



BS 5837:2012 Tree Survey

SITE: Bunting Gardens, Waterloooville. PO8 9UW.

Site visit carried out by Stuart Campbell

Report prepared by

Stuart Campbell FdSc Arb (MArborA)



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1 Introduction

- 1.1 **Instruction:** I am instructed by Helen Bergin (Landscape Architect) Portsmouth City Council to undertake a Tree Survey based on the British Standard 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*.

2 Clients Brief

My brief is:

- a) To carry out a **survey of the trees** in accordance with BS 5837:2012 (Trees in relation to design, demolition and construction – Recommendations) My survey is to include the following:
- A pre-development table showing a survey of existing trees on the site, identifying species, sizes and category and comments on condition.
 - Referenced photographs of existing trees where possible
 - Note any works identified as being required at the time of the survey for safety/tree protection
 - Show methodology of assessment and categorization
 - Provide to scale plans for survey showing root protection zones
 - References and qualifications

2.1 Relevant Background Information

- a) I am required to *identify, plot and classify the tree quality, illustrating the root protection area for each tree.*
- b) It is necessary to identify at an early stage in the planning process those specimens that would be suitable for retention and would enhance any development, while at the same time highlighting any trees of limited value

that potentially would be an unnecessary or unreasonable constraint to development.

- c) As part of this process consideration has to be given to (1) the above ground physical size and location of existing trees and (2) the root systems. It is important to recognise that tree roots are particularly vulnerable during any adjacent construction operations. Tree roots flourish where conditions are most favourable, these tend to be near the soil surface, for this reason the majority of tree roots grow in the upper 600mm of the soil. This means that disturbance such as shallow excavations, soil compaction by heavy plant or machinery or contamination by substances such as cement, diesel or chemicals can be damaging to the root system.
- d) The British Standard 5837:2012 provides guidance and specifies measures to be adopted in order to avoid or minimise damage to trees retained on or in proximity to construction sites. One of the key recommendations is that a Root Protection Area (RPA) should be established around individual or groups of trees identified as being worthy of retention.

2.2 Information provided: I have been provided with copies of the following drawings and documentation:

- Extent of possible tree survey and protection plans for planning
- Bunting Gardens, Waterloooville – Solent Surveys dxf

2.3 Scope of this report:

- a) This report includes:
 - Tree Survey
- b) The trees were inspected using the visual tree assessment method described by Mattheck and Breloer (The Body Language of Trees, DOE booklet Research for Amenity Trees No. 4. 1994). No detailed tree examinations were undertaken as none were warranted at this time.

3 Site Visit and Data Collection

3.1 Site Visit

I carried out a site visit on the 30 June 2022. The weather at the time of my inspection was overcast and the visibility was good.

3.2 Brief Site Description

The site is located north of Waterlooville and the subject trees within a housing estate called Wecock Farm. The developmental area is predominantly grassed open space, surrounded by residential housing consisting of 2-storey blocks of flats, semi-detached and terraced houses. The trees of mixed species are of mature age and growing true to form as individual specimens.

