

CANMOOR

DUNHAM BUSH SITE, DOWNLEY ROAD  
HAVANT

TREE SURVEY TO BS 5837:2012



|                     |                           |
|---------------------|---------------------------|
| <b>our ref:</b>     | 2442 / EH / TR001         |
| <b>date:</b>        | 20 <sup>th</sup> May 2024 |
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## **DUNHAM BUSH SITE, DOWNLEY ROAD, HAVANT**

### **1.0 Introduction:**

- 1.1 The tree survey for the site at the former Dunham Bush Site, Downley Road, Havant was carried out by Bea Landscape Design on behalf of Canmoor on the 14/05/2024 for submission to the local planning authority Havant Borough Council.
- 1.2 The tree survey inspection was carried out from ground level only and no invasive diagnostic tools were used. This is a pre-development site inspection prepared in accordance with BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations' and the report is valid and relevant only as part of the planning process.
- 1.3 It should be noted that tree surveys carried out at specific times of year are subject to seasonal limitations. For example; in spring leaves are not present or are just emerging and fungi are generally not visible (depending on species) which limits the assessment of a trees physiological condition, in summer trees are in leaf which reduces the visibility of the crown and can limit the ability to assess the structural condition with fungi not generally visible (depending on species), in autumn there is a decline in leaf quality / cover affording an improved view of the crown and fungal fruiting bodies can be present, in winter the structure of the crown can be easily assessed however assessment of physiological condition is limited and fungi are generally not visible.
- 1.4 Trees are dynamic natural structures and require frequent monitoring if predictable failures are to be identified. As such the trees should be re-inspected within at least a two year period from the date of this report or when changes occur to the trees (such as appearance of fungal growths, splits in branches etc.) or changes in their immediate environment occur. Any recommendations for action should also be carried out within this period unless identified in the report as requiring immediate action.
- 1.5 Some tree failures are not predictable such as those occurring during 'freak weather' conditions and those without external symptoms, these types of failure are not covered by this report.
- 1.6 The tree survey schedules document 2442/EH/TS001 and survey drawing BEA-24-042-01-P01 are included within this report. The tree survey is based on the topographical survey carried out by Greenhatch Ltd in October 2023. It should also be noted that a number trees surveyed T04 & T05 are on or just outside of the site boundary and as such were not identified on the original topographical survey. The location of these trees has been estimated using triangulation or based on aerial photography and their location should not be relied on for the construction purposes.
- 1.7 In accordance with British Standard 5837: 2012 the survey records the tree common names (refer to Appendix A for a key to scientific names), height, stem diameter and branch spread and existing height above ground level of the canopy or first significant branch including life stage, general observations (such as structural, physiological condition and/or preliminary management recommendations) and the estimated remaining contribution in years.

- 1.8 Each tree is also awarded a category grading based on Table 1 'Cascade Chart for Tree Quality Assessment' of the British Standard as included within Appendix C.

The following are an explanation of the terms used to describe the life stage, physiological condition and sizes referred to within the tree survey schedule.

#### Life Stage

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Young</i>       | A tree in the first third of its expected life span.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <i>Semi-mature</i> | A tree within the second third of its expected life span.                                                                                                                                                                                                                                                                                                                                                                                                            |
| <i>Mature</i>      | A tree within the final third of its expected life span.                                                                                                                                                                                                                                                                                                                                                                                                             |
| <i>Over mature</i> | A tree in natural decline.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <i>Veteran</i>     | Non ancient trees of any diameter that show four or more veteran features i.e rot sites, holes & water pockets, deadwood, hollowing and fungal fruiting bodies. These trees show the habitat characteristics of veteran trees that are thought to be important in terms of biodiversity. A veteran tree is a survivor that has developed some of the features found on an ancient tree but not necessarily as a consequence of time, but of its life or environment. |
| <i>Ancient</i>     | An over mature tree identified primarily by the girth. Likely to have abundant veteran tree features. An ancient tree has great aesthetic appeal and is defined by the following characteristics; a small canopy exhibiting stag headedness following crown retrenchment; with a very wide hollowing trunk relative to other trees of the same species and one or more openings to the outside exhibiting the fruiting bodies of heart rot fungi                     |

#### Physiological condition

|             |                                                                                                      |
|-------------|------------------------------------------------------------------------------------------------------|
| <i>Good</i> | The tree appears to have no obvious defects.                                                         |
| <i>Fair</i> | The trees condition is slightly compromised and considered to be remediable.                         |
| <i>Poor</i> | The trees condition is significantly compromised and considered non-remediable. Significant defects. |

