

LAND WEST OF WORTHING ROAD SOUTHWATER PHASE 5

ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT



for

Berkeley
Designed for life

Written By:	R. Anderson
Checked By:	T Grayshaw
Date:	28/06/2024
Revision:	B: 28/06/2024
Ref:	BERK21376aia-amsB

TABLE OF CONTENTS

1.	Executive Summary	3
2.	Introduction	4
3.	Arboricultural Impact Assessment	5
3.7.	Evaluation of impact of proposed tree losses	5
3.8.	Protection for retained trees	6
3.9.	Groundworks	6
3.10.	Construction Footprint & New Hard Surfacing within RPAs	7
3.11.	Shade and future pressure to prune	7
3.12.	Services	7
3.13.	Boundaries	7
4.	Arboricultural Method Statement	8
4.1.	Phasing of operations for tree protection	8
4.2.	Restrictions within tree protection areas	8
4.3.	Avoiding damage to stems and branches	9
4.4.	Tree protection fencing	9
4.5.	Tree surgery and removal	11
4.6.	Soft landscaping within RPA	12
4.7.	Installation of boundary fencing within protected areas	13

1. Executive Summary

- 1.1. This report has been revised in 2024 to reflect a revised tree survey for the wider site. The replacement survey data has informed the assessment of the proposed site layout. There is no greater arboricultural impact than previously assessed.
- 1.2. This report has been prepared for Phase 5 of the site as shown by the red line on the Tree Protection Plan reference (BERK21376-03B).
- 1.3. Broadacres relates to a high quality residential development built by Berkeley Homes. Outline planning permission was granted for up to 594 dwellings at Southwater in 2015 under application reference DC/14/0590. The proposals were considered to be EIA development and the application was supported by an Environmental Statement. Reserved matters approval has subsequently been granted for phases 1, 2, 3 and 4, totalling 514 units and community facilities. Phases 1, 2 and 3 have now been completed, with the final Phases 4 and 5 remaining.
- 1.4. In 2018 Berkeley gained reserved matters approval for 214 homes including 61 affordable homes in Phases 3.2 and 4 of the Southwater development (Ref: DC/18/1246). The Phase 3.2 and Phase 4 reserved matters application has now been implemented in part with Phase 3.2 completed and largely occupied to relate to 56 of the 213 homes (including 6 affordable homes). No work other than an internal access road to base course have been completed within Phase 4. Berkeley have submitted a separate application to amend the design of Phase 4 under a S.73 application, although the extant application remains implementable, with all relevant conditions discharged.
- 1.5. Phase 5, to which this report relates, was submitted as a full standalone planning application in December 2019 (within the context of the parameters of the outline permission) and received resolution to grant at committee in September 2020 (DC/19/2464). Due to issues related to water neutrality a decision notice has not been issued and the planning application remains undetermined.
- 1.6. This report has been prepared in support of amendments associated to application DC/19/2464 and Phase 5 of the development. The proposed changes solely relate to the unbuilt Phase 5 with the aim to deliver an alternative housing mix, amend the number of homes (an increase of 14 compared to the resolved to be approved plans) and an improved design. The proposed amendments remain in accordance with the approved outline application parameter plans.
- 1.7. The revised the development relates to the erection of 94 dwellings with associated access, parking and landscaping at Land West of Worthing Road (Phase 5),
- 1.8. This assessment is based upon the supplied layout drawing reference Southwater Phase 5 drawing number S835/SL/001 Rev D.

