

PHASE 2 BONHAMS FIELD YAPTON

ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT



Written by:	R. Anderson
Checked by:	M Welby
Date:	04/11/2016
Ref:	SEA20727aia-amsl
Revision:	I: 19.11.2021

Table of Contents

1.0	Executive Summary	3
2.0	Introduction	4
3.0	Arboricultural Impact Assessment	6
3.1.	Overview of proposed development	6
3.2.	Tree Preservation Orders	6
3.3.	Trees proposed for removal & surgery	6
3.4.	Site clearance and construction	7
3.5.	Highways & visibility splays	7
3.7.	Protection fencing	7
3.8.	Shade and future pressure to prune	7
3.9.	Services	8
4.0	Arboricultural Method Statement	9
4.1.	Phasing of operations & site supervision	9
4.2.	Construction exclusions zone	9
4.3.	Tree protection barriers	11
4.4.	Site storage, parking, welfare facilities, etc	15
4.5.	Tree surgery and removal	16
4.6.	Soft landscaping	17
4.7.	Installation of boundary fencing within protected areas	18
	Appendix: Tree Protection Plan	19

1.0 Executive Summary

- 1.1. ACD was initially instructed, to carry out a tree survey, and present constraints details in accordance with BS5837:2012 *Trees in relation to design, demolition and construction*. This was to identify the quality and value of existing trees on the site, allowing decisions to be made as to the retention or removal of trees during development. Subsequently, the subject layout has been produced and is in line with recommendations of the British Standard. Adequate protection can be provided to ensure all retained trees are protected throughout development.
- 1.2. **This report has been revised (rev I) to reflect a revised layout in the northern part of the site, referred to as Phase 2. It is confirmed there are no changes in terms of arboriculture as a result of the layout revisions.**
- 1.3. The site currently comprises two open grass fields measuring about 3.2 hectares. Separating the fields and along some of the site boundaries are maintained hedgerows. All trees within the survey are either growing within boundary hedgerows or are off-site trees. The proposed development comprises of multiple residential units with associated road network and infrastructure.
- 1.4. Only one tree within Phase 2 is proposed for removal, T26 Monterey Cypress, both which is a category U specimen due to its diminished vitality.
- 1.5. The relationship between the building and retained trees is sustainable and is not likely to result in any pressure to prune requests from future occupants.
- 1.6. Trees covered by TPO TPO/Y/1/10 will not be affected by development.
- 1.7. The tree protection must be erected after tree removals and surgery but before any demolition or construction contractor enter the site, and before any soil stripping takes place.
- 1.8. There will be no changes in levels, service routeing, machine activity, storage of materials or site hut positioning within areas to be protected, and the protective fencing shall remain in position for the duration of the construction process.

2.0 Introduction

- 2.1. Seaward Properties Limited originally instructed ACD Environmental in October 2016 to prepare the following impact assessment and further instructed ACD to update the survey and this report in December 2019.
- 2.2. **This report has been revised (rev I) to reflect a revised layout in the northern part of the site, referred to as Phase 2. It is confirmed there are no changes in terms of arboriculture as a result of the layout revisions.**
- 2.3. The tree information within this report is based on the data supplied in the revised tree survey report ACD reference SEA20727trA.
- 2.4. Following the recommendations of the British Standard¹, this report includes the necessary information to support a planning application. It demonstrates that the impact, both direct and indirect, of the proposed development within the site, has been assessed and where appropriate, mitigation and tree protection proposed.
- 2.5. The implementation of the protection methods recommended within this report is critical for ensuring the retained trees are successfully protected through the construction process and must be implemented prior to any work on the site.
- 2.6. This assessment is based on the supplied layout drawing, ref: 20062 P202, Rev. G 'Proposed Site Plan (Roof Level) and site survey, ref: 1651/01A.
- 2.7. The controlling authority is Arun District Council, who can be contacted at: Civic Centre, Planning Services, Maltravers Road, Littlehampton, BN17 5LF, Tel: 01243 863141.
- 2.8. This assessment considers the impact of the development on the constraints posed by the retained trees (both beneath ground: the root protection area (RPA), and above ground: the canopy).

