

ADDENDUM TO

Tree survey to BS 5837 (2012): with constraints and impacts

Land fronting Naildown Close, Hythe, Kent

(with revised Protection plan)

Report: 171004 ADDENDUM v5 dated 27 October 2017.

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Preamble

This addendum brings up to date Tree report PWARB 170301 v2 dated 14 July 2017, following the revision of the design for the access. I understand that Shepway D.C. Officers had expressed concern about proximity to T20 Mulberry in the old design.

The site is not in a conservation area, but since the writing of the Tree report some trees at the site have been protected by TPO 13 (2017). The TPO (location plan at Appendix I) is unclear in relation to the trees on the northern boundary but this proves to be unimportant for the present purpose.

I visited the site again on 3 October, just before the revision, to discuss design options with Mr Kopik, and wrote a slightly more detailed *Schedule of tree works* for the TPO trees given later in this Addendum. These works are either necessary to enact the planning consent (if forthcoming in due course), or can be justified on grounds of good maintenance practice.

This addendum can stand alone. I reproduce the *Tree survey schedule* from 170301 v2 in full but otherwise avoid repetition as far as possible.

Plans and design

The design is *Site block plan*, Dwg. 1702 02 Rev. J., dated 1 March 2017, by Delamellet Associates.

I also refer to *Section A & Streetscape south*, Dwg 1702/07 Rev. G, dated 1 March 2017, and *Cross sections*, Dwg. 1702/09 Rev. C, dated 1 October 2017, both by Delamellet Associates.

The *Tree position and constraints plan* is attached as the separate document *171004 PLAN ADDENDUM Naildown Close Hythe*, while the *Protection plan* is included in the text. Both are derivatives of *Site block plan*.

Tree identities, TPO 13 (2017) and Tree reports

	TPO 13 (2017)	Tree report and Addendum
Mulberry	T1	T20
2 × Common Ash	G1	T1, T2
2 × Birch)	G2	T10, T11
Hawthorn)		T12
Hazel)	G3	T17 ??
Elder)		T18 ??
Holly)		T19 (part of G16)

G3 is shown on the TPO plan on the east side of the frontage with Naildown Close, corresponding to G16/T19 (see Appendix I). This area contains two juvenile hollies and ivy.

The only hazel and elder in the vicinity are T17 Hazel and T18 Elder, but these are on the west side of the north boundary, clearly outside the boundary of TPO G3.

This error in the TPO is largely immaterial for the present purpose since both T17 Hazel and T18 Elder are to be retained in the revised design.

Revised tree constraints and impacts

See *Tree position and constraints plan*

Conservation value is rated from high (A) to low (C), while (U) is either undersize or valueless in BS 5837 (2012).

Revised loss of trees

Tree	Reason:
T8 (B) English oak	2m from proposed dwelling, 4m from neighbour
T2 (C) Common ash	Drain line and proximity of proposed dwelling
T3 (C) Holly	Out of keeping with post-development context
T6 (C) Ornamental apple	3m from proposed dwelling
T9 (C) Holly	2m from proposed dwelling, 4m from neighbour
T13 (C) Horse chestnut	Within footprint of proposed parking area/footway
G4 (U) Hawthorn	Garden maintenance
T5 (U) Common ash	Garden maintenance
T7 (U) Bay laurel	Within footprint of proposed dwelling

Note: All tree loss is shown including that recommended for maintenance purposes.

Impacts

The impacts are revised in two main ways:

- (i) Two trees formerly lost can now be retained:

T17 (TPO) Hazel

T18 (TPO) Elder

Both contribute to screening on the northern boundary and as such have some retention value, despite being undersize or lacking in tree form.

- (ii) One tree formerly retained is now lost

T2 (TPO) Ash

The proposed drain run would encroach into T2's RPA by about 25%. If retained, and the tree survived, it would be in conflict with the progressive *passiv haus* design of the dwelling, in which the building form and orientation are maximized for solar gain. The tree is 7.5m to the south of the proposed south elevation and would cast significant shade onto the glazing and solar panels, especially in winter.

