



ARBORICULTURAL IMPACT ASSESSMENT
&
Method Statement
for

10-16 Forest Avenue, Cowplain

-prepared on behalf of Driftstone Developments Ltd. –

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1.0 INTRODUCTION & CLIENTS BRIEF

- 1.1 My client on this project is **Driftstone Developments Limited** who own the land to the rear of 10-16 Forest Avenue, Cowplain.
- 1.2 The proposal is to clear the rear gardens (within the red development line) of sheds and paths and fences and shrubs and saplings and then erect two number 3 bed detached bungalows with associated access arrangements and garaging.
- 1.3 There are trees both on and off the site that might be impacted by these proposals.
- 1.4 I have been commissioned to consider and advise on all of the arboricultural aspects of this project and to then prepare a supporting report to satisfy planning requirements.
- 1.5 My work is to be compiled in accordance with the recommendations contained within BS5837:2012.

2.0 DOCUMENT DISCLOSURE STATEMENT

I have been provided with a copy of the Planning Layout Drawings by **Nouveau Architecture:-**

- **Site Survey – Existing Site Plan & Location Plan – N199-PL01 – Rev A – 1:200 & A3 – Sept 2015**
- **Proposed Site Layout Plan – N199-PL02 – also Rev A – 1:200 & A3 – Sept 2015**
- these hard copy plans have been provided to me for the purposes of my work and I rely totally on their accuracy in terms of tree location; applying crown spreads and setting out protective fencing.

3.0 TREE SURVEY & ROOT PROTECTION SCHEDULES & IMPACT ASSESSMENT

3.1 I visited the site on **3rd November 2015** and carried out a tree survey exercise in accordance with BS5837:2012 recommendations on just those trees which are close to the areas of proposed redevelopment (see explanatory tree survey notes [at appendix BH1](#))

Tree No.	Species	Ht m	Diam mm	Brch Sprd m	GC m	LS	Condition Comments	Preliminary Management Recommendations	Rem Con yrs	Cat
Group 1	Hornbeams (<i>Carpinus</i>) x 2 of Hawthorns (<i>Crataegus</i>) x 2 of	2.5 to 3	60	N 0.4 E 0.4 S 0.4 W 0.4	0.3	Y	Good shape and form-staked and tied	Adjust or replace ties	>40	A2
1	Pedunculate Oak <i>Quercus robur</i>	20	530	N 5 E 9 S 8 W 8	5	EM	Epicormics throughout-significant dieback-small diameter deadwood throughout	Remove deadwood and stubs	20-30	C1
2	Common Ash <i>Fraxinus excelsior</i>	14	550	N 7 E 6 S 3 W 4	5	EM	Crown lifted to 4m-previously heavily topped out-dense regrowth from old pruning wounds	No work required at this time	>40	B1
Group 2	Common Alders <i>Alnus glutinosa</i>	5	Av 70	N 2 E 2 S 2 W 2	0	Y	Crown shape dictated by group pressure-merged crowns-linear screening belt of trees	No work required at this time	<40	C2
3	Field Maple <i>Acer campestre</i>	5	210 160	N 3.5 E 3.5 S 2 W 2	1.5	SM	Bifurcated 0.5m above ground level-previously topped out-good shape and form	No work required at this time	>40	B1
4	Weeping Willow <i>Salix babylonica</i>	10	560	N 5 E 5 S 5 W 5	2	M	Ivy smothering base and trunk-previously heavily topped out-crown is a dense mass of regrowth-due to be heavily pruned this week	No work required at this time	30-40	B1 / C1
5	Leyland Cypress <i>Cupressocyparis leylandii</i> x 5 of	3	180	N 0.5 E 1.5 S 0.5 W 1.5	0	Y	Poor quality tree-topped out at 2m and flat pruned to boundary line	Fell and stump grind or grub out	<10	U

3.2 A Tree Root Protection Schedule has been prepared in accordance with BS5837:2012 recommendations (see Plans BJH 01 & 02 at [appendix BH2](#))

