

# Arboricultural Report

**Prepared for:** Catherine Perry

**Site:** Harefield Hospital

**Prepared by:** Lee Davies Dip Arb L4 (ABC), TechArborA

**Date:** 7<sup>th</sup> May 2020

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## **Brief**

- 1.1 Artemis Tree Services Ltd has been instructed by Catherine Perry by email (Ref. 15687) to undertake a Tree Survey in line with BS5837:2012 and produce an Arboricultural Report to include:
- Tree Survey Schedule
  - Impact Assessment
  - Tree Protection Plan

## **Report limitations**

- 2.1 The tree survey has been undertaken on a preliminary basis only. The survey must not be used in place of a tree risk survey. In cases where I consider further investigation is required, or where trees require immediate attention, this will be noted under the preliminary management recommendations of the survey.
- 2.2 I have not been instructed to identify impacts or risk to the current/proposed property in relation to subsidence. No soil samples have been taken.

## **Introduction**

### **3.1 Qualifications**

- 3.1.1 I am qualified to Level 4 Diploma in Arboriculture, hold the Lantra Awards Professional Tree Inspection Certificate and am a Technician Member of the Arboricultural Association.

### **3.2 Site Description**

- 3.2.1 Harefield Hospital

### **3.3 Proposed development**

- 3.3.1 Healing & Transplant Gardens

### **3.4 Trees**

- 3.4.1 During my site visit I recorded details of twenty-three trees that could be impacted by the proposed development.

## **Methodology**

- 4.1 I have categorized the recorded trees in relation to their quality and value (in a non-fiscal sense) in accordance with Table 1 "Cascade chart for tree quality assessment" within BS 5837:2012, as described below:

**U Trees unsuitable for retention** - Those in such a condition that they cannot be realistically be retained as living trees in the context of the current land use for longer than 10 years

**A Trees of high quality** - With an estimated remaining life expectancy of at least 40+ years

**B Trees of moderate quality** - With an estimated remaining life expectancy of at least 20-40 years

**C Trees of low quality** - with an estimated remaining life expectancy of at least 10-20 years, or young trees with a stem diameter below 150mm

- 4.2 A schedule of trees surveyed in accordance with BS5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*' can be found in appendix 1, along with a key for survey data.

## **Impact Assessment**

- 5.1 The removal of T1 is necessary to facilitate the development. Replacement planting will restore the minor loss of amenity.
- 5.2 The construction of a conventional footpath through the root protection areas (RPAs) of T2, T10 and T20 is likely to result in severance of a large proportion of roots. The potential negative impacts associated with conventional footpath construction will be mitigated by using a 'no-dig' method of construction within the RPAs of these trees. Specification of 'no-dig' footpath construction is detailed in drawing 2584-13-02.
- 5.3 Construction of central seating area within RPA of T9 could result in damage to roots. To mitigate the potential root damage and negative impacts on T9, the position of the seating area has been altered so that it falls outside of the tree's RPA, as indicated on Landscape Masterplan 2584-11-01.

- 5.4 There is potential for soil compaction within RPAs, which could negatively impact on the long-term health of the retained trees. This will be mitigated by installing tree protection fencing around the RPAs of the retained trees, which will stay in place until all hard landscaping works are complete. Tree protection fencing shall be installed and signed off by the project arboriculturist prior to the commencement of works.

### **Tree Preservation Orders (TPO) & Conservation Area Designation**

- 6.1 I have not been instructed to establish presence of Tree Preservation Orders (TPO) & Conservation Area Designation at this stage.

