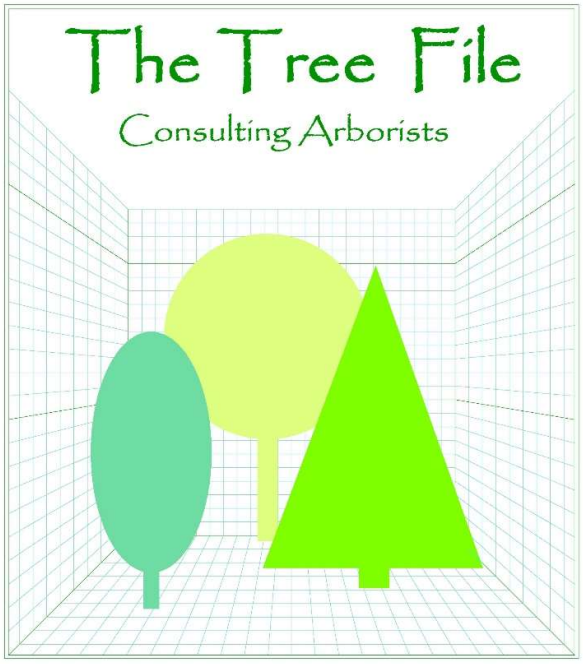


# Arboricultural Report

**Trees at Proposed Site at**
**Balscadden**
**Howth**
**Co Dublin**

**March 2022**

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

# Contents



## Associated Drawings

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

| | Drawing Title | Drawing Subject |
|---|---|---|
| 1) | Balscadden Tree Constraints Plan | Tree Constraints Plan<br>A plan depicting the predevelopment location, size, calculated constraints, and simplified colour code1d tree quality category system |
| 2) | Balscadden Tree Impacts Plan | Tree Impacts Plan<br>This plan provides a colour coded representation of the effects of the proposed development works on the above tree population and depicts trees to be retained and removed. |
| 3) | Balscadden Tree Protection Plan | Tree Protection Plan<br>This plan depicts the nature, location and extent of tree protection measures required for sustainable tree retention. |

# 1 Report Summary

1.1 The Arboricultural review of the proposed development notes that the receiving environment supports few trees. This report describes trees both within or adjoining the site, such as those whom through proximity of visual connection might be considered pertinent to the local landscape. A previous review of trees was updated in February of 2022.

1.2 The tree survey found a typically young and poor-quality tree population. Very few specimens offered any useful degree of sustainability. Many where of such small stature as to be visually insignificant to the broader landscape.

1.3 The nature of the development is such that all trees within the "red line" area will require removal. Most of these are particularly small, and their loss will be substantively mitigated by the nature and extent of new planting, as indicated in the proposed development landscape scheme.

1.4 While the proposed works will see the loss of 6no. category "C" trees, the remaining 21 trees described in the report will remain in situ. A clear majority of these retained trees will be unaffected by the proposed works. However, it is noted that tree nos. 1 to 5, to the north of the site are positions adjoining the red line boundary and to areas of known works.

1.5 Close review notes that tree nos. 1 to five are positioned behind and above a small retaining wall, that separates them from a pedestrian route. The combination of the varying ground levels, retaining wall and the harsh, compacted nature of the footpath is such as to reasonably restrict tree root development in a southerly direction. Therefore, the creation of proposed new pedestrian route raises little concern.

1.6 Note is made that the same area will see the installation of an "infiltration" drain at a position parallel to the boundary. While this work is in an area that is expected to support minimal tree roots, the undertaking of the work must still be controlled to avoid damage to the nearby and sometimes overhanging tree branches and limbs. It is envisaged that some pruning will be needed in this area. This area of the site has been designated for temporary protection during the construction works. Within this area, it is recommended that any works are advised and overseen by either the project Arborist or Landscape Architect.

1.6 Attention is drawn to the findings of the preliminary tree survey. It illustrated several issues illustrating a lack of sustainability. This included the identification of tree nos.11 and 12 that were classified as category "U" trees and therefore unsuitable for retention. While these trees are recommended for removal, they are positioned outside of the site jurisdiction and can only be removed by their respective owners. Similarly, trees requiring management but positioned outside of the site jurisdiction, cannot be addressed by the developer.

# 2 Introduction

2.1 This report was commissioned by-
**Balscadden GP3 LTD.**

This report was prepared by-
Andy Worsnop Tech Arbor A, NCH Arb (PTI LANTRA)
**The Tree File Ltd**
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D18 R2K1

## Report Brief

2.2 The Tree File Ltd has been requested by Balscadden GP3 LTD. to provide an Arboricultural report in respect of the proposed development.

## Report Context

2.3 As "BS5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations" is the accepted framework for such reports, its composition, inclusions and recommendations being followed as a general basis for this report. An arboricultural review of the proposed development project is included in this report. The report includes an evaluation of the existing tree population at the site in its current context. The report evaluates their chances of long-term retention in the post-development scenario. The report also discusses the potential effects and consequences of the development and construction process on those trees. It also provides information on the necessary tree protection and avoidance of tree damage during the construction process, which is required to achieve long-term tree retention.