Tree No.	Tree Species	Cat	Diam mm	BS5837:2012 Table D1 Radial Protect. Zone m	BS5837:2012 Table D1 Root Protect. Area m ²	Is An Offset Required To Cater For Existing Rooting Pattern Restrictions
Group 1	Hornbeams (<i>Carpinus</i>) x 2 of Hawthorns (<i>Crataegus</i>) x 2 of	A2	60	0.8	2	NO – free rooting to all directions
1	Pedunculate Oak <i>Quercus robur</i>	C1	530	6.4	127	NO – free rooting to all directions
2	Common Ash <i>Fraxinus excelsior</i>	B1	550	6.6	137	NO – free rooting to all directions
Group 2	Common Alders <i>Alnus glutinosa</i> x 5 of	C2	Av 70	0.9	3	NO – free rooting to all directions
3	Field Maple <i>Acer campestre</i>	B1	210 160	3.2	32	NO – free rooting to all directions
4	Weeping Willow <i>Salix babylonica</i>	B1 / C1	560	6.7	142	NO – free rooting to all directions
5	Leyland Cypress <i>Cupressocyparis leylandii</i>	U	180	2.2	15	NO – this tree would be removed for sound arboricultural reasons regardless of any redevelopment proposals

4.0 IMPACT ASSESSMENT & TREE PROTECTION MEASURES RECOMMENDED

4.1 The finalised planning layout drawing has been provided to me and an assessment made as to the viability of retaining trees as part of this layout in order that they meet the RPA requirements of BS5837 - the data is presented here in tabular format:-

Key: **RSAM** = Remove for sound arboricultural management reasons **RTFD** = Remove to facilitate development **UF** = under footprint of proposed development

YES = Yes can be retained and fully protected

YES (1) = Yes can be retained subject to mitigation measures being applied

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Polygon Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
Group 1	Hornbeams (<i>Carpinus</i>) x 2 of Hawthorns (<i>Crataegus</i>) x 2 of	A2	60	0.8	2	1m to 2m from close boarded boundary fencing 1m to new driveway to Plot 2 4m to Plot 2 building	YES
1	Pedunculate Oak <i>Quercus robur</i>	C1	530	6.4	127	7.8m to new access drive radius 8.2m to new parking bays 15m+ to both new buildings	YES
2	Common Ash <i>Fraxinus excelsior</i>	B1	550	6.6	137	7m to new access drive radius 7m to new parking bays 9m to new building on Plot 1	YES
Group 2	Common Alders <i>Alnus glutinosa</i> x 5 of	C2	Av 70	0.9	3	UF of development	NO-RTFD
3	Field Maple <i>Acer campestre</i>	B1	210 160	3.2	32	4.2m to new close boarded boundary fence	YES
4	Weeping Willow <i>Salix babylonica</i>	B1 / C1	560	6.7	142	4m to new close boarded boundary fence 15m+ to new building on Plot 2	YES (1)
5	Leyland Cypress <i>Cupressocyparis leylandii</i>	U	180	2.2	15	Could be retained but it is a very poor quality plant	NO-RSAM

4.2 **YES**

There are **3** trees and **1** group in this category on this project all of which can be retained and fully protected in accordance with BS5837 recommendations (see **Tree Protection Plan BJH.03/04** at [appendix BH4](#) and full listing in schedule at 4.1 above) :-

Trees: **T1 Pedunculate Oak** (C); **T2 Common Ash** (B); **T3 Field Maple** (B [*provided that the close boarded boundary fencing is erected at the outset of works on this site to act as the protective fencing*]).

Groups: **Group 1 Hornbeams/Hawthorns** (A)

4.3 **YES (1)**

There is **1** tree in this category on this project where work will be taking place overlapping its RPA as listed at 4.1 above and as shown on the **Tree Protection Plan BJH 03/04** and thus there would be a requirement for mitigation measures to be applied in order to provide adequate levels of root protection and ensure its safe and healthy survival.

T3 – Weeping Willow (B/C) – see MS details at Section 6 below.

4.4 **NO – RTFD**

There is **1** group in this category on this project which will need to be removed to facilitate development proposals.

Group 2 – Common Alders (C) – very poor quality young planted trees that contribute little in terms of amenity value on this site and they will not be missed – new planting as part of the Landscape Master Plan will more than compensate for their loss.

4.5 **NO-RSAM**

There is **1** tree in this category on this project which is recommended for removal for sound arboricultural reasons regardless of any redevelopment proposals :-

T5 – Leyland Cypress (U) – has been severely topped out and heavily pruned back to form a low hedge with other trees which have died off – a very poor quality tree that could be removed if desired but does not impact on the development proposals.