### **References**

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- British Standards Institute (2012) BS 5837:2012- Trees in relation to design, demolition and construction – Recommendations

| Report author | Signature                                                                           | Date                     |
|---------------|-------------------------------------------------------------------------------------|--------------------------|
| Lee Davies    |  | 7 <sup>th</sup> May 2020 |

## **Appendix 1**

### Tree Survey Schedule

| Tree ref No. | Species                                | Ht (m) | Stem Diameter @ 1.5m (mm)<br>RPA circle Radius (m)<br>(RPA m2) | Crown spread (m)                 | Height of lowest branch (m) & direction of growth (N, S, E, W) | Life stage | Estimated Contribution in years (<10, 10+, 20+, 40+) | General observations <sup>SEP</sup><br>P – Physiological condition<br>S – Structural condition       | Preliminary management recommendations | Category of retention + Sub-category |
|--------------|----------------------------------------|--------|----------------------------------------------------------------|----------------------------------|----------------------------------------------------------------|------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------|
| T1           | Eucalyptus ( <i>Eucalyptus</i> Sp.)    | 5.5    | 100<br>1.20<br>5                                               | N-1.5<br>S-1.5<br>E-1.5<br>W-1.5 | NA                                                             | Y          | 40+                                                  | Young tree. Removal required to facilitate development. 5x new trees are being planted in this area. | Fell                                   | C1                                   |
| T2           | Crab apple ( <i>Malus sylvestris</i> ) | 5.5    | 200<br>2.40<br>18                                              | N-3 S-2.5<br>E-2<br>W-3          | 2m-S                                                           | M          | <10                                                  | Sparse crown with deadwood in lower section.<br>P-fair<br>S-fair                                     | None                                   | C1                                   |
| T3           | Rowan ( <i>Sorbus accuparia</i> )      | 6      | 250<br>3.00<br>28                                              | N-3.5<br>S-4<br>E-3<br>W-4.4     | 1.8m-W                                                         | M          | 20+                                                  | No significant problems<br>P-good<br>S-good                                                          | None                                   | B1                                   |

|    |                                                      |          |                    |                              |               |    |     |                                                                                                                                                 |      |    |
|----|------------------------------------------------------|----------|--------------------|------------------------------|---------------|----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------|------|----|
| T4 | Rowan<br>( <i>Sorbus<br/>accuparia</i> )             | 6.5      | 290<br>3.60<br>41  | N-4<br>S-4<br>E-4<br>W-4     | 1.8m-E        | M  | 20+ | No significant problems<br>P-good<br>S-good                                                                                                     | None | B1 |
| T5 | Purple leaf<br>plum ( <i>Prunus<br/>cerasifera</i> ) | 6        | 320<br>3.90<br>48  | N-2<br>S-3<br>E-3<br>W-2.5   | 2m-E          | M  | 10+ | Torn stub from historic branch<br>failure. Cavities in centre of old<br>pruning wounds. Epicormic growth<br>on lower trunk.<br>P-fair<br>S-fair | None | C1 |
| T6 | Purple leaf<br>plum ( <i>Prunus<br/>cerasifera</i> ) | 5        | 280<br>3.30<br>34  | N-3.5<br>S-3<br>E-5<br>W-4   | 2m-E          | M  | 10+ | Large pruning wound on central<br>stem. Asymmetrical crown.<br>P-good<br>S-good                                                                 | None | C1 |
| T7 | Rowan<br>( <i>Sorbus<br/>accuparia</i> )             | 4        | 190<br>2.40<br>18  | N-4<br>S-3<br>E-3.5<br>W-3.5 | 1.8m-<br>NSEW | EM | 20+ | No significant problems<br>P-good<br>S-good                                                                                                     | None | C1 |
| T8 | White poplar<br>( <i>Populus<br/>alba</i> )          | 13.<br>5 | 660<br>7.80<br>191 | N-7<br>S-7<br>E-5.5<br>W-7.5 | 2.8m-N&S      | M  | 20+ | Tree recently crown reduced. Mower<br>damage to surface roots.<br>P-good<br>S-good                                                              | None | B1 |
| T9 | White poplar<br>( <i>Populus<br/>alba</i> )          | 13.<br>5 | 400<br>4.80        | N-8<br>S-5.5<br>E-7.5<br>W-6 | 3m-N          | EM | 20+ | Mower damage to surface roots.<br>P-good<br>S-good                                                                                              | None | B1 |

