



Arboricultural Report

PURBROOK CRICKET CLUB
PURBROOK HEATH ROAD
WATERLOOVILLE
HAMPSHIRE
PO7 5RU

SEPTEMBER 2020

16 Manor Close, Wickham, Hampshire, PO17 5BZ
07814 403146
johnstontreeconsultancy@gmail.com

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Arboricultural Report

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1.0 INTRODUCTION

- 1.1 This report was instructed by Mr. Harding on behalf of Purbrook Cricket Club. The report details all trees over 75mm at 1.5m above ground level that are relevant to the siting of the proposed development at Purbrook Cricket Club, Purbrook Heath Road, Waterlooville, Hampshire. The position of the trees on the site is illustrated at **Appendix 1** on the site plan.
- 1.2 The existing tree stock has been identified and graded in line with the current British Standard BS 5837 2012: Trees in Relation to Design, Demolition and Construction-Recommendations to enable informed decisions to be made regarding tree retention. The report also details methods of construction to be implemented to safeguard the retained trees.
- 1.3 This report details the constraints placed on the proposed development from the rooting area of the trees below ground and above ground by their size and position.
- 1.4 This report will therefore inform the planning process for the proposed development to minimise any negative impact on the existing tree stock and ensure that retained trees shall be in harmony with the proposed development enabling their long-term retention.

2.0 SITE VISIT

- 2.1 The site visit was undertaken on 7th September 2020. The trees were surveyed visually, externally and from ground level only. No samples or internal decay detection readings were taken for further analysis. All dimensions have been measured unless stated otherwise. Weather conditions at the time of the survey were sunny with no wind.

3.0 SITE DESCRIPTION

- 3.1 The site is located in a park within the Purbrook area of Waterlooville. It currently has two old storage units adjacent to a footpath and wooded area, to the north side of the site.

4.0 TREE SURVEY DATA

- 4.1 In accordance with British Standard BS 5837 2012: Trees in Relation to Design, Demolition and Construction - Recommendations, the characteristics of trees over 75mm stem diameter measured at 1.5m above ground level (or immediately above root flare if multi-stemmed) have been recorded. The following tree data tables should be read in conjunction with the annotated site plan shown at **Appendix 1** and the legend after the tables.

Tree Number and Species	Height (m)	DBH (mm)	Branch Spread (m)				Existing Height Above Ground Level of Canopy and 1 st Significant Branch (m)	Age Class	Estimated Remaining Contribution (Years) & Physiological Condition	Comments	BS Category & Tree Work Necessary for Development	RPA (m ²)	RPA (m)
			N	S	E	W							
T1 Oak <i>Quercus</i> sp.	13	500	5	5	3	8	2 3 NW	M	40+ Good	Sound base and lower stem. Stem bifurcates at 3m, included branch union, sound at the time of inspection. Squirrel damage and minor deadwood.	B2 Retain and protect	113	6
T2 Oak <i>Quercus</i> sp.	12	650	7	3	6	6	2 3.5 NW	M	40+ Good	Sound base and lower stem. Stem bifurcates at 1.8m. Included branch union has raised 'ears' along the join sound at the time of inspection. Squirrel damage and minor deadwood.	B2 Retain and protect	206	8.1
T3 Oak <i>Quercus</i> sp.	13	1000	8	6	7	6	3 3 S	M	40+ Fair	Sound base and lower stem. Stem bifurcates just above ground level. Squirrel damage. Major deadwood. Dense water sprouts on the main stem and scaffold limbs. Advisory: Undertake a crown clean.	B2 Retain and protect	452	12

Tree Number and Species	Height (m)	DBH (mm)	Branch Spread (m)				Existing Height Above Ground Level of Canopy and 1 st Significant Branch (m)	Age Class	Estimated Remaining Contribution (Years) & Physiological Condition	Comments	BS Category & Tree Work Necessary for Development	RPA (m ²)	RPA (m)
			N	S	E	W							
T4 Willow <i>Salix</i> sp.	9	350	4	3	3	4	2 1.5 N	M	10 Fair	Sound base and lower stem. Small secondary limb at 1m north. Ivy extends from ground level onto scaffold limbs. Squirrel damage. Dead limb. Advisory: Undertake a crown clean.	C2 Retain and protect	64	4.2
T5 Alder <i>Alnus</i> sp.	14	850* @ GL	4	4	4	4	2 5 W	M	10-20 Fair	Ivy and Nettles limited detailed inspection of base and lower stem and extends up main stem. Sparse foliage. Foliage present virtually all eaten by unidentified leaf minor.	C2 Retain and protect	327	10.2
T6 Willow <i>Salix</i> sp.	7	700	5	8	4	7	2 2 W	OM	10 Fair	Originally two possibly three stems from ground level, one remains. Stem leans 45° west. Root plate not visible. Stem bifurcates at 1.2m then both limbs bifurcate again. One dead limb in lower crown northeast. Area of damaged bark east side. Water sprout on main stem. Advisory: Sever and remove Ivy to allow detailed inspection of the stem and of the root plate to determine if any movement. Undertake a crown clean.	C2 Retain and protect	222	8.4

