crataegus monogyna</i>)	M	P	6.00	2.00	1.50	3.00	3.00	2.00	1	229	2.75	Almost completely enveloped in ivy cover.	Cut ivy and rereview.	S	C2
23	Hawthorn (<i>Crataegus monogyna</i>)	M	F	6.00	1.00	1.00	2.50	2.00	3.00	3	232	2.79	Suppressed by joining plans and supporting ivy cover.		M	C2
24	Hawthorn (<i>Crataegus monogyna</i>)	M	F/P	6.00	1.75	3.00	3.00	2.50	3.00	1	293	3.51	Supports extensive ivy cover within crown.		S	C2
25	Hawthorn (<i>Crataegus monogyna</i>)	M	F/P	6.00	1.00	3.00	3.50	3.00	3.00	1	280	3.36	Ivy is developing about middle crown.		M	C2
26	Hawthorn (<i>Crataegus monogyna</i>)	M	F/P	5.50	0.75	3.50	4.00	3.00	3.00	1	239	2.86	A close-knit group including and elder that has suffered substantial mechanical failure.		S	C2
27	Ash (<i>Fraxinus excelsior</i>)	S/M	F	8.00	2.50	4.00	4.00	3.00	2.50	1	261	3.13	Slightly unbalanced and of reduced vigour. Arises from position wholly outside of site confines.	Cut ivy and review regularly.	M	C2

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
28	Ash (<i>Fraxinus excelsior</i>)	E/M	F	12.00	3.50	4.50	4.50	1.50	3.50	1	325	3.90	One-sided and typically unbalanced to north-east. General vigour and vitality appear good though ivy is developing about middle crown. Tree appears to arise from western side of ditch.		M	B2
29	Ash (<i>Fraxinus excelsior</i>)	S/M	F	12.00	3.50	2.00	3.50	2.50	3.50	1	306	3.67	A young and sucker like specimen heavily suppressed by near neighbours. Appears to be vigorous. Appears to arise from western side of ditch.		L	B2
30	Ash (<i>Fraxinus excelsior</i>)	S/M	F	10.00	2.50	0.00	3.50	4.00	3.00	1	236	2.83	Unbalanced through suppression and typically leaning to south. Appears to be vigorous. Arises from western side of ditch.		M	C2
31	Hawthorn (<i>Crataegus monogyna</i>)	M	F/P	7.00	2.25	3.50	4.50	3.00	2.50	1	382	4.58	Typically unbalanced to east. Vigour and vitality are reduced suggesting possible ill-health. Tree arises from eastern side of ditch.		M	C2
32	Ash (<i>Fraxinus excelsior</i>)	S/M	F/P	6.00	2.00	1.00	0.00	4.50	4.50	1	226	2.71	Heavily distorted and arising from ditch base. Is of dubious sustainability.	Review regarding retention context.	M	C2
33	Ash (<i>Fraxinus excelsior</i>) Hawthorn (<i>Crataegus monogyna</i>)	M	F	6.50	1.00	3.00	4.00	3.00	2.00	1	229	2.75	Spurious element arising from position out of line from typical hedge.	Review regarding retention context.	M	C2
34	Hawthorn (<i>Crataegus monogyna</i>)	M	P	4.50	0.00	2.50	5.00	4.00	2.50	1	232	2.79	Hawthorne effectively supporting a chronic development of bramble thicket. Is unsuitable for retention.	Remove.	N/A	U