2.4 The report conclusions were created after studying the design team's proposed project specifics and evaluating trees as specified and presented in "Appendix 2". Appendix 1 has a preliminary "Arboricultural Method Statement" and a Tree Protection Plan. This plan depicts the necessary conservation and protection methods to ensure tree sustainability. However, this paper is not meant to criticise the proposed development, but rather to examine the development's implications for the sustainable retention of trees. This report is only for planning and may not be suitable for building.

## Report Limitations

2.5 This report relates the Arborists interpretation of information provided to him before the report compilation and gained by him during the undertaking of the site review and tree survey. The site review data is subject to the limitations set out under "Inspection and Evaluation Limitations and Disclaimers" in "Appendix 2" of this report. The findings and recommendations made within this report are compiled based upon the knowledge and expertise of the inspecting Arborist.

2.6 The "Implication Assessment" element of the report builds on assumptions and estimates, unavoidably associated with the "design" stage of the project. This report cannot address issues that may arise at "detail design" or "construction" detail stage or in respect of how construction works might proceed on a day-to-day basis. Equally, this report cannot address issues that may arise in respect of changes or amendments required to address or comply with any conditions of a grant of permission.

2.7 In line with the "design" stage of the development proposals, many elements of the "Arboricultural Method Statement" are deliberately broad and generic. They will require review, amendment and consolidation at the construction stage, for example, in respect of the size and nature of the equipment, plant and machinery that might be utilised by any potential building contractor and any details as may change at "detail design" or "construction detail" stages.

2.8 Accordingly, this assessment is premised on all its elements/recommendations, and the omission or alteration of any part of it, particularly the application of tree protection methodologies, can radically alter outcomes regarding sustainable tree retention.

## 3 Site Description

3.1 The site in question comprises two separated areas. The northernmost area supports an existing but disused sports complex surrounded by substantial hardstanding and car parking. Most of the site is devoid of any notable vegetation however, a small number of trees are noted to exist to the northwest and south of the building as defined within the tree survey. Additionally, and regarding the steep embankments adjoining the boundaries to the west and north, note is made of substantial low-level thickets typically dominated by Bramble beds.

3.2 The south-western element of the site comprises a disused hotel building that supports no vegetation of Arboricultural interest. Note is however made that the substantially derelict yard area of the former hotel supports substantial shrubby growth, typically dominated by buddleia and associated with the lack of use, management or action associated with the lack of use and management of the site.

## 4 Pre-Development Arboricultural Scenario

4.1 The tree review has revealed little of material of quality or visual importance. Most specimens reviewed are relatively small with only specimens associated with "Tree Line 1" exceeding 6.00 metres in height.

4.2 To the north of the site and separated from the site by a small retaining wall and footpath is a group of young Monterey Cypress (Nos.1 to 5). These trees are notably distorted because of their exposed and coastal position, though most tend to remain vigorous. Their position, perched adjoining a retaining wall adjoining a footpath, raises some concern regarding sustainability over time, particularly in that tree No.5 to the west has required substantial cutting back over time to maintain footpath clearance. Also, this tree, being positioned so close to this retaining wall raises concerns regarding likely growth-related structural damage over time and thus is regarded as being of particularly limited sustainability.

4.3 Elsewhere on the site and with the exceptions of Cordyline No.11 and "Tree Line 1", all remaining trees comprise relatively small and often multi-stemmed Sycamores. There is no evidence to suggest that these trees have been deliberately planted and are likely to comprise natural regeneration. In many instances, the multi-stem formats may suggest prior attempts at removal and subsequent re-suckering from cut stumps.

4.4 The Sycamore material tends to remain vigorous and thus offers some degree of sustainability. Fortunately, the aspect of the site is such as to preclude any realistic expectation of substantial growth over time and all specimens are considered likely to be continually wind pruned and stunted. Therefore, and as noted regarding the Cypresses, the trees are currently of minimal visual significance other than to their immediate environs and are unlikely to develop beyond this point at any time in the near future.

4.5 Cordyline No.11 and Sycamore No.12 were found to be particularly poor and unsuitable for retention. The case in respect of Sycamore No.12 is compounded as result of its position growing from a point on top of a retaining wall.

4.6 "Tree Line 1" to the south of the site comprises a close-knit and contiguous alignment of Monterey Cypress. It is highly likely that these trees were installed intending to create a hedge but at this time, have developed into a tree line attaining heights of circa 9.00 m. The trees support both dead-wood and evidence of mechanical damage, including damage having occurred recently and since the original review. Such issues are considered typical for the species, especially when found on exposed sites. To compound their sustainability, some concern exists regarding their position on what appears to be a particularly steep and somewhat sandy slope.

4.7 Whilst much of the material encountered was maintaining reasonable vigour and vitality, its quality is considered poor and its sustainability impaired. This factor combined with the insignificant visual impact as afforded by the specimens is such as to diminish their quality in respect of potential retention.