#### Sizes:

|                 |                                             |
|-----------------|---------------------------------------------|
| <i>Minor</i>    | A diameter of less than 25 millimetres.     |
| <i>Moderate</i> | A diameter of between 25 to 50 millimetres. |
| <i>Major</i>    | A diameter of greater than 50 millimetres.  |

- 1.9 This report does not consider any potential influence that trees may have upon load bearing soils beneath existing or proposed structures through abstraction of water by their roots (i.e. soil shrinkage and expansion and subsequent building subsidence and heave). The advice of a structural engineer should be sought with regard to appropriate foundation depths for new buildings with reference to NHBC standards Chapter 4.2 (NHBC, 2011).

## 2.0 Context:

- 2.1 The site is located off Downley Road, in the New Lane Industrial Estate area of the Havant district as identified in Figure 01. Location Plan.

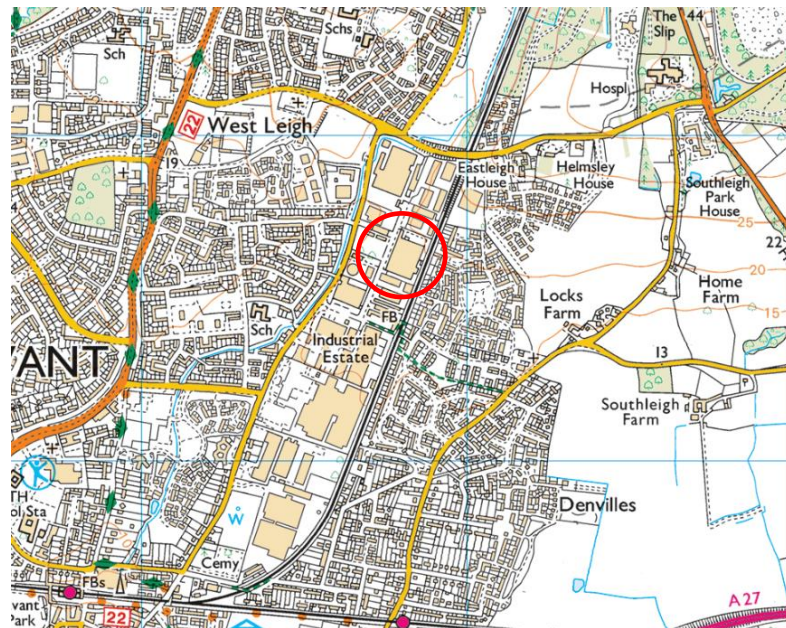


Figure 01. Location Plan

- 2.2 The area surveyed is currently occupied by an unoccupied former factory / offices (refer to Figure 02. Aerial Photograph) below.



Figure 02. Aerial Photograph

2.3 The topography of the site is relatively level with a gradual fall from East to West with localised level changes / bank to the Northeastern boundary with a retaining wall to the Southern boundary/

2.4 In order to inform the design of any future development taking account retained, removed and proposed trees; it is recommended that a soil assessment or geotechnical survey is undertaken to determine the soils shrinkability. This can affect the extent of the root protection area, tree protection and ultimately foundation design.

### 3.0 Tree Survey Summary:

3.1 The trees T01, T02 and T03 are a number of over-mature Goat willow of low quality and value / unsuitable for retention and a mature Silver birch of moderate quality and value to the Eastern boundary with the railway line that have been subject to past surgery due to their location in proximity to the track.



Figure 3. View looking southeast towards T01 & T02



Figure 4. View looking southeast towards T03

- 3.2 G04 and T05 are younger Silver birch and Oak trees of low to moderate quality and value growing at the top of a steep bank close to the Eastern boundary fence line.
- 3.3 T06, T07 & T08 are a collection of Whitebeam and Apple trees of low to moderate quality and value planted to the Downley Road frontage of the former offices.



*Figure 5. View looking southeast towards T06, T07 & T08*

#### **4.0 Tree Preservation Orders & Conservation Areas**

- 4.1 It is our understanding from the Havant Borough Council interactive policy map that there are currently no Tree Preservation Orders designated within the survey area and the site is not within a Conservation Area. For the avoidance of doubt we would recommend that the local authority tree officer is contacted and confirmation obtained.