5.0 PRE-DEVELOPMENT TREE WORKS

No	Species	Tree Works Recommended
Group 1	Hornbeams (<i>Carpinus</i>) x 2 of Hawthorns (<i>Crataegus</i>) x 2 of	Adjust the stakes and ties and replace stakes where necessary
1	Pedunculate Oak <i>Quercus robur</i>	Remove the deadwood and dieback from the crown of this tree
2	Common Ash <i>Fraxinus excelsior</i>	No works required at this time
Group 2	Common Alders <i>Alnus glutinosa</i> x 5 of	No works required at this time
3	Field Maple <i>Acer campestre</i>	No works required at this time
4	Weeping Willow <i>Salix babylonica</i>	No works required at this time
5	Leyland Cypress <i>Cupressocyparis leylandii</i>	Fell to ground level and grub out the stump

6.0 METHOD STATEMENT

Generic Elements:

- 6.1 Erect the protective fencing as specified and shown on the **Tree Protection Plan BJH03/04** at [appendix BH3](#). Barriers are to be 'Fit For Purpose' to exclude construction activity and must be maintained to ensure that they remain rigid and complete and in the original setting out positions. These checks will need to be incorporated into a schedule of site monitoring visits to be agreed with the clients subject to phased development operations and subsequently copies of these site visit reports will need to be copied in to the Council.
- 6.2 A copy of the Tree Protection Plan is to be pinned up in the offices/mess hut on site for all site staff to see. The area within the fenced off exclusion zone is to be regarded as **sacrosanct** and the fencing shall not be taken down or relocated at any time without the prior written approval of the monitoring arboriculturist or local authority tree officer, unless this has already been agreed as part of the planning application consent process and is detailed in writing and shown on a plan.

The following prohibitions shall apply within the area enclosed by the Tree Protection Fencing :-

- **No** mechanical digging or scraping once the initial ground cover vegetation has been cleared and the site fenced off.
 - **No** storage of plant, equipment or materials
 - **No** vehicular or plant access
 - **No** fire lighting
 - **No** handling, discharge or spillage of any chemical substance, including cement washings
 - **No** action likely to cause localised water-logging
 - **No** change in ground levels
- 6.3 All site works storage areas and compounds/welfare units and any mixing areas are to be located outside of and well clear of retained tree RPA's.
- 6.4 It will be very important for any vehicle drivers to have undergone a pre-contract induction session where the trees to be retained are to be highlighted and the need for care and attention when working nearby with wide loads; tall loads; plant with swinging booms, jibs and counterweights (including drilling rigs) or slewing hydraulic arms to avoid contact with trunks or crowns.

Site Specific Elements:**6.5 Methodology for Erecting Close Boarded Fencing [Adjacent to Tree 4 and Tree 3 as well]**

- Erect this fencing at the outset so that it can act as the Protective Fencing for the project.
- Skim the existing surface vegetation with hand tools ONLY.
- Probe the locations [with hand held spike or auger] which are to receive wooden support posts to make sure that there is no contact with a major root – if there is then the post hole location must be moved to one side to avoid it.
- Excavate individual post hole locations with hand tools ONLY and tease out and sever any roots (less than 25mm diameter) that may be encountered with sharp bypass secateurs [rather than using the blunt edge of a spade].
- Insert a thick polythene bag to line the excavated post hole to protect the surrounding soil from contamination from the concrete which will be poured in around the wooden fence post.

7.0 SITE MONITORING & SUPERVISION

- BS5837 recommends that wherever trees on or adjacent to a site have been identified on the Tree Protection Plan as requiring special protection measures, there should be an auditable system of arboricultural site monitoring. This should extend to direct arboricultural monitoring whenever demolition/construction and development activity is to take place within or adjacent to any RPA.

It is suggested that the following phased approach should be observed:-

- 7.1 Organise a Pre-commencement site meeting between the development teams arboricultural consultant and the site manager and client representative where the full extent of arboricultural supervision/monitoring can be agreed for the project and the requirements of the AIA report and **Tree Protection Plan BJH.03/04** discussed.
- 7.2 The Protective Fencing and Close Boarded boundary fencing can be inspected and verified [and any adjustments to same requested] and the suitability of the materials used can also be verified [i.e. are they ‘fit for purpose’].