¹ BS5837:2012 *Trees in relation to design, demolition and construction- Recommendations*, London: British Standards Institute



- 2.9. Direct impact from development comes in six main forms: 1) Surface installation within RPAs, 2) Root loss from excavation for foundations, drainage and other utilities within RPAs, 3) Soil stripping, removal and level changes within RPAs, 4) Excessive access facilitation pruning to retained trees, 5) Soil compaction from storage and vehicle movements within RPAs, 6) Soil contamination.
- 2.10. The indirect impact can come from changes to the site hydrology, future pressure to prune or fell, failure of trees exposed by removal of neighbouring trees, and other environmental changes which can take several years to manifest.
- 2.11. The RPA for each tree represents a minimum area in m² that should be left undisturbed around each retained tree. This is initially represented by a circle but is often adjusted to account for constraints to root growth within the site (primarily highways and buildings). It is, therefore, important to ensure the protection of trees both above and below ground. Recommendations are provided in the British Standard as to the protection of existing trees before, during and after development. This is achieved by ensuring the tree protection plan and arboricultural method statement is implemented before any commencement on site.

3.0 Arboricultural Impact Assessment

3.1. Overview of proposed development

3.1.1. The proposed development comprises multiple units with associated road network and infrastructure. The development has a very limited impact on the existing tree stock.

3.2. Tree Preservation Orders

3.2.1. As per the local authority mapping website in December 2019, trees along the eastern boundary are protected by a tree preservation order TPO/Y/1/10. These are shown as off-site trees T15 - T24. The southwestern section of the site falls within a conservation area. However, this section is devoid of on-site trees and has no construction works proposed.

3.3. Trees proposed for removal & surgery

3.3.1. The following trees are proposed for removal:

- Category U: T26 (Monterey cypress) very poor vitality

3.3.2. The proposed of the Monterey cypress is purely for best arboricultural practice and reasons of health and safety.

3.3.3. A 2.5m section of H2 will need to be removed to allow for the construction of a pedestrian footpath. This will overall have little impact on the hedgerow.

3.3.4. A section of H1 and H2 need light pruning back by up to 60cm to allow for working room for the construction of parking adjacent parking bays.

3.3.5. Trees within G2 that are growing over the garden of plot 9 are to be pruned back by 1.5m and will be crown lifted to provide a suitable crown clearance.



3.4. Site clearance and construction

3.4.1. To ensure damage does not occur to trees highlighted for retention, tree protection fencing must be erected before ANY plant/vehicles entering site whatsoever. This should be subject to a pre-commencement site meeting between the developer and the project arboriculturist.

3.4.2. No special demolition procedures need to be observed on this site, other than respecting the tree protection fencing.

3.4.3. The construction of all buildings is proposed outside the RPAs of all retained trees.

3.5. Highways & visibility splays

3.5.1. The highway entrance to the site is positioned that no remedial tree works or removals are required.

3.6. Hard surfacing within RPAs'

3.6.1. It is confirmed that no hard surfaces are proposed within the RPAs of retained trees.

3.7. Protection fencing

3.7.1. Figure 2 of the British Standard recommends a standard fencing design for tree protection. This is a weld mesh panel design, mounted upon a well-braced scaffold framework. This is perfectly adequate for this site and all the retained trees can be suitably protected by its erection before any works start on site whatsoever.

3.8. Shade and future pressure to prune

3.8.1. ACD have worked with the design team from the start of this project and we feel that the resulting proposed layout is both sustainable and results in juxtapositions between trees and buildings which will not bring future requests for excessive pruning and/or tree removal.

3.9. Services

3.9.1. Full details of the service and utility provisions for the site remain to be finalised at the time of writing. However, there is adequate space for utility trenches to access the site whilst avoiding RPAs and exclusion zones.

4.0 Arboricultural Method Statement

TO BE READ IN CONJUNCTION WITH THE APPENDED TREE PROTECTION PLAN REF: SEA20727-03!