#### **5.0 Protected Species**

- 5.1 The Wildlife & Countryside Act 1981 forms the legislative basis for protecting Britain's flora and fauna, together with its 1985 and 1991 amendments, the subsequent variations to the schedule of orders, and strengthening amendments made within the Countryside & Rights of Way Act 2000.
- 5.2 Nesting birds are afforded statutory protection by the Wildlife & countryside Act 1981. The bird nesting season is officially from February until August with the busiest time for nesting birds from the 1<sup>st</sup> March until the 31<sup>st</sup> July according to species.
- 5.3 As such, consideration should be given to the presence of nesting birds when clipping hedges, pruning or removing trees or removing ivy or other climbing plants during the bird nesting season. Trees, hedges and ivy should be inspected for nests prior to pruning or removal and any work likely to destroy or disturb active nests should be avoided until the young have fledged. Hedges provide valuable nesting sites for a wide range of birds and clipping should therefore be avoided during the months of March to July.

5.4 In Britain all bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) and under Schedule 2 of the Conservation (Natural Habitats) Regulations 1994 (as amended). In England, under current legislation, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
- Damage or destroy a bat roost (note – this is an ‘absolute’ offence whereby intent or recklessness does not have to be proved);
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat;
- Intentionally or recklessly disturb at bat roost; and
- Intentionally or recklessly obstruct access to a roost.

5.5 In this respect it should be noted that bats utilise tree cavities, cracks and dense ivy as roosts. It is also possible that unidentified bat habitat features may be located high up in the tree crowns and all personnel subsequently carrying out tree works at the site should therefore be vigilant and mindful of the possibility that roosting bats may be present. If any bats roosts are identified during tree works then it is essential that the works are halted immediately and an ecologist investigate them prior to works continuing.

## 6.0 Pests, Diseases & Fungi:

6.1 As identified within the survey tree, the base of the Goat willow tree T02 is being colonised by the Ink Cap fungus (*Coprinellus micaceus*) a saprotrophic (deadwood) white rot fungi that can grow on buried wood (i.e roots).

6.2 Apple trees T08 and T09 have been colonised by Woolly aphid (*Eriosoma lanigerum*) that causes bark swellings and coverings of white fluff to trunk and branches. The swellings are susceptible to frost, which split creating entry wounds for apple canker fungal disease.

## 7.0 Tree Surgery & Removal:

7.1 The following trees are scheduled to be felled, or removed due to their poor condition, being dead or structurally dangerous and unsuitable for retention; T02.

7.2 The preliminary tree management works and tree removal are to be carried out by an Arboricultural Association accredited tree surgeon in accordance with BS 3998: 2010 ‘Tree Work - Recommendations’ with particular care to be taken where trees are in confined spaces or adjacent to highways.

7.3 The stumps of tree species that sucker from roots or stumps such as Alder, Ash, Beech, Birch, Cherry, Elm, Lime, Maple, Oak, Poplar, Rowan, Sycamore, Tree of heaven and Willow are to be treated on removal with glyphosate plugs i.e ‘Ecoplug Max Tree Stump Killer’ in accordance with the manufacturer’s instructions and specifications.

## **8.0 Root Protection Area**

- 8.1 In order to inform the future retention of existing trees the root protection area has been calculated for each tree in accordance with BS 5837:2012 Annex D, Table D.1 – Root Protection Area and using the two calculation methods as detailed within clause 4.6.1. The root protection areas are illustrated on the Tree Constraints Plan 24-042-02.
- 8.2 Where pre-existing site conditions (i.e the presence of retaining walls) or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area had been illustrated
- 8.3 All trees that are being retained on site should be protected by barriers and/or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. These 'Construction Exclusion Zones' are to be protected by barriers and ground protection in accordance with section 6.2 of BS 5837:2012 and as specified and indicated on an approved Tree Protection Plan to be prepared by the project arboriculturalist.
- 8.4 Of particular importance on sites where there are significant level changes it should be noted that existing ground levels are to be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ and any re-grading works or the location of retaining features should take this into account. The advice of an arborist should be sought where underground structures are present within the RPA are, or will become, redundant. In general it is preferable to leave such structures in situ, as their removal could damage adjacent tree roots.
- 8.5 Where construction operations are proposed and permitted within the Root Protection Area precautions should be taken and specified within an Arboricultural Method Statement prepared by the project arboriculturalist to maintain the condition and health of the root system in accordance with Section 7 'Demolition and construction in proximity to existing trees' of BS 5837:2012.
- 8.6 Where permanent hard surfacing within the RPA is considered unavoidable, site-specific and specialist arboricultural and construction design advice should be sought to determine whether it is achievable without significant adverse impact on trees to be retained. As a general guide new permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.