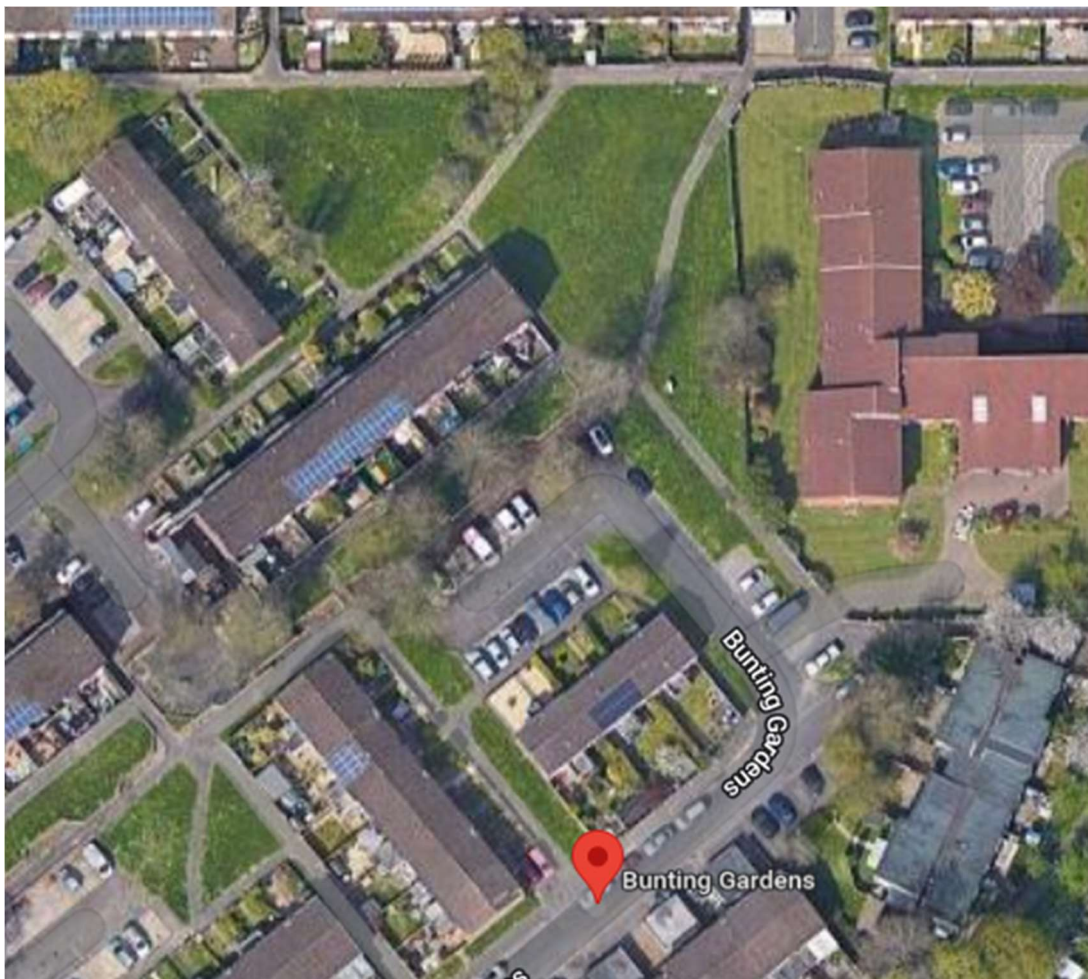


Photo1.Site map showing location of Bunting Gardens, Wecock Farm

4 Tree Survey

4.1 Tree Survey method

- a) All my observations were from ground level without detailed investigations, and I measured all dimensions where I was able to gain access unless otherwise indicated.
- b) I surveyed all trees objectively with no reference to design proposals.
- c) All trees were measured as per BS 5837:2012 recommendations. Those trees with a stem diameter of less than 75 mm at 1.5 m above ground level were excluded from the survey. I used Pear Technology software on a Panasonic ToughPad tablet to locate and capture the individual tree data. All trees are numbered sequentially using self-generated tree numbers.

4.2 Appraisal/discussion trees surveyed

- a) The information on the trees I plotted and assessed are detailed in the attached schedule together with an explanation of the BS 5837:2012 tree grading criteria. (Appendix 2)
- b) I assessed **14** individual trees. The table below shows a breakdown of the tree grading and the quality assessment of the tree stock within the site.

Bunting Gardens		
Tree Category	Description	Total
A	High quality-remaining life expectancy at least 40 years	2
B	Moderate quality-remaining life expectancy of at least 20 years	6
C	Low quality-remaining life expectancy of at least 10 years	5
U	Such condition that they cannot realistically be retained as living trees.	1

4.3 Existing Trees

4.4 Category C Trees (2,3,4,5,14)

4.5 There are 5 trees of **low quality** – *unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.*

4.6 Trees on the schedule consisting of common hawthorn (*Crataegus monogyna*) forming a small group. All the trees have dense undergrowth of brambles and ivy to their lower stems extending into their crowns. All the trees are of poor condition and out of context with their surroundings.



Photo 2. Group of hawthorn trees (2,3,4,5) of poor quality and value.

4.7 Category B Trees (1,7,8,11,12,13)

4.8 There are 6 trees of **moderate quality** – *trees that might be included in Category A but are downgraded because of impaired condition, such that they are unlikely to be suitable for retention for beyond 40 years.*



Photo 3. Mature Italian alder (11)(*Alnus cordata*).



Photo 4. Mature Italian alder (12)(*Alnus cordata*)



Photo 5. Mature Italian alder (7)(*Alnus cordata*)



Photo 6. Mature False acacia (8) (*Robinia pseudoacacia*)

4.9 The mature alder trees (1,7,11,12 & 13) as shown above in photographs 3,4 and 5, are all single standalone trees and good examples of their species type.