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
35	Ash Group (<i>Fraxinus excelsior</i>)	E/M	F/P	11.00	0.00	4.50	5.50	5.00	5.00	3	525	6.30	Triple stemmed from near ground level with eastern stem almost procurement and affected by damage and decay. Specimen is of particularly poor mechanical form and ill-suited to retention.	Consider early removal.	N/A	U
36	Hawthorn (<i>Crataegus monogyna</i>)	M	P	4.50	1.00	2.50	4.00	3.00	0.00		261	3.13	Remnant of an original hedge now heavily suppressed and unbalanced to east. Supports extensive ivy cover. Is of particularly poor quality.		S	C2
37	Monterey Cypress (<i>Cupressus macrocarpa</i>)	E/M	F	10.00	0.00	4.00	4.00	4.00	4.00	1	376	4.51	Appears to arise from elevated bank but outside of garden confines of neighbouring property. Tree appears young and vigorous and thus asserts substantial potential for continued growth over time. Suitability for retention will be dependent upon modification to adjoining ground and boundary treatments.		M	C2
38	Ash (<i>Fraxinus excelsior</i>)	S/M	F	7.50	2.00	2.50	3.50	4.50	3.00	1	271	3.25	Badly unbalanced to south but apparently of good vigour. Supports extensive ivy cover.	Cut ivy and review. Review regarding disparate levels and boundary treatment.	M	B2
39	Leyland Cypress (<i>Cupressocyparis leylandii</i>)	E/M	F	10.00	1.50	3.5	2.50	2.00	2.50	1	290	3.48	Substantially distorted arising from substantially hi embankment relative to site levels. Is of dubious sustainability.		M	C2
40	Sycamore (<i>Acer pseudoplatanus</i>)	S/M	F	10.00	1.25	2.50	2.50	4.00	2.50	1	398	4.77	A young, likely naturally arising specimen arising from position on bank relatively high above site.	Review regarding retention context.	M	B2
41	Leyland Cypress (<i>Cupressocyparis leylandii</i>)	E/M	P	13.00	0.00	2.50	5.00	5.00	2.00	1	382	4.58	A once larger specimen has suffered substantial and catastrophic failure.	Remove immediately.	N/A	U

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
42	Leyland Cypress (<i>Cupressocyparis leylandii</i>)	E/M	F	12.00	0.00	3.50	4.00	2.50	3.00	1	376	4.51	Apparently vigorous but appears to have suffered prior mechanical damage with substantial debris caught within south-eastern crown. Tree appears to arise wholly from outside of site jurisdiction.	Review with regard retention context.	M	C2
43	Leyland Cypress (<i>Cupressocyparis leylandii</i>)	E/M	F	12.0	1.50	3.00	3.00	3.00	3.00	1	216	2.60	Arise from higher levels of adjoining garden but directly adjoin site edge.	Review regard retention context.	M	C2
44	Leyland Cypress (<i>Cupressocyparis leylandii</i>)	E/M	F	12.00	1.50	3.00	3.00	3.00	3.00	1	229	2.75	Arise from higher levels of adjoining garden but directly adjoin site edge.	Review regard retention context.	M	C2
45	Silver Birch (<i>Betula pendula</i>)	E/M	F	12.00	2.25	4.00	5.00	3.00	2.50	1	274	3.29	Slightly unbalanced but apparently vigorous. Arises from elevated levels on adjoining site.		L	B2
46	Ash (<i>Fraxinus excelsior</i>)	E/M	G/F	12.00	3.50	3.50	4.50	4.00	3.00	1	407	4.89	Suppressed by adjoining cypresses. Middle-crown is obscured by Ivy cover though general vigour and vitality appears good.		L	B2
47	Domestic Apple (<i>Malus variety</i>)	E/M	G/F	5.00	1.00	3.50	1.50	2.50	4.50	1	229	2.75	Suppressed and distorted because of position beneath canopy of larger growing trees. Is particularly suppressed on eastern side.		M	C2
48	Ash (<i>Fraxinus excelsior</i>)	E/M	G/F	13.00	2.50	5.50	4.50	3.00	2.00	1	382	4.58	Heavily suppressed and supports typical imbalance to east, towards roadway. Entire central crown is obscured by dense Ivy cover.	Cut Ivy and rereview.	M	C2
49	Sycamore (<i>Acer pseudoplatanus</i>)	S/M	F	11.00	1.00	5.00	1.50	4.50	4.50	1	392	4.70	Young and vigorous but heavily suppressed and distorted.	Review regarding retention context.	M	C2
50	Lawson Cypress (<i>Chamaecyparis lawsoniana</i>)	S/M	F/P	5.50	1.50	1.25	1.25	1.25	1.25	1	175	2.10	Young and of reduced vigour. Is heavily suppressed being surrounded by canopy of adjoining plants. Is unsustainable.		S	C2