## **9.0 Above Ground Constraints**

- 9.1 In addition to the condition of the tree the probable impact on proposed buildings or development of trees considered for retention should be assessed to take into account the root protection areas, shadow patterns, species characteristics, maintenance requirements and allowances for space and future tree growth.

*Shading:*

- 9.2 In order to assess any unreasonable obstruction of sunlight or daylight to any proposed development tree shadow patterns are also illustrated on the Tree Constraints Plan 24-042-02.
- 9.3 The orientation of the site means that the shadows from trees shade areas of the site. The ultimate height and spread of the tree (as noted below) will also affect the shading of the site in the future.

*Species Characteristics:*

- 9.4 Trees are living organisms and exhibit structural and seasonal characteristics that may give rise to conflicts in proximity to buildings, footpaths and hard standing areas.
- 9.5 Apples are fruiting trees and as such can cause slippery surfaces and increased maintenance during the autumn.
- 9.6 Goat willow are a small spreading native deciduous tree species (10 metres in height) that can live for up to 300 years. As with all Willows they have a propensity for branch drop or failure particularly in high winds, combined with brittle twigs this can result in increased maintenance requirements to surfaces and possible damage to structures located in their immediate vicinity. Pollarded Goat willow will require regular tree surgery and management.
- 9.7 Oak trees are typically a large, wide spreading and long lived tree species (over 500 years) that are important for biodiversity and provide habitats for a variety of species including Bats with veteran Oak trees being important for saproxylic insects. Oak trees are resistant to decay and often exhibit fungal fruiting bodies, crown dieback and deadwood within the canopy, typically developing hollow trunks and other veteran tree features without there being a significant effect on longevity.
- 9.8 The following trees species are identified within the NHBC Standards Chapter 4.2 as of high water demand and therefore impacting significantly on foundation design on high shrinkability soils; Cypress, Elm, Eucalyptus Hawthorn, Oak, Poplar and Willow.

*Ultimate Height and Spread:*

- 9.9 Where surveyed trees are classified as young to semi mature their future growth in terms of predicted height and canopy spread at maturity (refer to Appendix B) should be considered to prevent direct potential damage to structures or buildings, minimise future pressure for removal and increase the effect of shading as described above.

## Appendix A: Scientific Names

| <i>Common names:</i> | <i>Scientific Name</i>          |
|----------------------|---------------------------------|
| Common alder         | <i>Alnus glutinosa</i>          |
| Crab apple           | <i>Malus sylvestris</i>         |
| Common ash           | <i>Fraxinus excelsior</i>       |
| False acacia         | <i>Robinia pseudacacia</i>      |
| Silver birch         | <i>Betula pendula</i>           |
| Downy birch          | <i>Betula pubescens</i>         |
| Common beech         | <i>Fagus sylvatica</i>          |
| Wild cherry          | <i>Prunus avium</i>             |
| Bird cherry          | <i>Prunus padus</i>             |
| Cherry plum          | <i>Prunus cerasifera</i>        |
| Horse chestnut       | <i>Aesculus hippocastanum</i>   |
| Sweet chestnut       | <i>Castanea sativa</i>          |
| Cypress              | <i>Chamaecyparis cultivar</i>   |
| Leyland cypress      | <i>Cupressus x leylandii</i>    |
| Lawson cypress       | <i>Chamaecyparis lawsoniana</i> |
| Douglas fir          | <i>Pseudotsuga menziesii</i>    |
| Common hawthorn      | <i>Crataegus monogyna</i>       |
| Common hornbeam      | <i>Carpinus betulus</i>         |
| Holly                | <i>Ilex aquifolium</i>          |
| Laburnum             | <i>Laburnum anagyroides</i>     |
| Small leaved lime    | <i>Tilia cordata</i>            |
| Common lime          | <i>Tilia x europaea</i>         |
| Large leaved lime    | <i>Tilia platyphyllos</i>       |
| European larch       | <i>Larix decidua</i>            |
| Field maple          | <i>Acer campestre</i>           |
| Norway maple         | <i>Acer platanoides</i>         |
| Sycamore             | <i>Acer pseudoplatanus</i>      |
| Common oak           | <i>Quercus robur</i>            |
| Sessile oak          | <i>Quercus petraea</i>          |
| Holm oak             | <i>Quercus ilex</i>             |
| Pear                 | <i>Pyrus communis</i>           |
| Scots pine           | <i>Pinus sylvestris</i>         |
| Aspen poplar         | <i>Populus tremula</i>          |
| Lombardy poplar      | <i>Populus italica</i>          |
| Hybrid black poplar  | <i>Populus x canadensis</i>     |
| London plane         | <i>Platanus x hispanica</i>     |
| Norway spruce        | <i>Picea abies</i>              |
| Rowan                | <i>Sorbus aucuparia</i>         |
| Whitebeam            | <i>Sorbus aria</i>              |
| Wild service tree    | <i>Sorbus torminalis</i>        |
| Crack willow         | <i>Salix fragilis</i>           |
| Goat willow          | <i>Salix caprea</i>             |
| White willow         | <i>Salix alba</i>               |
| Weeping willow       | <i>Salix babylonica</i>         |
| Yew                  | <i>Taxus baccata</i>            |