|     |                                         |     |                                      |                              |           |    |     |                                                               |                                                 |    |
|-----|-----------------------------------------|-----|--------------------------------------|------------------------------|-----------|----|-----|---------------------------------------------------------------|-------------------------------------------------|----|
|     |                                         |     | 72                                   |                              |           |    |     |                                                               |                                                 |    |
| T10 | White poplar<br>( <i>Populus alba</i> ) | 14  | 470<br>5.70<br>102                   | N-6<br>S-10<br>E-9<br>W-6    | 1.5m-S    | EM | 20+ | No significant problems<br>P-good<br>S-good                   | None                                            | B1 |
| T11 | White poplar<br>( <i>Populus alba</i> ) | 14  | 780<br>9.30<br>272                   | N-5.5<br>S-7<br>E-7.5<br>W-6 | 1.5m-S    | M  | 20+ | Tree recently crown reduced.<br>P-good<br>S-good              | None                                            | B1 |
| T12 | Cherry<br>( <i>Prunus Sp.</i> )         | 2   | 60                                   |                              |           |    |     | Small memorial tree in poor physiological condition.          | Remove dead branches or remove and replace tree | NA |
| T13 | Whitebeam<br>( <i>Sorbus aria</i> )     | 4   | 170<br>2.10<br>14                    | N-2<br>S-2<br>E-2<br>W-2     | 1.8m-NSEW | Y  | 20+ | Minor mower damage to lower trunk.<br>P-good<br>S-good        | None                                            | C1 |
| T14 | Rowan<br>( <i>Sorbus accuparia</i> )    | 6.5 | 200, 150,<br>140, 110,<br>90<br>3.30 | N-4<br>S-3.5<br>E-3<br>W-3.5 | 3m-S      | EM | 20+ | Multi-stem tree. No significant problems.<br>P-good<br>S-good | None                                            | C1 |

|     |                                  |     |                   |                              |         |    |     |                                                                                                                                         |      |    |
|-----|----------------------------------|-----|-------------------|------------------------------|---------|----|-----|-----------------------------------------------------------------------------------------------------------------------------------------|------|----|
|     |                                  |     | 34                |                              |         |    |     |                                                                                                                                         |      |    |
| T15 | Birch ( <i>Betula pendula</i> )  | 9   | 290<br>3.60<br>41 | N-4.5<br>S-4.5<br>E-4<br>W-5 | 3m-W    | M  | 20+ | No significant problems<br>P-good<br>S-good                                                                                             | None | C1 |
| T16 | Cherry ( <i>Prunus</i> Sp.)      | 8   | 210<br>2.40<br>18 | N-3<br>S-3<br>E-3<br>W-3     | NA      | Y  | 20+ | No significant problems<br>P-good<br>S-good                                                                                             | None | C1 |
| T17 | Cherry ( <i>Prunus</i> Sp.)      | 8   | 200<br>2.40<br>18 |                              |         |    |     | Dead tree                                                                                                                               | Fell | U  |
| T18 | Birch ( <i>Betula pendula</i> )  | 13  | 320<br>3.90<br>48 | N-5<br>S-4<br>E-4.5<br>W-5   | 3m-W    | M  | 20+ | Wound at base of trunk and at 2m from ground level with typical woundwood development. Mower damage to lower trunk.<br>P-good<br>S-good | None | B1 |
| T19 | Whitebeam ( <i>Sorbus aria</i> ) | 7.5 | 270<br>3.30<br>34 | N-3.5<br>S-4<br>E-4<br>W-4   | 2m-NSEW | EM | 20+ | Leaning trunk. Mower damage to lower trunk.<br>P-good<br>S-good                                                                         | None | C1 |