Key to Terms

- Identification numbers have been used and correspond to the site plan shown at **Appendix 1**.
- Vegetation type has been categorized as one of the following: Tree (T), Hedge (H), Shrub (S), Group (G), Stump (ST)
- Species are listed by common and botanical name where appropriate.
- Where possible, measurements have been made in accordance with the conventions detailed below. Where this was not possible, due to site conditions or the vegetation being in third party ownership, dimensions have been estimated. * Indicates estimated measurement.
- Height has been recorded to the nearest half metre.
- Stem diameter has been measured at 1.5m and recorded in millimetres, except where forking or swelling has meant that this is not possible, stem diameter has then been recorded at the narrowest point below these features. Multi-stemmed trees have had individual stems measured at 1.5m. Where this was not possible the actual height where the diameter was measured is recorded. G.L. = Ground Level.
- Crown spread has been recorded to the nearest half metre. Rounded up for dimensions up to 10m and the nearest whole metre for dimensions over 10m.
- Age class has been recorded as follows:

Y	Young recently planted or establishing tree that could be transplanted without specialist equipment, i.e. up to 12-14cms-stem girth.
S/M	Semi mature. An established tree but one that has not reached its potential ultimate height and has significant growth potential.
E/M	Early mature. A tree reaching its ultimate potential height, whose growth rate is slowing down but will increase in stem diameter and crown spread, and has a safe life expectancy.
M	Mature. A mature specimen with limited potential for any significant increase in size but with a reasonable safe life expectancy.
O/M	Over mature. A senescent or moribund specimen with a limited safe life expectancy. Possibly also containing significant structural defects with attendant safety and/or duty of care implications.
- Physiological Condition has been recorded as Good, Fair or Poor.
- Recommendations for tree management have been based on current Arboricultural Best Practice as set out by the Arboricultural profession and all relevant publications.

5.0 TREE QUALITY ASSESSMENT

- 5.1 The trees have been categorized according to BS5837: 2012 as a guide to their condition and value in terms of visual amenity.
- 5.2 The trees are coloured on the plan attached at **Appendix 1** and the colours are explained in the key of the plan.

6.0 ROOT PROTECTION AREAS

- 6.1 In accordance with BS5837: 2012, the root protection area (RPA) of the trees has been calculated and shown in the following table and on the plan attached at **Appendix 2**.

Table 2 Root Protection Area

Tree No	Recommended radial distances for RPAs (in metres from the centre of the tree to protective fencing)
T1	6
T2	8.1
T3	12
T4	4.2
T5	10.2
T6	8.4

7.0 LEGAL CONSTRAINTS

- 7.1 Havant Borough Council's mapping system shows that the site is not within a Conservation Area and that none of the trees are covered by a Tree Preservation Order.

8.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT

8.1 Description of Proposed Development

It is proposed to build an Equipment Store to house grounds maintenance machinery and to store cricket equipment and sundries

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8.2 Drawings Used

A block plan showing the existing and proposed site layout was provided at the time of survey, drawing 2 Rev A scale 1: 100 at A2. This has been used to prepare the Tree Quality Assessment Plan (**Appendix 1**), the Root Protection Area Plan (**Appendix 2**) and the Tree Protection Plan (**Appendix 3**).

*There is a more up to date plan revision C but the location of the store is in the exact position.

8.3 Direct Loss of Trees

No trees will be removed to facilitate the proposed development. Remedial work is not required to facilitate the development but removal of deadwood in several of the trees on safety grounds should be considered.

8.4 Position of Trees in Relation to Proposed Development

It is not considered that the proposal will increase future pressure to fell any trees retained on the site.

8.5 Protective Barriers and Ground Protection

Protective Barriers

Protective barriers in accordance with Figure 2 of BS 5837: 2012 (**Appendix 4**) should be erected around the trees to be retained. The fencing is to be supported with an appropriate stabilizing system (**Appendix 5**). Where possible, the positions of these fences should be based on a distance equivalent to the radius of each tree's RPA. All site personnel shall be made aware of the importance of root protection areas and shall ensure that they are properly maintained at all times. Once established the fencing will define the boundary of the Construction Exclusion Zone (CEZ).

Once erected all weather signage should be displayed stating 'Construction Exclusion Zone'.

No development works shall commence within the CEZ until written confirmation has been obtained from the Local Planning Authority. The project Arboriculturalist shall supervise all work within the RPAs.