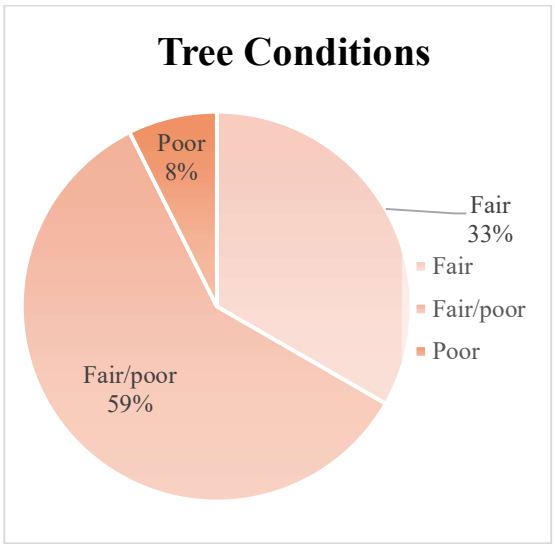

Fig 1

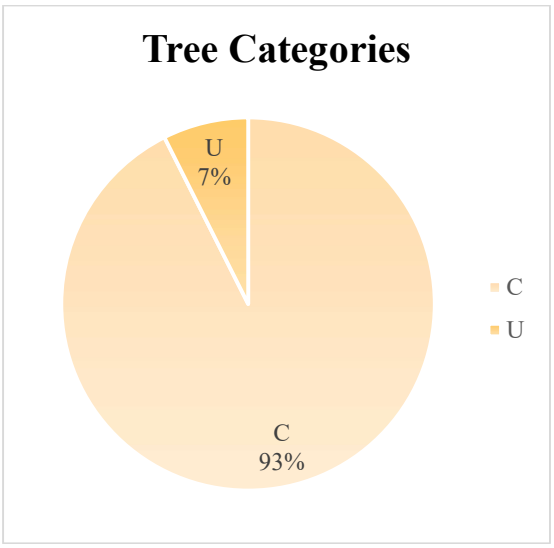

Fig 2

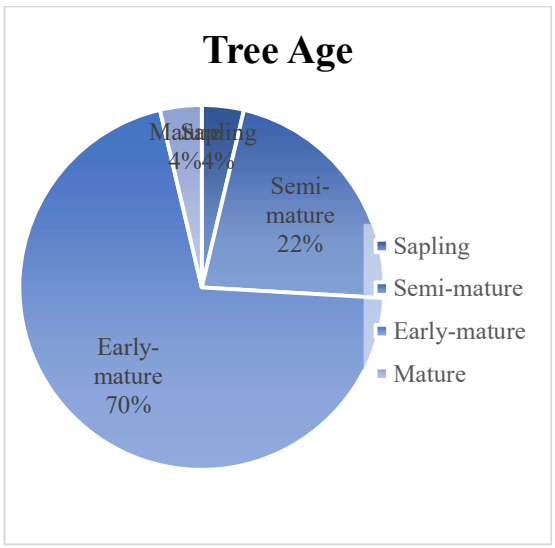

Fig 3

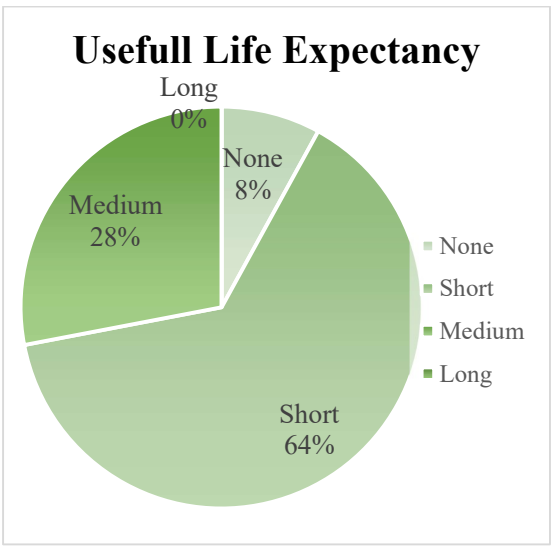

Fig 4

4.8 Figs 1 to 5 provide a graphic representation of the tree survey findings. Notwithstanding young age, the tree qualities are low, with 66% being in the fair/poor or poor category. This appears borne out in fig 2 that show93% of trees in category "C" and the remainder as unsustainable category "U". This is again corroborated in the useful life expectancy graph, at fig 4 that is dominated by short-term at 64%. The typically small size and limited visual impact if the trees is well explained by the typically young ages as shown in fig 3.