4.10 The mature robinia (8) *Robinia pseudoacacia* (photo no.6) located within a front garden of an adjacent property to the west of the developmental area displays good vitality and is growing true to form.

4.11 Category A Trees (9,10)

4.12 There are 2 trees of **high quality** – *trees that are particularly good examples of their species.*

4.13 Tree 9 and 10, Italian alders (*Alnus cordata*) are of high quality and both growing true to form and a good example of their species.

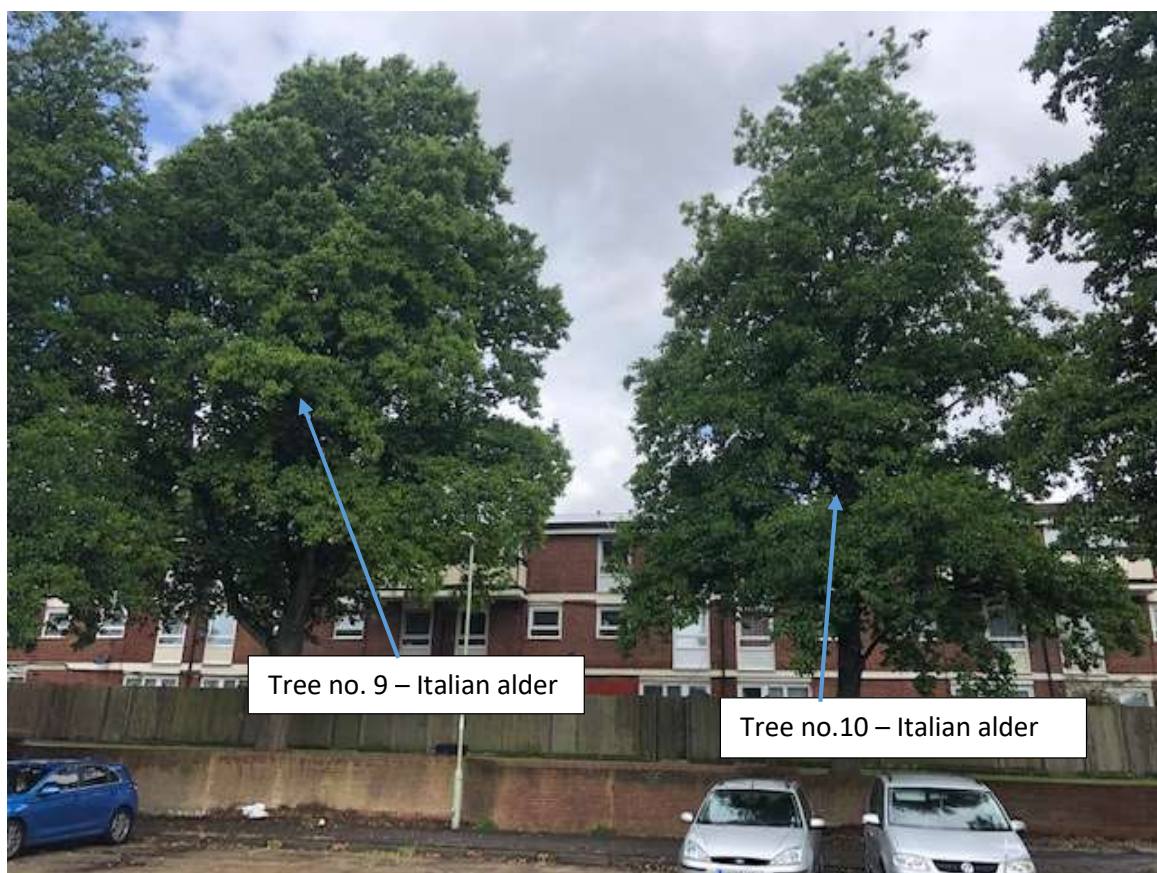


Photo 7. Trees 9 and 10 mature Italian alders (*Alnus cordata*)

4.14 Category U Trees (6)

4.15 There is 1 tree which is *in such a condition that it cannot realistically be retained as a living tree*.

4.16 I have recommended that tree no.6 Swedish whitebeam (*Sorbus intermedia*) to be felled. On investigation the tree was found to have extensive basal and lower stem decay.