## Appendix B: Predicted Tree Height & Canopy Spread

| <i>Common name</i>  | <i>Height (m)</i> | <i>Canopy Spread (m)</i> |
|---------------------|-------------------|--------------------------|
| Common alder        | 25                | 10                       |
| Crab apple          | 9                 | 7                        |
| Common ash          | 30                | 20                       |
| False acacia        | 25                | 15                       |
| Silver birch        | 25                | 10                       |
| Downy birch         | 20                | 10                       |
| Common beech        | 25                | 15                       |
| Wild cherry         | 20                | 10                       |
| Bird cherry         | 15                | 10                       |
| Cherry plum         | 10                | 10                       |
| Horse chestnut      | 25                | 20                       |
| Sweet chestnut      | 30                | 15                       |
| Cypress             | 15-40             | 2-5                      |
| Leyland cypress     | 35                | 5                        |
| Lawson cypress      | 15-40             | 2-5                      |
| Douglas fir         | 25-50             | 6-10                     |
| Common hawthorn     | 10                | 8                        |
| Common hornbeam     | 25                | 20                       |
| Holly               | 25                | 8                        |
| Laburnum            | 8                 | 8                        |
| Small leaved lime   | 25                | 15                       |
| Common lime         | 35                | 15                       |
| Large leaved lime   | 30                | 20                       |
| European larch      | 30                | 4-6                      |
| Field maple         | 10                | 8                        |
| Norway maple        | 25                | 15                       |
| Sycamore            | 30                | 25                       |
| Common oak          | 35                | 25                       |
| Sessile oak         | 30                | 25                       |
| Holm oak            | 25                | 20                       |
| Pear                | 15                | 10                       |
| Scots pine          | 15-30             | 6-9                      |
| Aspen poplar        | 20                | 10                       |
| Lombardy poplar     | 30                | 5                        |
| Hybrid black poplar | 35                | 20                       |
| London plane        | 30                | 20                       |
| Norway spruce       | 20-40             | 6                        |
| Rowan               | 15                | 7                        |
| Whitebeam           | 10-25             | 10                       |
| Wild service tree   | 20                | 12                       |
| Crack willow        | 15                | 15                       |
| Goat willow         | 10                | 8                        |
| White willow        | 25                | 10                       |
| Weeping willow      | 12                | 12                       |
| Yew                 | 10-20             | 8-10                     |

| Category and definition                                                                                                                                             | Criteria (including subcategories where appropriate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                   |                                                                                                                                       | Identification on plan |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| TREES UNSUITABLE FOR RETENTION                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                   |                                                                                                                                       |                        |
| Category U<br>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. | <ul style="list-style-type: none"><li>Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li><li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.</li><li>Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality.</li></ul> <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i> |                                                                                                                                                                                                                                                                   |                                                                                                                                       | DARK RED               |
| TREES TO BE CONSIDERED FOR RETENTION                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                   |                                                                                                                                       |                        |
|                                                                                                                                                                     | 1 Mainly arboricultural values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2 Mainly landscape values                                                                                                                                                                                                                                         | 3 Mainly cultural values, including conservation                                                                                      |                        |
| Category A<br>Trees of high quality with an estimated remaining life expectancy of at least 40 years.                                                               | Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features                                                                                                                                                            | Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture) | LIGHT GREEN            |
| Category B<br>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.                                                           | Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation                                                                                                                                                                                                                                                                                                                                                                                            | Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality | Trees with material conservation or other cultural value                                                                              | MID BLUE               |
| Category C<br>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.              | Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary / transient landscape benefits.                                                           | Trees with no material conservation or other cultural value                                                                           | GREY                   |