Ground Protection

Ground protection will be installed as shown on the Tree Protection Plan at Appendix 3. It will comprise of a 150mm layer of wood chip laid onto of a geo-textile membrane. The top surface will be proprietary interlocking ground protection boards such as Trakmat.

8.6 Foundations

It is proposed to establish a concrete raft foundation. The foundations of the proposed Equipment Store will breach the RPA's of T3 Oak, T5 Alder and T6 Willow. The total area of foundation depth of 600mm around the edge of the slab within each of the trees RPA is approximately 4m. This is 5% of their total RPA's.

The proposed location of any excavations within the RPA's of the retained trees will be excavated to a depth of 600mm using hand tools only under arboricultural supervision to determine the locations of significant roots if any.

The area in total covered by the foundations is less than 10% of the total RPA's of each retained tree. A maximum 75mm excavation within the main body of the foundation will be carried out under arboricultural supervision using hand tools only.

The foundations will need to be designed to minimise disruption to the roots of the trees. Design will be informed by a Structural Engineer and the Project Arboriculturalist.

All areas to be filled with concrete will be lined with a heavy thick DPCM to prevent leeching damaging the fine root of the trees.

8.7 Changes in Ground Surface within RPAs

The footprint of the proposed Equipment Store will be partially within the RPA's of T3 Oak, T5 Alder and T6 Willow. The total area of each RPA that is affected is approximately 10% and it is considered the trees will be able to tolerate this,

There is a concrete pad already in situ underneath the southernmost container on site. Where this is to be removed within the footprint of the proposed building it is to be undertaken using hand tools only using a roll out method, working from nearest to the tree backwards. The remaining concrete should be kept in situ to minimise damage of both structural and fine roots nearer to the stems.

8.8 Changes in Ground Level within the RPA

There are no proposed significant changes of ground level within the RPA's of the retained trees. The only changes will be to facilitate the establishment of the foundations.

8.9 Services

The proposal may have new overhead electricity supply to the Equipment Store from the direction of the Bowls Club. No details were available at the time of writing this report but will be supplied for approval once available.

No underground services are to be installed within the RPA's of any retained tree. All surface water drainage is to be installed outside of the RPA's of the retained trees.

8.10 Access for Machinery and Site Storage

There is ample space for storage of machinery and materials outside of the RPA's of the retained trees.

9.0 CONCLUSIONS

- 9.1 The trees are of moderate quality providing a contribution to the visual amenity of the locale along with other trees adjacent to the site.
- 9.2 The establishment of the protective barriers and ground protection should be supervised by the Project Arboriculturalist and confirmation of adherence with the Arboricultural Method Statement and Tree Protection Plan should be made to the Local Authority Tree Officer before any development starts.
- 9.3 Exploratory excavations for the location of the proposed concrete raft foundation within the RPA of the retained trees will be supervised and undertaken using hand tools only. Findings of these will be submitted to the Tree Officer.
- 9.4 Given these conclusions the following section 'Arboricultural Method Statement' details the recommendations/methodology for the construction of the proposed works in terms of the effect on trees on the site.

Details within this AIA are considered correct at the time of writing but modifications may need to be made as more information becomes available.

Important Notes

The comments made with regard to the health and stability of the trees within this report were correct at the time of inspection. It should be recognized that trees are dynamic structures that can never be completely predictable and may become unstable or partially unstable even in average weather conditions. Changes can occur not only to environmental triggers but also in response to biological or mechanical events.

Inspection Caveats

The inspection was carried out from ground level. Binoculars were used to observe features higher in the canopies.

Foliage, extension growth and/or bud proliferation were assessed visually.

No soil or tissue samples were taken during this inspection.

No invasive diagnostic equipment was used to detect decay.

A nylon hammer was used to test for possible decay and dead or loose bark around the lower stems and bases of the trees.

Ivy has been removed during the inspection process only where reasonable and practicable. Where this has not been possible it has been noted as a recommendation to be removed to allow detailed re-inspection.

No tree is ever absolutely safe due to the unpredictable laws and forces of nature.