Photo 8. Heavily leaning tree no.6 Swedish whitebeam (*Sorbus intermedia*)



Photo 9. Stem decay evident to tree no.6



Photo 10. Basal decay at ground level to tree no.6

5 CONCLUSIONS

- 5.1 In my opinion, I consider those categorized C trees in my report to be unremarkable trees of very limited value and an unnecessary or unreasonable constraint to development.
- 5.2 A precautionary approach towards tree protection should be adopted and any operations including access proposed within the root protection area or crown spread where this is greater should be described within an **arboricultural method statement** to demonstrate that the operations can be undertaken with minimal risk of adverse impact on retained trees.

Stuart Campbell FdSc Arb (MArborA)

04/07/2022

Appendix 1..

Tree Survey Explanatory Notes

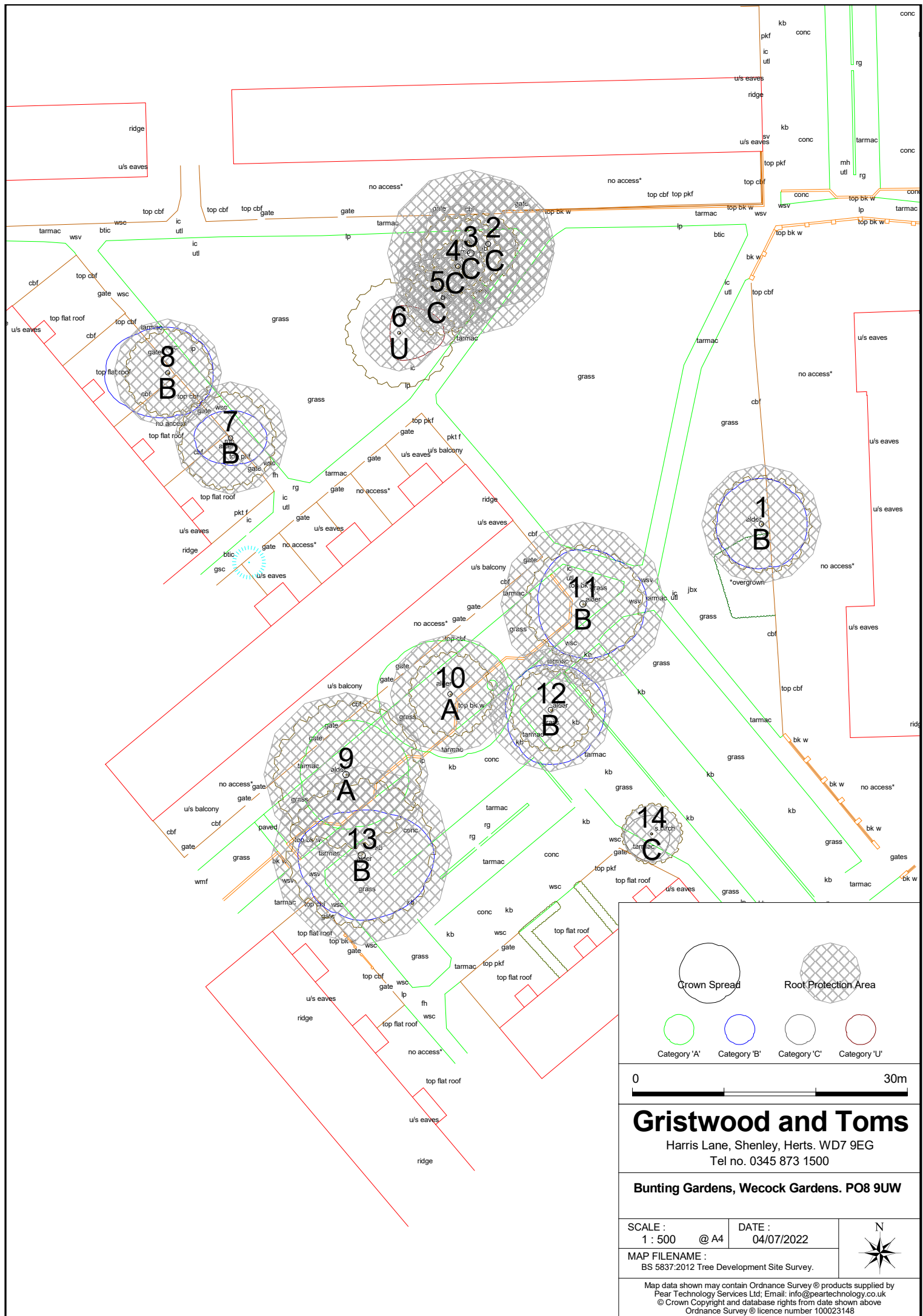
- **Measurements/estimates:** All dimensions measures unless otherwise indicated.
- **Species:** I base the species identification on visual observations and list the botanical name
- **Height:** I estimated the average crown height to the nearest metre for individual trees.
- **Spread (SPD):** I estimated to the nearest metre the average crown spread from the centre of the trunk to the tips of the live lateral branches (Cardinal Points).
- **Diameter:** These figures relate to 1.5m above ground level or as per the BS 5837 recommendations and I record them in millimetres with a diameter tape.
- **Life Expectancy:** Remaining Contribution in years.
- **Age Class:** I indicate age class as **OM** = Over mature, **M** = Mature, **EA** = Early Mature **SM** = Semi Mature **Y** = Young
- **Root Protection Area (RPA m2):** This has been capped at 707m², which is equivalent to a circle with a radius of 15 metres or a square with approximately 26 metre sides. Where the linear root protection radius has been capped
- **Physiological Condition:** An assessment of the physiological condition (i.e. health/vitality) of the tree categorised into:
 - 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
- **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
 - 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