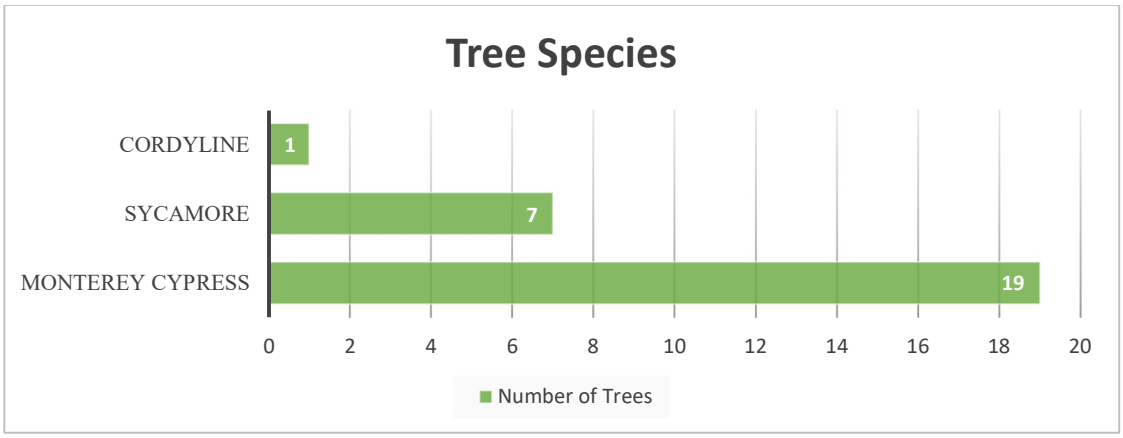


Fig 5

4.9 Fig 5 illustrates a particularly low diversity of tree species, dominated by Monterey Cypress. This illustrates an artificially planted tree population.

## 5 Planning Scenario in Respect of Tree

5.1 In respect of trees as they relate to planning within the Fingal County Council area, note is made of two areas of guidance including - **The Forest of Fingal A Tree Strategy for Fingal** and **Fingal Development Plan 2017-2023.**

5.2 **The Forest of Fingal A Tree Strategy for Fingal**, a draft strategy document that outlines various intents and desires surrounding trees and woodlands within the county area

5.3 **Fingal Development Plan 2017-2023**, that sets out both a tree policy, as well as specific tree related objective across 5 different chapters of the plan, including, **Chapter 3 – Placemaking (**Objective PM64**), Chapter 5 – Rural Fingal (**Objectives RF24, Objective RF52, Objective RF57 and Objective RF59(b))**, Chapter 8 – Green Infrastructure (**Objective GI16 and Objective GI19) **, Chapter 9 - Natural Heritage** (Objective NH23, Objective NH27 and Objective NH28) **, Chapter 12 - Development Management Standards** (Objective DMS39, Objective DMS78, Objective DMS79, Objective DMS80, Objective DMS81, Objective DMS82, Objective DMS83 and Objective DMS84)

5.4 Notwithstanding the notes above, the current development plan shows no specific objectives to protect and preserve trees and woodland on or near the site. Equally, the site area supports no Tree Preservation Orders. Note is however made that the site area adjoins the Howth Special Amenities Area Order (Howth SAAO) area, and part of the site includes the Howth SAA Buffer Zone.

## 6 Other Legislative and Legal Constraints

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

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

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

6.3 The above derogations do not apply where-

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

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

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

## 7 Construction Activities and their Effect on Trees

7.1 Retaining trees takes up space. There is a big difference between physically preserving a tree and ensuring its future survival. Sustainable tree retention often depends on the extent and nature of construction protection.

7.2 Like all living things, trees are highly dependent on their environment in which the exist. A tree continuity in supplies of water and nutrients from the soil. Any long-term change in ground conditions can easily affect a tree's metabolism, health, and sustainability.

7.3 Particularly, development and construction activities can easily damage the soil environment. Removing, disturbing or denaturing soil can irreparably damage tree roots and can render the soil incapable of supporting plant root function. Most modern construction requires large plants, equipment, and vehicles. Such machinery causes soil profile destruction and compaction that denatures the soil.

7.4 Where the above issues occur within the minimum "root protection area" as defined by "BS5837-2012", the tree's sustainability and safety may be compromised.

7.5 Sustainable tree retention must accept changing contexts and increased management in the future. Where rates of occupation and use increase, then any retained trees have a potential to cause harm or damage. This issue may be exacerbated where shelter-loss and exposure occur regarding the retention of individual trees.

7.6 Retained trees should be considered in respect of shadow-cast, light admission, and view-blocking. Wind patterns can affect leaf shedding, causing drifts and accumulations creating management issues around drains and gullies, or the creation of slippery surfaces.

## 8 Nature of Project Works

8.1 The proposed development is described as:

8.1.1 The proposed development relates to lands located to the south of the Martello Tower on Balscadden Road & the former Baily Court Hotel, Main Street, Howth, County Dublin. The development will consist of the demolition of existing structures on the proposed site including the disused sports building and the former Baily Court Hotel buildings and the construction of a residential development set out in 4 no. residential

blocks, ranging in height from 2 to 5 storeys to accommodate 180 no. apartments with associated internal residential tenant amenity and external courtyards and roof terraces, 1 no. retail unit and 2 no. café/retail units. The site will accommodate car parking spaces at basement level and bicycle parking spaces at basement and surface level. Landscaping will include new linear plaza which will create a new pedestrian link between Main St and Balscadden Rd to include the creation of an additional 2 no. new public plazas and also maintains and upgrades the pedestrian link from Abbey Street to Balscadden Road below the Martello Tower. Please see the accompanying Statutory Notices for a more detailed description.