|     |                                             |    |                    |                                |         |    |     |                                                                                                                                      |                                          |    |
|-----|---------------------------------------------|----|--------------------|--------------------------------|---------|----|-----|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----|
| T20 | Whitebeam<br>( <i>Sorbus aria</i> )         | 5  | 260<br>3.30<br>34  | N-3<br>S-3.5<br>E-3.5<br>W-3.5 | 1.6m-N  | EM | 20+ | Mower damage to lower trunk.<br>P-good<br>S-good                                                                                     | None                                     | C1 |
| T21 | Callery pear<br>( <i>Pyrus calleryana</i> ) | 8  | 220<br>2.70<br>23  | N-2.5<br>S-3<br>E-2.5<br>W-3   | 2m-NSEW | EM | 20+ | Twisting rubbing branch in centre of crown.<br>P-good<br>S-good                                                                      | Formative prune to remove rubbing branch | C1 |
| T22 | Apple ( <i>Malus</i> Sp.)                   | 5  | 150<br>1.80<br>10  | N-3<br>S-3<br>E-3<br>W-3       | 2m-N    | EM | 20+ | No significant problems<br>P-good<br>S-good                                                                                          | None                                     | C1 |
| T23 | Oak<br>( <i>Quercus robur</i> )             | 16 | 610<br>7.20<br>163 | N-8<br>S-8<br>E-3<br>W-9       | 3m-W    | M  | 40+ | Small bark wound on west side of trunk 1.6m from ground level.<br>Largest of three oak trees growing as a group.<br>P-good<br>S-good | None                                     | A2 |

## Survey Key

### Stem Diameter (mm)

Stem diameter in millimetres measured at 1.5m above ground level. Where the stem is divided below 1.5m, measurement is taken as directed by BS:5837 Annex C.

### Root Protection Distance (RPA)

RPA circle radius is determined from Annex D of BS:5837.

### Branch Spread (m)

Radial crown spread in metres, measured for each of the four cardinal points of the compass from the centre of the trunk.

### Height of Lowest Branch (m) and direction of growth

Height above ground in metres of the lowest branch and use of the 4 cardinal points of the compass.

### Age class

(NP) Newly planted – a tree within 3 years after planting<sup>[SEP]</sup>

(Y) Young – a tree within its first one third of life expectancy

(EM) Early Mature – a tree within its second third of life expectancy

(M) Mature – a tree in its final one third of life expectancy<sup>[SEP]</sup>

(OM) Over Mature – a tree having reached its maximum life span and is declining in health and size due to old age

(V) Veteran – a tree in the second or mature stage of its life and has important wildlife and habitat features including; hollowing or associated decay fungi, holes, wounds and large dead branches.

(A) Ancient – a tree in the ancient or third and final stage of their life that is of interest biologically, aesthetically or culturally because of its age, size and condition

### **Physiological Condition**

GOOD – a tree in a healthy condition with no significant problems

FAIR – a tree generally in good health with some problems that can be remediated

POOR – a tree in poor health with significant problems that can't be remediated

DEAD – a tree without sufficient live material to sustain life<sup>[SEP]</sup>

### **Structural Condition**

An assessment of the structural/safe condition of the tree categorised into:

GOOD – a tree in a safe condition with no significant defects<sup>[SEP]</sup>

FAIR – a tree in a safe condition at present but with defects or with significant defects that can be remediated