2. Introduction

- 2.1. ACD Environmental was instructed in June 2024 to prepare the following Arboricultural Impact Assessment and Method Statement by Berkeley Homes. Reference should be made to the appended Tree Protection Plan (BERK21376-03B).
- 2.2. This Method Statement is to be made available to all operatives on site during the construction process so that they understand the scope and importance of the measures set out for tree protection. Implementation of the protection methods and other details within this report are integral to ensuring protection for the retained trees.
- 2.3. For details of trees to be retained, and locations and types of special protection methods, reference should be made to the latest revision of Tree Protection Plan (ref: BERK21376-03B), which should be displayed prominently on site for all staff to see.
- 2.4. To ensure accuracy and avoid future costly adjustments, the Tree Protection Fence must be set out by a surveyor/engineer with all node points being marked clearly on site for the fencing contractor to work to. The AutoCAD version of the Tree Protection Plan is available on request.
- 2.5. This report is based on the recommendations given in BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.
- 2.6. No details have been supplied or sought of any statutory protection which may cover the subject trees.
- 2.7. The controlling authority is Horsham District Council who can be contacted at: Horsham District Council, Parkside Chart Way, Horsham, West Sussex, RH12 1RL
- 2.8. Any questions relating to the content of this report should be directed in the first instance to: ACD Environmental, Courtyard House, Mill Lane, Godalming, Surrey GU7 1EY, 01483 425 714/07796 832 490, quoting the site address and report reference number.
- 2.9. The following abbreviations have been used throughout this document:
 - Root Protection Area – RPA
 - Construction Exclusion Zone- CEZ
 - Tree Protection Plan – TPP
 - Tree Protection Fencing – TPF

3. Arboricultural Impact Assessment

- 3.1. The site currently comprises land to the west of Worthing Road, Southwater. This report is in support of a full planning application for the erection of 94 dwellings with associated access, parking and landscaping works.
- 3.2. This impact assessment is intended to evaluate the direct and indirect impacts on the trees on the site in relation to the proposed development. Any potential tree impacts are identified as per BS5837:2012 section 5.4, and details are given of proposed mitigation.
- 3.3. Any potentially damaging activities proposed in the vicinity of retained trees are identified, such that mitigation to significantly reduce or avoid this impact can be detailed in the Arboricultural Method Statement and Tree Protection Plan as recommended in BS5837:2012 section 5.4.2.
- 3.4. The development proposals are in accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. Adequate protection can be provided to ensure all retained trees are protected throughout the development.
- 3.5. The tree survey for the site is at Appendix 2 of the Tree Report for the site ACD reference BERK21376trB
- 3.6. This assessment is based upon the supplied layout drawing by Omega Architects project number 2772 drawing number 1005 rev 13 dated 14.11.2019.
- 3.7. **Evaluation of impact of proposed tree losses**
 - 3.7.1. Those trees which are to be removed are shown with a red dashed canopy outline on the Tree Protection Plan ACD reference BERK21376-03B.
 - 3.7.2. No individual trees are to be removed as a result of the development proposals.
 - 3.7.3. It is confirmed all development is outside of the 15m buffer for the area of Ancient Semi Natural Woodland at the south east of the site.
 - 3.7.4. To facilitate the construction of the site entrances, a 20m section of G38 and a 11m section of G39 will need to be removed. These are hedgerow groups of lower category C and as such, it is judged that they are not of a quality that should present any constraint to the development of the site.
 - 3.7.5. To facilitate the construction of the proposed footpath access to the west will necessitate the removal of a section of understorey from G27 totalling a length removed of 6.5m. This equates to less than 1% of the overall length of G27 and will not significantly detract from its landscape and screening qualities of this boundary group.

3.7.6. It is therefore deemed acceptable to remove the listed trees and, as part of the detailed landscape design for the scheme, include suitable and sustainable replacements as and where appropriate.

3.7.7. Replacement trees will be proposed through landscape design and will more than mitigate for their removal by providing robust long term tree cover in keeping with the proposal and surrounding properties.

3.8. Protection for retained trees

3.8.1. BS5837:2012 section 6.2.1. states: 'All trees that are being retained on site should be protected by barriers and/or ground protection (see 5.5) before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone. A specification for protective fencing is given on the Tree Protection Plan. This consists of interlocking weld-mesh panels (e.g. Heras) well braced by attachment to scaffold pole uprights driven firmly into the ground or similar.