No.	Species	Age	Con	Ht	CH	N	E	S	W	Stm	Dia	RPA	Structural Condition	PMR	Yrs	Cat
51	Ash (<i>Fraxinus excelsior</i>)	E/M	F/P	10.00	2.00	3.00	3.50	3.00	2.50	1	382	4.58	A young specimen of reduced vigour with twiggy decline throughout crown suggesting possible pathogen correction pathological issues.	Cut Ivy and review on regular basis regarding suitability pretension.	S	C2
52	Monterey Pine (<i>Pinus radiata</i>)	S/M	F	12.00	0.75	1.00	1.00	2.00	2.50	1	229	2.75	Tall and slender supporting notable imbalance to west. Tree asserts potential to increase greatly in size over time.	Review regarding retention context.	M	B2
53	Silver Birch (<i>Betula pendula</i>)	E/M	G	9.00	1.00	3.00	2.50	2.00	3.00	1	248	2.98	Young and vigorous.		L	B2
54	Ash (<i>Fraxinus excelsior</i>)	E/M	F/P	9.00	2.00	3.50	3.50	2.50	2.00	1	293	3.51	A young specimen of reduced vigour with twiggy decline throughout crown suggesting possible pathogen correction pathological issues.	Cut Ivy and review on regular basis regarding suitability for retention.	S	C2
55	Wych Elm (<i>Ulmus glabra</i>)	S/M	G/F	9.00	1.00	2.00	2.00	4.50	4.00	1	306	3.67	Young and vigorous but at risk of contracting Dutch Elm disease. Sustainability is considered minimal.		M	C2
56	Silver Birch (<i>Betula pendula</i>)	E/M	F	9.00	1.50	2.50	3.00	2.50	3.00	1	328	3.93	Unbalanced to south-east. Is of good vigour and vitality but poor mechanical form. Much of middle crown is obscure by dense Ivy cover.	Cut Ivy and rereview.	M	C2
57	Sitka Spruce (<i>Picea sitchensis</i>)	S/M	F	9.00	1.50	1.50	1.00	1.00	1.50	1	207	2.48	Distorted and exposed. Is of fair but variable crown vigour.		M	C2

Tree Lines, Groups and Hedges

No.	Species	Age	Con	Ht	CH	Spread	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
H1	Hedge 1 Bramble (<i>Rubus fruticosus</i>) Ivy (<i>Hedera helix</i>) Ash (<i>Fraxinus excelsior</i>) Blackthorn (<i>Prunus spinosa</i>) Hawthorn (<i>Crataegus monogyna</i>)	M	P	3.00-4.00	0.00	Spread Contiguous/ Variable	m/s	207	2.48	A dual hedge dominated by emergent ash at the roadside, but the remnants of a thorn hedge now dominated by blackthorn to the west. The thorn hedge is dilapidated and intermittent, being dominated at this stage by natural Blackthorn regeneration. The ash dominated hedge is a particularly poor quality and considered unsuitable for retention and broadly unsustainable. The thorn hedge may offer some degree of manageable retention however, intermittent and huge variability would suggest that a better option would be to consider replacement planting.		M	C2
H2	Hedge 2 Box honeysuckle (<i>Lonicera</i>) Privet (<i>Ligustrum ovalifolium</i>) Bramble (<i>Rubus fruticosus</i>) Ivy (<i>Hedera helix</i>) Elder (<i>Sambucus nigra</i>)	M	P	1.50-4.00	0.00	Spread 4.00-5.00m	m/s	159	1.91	A substantially outgrown and dilapidated hedge originally comprising Lonicera but now substantially overwhelmed with bramble, ivy and elder. This hedge is substantially beyond any reasonable expectation of manageable retention.	Remove and replace	N/A	U