8.2 Considering the scope and scale of the proposed development, then many of the issues dealt with at "Construction Works and Trees" above could apply if trees are not protected during construction works, including-

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 which makes a tree unsuitable for retention.

## 9 Development Related Issues and Arboricultural Concerns

9.1 The greatest issues affecting trees has been the consumption of site space and encroachment on trees ostensibly retainable trees. Secondarily, delivery of the design proposals and construction related activities will affect an area larger than the footprint of the completed buildings.

9.2 The site's tree population is of often poor quality with some trees subject to ongoing deterioration. The tree population includes many mediocre to poor trees that will deteriorate further over future years. This is particularly pertinent considering the high number of Monterey Cypress trees on the site. The long-term sustainability of many of the site's trees, and particularly the Cypress is questionable, regardless of any site development.

9.3 Many trees across the site have been subject to impromptu mechanical damage, often related to high winds and storm conditions. This issue will continue into the future and may be exacerbated because of tree removal related shelter loss and exposure regarding those trees that may be retained.

## 10 Design Iterations and Arboricultural Considerations

10.1 This report relates to clause 4.4.2.1 of BS5837-2012 in that its finding relate to a predefined concept that was issued for review. Accordingly, the report assesses Arboricultural implications and impacts of the proposals, making recommendations in respect of tree protection relating to those trees that might be retained and as outlined below.

10.2 Notwithstanding 10.1 above, the design team were, through the availability of the previously completed tree survey, aware of the limited constraints afforded by trees associated with the site.

## 11 Identification of Development Impacts to Trees

11.1 Though listed in this report, the expected tree impacts have also been represented graphically on the tree impacts drawing "**Balscadden Tree Impacts Plan"**. This drawing combines the tree constraints plan information (survey data) with the development details, including the architectural and services layouts below, thereby allowing for simple and direct comparisons between the existing site context and the development proposals regarding new structures.

11.2 Note is made that the tree survey describes trees both upon and adjoining but outside the site area. It is envisaged that all trees and other spurious vegetation within the site area (red line) will be removed.

11.3 In this drawing, trees denoted with "Broken Pink" crown outlines are to be removed at the comencement or works, while those denoted with "Continuous Green" crown outlines will be retained.

11.4 Detail of the development proposals where gained from project drawings provided by-

- Plus Architecture - Landscape Materplan overlaid with Architectural layouts.
- Waterman Moylan - Consulting Engineers – Drainage and Engineering information overlaid on Masterplan in PDF.

11.5 Landscape Materplan was provided in AutoCAD format. The drawing included the details of the proposed landscape plan, but also included the echitectural layouts for the proposed buildings and basements. Accordingly, its use for the illustration of tree impacts provided a good representation of the overall development.

11.6 The assessment attempts to consider both direct and indirect consequences. Estimated construction requirements and a tree's likely interaction with the development are considered. In addition to growth, the assessment considers changes in the context and their impact on tree amenity value.

## 12 Tree Retention and Loss

12.1 Tree retention and loss relating to proposed development.

| | Category A | Category B | Category C | Category U |
|---|---|---|---|---|
| **Total No. of Trees** | 0 | 0 | 25 | 2 |
| **No. of Trees Retained** | 0 | 0 | 19 | 2 |
| **No. of Trees Removed** | 0 | 0 | 6 | 0 |