POOR – a tree with significant defects that can't be remediated

### **Estimated remaining contribution in years** (based on the species and its current condition)

<10 Up to 10 years

10+ 10 years or more

20+ 20 years or more

40+ 40 years or more

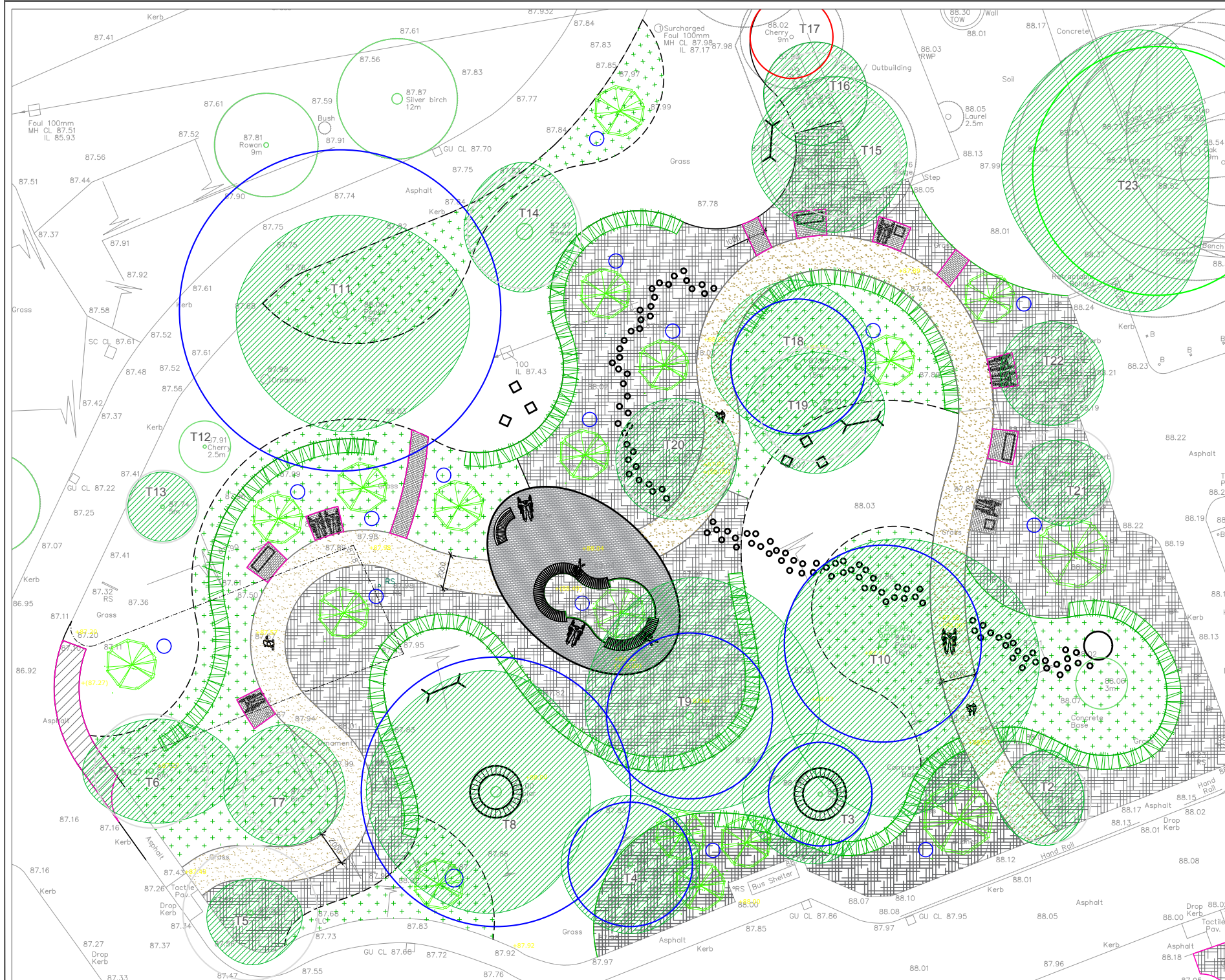
### **Category of retention** (Tree quality assessment)

Category U – Tree in poor condition that cannot realistically be retained for longer than 10 years