## Appendix D: Root Protection Area

| Single stem diameter<br><i>mm</i> | Radius of nominal circle<br><i>m</i> | Root Protection Area (RPA)<br><i>m<sup>2</sup></i> |
|-----------------------------------|--------------------------------------|----------------------------------------------------|
| 75                                | 0.90                                 | 3                                                  |
| 100                               | 1.20                                 | 5                                                  |
| 125                               | 1.50                                 | 7                                                  |
| 150                               | 1.80                                 | 10                                                 |
| 175                               | 2.10                                 | 14                                                 |
| 200                               | 2.40                                 | 18                                                 |
| 225                               | 2.70                                 | 23                                                 |
| 250                               | 3.00                                 | 28                                                 |
| 275                               | 3.30                                 | 34                                                 |
| 300                               | 3.60                                 | 41                                                 |
| 325                               | 3.90                                 | 48                                                 |
| 350                               | 4.20                                 | 55                                                 |
| 375                               | 4.50                                 | 64                                                 |
| 400                               | 4.80                                 | 72                                                 |
| 425                               | 5.10                                 | 81                                                 |
| 450                               | 5.40                                 | 92                                                 |
| 475                               | 5.70                                 | 102                                                |
| 500                               | 6.00                                 | 113                                                |
| 525                               | 6.30                                 | 124                                                |
| 550                               | 6.60                                 | 137                                                |
| 575                               | 6.90                                 | 150                                                |
| 600                               | 7.20                                 | 163                                                |
| 625                               | 7.50                                 | 177                                                |
| 650                               | 7.80                                 | 191                                                |
| 675                               | 8.10                                 | 206                                                |
| 700                               | 8.40                                 | 222                                                |
| 725                               | 8.70                                 | 238                                                |
| 750                               | 9.00                                 | 255                                                |
| 775                               | 9.30                                 | 272                                                |
| 800                               | 9.60                                 | 290                                                |
| 825                               | 9.90                                 | 308                                                |
| 850                               | 10.20                                | 327                                                |
| 875                               | 10.50                                | 346                                                |
| 900                               | 10.80                                | 366                                                |
| 925                               | 11.10                                | 387                                                |
| 950                               | 11.40                                | 408                                                |
| 975                               | 11.70                                | 430                                                |
| 1000                              | 12.00                                | 452                                                |
| 1025                              | 12.30                                | 475                                                |
| 1050                              | 12.60                                | 499                                                |
| 1075                              | 12.90                                | 519                                                |
| 1100                              | 13.20                                | 547                                                |
| 1125                              | 13.50                                | 573                                                |
| 1150                              | 13.80                                | 598                                                |
| 1175                              | 14.10                                | 625                                                |
| 1200                              | 14.40                                | 652                                                |
| 1225                              | 14.70                                | 679                                                |
| 1250                              | 15.00                                | 707                                                |

## Appendix E: Technical Definitions

|                                         |                                                                                                                                                                                                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Access Facilitation Pruning:</b>     | One off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site. |
| <b>Arboricultural Impact Assessment</b> | An evaluation of the direct and indirect effects of the proposed design on the trees identified within the Tree Survey, where necessary recommending mitigation or amendments to the design.                      |
| <b>Arboricultural Method Statement</b>  | Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.                            |
| <b>Construction Exclusion Zone</b>      | An area based on the root protection area from which access is prohibited for the duration of a project                                                                                                           |
| <b>Root Protection Area (RPA)</b>       | The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is considered a priority          |
| <b>Tree Protection Plan</b>             | A scale drawing informed by descriptive text where necessary, based upon finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.                            |

**Disclaimer:**

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# Tree Survey in accordance with BS5837:2012