3.8.2. BS5837:2012 figure 2 recommends a default specification for protective barrier. This is a weld mesh panel design, mounted upon a well braced scaffold framework. This is perfectly adequate for this site where there are to be areas of high intensity development. Given the scale of the site, where it is likely there will be much lower pressure in terms of construction activity such as in the southern area, it is suggested that 1.2m Stockproof fencing (or similar) clearly indicated as Tree Protection Fencing by signage would be entirely adequate. All tree protection fence should be erected before any works start on site whatsoever.

3.8.3. There is currently a post and rail fence running along sections of the site between the proposed and the trees on the western boundary (as indicated on the tree protection plan). This is to be retained throughout the construction process. A section will be removed to facilitate the installation of the LPA. Given the distance between this fence and the trees it will provide an adequate barrier to the trees in this instance, negating the requirement specific tree protection fencing in this area.

3.9. Groundworks

To ensure damage does not occur to trees highlighted for retention, tree protection fencing must be erected prior to any plant machinery entering site whatsoever. No special demolition procedures need be observed on this site, other than respecting the tree protection fencing.

3.10. Construction Footprint & New Hard Surfacing within RPAs

- 3.10.1. It is confirmed that there is no construction proposed within the RPAs of trees identified for retention.
- 3.10.2. The construction of the site entrance into the site encroaches slightly into the RPA of adjacent tree, T92. This encroachment is considered marginal (2% of the advised sq/m) and will not be to the detriment of the trees. Therefore, special construction measures are not required. However, the tree protection fencing has been altered to protect a greater area adjacent to the RPA than the incursion.

3.11. Shade and future pressure to prune

The site layout has been assessed in terms of shading and future pressure to prune. Given the orientation of the site, and the relationship between the proposed buildings and the retained trees, the juxtaposition is viable for long-term tree retention, and it is considered that shading by trees is unlikely to be a concern to future residents. As a result, it is considered unlikely that there would be any undue pressure to remove trees, or excessively prune from any future occupants.

3.12. Services

It is fundamental to tree protection that infrastructure design is sensitively approached, as trenching close to trees may damage roots and affect tree health and stability. Details of services have not been provided at the time of writing. The Tree Protection Plan, showing the constraints posed by retained trees will be passed to the infrastructure engineers to inform their design, ensuring that all services avoid areas of potential conflict. As per BS5837:2012 Figure 1, once further details become available as part of the detailed/technical design for the site, the TPP and AMS will be revised to incorporate these details for services for inclusion in the Tender documentation.

3.13. Boundaries

All plot boundaries will need to be designed, positioned and installed to avoid damage to retained trees. When within RPAs, this will include hand excavation of all post holes, and the lining of any post holes with a non-porous membrane to stop leachates from the concrete damaging tree roots.

4. Arboricultural Method Statement

TO BE READ IN CONJUNCTION WITH THE APPENDED TREE PROTECTION PLAN REFERENCE: BERK21376-03B

4.1. Phasing of operations for tree protection

4.1.1. Implementation of tree protection measures on the site must be carried out in the following order

- 1) Tree removals and tree surgery
- 2) Line of tree protection fence to be set out to node points by surveyor
- 3) Accurate erection of tree protection fence and ground protection
- 4) Site accessible to construction/demolition traffic
- 5) Demolition/site clearance
- 6) Construction
- 7) Removal of tree protection fencing
- 8) Remedial tree surgery (if required)

4.1.2. The above phasing must not be changed without approval from the project arboriculturist and agreement with the Council.

4.2. Restrictions within tree protection areas

4.2.1. Inside the exclusion area of the fencing, the following shall apply:

- No mechanical excavation whatsoever
- No excavation by any other means without arboricultural site supervision
- No hand digging without a written method statement having first been approved by the project arboriculturist.
- No lowering of levels for any purpose (except removal of grass sward using hand tools)
- No storage of plant or materials
- No storage or handling of any chemical including cement washings
- No vehicular access
- No fire lighting

4.2.2. In addition to the above, further precautions are necessary adjacent to trees:

- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builders sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection area of retained trees
- No fire shall be lit such that flames come within 5m of tree foliage.