Category A – Trees of high quality

Category B – Trees of moderate quality

Category C – Trees of low quality





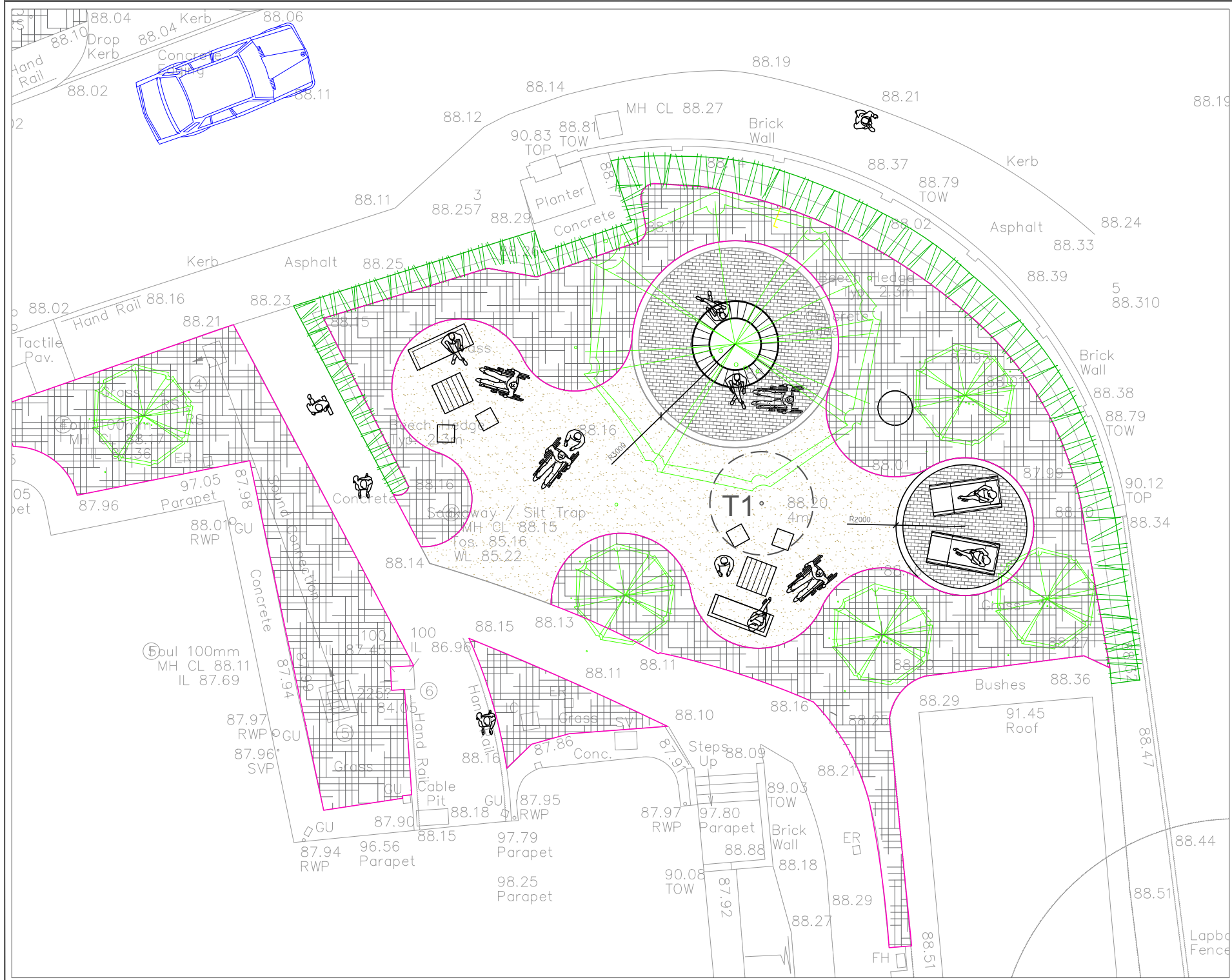
-  RPA for Cat A\* tree
-  RPA for Cat B\* tree
-  RPA for Cat C\* tree
-  RPA for Cat U\* tree
-  Tree canopy
-  Tree removal

The original of this drawing was produced in colour - a monochrome copy should not be relied upon

Artemis Tree Services Ltd  
West Hyde Nursery  
Old Uxbridge Road  
Rickmansworth  
WD3 9XY



|                             |                      |              |          |
|-----------------------------|----------------------|--------------|----------|
| SITE: Harefield Hospital    |                      |              |          |
| TITLE: Tree Protection Plan |                      |              |          |
| SCALE AT A1:<br>1:100       | DATE:<br>30/04/2020  | DRAWN:<br>LD | CHECKED: |
| PROJECT NO:<br>15687        | DRAWING NO:<br>HH001 | REVISION:    |          |



-  RPA for Cat A\* tree
-  RPA for Cat B\* tree
-  RPA for Cat C\* tree
-  RPA for Cat U\* tree
-  Tree canopy
-  Tree removal

The original of this drawing was produced in colour - a monochrome copy should not be relied upon