Table 1, Numeric Representation of Tree Loss/Retention Scenario

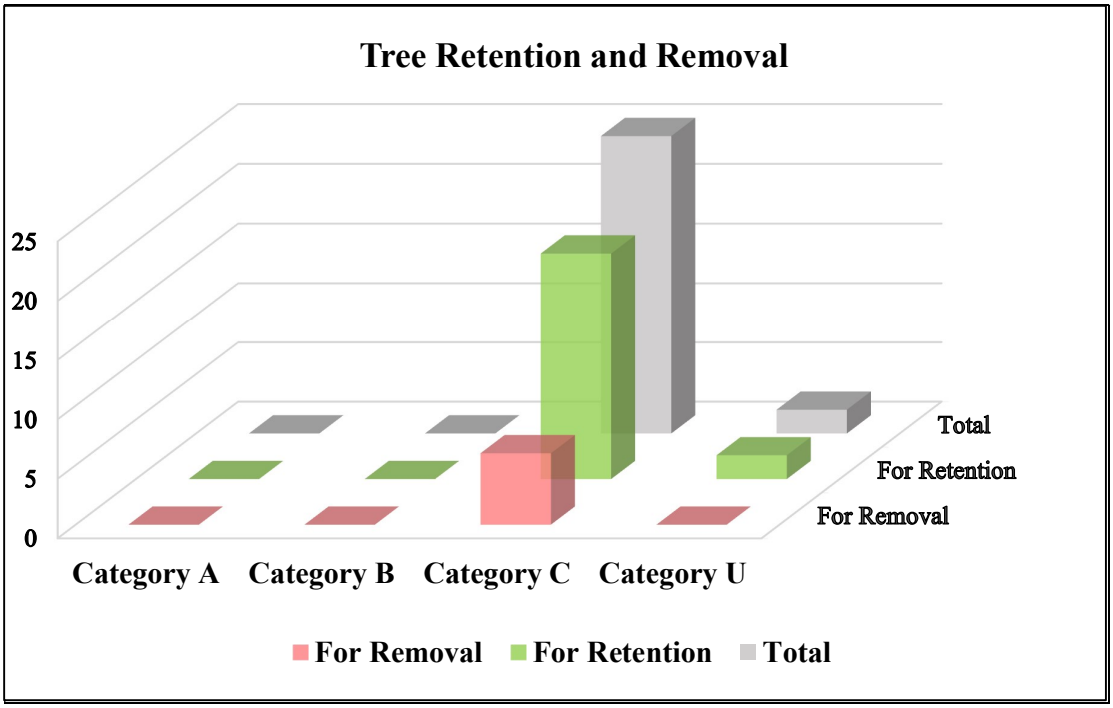


Fig 5 Graphic Representation of Tree Loss/Retention Scenario

12.2 While most poor-quality category "U" trees would be removed regardless of development, note is made that the only two "U" category trees recorded as adjoining the site, are positioned outside of the "red line" area and thus beyond the jurisdiction of the developer.

12.3 This development will require the removal of 6no. category "C" trees. These trees are identified by their survey numbers in the list below-

| | |
|---|---|
| **Category A trees** | None |
| **Category B trees** | None |
| **Category C trees** | 6, 7, 9, 10, 13 and 14 |
| **Category U trees** | None |
| **Groups/Hedges** | Areas of Bramble thicket |

Table 2, Itemised Tree Loss List

## 13 Tree Protection within the Scope of a Development

13.1 This report provides a "Preliminary Arboricultural Method Statement" at "Appendix 1" to this report, as well as the associated "Tree Protection Plan" drawing "Balscadden Tree Protection Plan".

13.2 In the drawing, the "Construction Exclusion Zone" associated with any trees adjoining the works area are defined by an orange hatching with bold "Orange" lines representing the proposed location of the primary protective "Construction Exclusion Fencing".

13.3 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.

## 14 Preliminary Management Recommendations

14.1 Note is made that the proposed development will not see the retention of any trees within the “red line” area. Accordingly, tree management issue do not apply within the works area. Notwithstanding this, general recommendations have been made in respect of trees adjoining the site area and under the ownership of the developer.

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

14.2 Many of the concerns raised in the tree survey relate to evidence suggesting mechanical failure to trees, ill-health or contextual issues. These may continue to a point where the suitability of a tree for retention may change over time.

14.3 Additionally, any development related loss of trees can result in exposure and shelter loss issues. Therefore all retained trees must be reviewed immediately after the primary site clearance works. A review will allow for the updating and amending of the "preliminary management recommendations" of the primary survey. Such amendments would address such issues as may arise and may include additional structural pruning works. Regular reviews of all retained trees must be maintained, so that early and prompt intervention and action can be applied as required.

## 15 Bibliography


15.1 British Standards Institution (2010) BS 3998:2010: Tree Work - Recommendations. London: British Standards Institution.

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15.4 Lonsdale, D. (2005) Principals of Tree Hazard Assessment and Management, London, TSO

15.5 Mattheck, C. and Breloer, H. (1994) The Body Language of Trees, London, TSO

15.6 Roberts, J. and Jackson, N. and Smith, M. (2006) Tree Roots in the Built Environment, London, TSO

15.7 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, "Balscadden 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 The landscape, path, drainage and any other works near the northern boundary of the site that requires entry into the "root protection zones" of trees 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 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.

2.4 At construction works completion stage, all retained trees will be reviewed regarding their condition and longer-term management recommendations and regarding site hand-over,

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.

## 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 "Balscadden 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) Works within "RPA" Zone

4.1 Only works and construction practices, agreed with the Project Arborist prior to commencement, will be allowed in the "RPA" area.

4.2 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.

4.3 Preference must be given to manual labour and techniques within the fenced "RPA" zone.

4.4 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.

## 5.0) Service Installation

5.1 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.

5.2 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)

## 6.0) Tree Management and Works

6.1 All tree works should be undertaken under the guidance of the project Arborist

6.2 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.

6.3 All additional works will be agreed with the local authority and/or other stakeholders and applied at the earliest possible opportunity.

6.5 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.

## 7.0) Ancillary Precautions

7.1 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.

7.2 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

7.3 Works outside the "Construction Exclusion Zone" must be controlled to create no potential secondary hazard to tree health. Large loads accessing the site must be reviewed regarding clearance and potential tree damage. 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. No fires can be lit within 5 metres of any tree canopy extent. No tree will be used for support regarding cables, signs etc.

7.4 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.

7.5 Any issue that has the potential to affect site trees must be brought to the attention of the Project Arborist for review and comment.

7.6 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.

7.7 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 "Balscadden 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 "Balscadden 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 An earlier survey was updated in March 2021 and February or 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 proposes will render the information invalid.