- 7.3 A letter is to be issued by the Arboricultural Consultant monitoring the project addressed to the Council verifying satisfactory completion of the initial site set-up and Tree Protection measures – accompanied by details of how the requirements for any need for ongoing arboricultural site monitoring is to be met on this project – *although it is very unlikely that there will be a need for any further monitoring.*

8.0 CONCLUSIONS

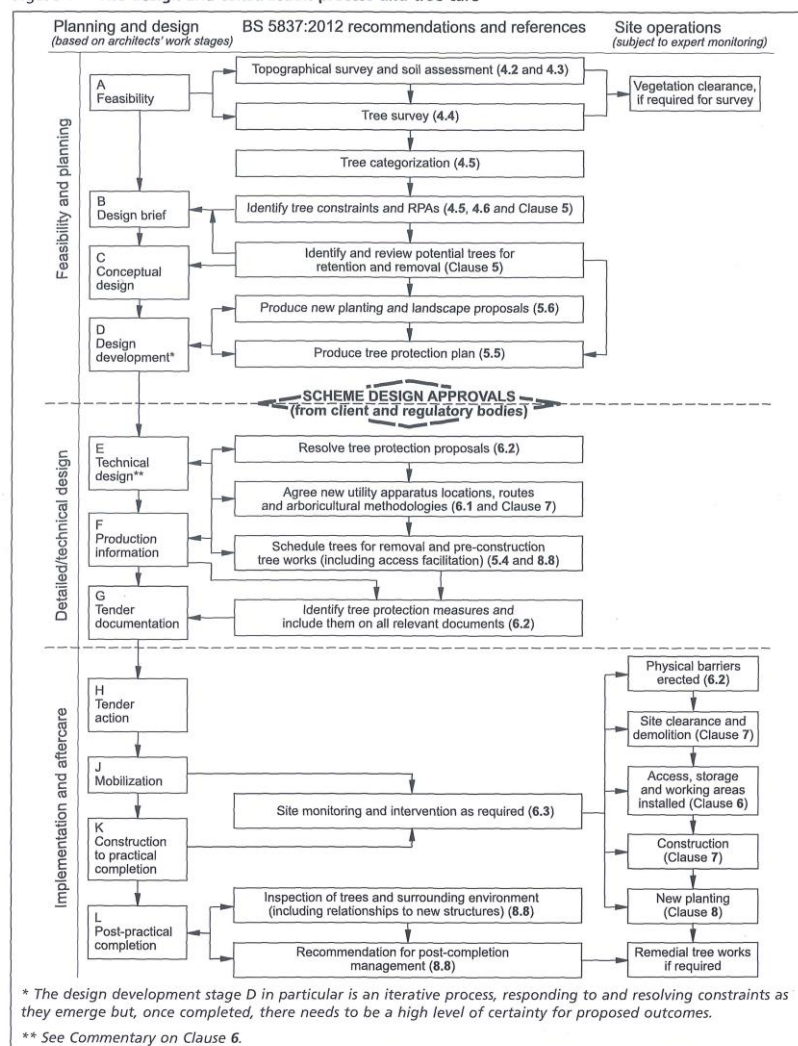
- **5x young Alders Grp 2** - will need to be removed to facilitate this development and all of the remaining trees can be adequately protected in accordance with BS5837 recommendations. However, of these **T5 Leyland Cypress** is in very poor condition and could be removed in the short term regardless of these redevelopment proposals.
- Replacement trees can be planted as part of the landscaping proposals to be submitted with the planning application and these new trees will more than mitigate the loss of the Alders and will enhance the site for the future.
- Provided that the above methodology is strictly adhered to in the phased manner advocated I would not foresee any detrimental impact taking place that might otherwise undermine the health and stability or visual amenity value of the trees which are shown for retention.



BH 1

Figure 1 - Flow Diagram
& Tree Survey Notes

Figure 1 The design and construction process and tree care



TREE SURVEY NOTES

These Tree Survey Notes have been prepared in accordance with the recommendations of **British Standard 5837:2012** and they define the criteria for pre-development tree surveys.