4.1. Phasing of operations & site supervision

4.1.1. The tree protection and other arboricultural works must be carried out in the following order:

	Operation	Present	Notes
1	Tree removals	Tree contractor	See Tree Protection Plan for trees to be removed
2	Protection barriers erected	Fencing contractor	See Tree Protection Plan for position and type of barriers
3	Pre-start meeting	ACD, site manager, groundwork, foreman, demolition foreman	To 'sign-off' protection prior to any plant activity, demolition & groundworks on site
4	Construction works	All construction staff	
5	Removal of protection barriers and landscape work	ACD, landscape contractor, site manager	See method statement

4.1.2. Supervision is required should any unplanned access and/or work be required in the construction exclusion zone.

4.2. Construction exclusions zone

4.2.1. Barriers and/or ground protection must be used to protect all retained trees before any machinery or materials are brought onto the site, and before any demolition, development or stripping of soil commences.

4.2.2. Where all activity can be excluded from the RPA, vertical barriers must be erected to create the construction exclusion zone (CEZ). The default position of which is shown on the appended Tree Protection Plan.

4.2.3. Where, due to site constraints, construction activity cannot be fully or permanently excluded from all, or part of a tree's RPA, appropriate ground protection can be installed.

4.2.4. It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them.

4.2.5. Inside the exclusion zone, 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.

4.2.6. 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. Tree protection barriers

4.3.1. The construction exclusion zone will be protected as per the appended tree protection plan that shows the default alignment of the tree protection barriers, to be installed prior to any of the following taking place:

- Archaeology
- Demolition
- Plant and material delivery
- Soil stripping
- Utility installation
- Construction works
- Landscaping

4.3.2. Stages of installation of barriers:

- 1) Hand clearance of any vegetation to allow clear working access.
- 2) Setting out of node points
- 3) Barriers erected
- 4) Site meeting with project arboriculturist to 'sign-off' tree protection fencing
- 5) Site accessible to demolition/construction traffic

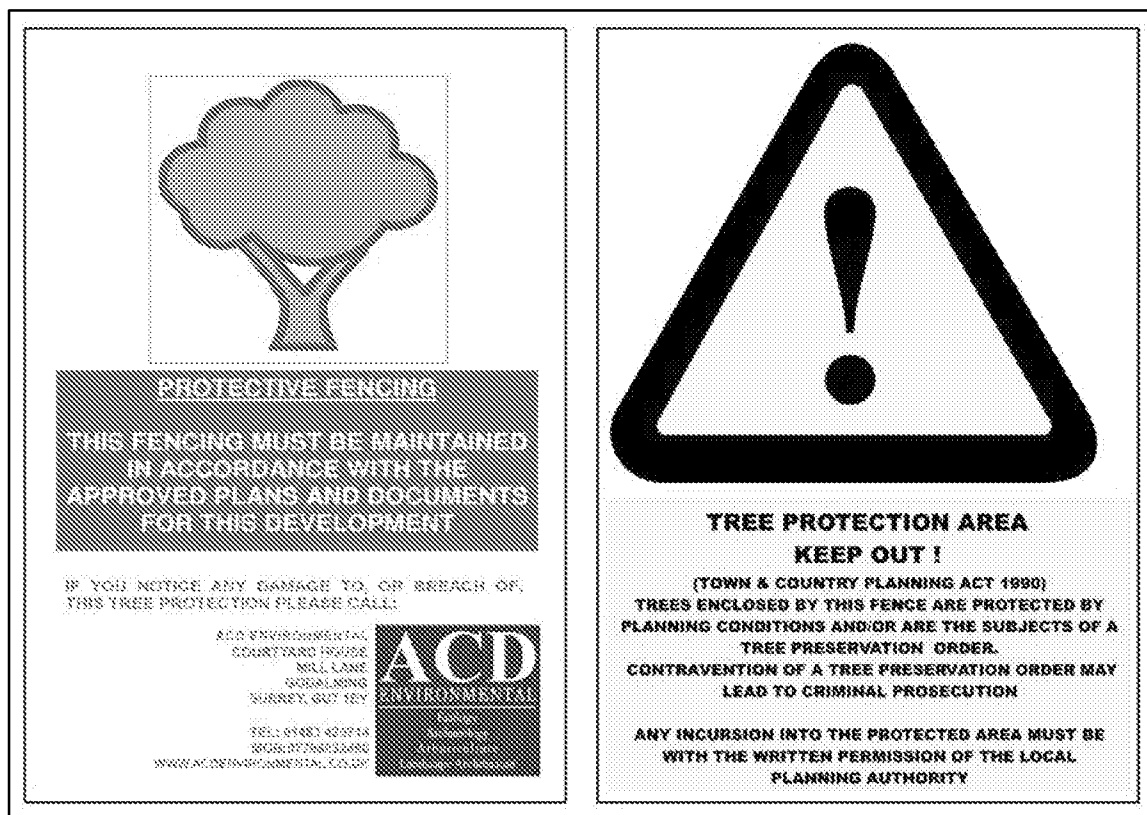
4.3.3. Once erected, all barriers will be regarded as sacrosanct, and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the local planning authority.