ARBORICULTURAL METHOD STATEMENT**1.0 CONTACT DETAILS**

Architect	Bernard Harding	B H Architecture Ltd Heath Cottage, Newlands Lane, Purbrook, Hampshire, PO7 5SQ 07747 771808 bernard@bernardharding.com
Arboricultural Consultant	Sarah Johnston	Johnston Tree Consultancy 16 Manor Close, Wickham, Hampshire, PO17 5BZ 07814 403146 johnstontreeconsultancy@gmail.com
Local Authority Case Officer	Unknown at present	Havant Borough Council Planning Department Public Service Plaza, Havant, Hampshire, PO9 2AX 023 9244 6019 planning.development@havant.gov.uk
Local Authority Tree Officer	Unknown at present	Havant Borough Council Tree Department Public Service Plaza, Havant, Hampshire, PO9 2AX 023 9244 6019 treeofficer@havant.gov.uk

2.0 INTRODUCTION

- 2.1 This Arboricultural Method Statement (AMS) has been produced in line with BS 5837 2012: Trees in relation to design, demolition and construction-Recommendations to aid the successful retention of trees at Purbrook Cricket Club, No development shall take place on the site until this document has been submitted to and approved in writing by Havant Borough Council.
- 2.2 This document sets out the methodology for all proposed works that affect trees on and adjacent to the site. Compliance with this method statement will be a requirement of all relevant contracts associated with the development proposals. Copies of this document will be available on site for inspection.
- 2.3 For details of trees to be retained and location and types of special protection methods, reference should be made to the Tree Protection Plan (TPP). A copy of which should be displayed prominently on site.

3.0 PHASING OF DEVELOPMENT

3.1 Phase 1 – Pre Development Phase

Protective Barriers and Ground Protection

Tree protection measures to be installed under the supervision of the retained Arboriculturalist for all the trees in accordance with the Tree Protection Plan **Appendix 3**.

The protective barriers erected will be in accordance with Figures 2 and 3 of BS 5837:2012 (**Appendix 4 and 5**) and will form the boundary of the construction exclusion zone (CEZ). Where feasible, the positions of the fencing will be based on a distance equivalent to the radius of each tree's RPA. Once erected all weather signage should be displayed stating 'Tree Protection Area Keep Out'.

Ground protection will be installed as shown on the Tree Protection Plan at Appendix 3. It will comprise of a 150mm layer of wood chip laid onto of a geo-textile membrane. The top surface will be proprietary interlocking ground protection boards such as Trakmat.

Removal of the Old Concrete Slab within the Footprint of the Equipment Store

This is to be undertaken using hand tools only using a roll out method, working from nearest to the tree backwards.

Exploratory Excavations within the RPA's of Retained Trees

Supervised excavations at the edges of the proposed concrete raft foundation will be undertaken. These will be to a depth of 600mm and use hand tools only. Results will be emailed to the Tree Officer.

3.2 Phase 2 – Construction Phase

Protective Barriers

Once established the protective barriers are not to be moved without written consent from Havant Borough Council.

4.0 GENERAL ARBORICULTURAL CONSIDERATIONS

- 4.1 Protective barriers must be regarded as sacrosanct, and must only be moved under direct supervision of the LPA or named Arboriculturalist to enable the undertaking of works within the RPAs of trees, as set out in this AMS, and approved in writing by the LPA. It is of paramount importance the fencing is repositioned correctly after any agreed operations.
- 4.2 No materials, chemicals, machinery or vehicles must be stored within the RPAs as defined on the TPP and identified on site by protective fencing and aboveground root protection.
- 4.3 Ground protection must not be lifted or removed without prior consultation with the LPA or named Arboriculturalist.
- 4.4 Damage caused to protective fencing or ground protection must be reported to the site supervisor and the named Arboriculturalist to ensure appropriate repair.
- 4.5 Any damage to retained trees must be reported without delay to the site supervisor, the LPA and the named Arboriculturalist so appropriate remedial work can take place without delay.
- 4.6 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 5 metres of the trunk of the retained trees or any other trees on the site.
- 4.7 No fires will be lit on site.
- 4.8 Notice boards, telephone cables or any other signage or services are not to be attached to any part of the retained trees.

5.0 SUPERVISION AND MONITORING

- 5.1 The project Arboriculturalist shall be responsible for monitoring/supervising the following works.
- Establishment of protective barriers and ground protection.
 - Removal of concrete within the RPA's of retained trees.
 - Exploratory excavations to inform foundation design.
- 5.2 The project Arboricultural Consultant will be responsible for periodical monitoring and will inspect the protective fencing to ensure the CEZ is intact and monitor any works necessary within the exclusion zone. A record of site visits will be maintained for inspection on site and copies forwarded to the agent and planning authority when requested.

Please note this AMS is not a contract. The retention and services of a project Arboriculturist for supervision and monitoring must be agreed prior to commencement of construction operations.

CREDENTIALS OF THE AUTHOR

Sarah Johnston M. Arbor. A., B.Sc. Arboriculture has worked in the Arboricultural profession for thirteen years. Her experience has been gained from undertaking practical tree work as well as working as an Arboricultural Surveyor and Tree Officer for Eastleigh and Havant Borough Councils respectively. In addition Sarah worked as a consultant for Marishal Thompson for two years from 2005 when she became self-employed. Sarah is a Professional Member of the Arboricultural Association and holds Professional Indemnity Insurance cover trading as Johnston Tree Consultancy.