Revised encroachment into Root protection areas (RPAs)

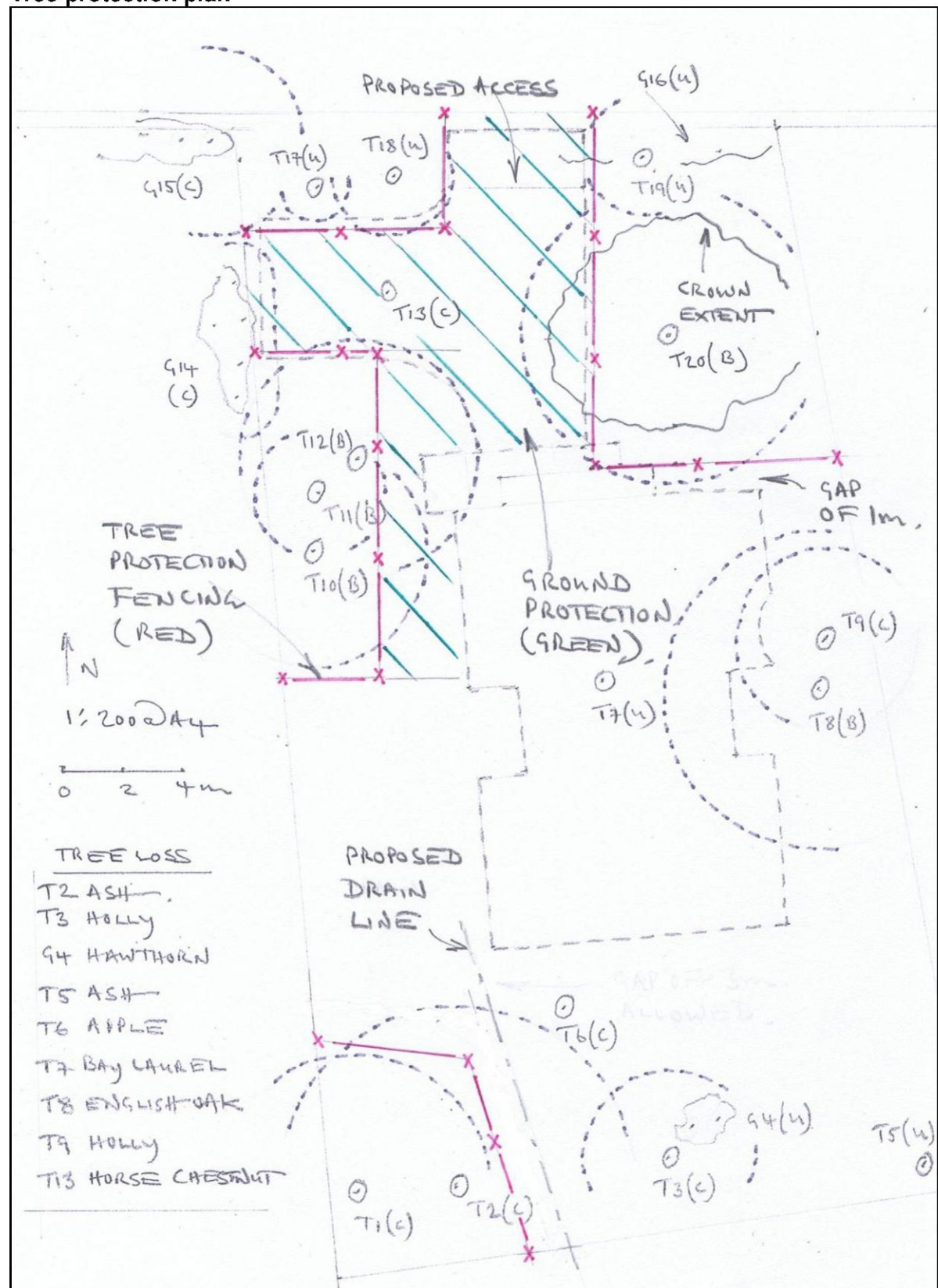
	RPA radius (m)	Area Enc. (%)	Min. dist. (m)	From...
T12 (B) Hawthorn	3.8	10	2.2	Paving & parking
T17 (U) Hazel	1.0 notional	Minimal	1.0	Parking
T18 (U) Elder	1.8	Minimal	1.6	Parking
T20 (B) Mulberry	4.8	15	2.7	Parking

Impacts

These RPA encroachments are accommodated by restricting the formation level of the proposed paving and parking areas (see next section).

Tree protection and methods

Tree protection plan



See scale bar for scale

Sequencing

- (i) Works to trees (See Schedule of works)
- (ii) Erect tree protection fencing and lay ground protection
- (iii) Main construction
- (iv) Remove fencing and ground protection
- (v) Construct parking area and footways.