4.3.4. The default barrier construction is suitable for areas of high-intensity development and shall comprise of interlocking weldmesh 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.

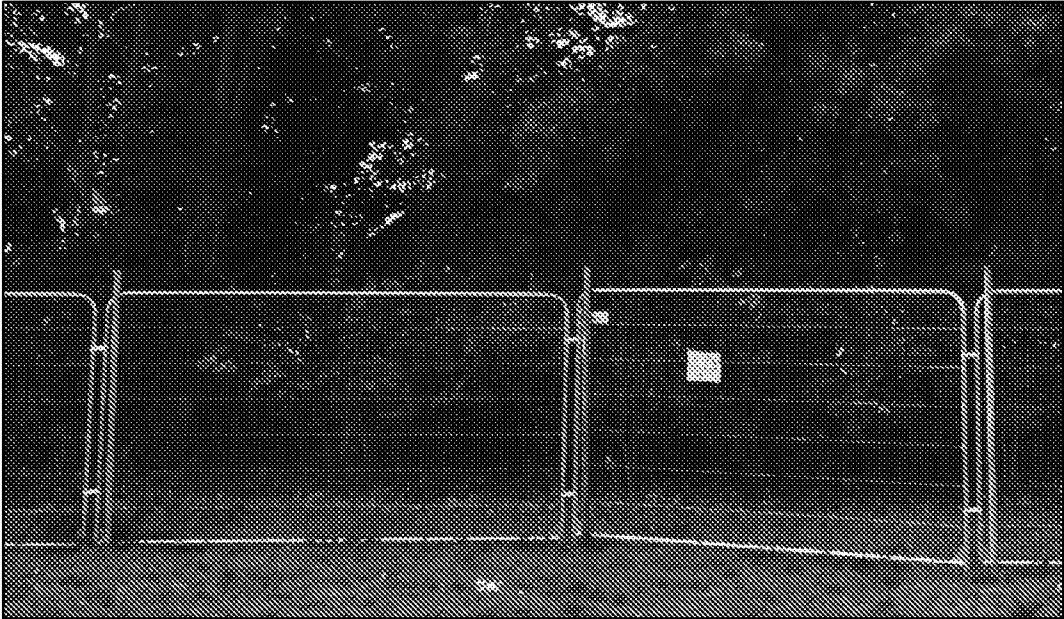
4.3.5. The images below are alternative barrier designs that have been successfully used on site and that ACD is happy to support if a variation from the default style is required. If such a variation is necessary, the approval of the project arboriculturist will be obtained prior to any implementation on site.

4.3.6. Once barriers and/or ground protection have protected the exclusion zone, construction work can commence.

4.3.7. All weather notices should be erected on the barriers (for example see figure below).



Tree protection sign (download from <http://www.acdenviromental.co.uk>)



Weld-mesh panels on scaffold uprights



Weld-mesh panels on wooden posts





Chain-link on angle iron uprights

4.4. Site storage, parking, welfare facilities, etc.

4.4.1. The site will require provision for; site storage, contractor parking, welfare facilities, temporary services/drainage, material drop off points, etc.

4.4.2. It is acceptable to place site cabins and walkways within the CEZ provided they are installed sensitively:

- Cabins must be placed on sleepers (or similar) to spread the load, avoiding point loading and associated soil compaction.
- The delivery of cabins should ensure that any unloading via 'hi-ab' crane can be carried out without impact on the crowns of retained trees.
- Walkways, if required, should be installed as per the ground protection specification.
- Any utilities for site compounds must be run above ground. For example, WC foul pipes/drainage and temporary electrical connections.