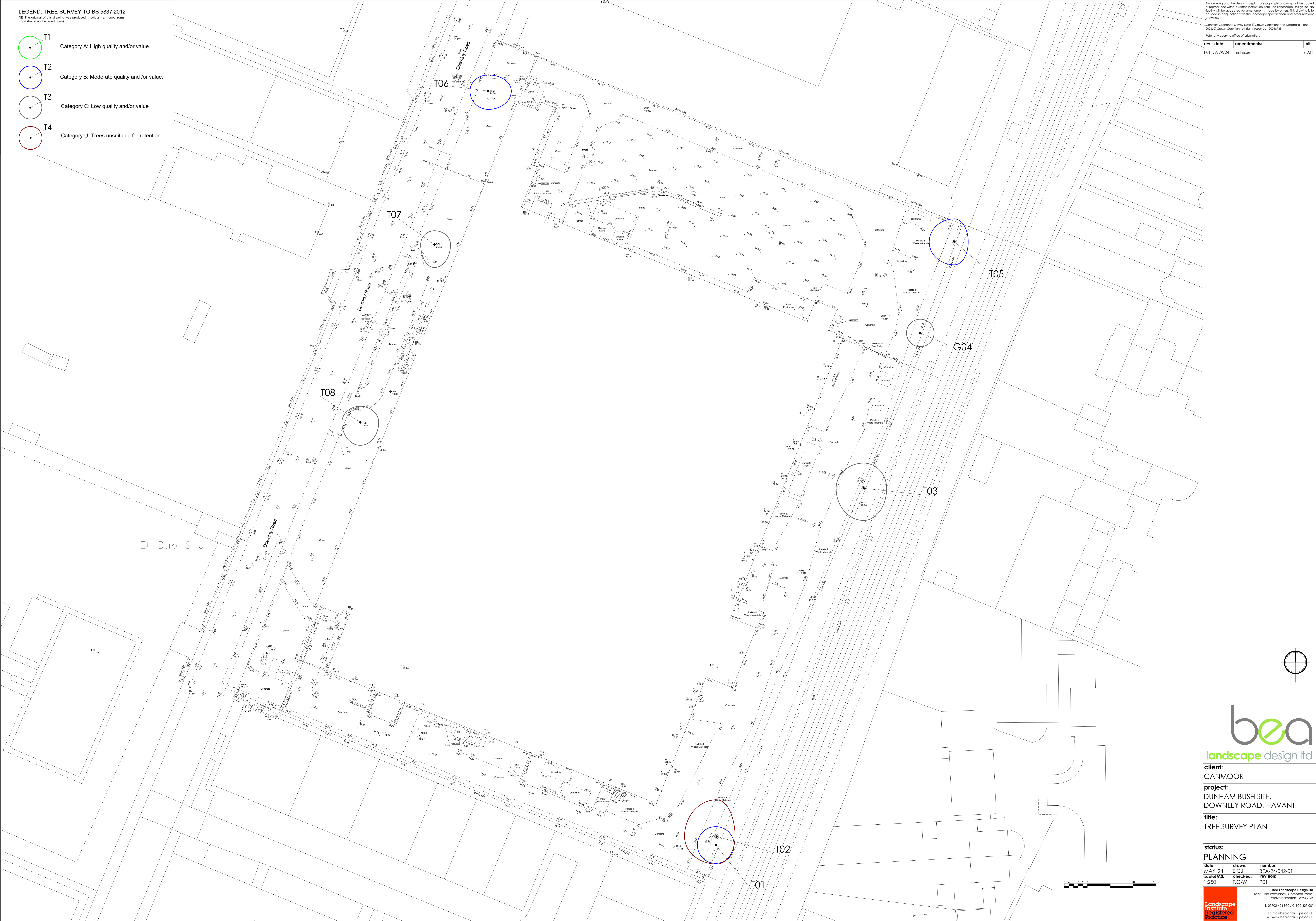
# Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

| Tree / Group Number | Common Name  | Height (m) | Stem(s) Diameter (mm)   | Branch Spread (m) |    |   |   | Canopy Height (m) / First Significant Branch | Life Stage  | Physiological Condition | Structural Condition                                                                                                                                                                                                                                                     | Preliminary Management Recommendations  | Remaining Contribution (years) | Category Grading | Root Protection Area (m2) |
|---------------------|--------------|------------|-------------------------|-------------------|----|---|---|----------------------------------------------|-------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------------------------|------------------|---------------------------|
|                     |              |            |                         | N                 | E  | S | W |                                              |             |                         |                                                                                                                                                                                                                                                                          |                                         |                                |                  |                           |
| T01                 | Silver birch | 12.5       | 260, 220                | 4                 | 4# | 4 | 4 | 4                                            | Mature      | Good                    | Restricted root environment, concrete slab to West. Twin stemmed. Growing through canopy of T02.                                                                                                                                                                         | Remove adjacent Elder.                  | 20+                            | B2               | 48                        |
| T02                 | Goat willow  | 10         | 700                     | 8                 | 4# | 6 | 7 | 1.5                                          | Over mature | Poor                    | Restricted root environment, concrete slab to West. Major deadwood snags. Random past pruning/surgery. Decay entry points present. Internal decay present. Fungal fruiting bodies ( <i>Coprineius micaceus suspected</i> ) evident at base to North. Low growing canopy. | Remove to ground level and treat stump. | <10                            | U                | 222                       |
| T03                 | Goat willow  | 9          | 250, 200, 300, 400, 250 | 5.5               | 5# | 7 | 6 | /                                            | Over mature | Poor                    | Restricted root environment, concrete slab to West. Low growing canopy. Major pruning wounds. Topped in past at 1.5m, multi stem regrowth. Random past pruning / surgery.                                                                                                | Offsite tree.                           | 10+                            | C3               | 187                       |
| G04                 | Silver birch | 8          | <100                    | 3                 | 3  | 3 | 3 | /                                            | Young       | Fair                    | Group of 3 Birch poles / basal epicormic growth from rotting stump of original tree growing at top of bank.                                                                                                                                                              | No works required,                      | 10+                            | C1               | 5                         |