4.3. Avoiding damage to stems and branches

- 4.3.1. Care shall be taken when planning site operations in proximity of retained trees to ensure that wide or tall loads, or plant with booms, jibs and counterweights, can operate without coming into contact with retained trees. Such contact can result in serious injury to them and might make their safe retention impossible.
- 4.3.2. Consequently, any transit or traverse of plant in proximity of trees shall be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is at all times maintained. In some circumstances, it may be impossible to achieve this without pruning works known as 'access facilitation pruning'.
- 4.3.3. Access facilitation pruning shall be kept to the barest minimum necessary to facilitate development and shall be carried out in strict accordance with the guidance below (Tree Surgery). Under no circumstances shall construction personnel undertake any tree pruning operations.

4.4. Tree protection fencing

- 4.4.1. The Tree Protection Plan (see the latest revision of: BERK21376-03B) shows the alignment of Tree Protection Fencing (TPF), which is to be installed prior to any of the following taking place:
- Demolition
 - Plant and material delivery
 - Soil stripping
 - Utility installation
 - Construction works
 - Landscaping
- 4.4.2. Stages for installation of TPF:
- 1) Hand clearance of any vegetation to allow clear working access.
 - 2) Setting out of fencing points
 - 3) Fencing erected
 - 4) Site accessible to demolition/construction traffic
- 4.4.3. To ensure accuracy and avoid future costly adjustments, the Tree Protection Fence must be set out by a surveyor with all node points being marked clearly on site for the fencing contractor to work to.
- 4.4.4. Once erected, all TPF will be regarded as sacrosanct, and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the local planning authority.
- 4.4.5. The typical TPF construction is suitable for areas of high intensity development, and shall comprise of interlocking weld-mesh panels, well braced to resist impacts by attachment to a scaffold framework that is set firmly into the ground. A detailed specification can be found on the TPP.

- 4.4.6. Should any alternative method of barrier construction be proposed, consultation with the project arboriculturist will be obtained to clarify the efficacy of the revised design prior to informing the local planning authority and obtaining their consent.
- 4.4.7. Once the exclusion zone has been protected by barriers and/or ground protection, construction work can commence.
- 4.4.8. All weather notices should be erected on the barriers (for example see figure below).



Figure 1: Tree Protection Sign (digital copies available for download at: www.acdenvironmental.co.uk)

4.5. Tree surgery and removal

4.5.1. Those trees which are to be removed are shown with a red dashed canopy outline on the Tree Protection Plan ACD reference BERK21376-03B.

4.5.2. The following surgery works are to be carried out:

Tree number	Species	Operation
G27	Various	Remove section as indicated on plan
G38	Various	Remove section as indicated on plan
G39	Various	Remove section as indicated on plan

4.5.3. If any further surgery works are proposed, it will be submitted to, and approved by the council before being carried out.

4.5.4. All work will be carried out in accordance with BS 3998:2010 Recommendations for Tree Work, industry best practice and in line with any works already agreed with the Council.

4.5.5. The tree surgery contractor is responsible for carrying out any relevant health and safety risk assessment, and insurance, prior to any work being carried out.

4.5.6. The statutory protection afforded by the Wildlife and Countryside Act and Countryside and Rights of Way Act will be adhered to. If further advice is required, particularly if bats are discovered during tree work, it will be obtained from Natural England or other competent persons and recommendations adhered to.

4.5.7. The stumps of any trees removed from within the Construction Exclusion Zone or the RPAs of retained trees will be either; cut flush to ground level and left in situ or ground out using a stump grinder. They will not be winched out.

4.5.8. All operations shall be carefully carried out to avoid damage to the trees being treated or neighbouring trees. No trees to be retained shall be used for anchorage or winching purposes.

4.6. Soft landscaping within RPA

- 4.6.1. All landscaping and associated ground preparation within exclusion zones will be carried out sensitively to ensure root damage is mitigated as much as is practicable. At no time is any heavy plant to be used within any protected area. Removal of existing vegetation will be carried out by hand, turf may be removed using a mechanical turf stripper or by hand.