4.4.3. It is imperative that if cabins and walkways are installed, that fencing is erected to limit access to the protected areas. If amendments are made, the project arboriculturist should sign off the proposals prior to their implementation.

4.4.4. Contractor parking and storage areas should be sited outside the CEZ.



4.5. Tree surgery and removal

4.5.1. The single tree to be removed, T26 Monterey cypress, is indicated on the TPP.

4.5.2. Sections of H1, H2 and G2, and will be pruned back by up to 60cm as indicated on the TPP

4.5.3. G2 where over the garden of plot 215 will be pruned back by 1.5m and crown lifted to give a 2.5m clearance over the garden area.

4.5.4. If any further surgery work is proposed, details will be submitted to, and approved by, the council, before being carried out.

4.5.5. All work will be carried out in accordance with BS3998² industry best practice and in line with any works already agreed with the council.

4.5.6. The tree surgeon shall ideally be chosen from The Arboricultural Association's Approved Contractor list. All work shall be undertaken at the appropriate time and with the consent and approval of the site agent.

4.5.7. The statutory protection³⁴ 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.

4.5.8. 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.

4.5.9. 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.

² BS3998:2010- *Recommendations for Tree Work*. London: British Standards Institute

³ *Wildlife and Countryside Act*. (1981) London: HMSO.

⁴ *Countryside and Rights of Way Act*. (2000) London: HMSO.



4.6. Soft landscaping

4.6.1. All landscaping and associated ground preparation within exclusion zones will be carried out sensitively to ensure root damage is minimised as much as is practicable.

4.6.2. At no time is any heavy plant to be used within any protected area.

4.6.3. Removal of existing vegetation (including turf) will be carried out with hand tools only.

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

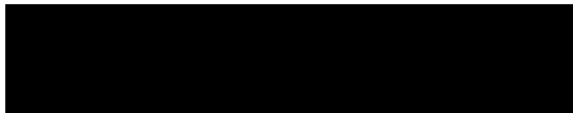
4.6.5. Tree protection barriers may be removed to allow access and then replaced as required/per approved documents (in liaison with the arboricultural clerk of works)

4.6.6. Levels (high spots) will not be reduced or excavated in any way. Use good quality topsoil 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.

4.6.7. Import materials by hand in wheelbarrow or using a digger sited outside the sensitive area.

4.6.8. Any excavation for planting pits must be dug using hand tools only.

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



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 postholes 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 polyethene bag.
- 5) Insert post and fill post-hole with concrete to just below ground level.
- 6) Trim polyethene to ground level and fill with clean topsoil.

Matthew Jones *FdSc, MArborA*
Senior Arboriculturist
19 November 2021

Robert Anderson *FdSc Nd Arb TechArborA*
Arboriculturist
04 November 2016

Revised 27.07.2021
Tom Grayshaw *BA (Hons) Tech Cert (ArborA) Dip Arb L6 (ABC) MArborA*
Director of Arboriculture

LIMITATIONS OF USE AND COPYRIGHT

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 Insert site address. Until all invoices rendered by ACD Environmental 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 ©

Appendix: Tree Protection Plan

SEA20727-03I

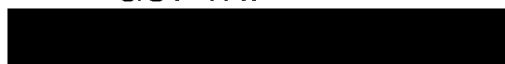


Head Office

Rodbourne Rail Business Centre
Grange Lane
Malmesbury
SN16 0ES

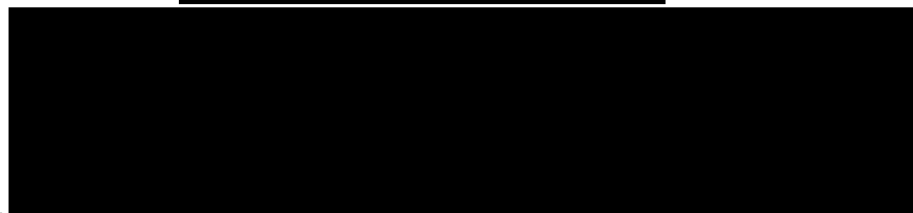


The Old Mill
Fry's Yard
Bridge Street
Godalming
GU7 1HP



Hampshire Office

Crescent House
Yonge Close
Eastleigh
SO50 9SX



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