Erect tree protection fencing and lay ground protection

Tree protection fencing

As shown on the *Tree protection plan*

The default specification is shown in Appendix II. Note that, if this specification (Heras fencing) is used, the panels must be clamped together and side-strutted for impact resistance.

I allow 1m clearance from the dwelling footprint and drain run, 3m clearance at the north-west and south-west corners of the proposed dwelling to allow for access to the rear. The consequence is that the fencing is well within the RPAs of T12 Hawthorn and T20 Mulberry, necessitating ground protection in addition to the fencing.

Ground protection

As shown on the *Tree protection plan*

Ground protection panels such as 'instant roadway' protect underlying roots from damage and permit traffic within RPAs. The area shown on the plan is the minimum area. It may be convenient to increase it depending on the size of the panels.

Only the turning head on the west side of the site may be levelled for the panels (by lowering the level on the north side), otherwise the ground level is to be reduced by no more than 20cm to increase evenness. It is good practice to put down a layer of wood chip, which also helps to even out the surface and spreads load. Ground protection is also required within the scaffolding for the north elevation. Ground protection should come as close as practicable to the excavation for the foundation.

Construct parking area and paving

Excavation within Root protection areas

Bearing in mind the potential for root damage I specify a maximum formation level of 20cm (including any edge restraint). If desired a geocell grid could minimize the depth of the surface, or the surface could be built up to some extent from the existing ground level (as shown on *Section A & Streetscape south* and *Cross sections*).

Excavation is to be by a combination of machine-scrape and hand digging. The machine driver is to have an assistant drawing attention to any woody roots (greater in diameter than about 5mm) *before* they are pulled up by the machine, as this is likely to cause longitudinal shattering of the root. The assistant should hand-dig round such roots and sever them with a clean cross cut using secateurs or a pruning saw, depending on their thickness. Cross-cut roots of whatever size are not to be allowed to dry out. If necessary they should be covered with damp hessian or a membrane.

Schedule of tree works

Works to comply with BS 3998 (2010)

T2 Common ash	)	
T3 Holly	)	
G4 Hawthorn	)	
T5 Common ash	)	
T6 Ornamental apple	)	<i>Fell and grind stumps or grub out</i>
T7 Bay laurel	)	
T8 English oak	)	
T9 Holly	)	
T13 Horse chestnut	)	

T1 Common ash

Pollard at height 3m

Reason: Garden maintenance.

T10 Birch

Remove two minor branches:

(i) Branch arises at height 2m (diameter at base 8cm) and extends horizontally to the east.

(ii) Small branch arises at height 2m (diameter at base 5cm) and extends sinuously to the south.

Reason: To maintain pleasing form.

T11 Birch

Remove minor branch (diameter at base 4cm) arising at height 4m, extending horizontally to the east and descending to height 1.5m.

Reason: To maintain pleasing form.

T12 Hawthorn

(i) Raise crown and reduce on east side to give crown radius 3m, headroom 6m on east side by removing descending branches up to 6cm in diameter.

Reason: Access facilitation pruning, and 4m from corner of proposed dwelling.

(ii) Raise crown to height 3m on the south side.

Reason: To maintain pleasing form.

T20 Mulberry

(i) Remove mainly descending branches in the lower crown (diameter up to 5cm at the base).