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Rickmansworth  
WD3 9XY



|                             |                      |              |          |
|-----------------------------|----------------------|--------------|----------|
| SITE: Harefield Hospital    |                      |              |          |
| DATE: 30/04/2020            |                      |              |          |
| TITLE: Tree Protection Plan |                      |              |          |
| SCALE AT A1:<br>1:50        | DATE:                | DRAWN:<br>LD | CHECKED: |
| PROJECT NO:<br>15687        | DRAWING NO:<br>HH002 | REVISION:    |          |

Figure 2 Default specification for protective barrier

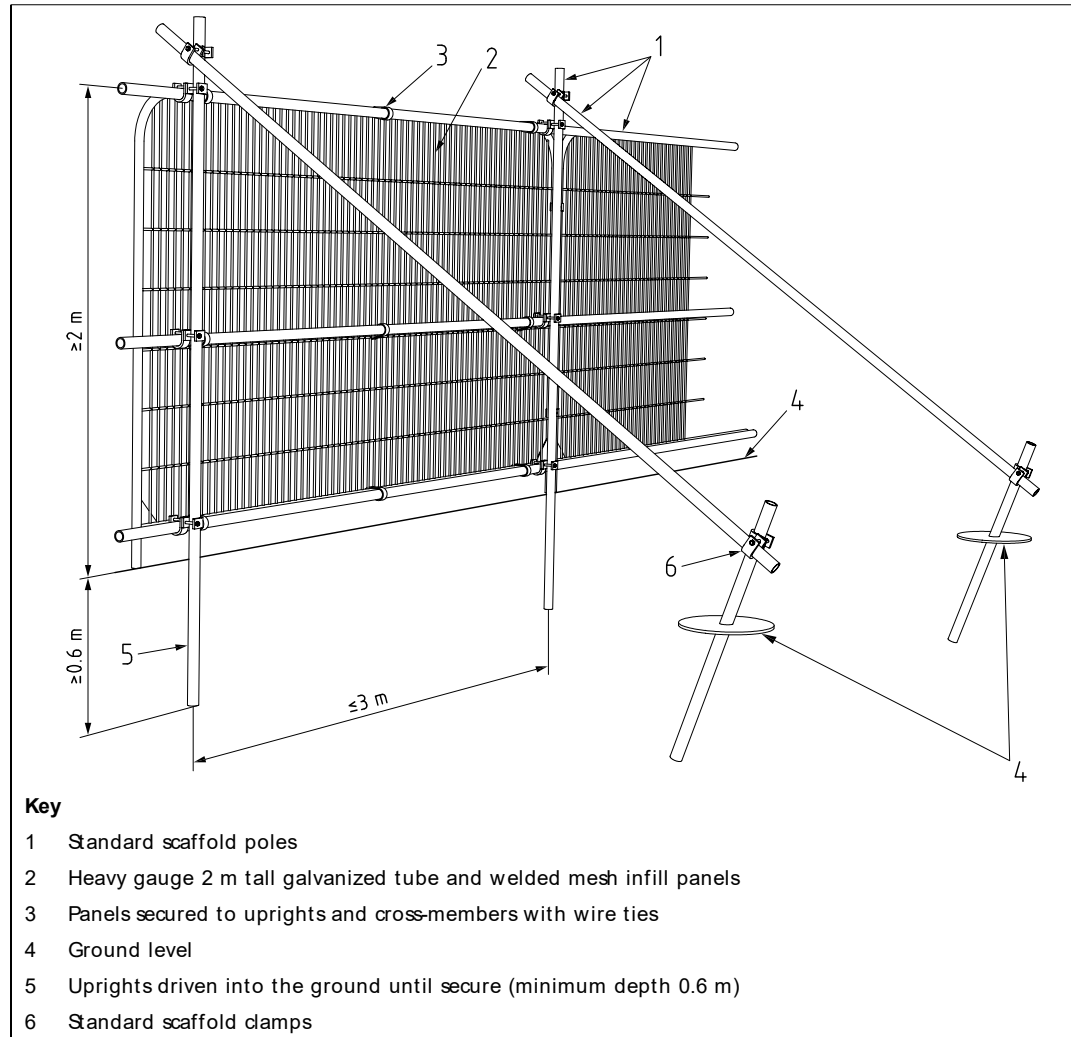


Diagram taken from BS 5837:2012 p.20