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

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

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

**Seasonality**

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

## Survey Key

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

| | |
|---|---|
| O/M - Over-Mature | An old specimen of a species having already attained or exceeded its naturally expected longevity. |
| V - Veteran | An extremely old, veteran specimen of a species, usually of low vigour and typically subject to rapid decline and deterioration or of very limited future longevity. |
| **Tree Dimensions** | All dimensions are in meters. See notes regarding limitation of accuracy. |
| **Ht.** | Tree Height |
| **CH** | Lowest canopy height |
| **N, E, S, W** | Tree Canopy Spread measured by radii at north, east, south, and west |
| **Dia.** | Stem diameter at approx. 1.50m from ground level. |
| **RPA** | Root Protection Area, as a radius measured from the tree's stem centre. |
| **Con** | Physical Condition |
| G Good | A specimen of generally good form and health |
| G/F Good/Fair | |
| F Fair | A specimen with defects or ill health that can be either rectified or managed typically allowing for retention |
| F/P Fair/Poor | |
| P Poor | A specimen whom through defect, disease attack or reduced vigour has limited longevity or maybe un-safe |
| D Dead | A dead tree |
| **Structural Condition** | Information on structural form, defects, damage, injury, or disease supported by the tree |
| **PMR – Preliminary Management Recommendations** | Recommendation for Arboricultural actions or works considered necessary at the time of the inspection and relating to the existing site context and tree condition. Works considered as urgent will be noted. |
| **Retention Period** | |
| S – Short | Typically, 0 -10 years |
| M – Medium | Typically, 10 -20 years |
| L – Long | Typically, 20 – 40 years |
| L+ | Typically, more than 40 years |
| **Category System** | The Category System is intended to quantify a tree regarding its Arboricultural value as well as a combination of its structural and physical health. |
| Category U | Particularly poor quality, dangerous or diseased trees that offer no realistic sustainability |
| Category A | A typically a good quality specimen, which is considered to make a substantial Arboricultural contribution |
| Category B | Typically including trees regarded as being of moderate quality |
| Category C | Typically including generally poor-quality trees that may be of only limited value. The above categories are further subdivided regarding the nature of their values or qualities. |

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

## Table 1 – Tree Data Table

| No. | Species | Age | Con | Ht | CH | N | E | S | W | Stm | Dia | RPA | Structural Condition | PMR | Yrs | Cat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Monterey Cypress *(Cupressus macrocarpa)* | E/M | F/P | 4.50 | 0.00 | 2.50 | 3.00 | 4.50 | 4.00 | 1 | 366 | 4.39 | Heavily distorted and typically unbalanced to south. Tree has suffered extensive wind burn and scorching on northern side of crown. Squat nature renders tree of minimal visual note relative to adjoining embankment to north. Tree is adjoined by circa 1.00 m retaining wall to south. | Review regarding retention context. | M | C2 |
| 2 | Monterey Cypress *(Cupressus macrocarpa)* | E/M | F | 8.00 | 0.00 | 2.50 | 3.50 | 5.00 | 5.00 | 1 | 430 | 5.16 | Heavily distorted and typically unbalanced to south. Tree has suffered extensive wind burn and scorching on northern side of crown. Squat nature renders tree of minimal visual note relative to adjoining embankment to north. Is constrained by a retaining wall of circa 1.50 m south of stem. | Review regarding retention context. | M | C2 |
| 3 | Monterey Cypress *(Cupressus macrocarpa)* | E/M | F | 8.00 | 0.00 | 5.00 | 4.50 | 5.50 | 5.00 | 1 | 525 | 6.30 | A broad and spreading specimen still exhibiting evidence of exposure related issues. Heavily distorted and typically unbalanced to south. Appears to have been wind pruned and exhibits typical symptoms of salt scorch and wind burn, particularly on northern side of crown. Squat nature renders tree of minimal visual note relative to adjoining embankment to north. Is constrained by a retaining wall of circa 1.50 m south of stem. | Review regarding retention context. | M | C2 |

| No. | Species | Age | Con | Ht | CH | N | E | S | W | Stm | Dia | RPA | Structural Condition | PMR | Yrs | Cat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | Monterey Cypress *(Cupressus macrocarpa)* | E/M | F | 8.00 | 0.00 | 4.50 | 4.50 | 5.00 | 5.00 | 1 | 439 | 5.27 | Broad and spreading specimen still exhibiting evidence of exposure related issues. Heavily distorted and typically unbalanced to south. Appears to have been wind pruned and exhibits typical symptoms of salt scorch and wind burn, particularly on northern side of crown. Squat nature renders tree of minimal visual note relative to adjoining embankment to north. Is constrained by a retaining wall of circa 1.50 m south of stem. | Review regarding retention context. | M | C2 |
| 5 | Monterey Cypress *(Cupressus macrocarpa)* | E/M | F/P | 6.00 | 0.00 | 4.00 | 4.00 | 5.00 | 5.50 | 1 | 446 | 5.35 | Heavily suppressed and notably unbalanced to south-west with chronic stem distortion westerly direction. Tree has undergone substantial cutting on southern side as result of extreme proximity to path and assumed encroachment thereon. Lower canopy is effectively removed on southern side. Same general comments as above is located at less than 0.50 m from circa 650 mm retaining wall. | Review regarding retention context. | S | C2 |
| 6 | Sycamore Group *(Acer pseudoplatanus)* | S | F | 4.50 | 1.50 | 2.00 | 2.00 | 2.00 | 2.00 | 1 | 159 | 1.91 | A group of 4 individual stems close to corner site. Specimens remains vigorous in line with young age however westernmost specimen has already suffered chronic mechanical damage and all trees are noted to arise from substantially disturbed ground. Small stature renders them suitable for easy replacement. | Consider early removal. | S | C2 |