No.	Species	Age	Con	Ht	CH	Spread	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
H3	Hedge 3 Wych Elm (<i>Ulmus glabra</i>) Bramble (<i>Rubus fruticosus</i>) Ivy (<i>Hedera helix</i>) Hawthorn (<i>Crataegus monogyna</i>)	M	P	4.00-7.00	0.00	Spread Contiguous/ Variable	m/s	191	2.29	A substantially dilapidated and effectively defunct element of what appears to have been a natural field boundary hedge. Evidence would suggest the alignment was once dominated by hawthorn but at this time, only to specimens remain with the remainder of the boundary comprising either dumped debris Elder or dead Elm. The alignment is considered substantially beyond management and should be replaced.		N/A	U
H4	Hedge 4 Leyland Cypress (<i>Cupressocyparis leylandii</i>)	S/M	P	4.00-5.00	0.00	Spread 5.00-6.00m	m/s	207	2.48	A short section of Leyland Cypress hedge arising from position outside of apparent boundary line greatly overhanging site area. Trees been previously decapitated thus exacerbating crown radial spread. Species is regarded with caution in respect of minimal manageability or sustainability. Tree appears to be beyond jurisdiction of site. Bring issues to attention of neighbour.		M	C2
H5	Hedge 5 Ash (<i>Fraxinus excelsior</i>) Hawthorn (<i>Crataegus monogyna</i>) Leyland Cypress (<i>Cupressocyparis leylandii</i>) Bramble (<i>Rubus fruticosus</i>) Ivy (<i>Hedera helix</i>) Elder (<i>Sambucus nigra</i>)	M	P	3.50-5.00	0.00	Spread Contiguous/ Variable	m/s	207	2.48	A combined hedge involving what appears to be a dilapidated element of field boundary hedging to the west and Leyland Cypress planting to the eastern within the confines of the adjoining garden. The hedge is now dysfunctional, being discontinuous particularly at its southern end where truncated ash and elder becoming dominant. Circa four hawthorns remain at the northern end though 1 of these has been substantially cut back. Should a vegetative room alignment be required in this area then removal of the poor-quality elder ash and thicket would be required prior to under planting.		M	C2

No.	Species	Age	Con	Ht	CH	Spread	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
H6	Hedge 6 Hawthorn (<i>Crataegus monogyna</i>) Bramble (<i>Rubus fruticosus</i>) Elder (<i>Sambucus nigra</i>) Ivy (<i>Hedera helix</i>) Ash (<i>Fraxinus excelsior</i>)	E/M	P	3.50-6.00	0.00	Spread Contiguous/ Variable	m/s	207	2.48	Variable a dilapidated and dispersed remnant of an original hedgerow. Individual Hawthorn is greatly disk burst and few with the broader thicket affect being provided for by low level Bramble growth together with elder. The material currently available is of poor quality and minimal value in respect of potential retention.		M	C2
H7	Hedge 7 Hawthorn (<i>Crataegus monogyna</i>) Bramble (<i>Rubus fruticosus</i>) Ivy (<i>Hedera helix</i>) Gorse (<i>Ulex europaeus</i>) Ash (<i>Fraxinus excelsior</i>)	M	F/P	4.00-6.00	0.00	Spread Contiguous/ Variable	m/s	207	2.48	A disbursed relic of what appears to have been a hedgerow in conjunction with a ditch alignment. Ground conditions within general vicinity suggest widespread historical disturbance. The hedge is a particularly poor quality being fragmented and comprising broader elements of thicket development suggesting little value or sustainability. Note is made that alignment supports several trees whose ownership (as defined by existing by a wire fence) would appear to relate to the adjoining site. Should a vegetative alignment be required in this area removal of existing vegetation and replacement would be advised.		M	C2

No.	Species	Age	Con	Ht	CH	Spread	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
H8	Hedge 8 Hawthorn (<i>Crataegus monogyna</i>) Elder (<i>Sambucus nigra</i>) Bramble (<i>Rubus fruticosus</i>) Ivy (<i>Hedera helix</i>) Ash (<i>Fraxinus excelsior</i>)	M	F/P	3.00-6.00	0.00	Spread Contiguous/ Variable	m/s	207	2.48	A somewhat dilapidated and overgrown hedge originally comprising hawthorn but now continuity is best provided for, particularly at lower levels, by bramble thicket. Much of the hedge appears to arise from the northern side the boundary ditch though additional vegetation exists to the south including several emergent Ash. This hedge is positioned wholly outside of the review area.		M	C2
H9	Hedge 9 Hawthorn (<i>Crataegus monogyna</i>) Elder (<i>Sambucus nigra</i>) Bramble (<i>Rubus fruticosus</i>) Ivy (<i>Hedera helix</i>)	M	F/P	3.0-6.00	0.00	Spread Contiguous/ Variable	m/s	207	2.48	An intermittent and heavily suppressed element of original hedgerow once dominated by hawthorn but now wholly intermittent. Much of the alignment has suffered chronic mechanical failure with many trees having collapsed into the site. At present circa 6 specimens remain though these are of particularly poor quality. Much of the material appears to arise from the ascending bank to the north of a boundary ditch. The remainder of material in this area is a particularly poor quality and would be regarded as being unsuitable for retention. Should a vegetative alignment be required in this area then consideration must be given to replacement planting.		M	C2