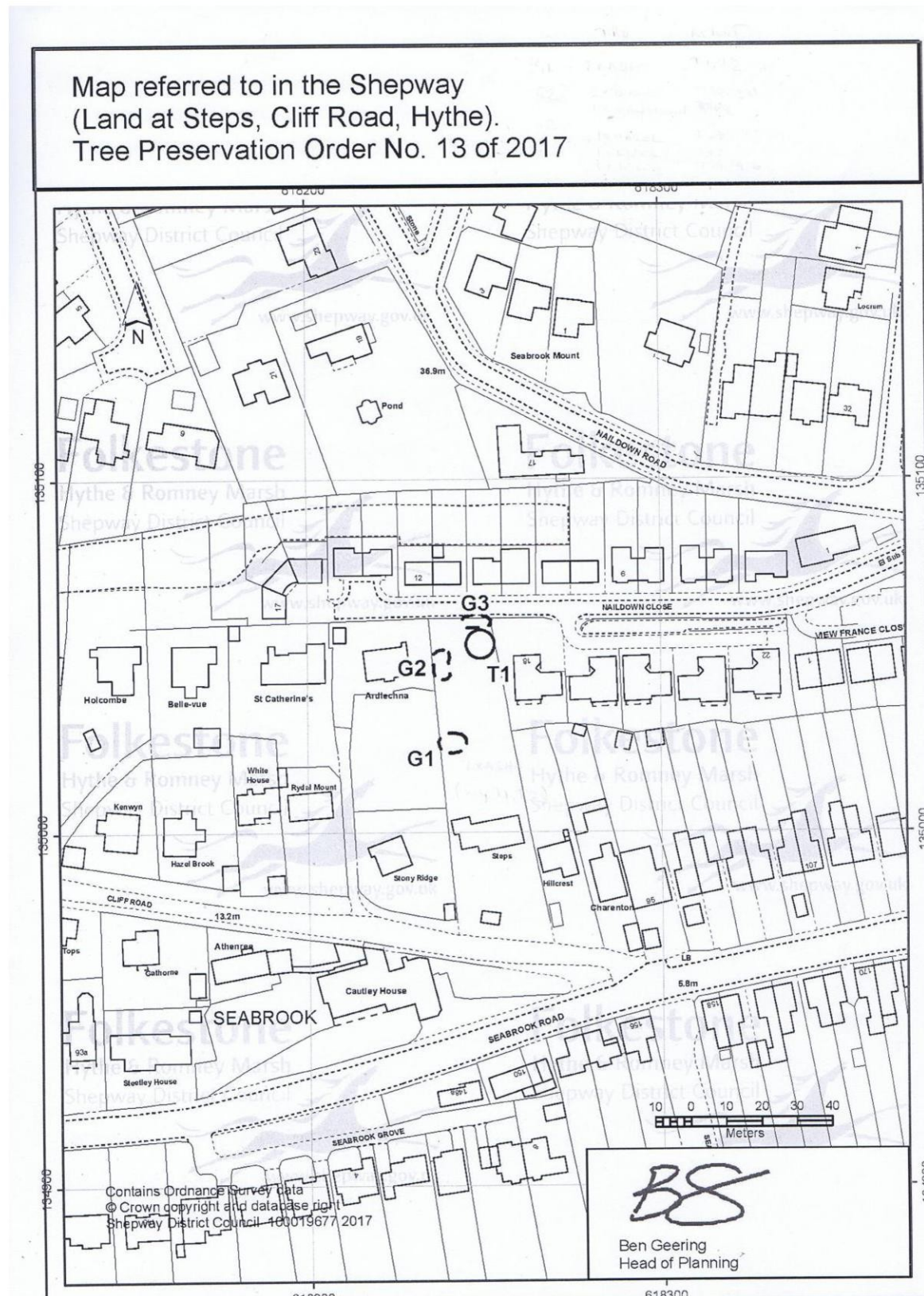
Reason: To raise crown to give 2m headroom.

(ii) Remove stub 2m long arising at height 1.5m on the west side (diameter 12cm at the base) and extending southward almost horizontally.

Remove at the union with the main framework.

Reason: To improve form.

APPENDIX I: Location plan TPO 12 (2017)