Notes related to both physiological and structural condition follow the categorization in order to support the statement and give greater detail on the true quality and value of the tree.

- **Preliminary Management Recommendations,**
These may include further investigations for the presence or extent of decay or climbed inspections, ivy removal or pruning works when access is a non-moveable aspect etc (NB this is not intended to be a specification for tree work and further advice maybe required prior to implementation). Trees assessed as being in apparently immediately hazardous condition will be notified to the client separately as soon as practicable.

Appendix 2.

Trees unsuitable for retention				
• Category and definition		• Criteria		Identification on plan
• Category U 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		- 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 category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve;		DARK RED
• Trees to be considered for retention				
Category and definition	Criteria - Subcategories			Identification on plan
	1 Mainly arboricultural values	2 Mainly landscape values	3. Mainly cultural values, including conservation	
• Category A 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 essential components of groups, or of 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 Those of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and minor 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 classification	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting 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 Trees of low with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary/transient landscape benefits	Trees with no material or conservation or other cultural value	GREY



BS5837:2012 Tree Survey

Gristwood and Toms

Client: Portsmouth City Council
 Project: Bunting Gardens
 Survey Date: 30/06/2022
 Surveyor: Stuart Campbell

Trafalgar House
 223 Southampton Road
 Portsmouth
 Hampshire
 PO6 4PY
 Phone: 01923 851568

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC	
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment				
1												Estimated Measurements			
Italian Alder <i>Alnus cordata</i>		12	1	530	N	5	1	M	A: 127.1 R: 6.36	Fair	C: Fair S: Ivy B: Fair	Raise low canopy :: To 3.0m Remove :: Ivy Ivy clad main stem. Good vitality, healthy crown.			B.1 20 to 40 yrs
2												Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		9	2	591 (Eq)	N	2		M	A: 157.8 R: 7.08	Poor	C: Fair S: Ivy B: Poor	Remove :: Ivy Ivy clad main stem. Ivy hindering inspection of lower stem.			C.2 <10 yrs
3												Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		9	1	740	N	2	1	M	A: 247.8 R: 8.88	Poor	C: Poor S: Ivy B: Poor	Remove :: Ivy Ivy hinders inspection.			C.2 <10 yrs
4												Estimated Measurements			
Common Hawthorn <i>Crataegus monogyna</i>		8	3	549 (Eq)	N	1	1	M	A: 136.4 R: 6.58	Poor	C: Poor S: Ivy B: Poor	Remove :: Ivy Ivy hinders inspection.			C.2 <10 yrs
Age Classifications:		N	Newly planted	EM	Early Mature		Condition:		C	Crown	Stems:		Ø	Diameter	
	Y	Young	M	Mature					S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition	
	SM	Semi-mature	OM	Over Mature					B	Basal area	ERC:		Estimated Remaining Contributio		