No.	Species	Age	Con	Ht	CH	Spread	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
TA 1	Thicket Area 1 Bramble (<i>Rubus fruticosus</i>) Ash (<i>Fraxinus excelsior</i>) Elder (<i>Sambucus nigra</i>) Goat Willow (<i>Salix caprea</i>) Crack Willow (<i>Salix fragilis</i>)	S/M	P	1.00-4.00	0.00	Spread Contiguous groupings	m/s	n/a		This area the site is broadly devoid of any vegetation of interest, supporting only natural thicket regeneration typically dominated by bramble and goat willow, none of which will be regarded as being suitable for retention within the developed context.		S	C2
TL1	Tree Line 1 Leyland Cypress (<i>Cupressocyparis leylandii</i>)	M	P	13.00-15.00	1.50-2.00	Spread 10-12.00m contiguous	1	398	4.77	A broadly dilapidated and outgrown hedge now subject to chronic, widespread mechanical failure with numerous large stems collapsing into the site area. The alignment appears likely to have been planted as a hedge but has not been managed though lower crown distortions between 1.50 and 2.00 m would suggest that early life, hedge in time management was applied. At this stage, the entire tree line is substantially beyond management and already in state of ongoing mechanical failure. Note is made that the trees arise from neighbouring property and thus appear to be beyond the jurisdiction of the site. The poor state of mechanical integrity should be brought to the attention of the tree owner in respect of management and or removal.		N/A	U

No.	Species	Age	Con	Ht	CH	Spread	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
TL2	Tree Line 2 Sitka Spruce (<i>Picea sitchensis</i>)	E/M	F/P	9.00-12.00	1.50	Spread 5-6.00m contiguous	1	223	2.67	An alignment of 5 adjoining Sitka Spruce effectively creating a high hedge scenario. Trees remain young and vigorous with immense potential for continued growth however, species selection appears to have been poor with Sitka Spruce typically regarded as a silvicultural/crop tree and often not surviving through instability, when retained in exposed aspects such as this. Tree sustainability is considered minimal. Trees arise from within confines of adjoining property and thus are outside of site jurisdiction. See notes as above regarding bringing to attention of adjoining neighbour.		S	C2
H10	Hedge 10 Mixed Hedge Hawthorn (<i>Crataegus monogyna</i>) Ash (<i>Fraxinus excelsior</i>) Buddleia (<i>Buddleia davidii</i>) Ivy (<i>Hedera helix</i>) Bramble (<i>Rubus fruticosus</i>) Fuschia Cuppresus	E/M	P	1.50-4.00	0.00	Spread 2.00-3.50m	m/s	143	1.72	A mixed and mismatched hedge, the majority of which appears to arise from the south-eastern side of the boundary bank. Is of poor quality with mismatched an invasion by invasive species creating issues of limited potential for management over time.		S	C2

No.	Species	Age	Con	Ht	CH	Spread	Stm	Dia.	RPA	Structural Condition	PMR	Yrs.	Cat
H11	Hedge 11 Cypress Hedge Leyland Cypress (<i>Cupressocyparis leylandii</i>)	S/M	F	2.25-3.00	0.00	Spread 1.75-2.50	m/s	127	1.53	A young alignment intended to create a hedge between adjoining properties. Exhibit evidence of historic management including decapitation but is becoming outgrown. Proximity to adjoining and neighbouring building raises concern especially when considered in light of species typical management issues.		S	C2
SG 1	Shrub Group 1 Mixed Shrubbery	E/M	F	1.75-2.50	0.00	Spread contiguous	1	127	1.53	An outgrown and coalesced shrub group now invaded by Bramble and suffering from self-suppression as a result of disparity in growth rates. Is of dubious sustainability.		C	S2
H12	Hedge 12 Roadside Boundary Hedge Lilac (<i>Syringa vulgaris</i>) Privet (<i>Ligustrum ovalifolium</i>) Viburnam (<i>Viburnum Sp.</i>) Blackthorn (<i>Prunus spinosa</i>) Holly (<i>Ilex aquifolium</i>) Buddleia (<i>Buddleia davidii</i>)	E/M	F/P	2.50-4.00	0.00	Spread 4.00-6.00m	m/s	159	1.91	A mismatched and heavily outgrown alignment that may have included boundary plantings of shrubbery but had now is becoming dominated by Blackthorn and Bramble. Is further suppressed by position beneath canopy of emergent trees. Is of dubious sustainability.		C	M2