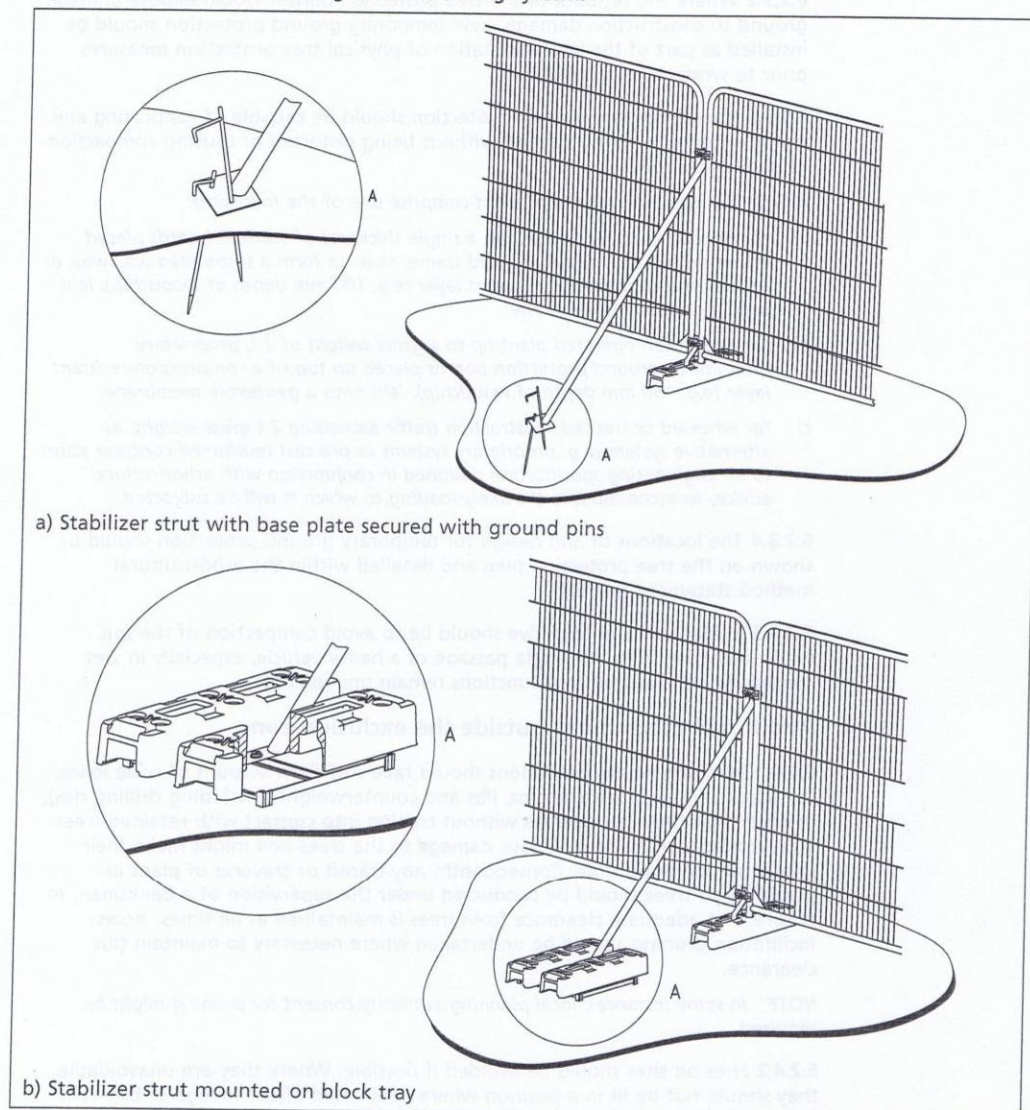


APPENDIX II: Extract from BS 5837 (2012)

BRITISH STANDARD

BS 5837:2012

Figure 3 Examples of above-ground stabilizing systems



6.2.3 Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

APPENDIX III: TREE SURVEY

(i) Scheme for retention value: Extract from BS 5837 (2012)

A: High quality and value, anticipated retention span at least 40 years.

1. Arboricultural value 2. Landscape value 3. Cultural/conservation value

B: Moderate quality and value, anticipated retention span at least 20 years.

1. Arboricultural value 2. Landscape value 3. Cultural/conservation value

C: Low quality and value, anticipated retention span at least 10 years. Not to be retained where they represent a significant constraint to the development.

U: Undersize (below 15cm diameter) or valueless (any existing value lost within 10 years).

(ii) Notes

Note 1: The scheme above is a guide. Conservation value relies on subjective assessments which are often debatable and context-dependent; see text.

Note 2: 'Crown radius' noted in the *Tree Survey Schedule* is the horizontal distance the crown extends from the trunk of the tree or, where stated, across the boundary into the site.

Note 3: A measurement prefixed by 'c' denotes that a measurement is approximate owing to a technical difficulty (eg. presence of ivy, asymmetrical stem etc.).

Note 4: A notional RPA is an estimate based on experience (in the absence of satisfactory guidance), as for a hedge or recently *coppiced* tree.

Note 5: Trunk diameter was measured 1.5m above the ground unless otherwise stated.

Note 6: Any collective or variable measurement is summarized as the maximum. For example, the maximum main-stem diameter of the multi-stem G4 is 10cm ('MS to 10').

(iii) Tree Survey Schedule – Land fronting Naildown Close (rear of ‘Steps’, Cliff Road, Hythe CT21 5XW. Surveyed February 2017.