Tree and Tag No Species	Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
		No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
5												Estimated Measurements	
Common Hawthorn <i>Crataegus monogyna</i>	8	2	430	(Eq)	N	1	1	M	A: 83.7 R: 5.16	Poor	C: Poor S: Ivy B: Poor	Remove :: Ivy Unable to access lower stem. Ivy hinders inspection.	C.2 <10 yrs
6												Estimated Measurements	
Swedish Whitebeam <i>Sorbus intermedia</i>	6	1	340		N	3		M	A: 52.3 R: 4.08	Poor	C: Fair S: Poor B: Poor	Fell :: Fell and treat stump(s) Leaning, extensive basal and lower stem decay.	U.1 n/a
7												Estimated Measurements	
Italian Alder <i>Alnus cordata</i>	16	4	500	(Eq)	N	3		M	A: 113.1 R: 6	Fair	C: Fair S: Fair B: Fair	Raise low canopy :: To 3.0m Multi-stemmed tree. Healthy crown.	B.1 10 to 20 yrs
8												Estimated Measurements	
Robinia <i>Robinia pseudoacacia</i>	15	1	480		N	5		M	A: 104.2 R: 5.75	Fair	C: Fair S: Fair B: Fair	Remove :: Minor dead wood Prune :: From buildings/structure/tree by1.5m Tree previously reduced. Minor deadwood throughout crown. Branches encroaching adjacent lamp column.	B.1 10 to 20 yrs
9												Estimated Measurements	
Italian Alder <i>Alnus cordata</i>	22	1	730		N	6	4	M	A: 241.1 R: 8.76	Good	C: Good S: Good B: Fair	Good quality and value.	A.1 20 to 40 yrs
10												Estimated Measurements	
Italian Alder <i>Alnus cordata</i>	20	1	530		N	6	3	M	A: 127.1 R: 6.36	Good	C: Good S: Good B: Fair	Good quality and value.	A.1 20 to 40 yrs
Age Classifications:	N Y SM	Newly planted Young Semi-mature	EM M OM	Early Mature Mature Over Mature				Condition:	C S B	Crown Stem Basal area		Stems: Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 definition ERC: Estimated Remaining Contributio	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations		Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment		
11											Estimated Measurements		
Italian Alder <i>Alnus cordata</i>		22	1	730	N E S W	6 7 6 5	3 2 3 4	M A: 241.1 R: 8.76	Good	C: Good S: Fair B: Fair	Raise low canopy :: To 3.0m Wounding to lower stem west side. Raised roots ground level on west side. Leaning stem.	 10 to 20 yrs	 B.1
12											Estimated Measurements		
Italian Alder <i>Alnus cordata</i>		18	1	550	N E S W	5 6 6 5	2 2	M A: 136.9 R: 6.6	Good	C: Good S: Fair B: Fair	Remove :: Epicormic growths Epicormic growth hindering lower stem inspection	 10 to 20 yrs	 B.1
13											Estimated Measurements		
Italian Alder <i>Alnus cordata</i>		22	1	800	N E S W	5 8 7 7	2 2 2 4	M A: 289.6 R: 9.6	Fair	C: Fair S: Ivy B: Fair	Ivy :: Sever/remove ivy Further inspection :: Of roots Ivy hinders inspection of lower stem. Further investigation required following removal of ivy.	 20 to 40 yrs	 B.1
14											Estimated Measurements		
Silver Birch <i>Betula pendula</i>		7	1	260	N E S W	2 2 3 3	2 1 3 2	M A: 30.6 R: 3.12	Fair	C: Fair S: Fair B: Fair	Raise low canopy :: To 3.0m Distorted main stem. Occluded wound to lower stem.	 10 to 20 yrs	 C.1

Report selection criteria.

Projects.

Bunting Gardens

Date Range.

Any Date

Work types.

----> Fell :: Fell and treat stump(s)
 ----> Further inspection :: Of roots
 ----> Ivy :: Sever/remove ivy
 ----> -No Selection made-
 ----> Prune :: From buildings/structure/tree by 1.5m
 ----> Raise low canopy :: To 3.0m
 ----> Remove :: Epicormic growths
 ----> Remove :: Ivy
 ----> Remove :: Minor dead wood

Latest Survey.

All surveys for the selected trees.
 ---> Last survey for each selected tree.

Work Completed.

---> Work Completed
 ---> Work Not Completed

Number of trees in selected Project(s) 14

Number of trees in Report selection 14

Age Classifications:

N	Newly planted	EM	Early Mature
Y	Young	M	Mature
SM	Semi-mature	OM	Over Mature

Condition:

C	Crown
S	Stem
B	Basal area

Stems: Ø Diameter
 (Eq) Equivalent stem diameter using BS5837:2012 definition
ERC: Estimated Remaining Contribution