- Each tree/group/hedge/shelterbelt/woodland has been allocated a unique number (**No.**), where specifically requested and appropriate fees are agreed small durable numbered metal tags can be applied to each tree/group surveyed.
- The tree species (**Species**) is provided in both English and Latin name formats.
- Height assessments (**Ht**) are estimated in metres. This will be adequate for the majority of cases, but where accurate heights become a critical issue it may be necessary to return to site, as a separately commissioned exercise, to collect accurate measurements with the aid of optical instruments.
- Trunk/stem diameters (**Diam**) are measured in millimetres at 1.5m above ground level – where the tree is inaccessible the diameter is estimated as indicated by suffix #
- Radial crown spread assessments (**Brch Sprd**) are estimated in metres from the centre of the trunk/group to each of the four primary points of the compass (**N**-north; **E**-east; **S**-south and **W**-west) in order to achieve a representation of the crown shape which will be shown on the accompanying tree survey plan. These provide a general guide as to the main bulk outline of a tree/groups crown but are not tape measured dimensions. These would only be undertaken as part of a separately commissioned exercise, where precise dimensions are critical to the project at hand.
- Both the canopy ground clearance (**GC**) and the height & compass direction of the lowest major branch (**LMB**) are estimated and shown in metres
- An assessment of a tree/groups 'life stage' (**LS**) is made in terms of its site specific maturity as part of the surrounding landscape, taking into account its overall shape and form in that setting, and is recorded thus :-
Y - Young tree/group; **SM** - Semi-Mature tree/group; **EM** - Early-Mature tree/group;
M – Mature tree/group; **OM** - Over – mature tree/group
- Data on the structural condition (**Condition Comments**) of the tree/group is provided to give its visual appearance and any significant health and safety issues.
- Details of any recommended tree works required at the time of survey is given under the heading – **Preliminary Management Recommendations**.
- An estimate of a tree/groups remaining contribution in years (**RC**) is made and is recorded thus :-
0-5; 5-10; 10-20; 20-30; 30-40 or >40 years.
- The category grading (**Cat**) for each tree/group is assessed according to the criteria provided within **BS5837:2012**. The assessment is made of the tree/group in its current condition and within the environment encountered bearing in mind its suitability for retention as part of any future proposed

development; although the exact layout detail of any specific scheme will not be known at the time of surveying. The trees have been classified into one of four categories and colour coded as BS5837 recommends :- **U** (dark red); **A** (light green); **B** (mid-blue) and **C** (grey). Please note that suffixed numerical sub-categories are also applied for guidance only and do not carry any cumulative or increased value for the tree/group. This colour coding scheme will be applied to all drawings provided.

Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria			Colour on plan
Trees unsuitable for retention				
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 (i.e. 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, 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				
	Criteria – Subcategories			
	1	2	3	
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 those that are essential components of groups or 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 Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in the category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and 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 designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract 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 quality 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 collective landscape value, and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey



BH 2

Tree Survey & Root Protection Plans

BJH 01/02

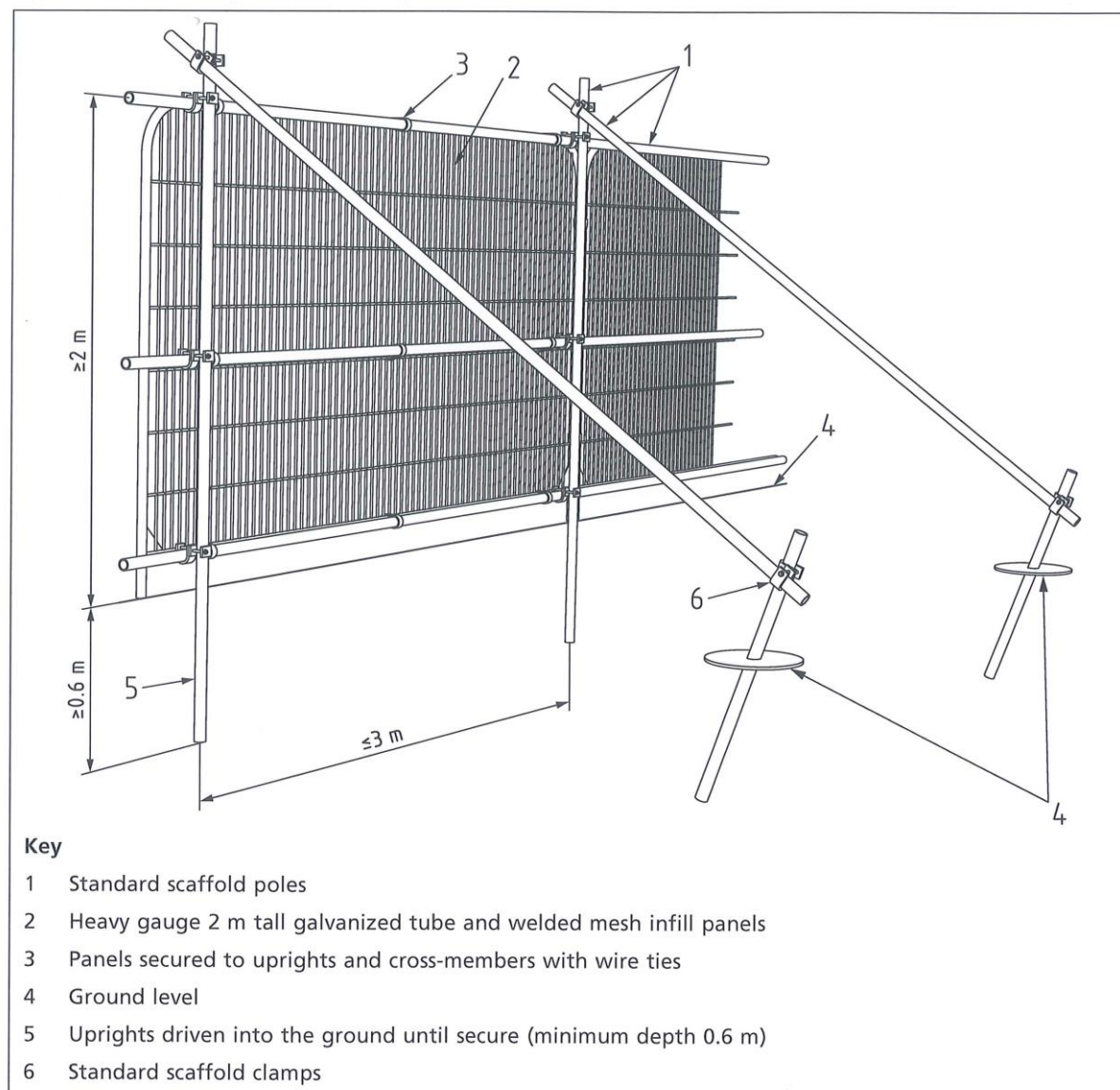


BH 3

Tree Retention & Protection Plan BJH 03/04

+ BS5837:2012 – Figure 2

Figure 2 Default specification for protective barrier





BH 4

Qualifications & Experience



QUALIFICATIONS AND EXPERIENCE

- My name is Bernie Harverson and I am a self employed independent arboricultural consultant in private practice. I take instructions primarily in the South of England but also on occasions work nationwide and abroad and have offices at : –
3 Foxcombe Cottages, South Harting, West Sussex GU31 5PL and also at Cedar Court, 5 College Street, Petersfield
- I hold the following arboricultural qualification - **Master of Arboriculture** (Royal Forestry Society – 1976)
- I have over **forty** years of practical and managerial experience in the arboricultural industry including periods in both the public and private sectors.
- My Local Government sector experience comprises one year as a tree surgeon with Brighton Parks and nine years spent in Arboricultural Officer posts with both Westminster City Council and Portsmouth City Council
- My past practical experience in the private sector includes two years at Tilhill Forest Nursery and over ten years for various companies as a Climbing Arborist/Tree Surgeon.
- Managerial work in the private sector includes two years as manager of Beechings tree surgery company and twelve years with CBA Trees as an Arboricultural Consultant.
- As an independent self employed Arboricultural Consultant I now provide a comprehensive range of services including :-
tree surveys, appraisals, assessments and inspections with particular reference to planning and development and tree safety audits with a service offered as a climber to undertake full climbing inspections to better understand the condition of a given tree before prescribing a management strategy.
- I also undertake litigation work appearing as an Expert Witness in Court Actions and at Planning Appeals, Hearings and Public Local Inquiries.

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