Tree/ Group	Species	Diam (cm)	Ht. (m)	Crown radius (m)	Head- room (m)	Value	RPA radius (m)	Comments
T1	Common ash (<i>Fraxinus excelsior</i>)	43	9	1-4	3	C	c. 4.5	Mature (see <i>maturity</i>). Multistem from height 1m, repeatedly cut back with many associated wounds. Form unattractive.
T2	Common ash	c. 48	12	5	1	C	5.8	Mature. Rank ivy to height 4m, intertwined in lower framework branches, architecture likely to be complex but obscured. Multistem from height 1.5m, also formerly cut back at height 5m. Branchy.
T3	Holly (<i>Ilex aquifolium</i>)	22	10	5	1	C	2.6	Early-mature. Leaning and strongly unbalanced to the south owing to competition from G4 and the off-site Leyland cypress to the south-east.
G4	Hawthorn (<i>Crataegus monogyna</i>)	MS to 10	9	3	0-3	U	c. 30	Mature but suppressed. Intergrown with, and dominated by, ivy and at least one other climber, from ground level to full height.
T5	Common ash	21	13	4	2	U	2.5 notional	Relatively recent stem, remnant of much larger tree now felled. Stump rotten. The stem is swept to the south-east, crown unbalanced, extends over boundary. Form unattractive, <i>tree risk</i> elevated.
T6	Ornamental apple (crab apple) (<i>Malus domestica</i>)	16	6	3-5	1.5	C	1.9	Late-mature. Small tree with branch arising at ground level.
T7	Bay laurel (<i>Laurus nobilis</i>)	MS to 8	4	1	0	U	1.0 notional	Early-mature. Pruned into columnar form, foliated to ground level.
T8	English oak (<i>Quercus robur</i>)	43	12	N S E W 6 6 4 5	2	B	5.2	Mature. Vigour rather low, tree crown will not grow bigger, partly a reflection of the exposed nature of the site. Forked at height 1.5m, pollarded at height 4-6m. Tree about 4m from the west elevation of the neighbouring dwelling, cut back to close to boundary with decapitating cuts.
T9	Holly	17	11	to 4	1	C	2.9	Early-mature. Intergrown into crown of T8.

T=tree; G=group; Diam=main-stem diameter; Ht=height; MS=multistem; GL=ground level; RPA=root protection area.

(iii) Tree Survey Schedule – Land fronting Naildown Close (rear of 'Steps', Cliff Road, Hythe CT21 5XW. Surveyed February 2017.

Tree/ Group	Species	Diam (cm)	Ht. (m)	Crown radius (m)	Head- room (m)	Value	RPA radius (m)	Comments
T10	Birch (<i>Betula pendula</i>)	c. 30	10	4 into site	2	B	c. 3.6	Late-mature. Vigour low. Formerly cut back at height 6m, crown branchy, unbalanced to south. Some <i>epicormic</i> growth from base. Much value in screening neighbouring dwelling to the west.
T11	Birch	17	11	1-2*	2-4	B	2.0	Mature. Vigour low, crown narrow, large bird's nest. *One minor branch arising at height 4m extends horizontally into the site. Much value in screening neighbouring dwelling to the west.
T12	Hawthorn	32	11	5	1	B	3.8	Mature, moderate-size tree form. Slight lean to north.
T13	Horse chestnut (<i>Aesculus hippocastanum</i>)	48 GL	12	4	2	C	4.8	Mature. Multistem from height 1m, topped again height 10m. Numerous splits in the bark, probably <i>drought cracks</i> (on this site prone to summer drought).
G14	Leyland cypress (× <i>Cupressocyparis leylandii</i>)	to 10	7	1 into site	2	C	1.2	OFF-SITE. Screen, rather scruffy.
G15	Leyland cypress	c. to 25	9	1 into site	2	C	3.0	OFF-SITE. End of east-west roadside screen in neighbouring property, formerly cut back and topped.
G16	(Includes T17-T19)		to 4					NORTH BOUNDARY VEGETATION Holly, Elder, Hazel, Buddleia, Ivy. Variable but more or less continuous screen. Individual value low, rather greater value collectively in softening views from the site to the north.
T17	Hazel (<i>Corylus avellana</i>)	MS to 10	8	3	2	U	1.0 notional	Typical multistem <i>coppice</i> form.
T18	Elder (<i>Sambucus nigra</i>)	15	8	1 into site	1	U	1.8	Mature. Leans to north, crown narrow.
T19	Holly	14	7	3	0-1.5	U	1.8	Juvenile, pyramidal.
T20	Mulberry (<i>Morus nigra</i>)	19+35	12	N S E W 4 3 5 4	0.5	B	4.8	Mature. Fork near ground level, union good. Crown rounded. Very fine specimen.

T=tree; G=group; Diam=main-stem diameter; Ht=height; MS=multistem; GL=ground level; RPA=root protection area.