Turfing

- 4.6.2. Stages for turfing gardens and open spaces:

No plant machinery¹ to be used in the area for whatever reason

- 1) Remove TPF to allow access to area.
- 2) Do not reduce any high spots or excavate in any way.
- 3) Existing poor quality turf may be removed with a turf stripper.
- 4) Use good quality top-soil to level any low-lying areas and hollows, and provide a fine tilth to lay turf on. This imported soil must not result in a level increase of more than 100mm in any area.
- 5) Import turves by hand in wheelbarrow
- 6) Lay turves

Planting

- 4.6.3. Should the soil be compacted or have a poor structure which may hinder the development of any new planting, soil decompaction techniques may be used upon consultation with the project arboriculturist.

- 4.6.4. Stages for planting within tree protection areas:

No plant machinery to be used in the area for whatever reason

- 1) Remove TPF to allow access to area.
- 2) Remove existing vegetation by hand, turf may be removed using a mechanical turf stripper.
- 3) Do not reduce any high spots or excavate in any way.
- 4) Import good quality top-soil by hand (with wheelbarrow) into area.
- 5) Level to a depth of no more than 100mm with hand tools
- 6) Dig individual planting pits for each plant by hand (including hedging which must not be trench planted)
- 7) Any mulch should also be imported and spread by hand.

- 4.6.5. No works will be carried out within any protected areas if the soil moisture is of a level likely to allow compaction to occur.

¹ Including rotovators

4.7. Installation of boundary fencing within protected areas

4.7.1. Stages for installing wooden fence posts:

No plant machinery to be used in the area for whatever reason

- 1) Remove TPF to allow access to area.
- 2) Dig post holes using hand tools, avoiding damage to the protective bark covering larger roots. Roots smaller than 25mm diameter may be pruned back using either secateurs or a hand saw, leaving a clean cut.
- 3) Damage or severance of roots above 25mm diameter must be avoided. If roots of this size are discovered, the hole should be relocated. If there are a large number of such roots it may be necessary to relocate the hole by half a fence panels length and adjust the fence panels accordingly.
- 4) Line hole with non porous lining, for example durable polythene bag.
- 5) Insert post and fill post hole with concrete to ground level.
- 6) Trim polythene to ground level

Andrew Bigg RFS (CertArb)

Head of Arboriculture

28 June 2024

LIMITATIONS OF USE AND COPYRIGHT

This assessment has been prepared for Berkeley Homes. All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, or stored in any retrieval system of any nature, without our written permission. Its content and format are for the exclusive use of the addressee in dealing with Land West of Worthing Road, Southwater, Phase 5. Until all invoices rendered by the Consultant to the Client have been paid in full, the copyright of any documents, forms, statements, maps, plans and other such material will remain vested in ACD Environmental and no unauthorised use of such material may be made by the Client or any person purporting to be acting on his/her behalf. It may not be sold, lent, hired out or divulged to any third party not directly involved in this site without the written consent of ACD Environmental ©.



Head Office

Rodbourne Rail Business Centre
Grange Lane
Malmesbury
SN16 0ES
Tel: 01666 825646

Surrey Office

Unit 7 Godalming Business Centre
Woolsack Way
Godalming
GU7 1XW
Tel: 01483 425714

Hampshire Office

Suite 6
Crescent House
Yonge Close
Eastleigh
SO50 9SX
Tel: 02382 026300

Email: mail@acdenv.co.uk

Website: www.acdenvironmental.co.uk

ECOLOGICAL SURVEYS * PROTECTED SPECIES LICENSING * MITIGATION * IMPACT ASSESSMENT
ARBORICULTURAL SITE MONITORING AND SUPERVISION * ARCHAEOLOGY
LANDSCAPE & VISUAL IMPACT ASSESSMENT * LANDSCAPE AUDIT * PROJECT MANAGEMENT
EXPERT WITNESS* LANDSCAPE DESIGN & PLANNING LANDSCAPE MANAGEMENT