# Tree Survey in accordance with BS5837:2012

# Estimated dimensions (for offsite or otherwise inaccessible trees where accurate data cannot be recovered).

| Tree / Group Number | Common Name | Height (m) | Stem(s) Diameter (mm) | Branch Spread (m) |     |   |     | Canopy Height (m) / First Significant Branch | Life Stage  | Physiological Condition | Structural Condition                                                                                                                                                | Preliminary Management Recommendations | Remaining Contribution (years) | Category Grading | Root Protection Area (m2) |
|---------------------|-------------|------------|-----------------------|-------------------|-----|---|-----|----------------------------------------------|-------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------|------------------|---------------------------|
|                     |             |            |                       | N                 | E   | S | W   |                                              |             |                         |                                                                                                                                                                     |                                        |                                |                  |                           |
| T05                 | Oak         | 8          | 250#                  | 5                 | 3#  | 5 | 5.5 | 2                                            | Young       | Fair                    | Restricted root environment, growing at top of steep bank. Concrete slab to West. Random past pruning / surgery.                                                    | No works required,                     | 20+                            | B2               | 28                        |
| T06                 | Whitebeam   | 6          | 200, 170              | 3.5               | 5   | 4 | 4   | 2                                            | Semi mature | Fair                    | Moderate deadwood. Twin stemmed / multi stem. Corrected/trunk lean to East. Compression fork/included bark. Partial past windthrow. Shallow roots evident in grass. | No works required,                     | 20+                            | B2               | 31                        |
| T07                 | Apple       | 7          | 230                   | 3                 | 3.5 | 5 | 3   | 2                                            | Mature      | Fair                    | Major deadwood snags. Random past pruning / surgery. Wooley aphids giving rise to cankers on trunk and branches.                                                    | Remove deadwood.                       | 10+                            | C2               | 24                        |
| T08                 | Apple       | 7          | 250                   | 3.5               | 4   | 5 | 4   | 2                                            | Mature      | Fair                    | Major deadwood snags. Random past pruning / surgery. Storm damage. Wooley aphids giving rise to cankers on trunk and branches.                                      | Remove suspended or broken limb.       | 10+                            | C2               | 28                        |
|                     |             |            |                       |                   |     |   |     |                                              |             |                         |                                                                                                                                                                     |                                        |                                |                  | 0                         |



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| P01 | 01/01/24 | First issue | STAFF |

**client:**  
CANMOOR

**project:**  
DUNHAM BUSH SITE,  
DOWNLEY ROAD, HAVANT

**title:**  
TREE SURVEY PLAN

**status:**  
PLANNING

|                    |                   |                          |
|--------------------|-------------------|--------------------------|
| date:<br>MAY '24   | drawn:<br>E.C.H.  | number:<br>BEA-24-042-01 |
| scale/AD:<br>1:250 | checked:<br>T.G-W | revision:<br>P01         |



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| P01 | 01/01/24 | First issue | STAFF |

**client:**  
CANMOOR

**project:**  
DUNHAM BUSH SITE,  
DOWNLEY ROAD, HAVANT

**title:**  
TREE CONSTRAINTS PLAN

**status:**  
PLANNING

|                    |                   |                          |
|--------------------|-------------------|--------------------------|
| date:<br>MAY '24   | drawn:<br>E.C.H.  | number:<br>BEA-24-042-02 |
| scale/AD:<br>1:250 | checked:<br>T.G-W | revision:<br>P01         |

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