| No. | Species | Age | Con | Ht | CH | N | E | S | W | Stm | Dia | RPA | Structural Condition | PMR | Yrs | Cat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | Monterey Cypress group *(Cupressus macrocarpa)* | S/M | F | 5.00 | 0.00 | 2.50 | 2.50 | 2.50 | 2.50 | 1 | 334 | 4.01 | A close-knit group apparently comprising to individual trees arising from position on top of particularly steep, partially eroded and potentially unstable bank. Trees remain vigorous notwithstanding exposed aspect. | Review regarding retention relative to proposed development. | S | C2 |
| 8 | Sycamore Group *(Acer pseudoplatanus)* | S/M | F/P | 5.00 | 0.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3 | 337 | 4.05 | A disbursed but contiguous group of young trees arising from embankment top position. Northern element of group exhibit evidence of substantive dieback presumed to relate to wind scorch. Trees are of poor quality but might offer some degree of sustainability. Location is such as to suggest they are located outside of site jurisdiction | Review regarding retention context. | M | C2 |
| 9 | Sycamore *(Acer pseudoplatanus)* | S/M | F | 4.50 | 0.00 | 3.00 | 3.00 | 3.00 | 3.00 | 6 | 398 | 4.77 | A young and still vigorous group of stems possibly arising as sucker regeneration from stump of previous tree. Multi-stem stature raises some concern regarding structural integrity as tree becomes larger. | Review regarding retention context. | M | C2 |
| 10 | Sycamore Group *(Acer pseudoplatanus)* | S/M | F | 5.00 | 0.00 | 3.00 | 3.00 | 3.00 | 3.00 | 5 | 398 | 4.77 | A multi-stemmed and thicket like group likely to have arisen as sucker regeneration from stump of previous tree. Is a broadly poor quality though remains vigorous notwithstanding exposure related wind scorch. Note is made the tree arises from substantial sloping aspect. | Review regard retention context. | M | C2 |
| 11 | Cordyline *(Cordyline australis)* | M | P | 5.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1 | 382 | 4.58 | In an advanced state of decline with much of higher crown already dead. | Remove. | N/A | U |

| No. | Species | Age | Con | Ht | CH | N | E | S | W | Stm | Dia | RPA | Structural Condition | PMR | Yrs | Cat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | Sycamore *(Acer pseudoplatanus)* | S/M | P | 6.00 | 0.50 | 3.00 | 3.50 | 3.50 | 3.00 | 1 | 302 | 3.63 | Young and still vigorous notwithstanding repeated prior cutting as result of encroachment on adjoining buildings. Arises from position adjoining top of retaining wall where continued growth is considered unsustainable. | Remove. | N/A | U |
| 13 | Sycamore *(Acer pseudoplatanus)* | S/M | F | 5.00 | 0.00 | 3.00 | 3.00 | 3.00 | 3.00 | 5 | 430 | 5.16 | Multi-stemmed from ground level and of a suckering form suggestive of possible sucker redevelopment after the cutting of a previous tree. Remains vigorous and species asserts a notable potential for continued growth over time. Location and steep slope raise some concern regarding sustainability. | Review regarding retention context. | M | C2 |
| 14 | Sycamore *(Acer pseudoplatanus)* | E/M | F | 5.50 | 0.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5 | 557 | 6.68 | Multi-stemmed and spreading raising some concern regarding mechanical integrity impossible predisposition towards mechanical failure. Remains vigorous that raises some concern in respect of proximity to road and position, arising from steep embankment. | Review regarding retention context. | M | C2 |

| No. | Species | Age | Con | Ht | CH | N | E | S | W | Stm | Dia | RPA | Structural Condition | PMR | Yrs | Cat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | Tree Line 1 Monterey Cypress *(Cupressus macrocarpa)* | E/M | F/P | 7.00-9.00 | 1.00 | 4.00 | 4.00 | 4.00 | 4.00 | 1 | 382 | 4.58 | A close-knit alignment of 13 Monterey Cypress presumed to have been planted as a hedge alignment and now comprising a contiguous and continuous high-level line of trees. Vigour and vitality are fair though impaired by location related issues including exposure and wind scorch. Exposure is also considered likely to have been the primary cause of what is widespread mechanical damage and breakage. Note is made that mechanical storm damage mechanical damage has been ongoing since the original review with trees within the group sustaining additional damage. The trees arise from position partway up a substantial embankment. Species predispositions and tolerance of salty coastal position may offer some degree of sustainability however, exposed aspect and evidence suggesting both prior and ongoing failure suggest limited sustainability. Retention must be considered considering safety and site management issues. | Review regarding retention context. | S | C2 |