



ARBORICULTURAL METHOD STATEMENT

Langstone Technology Park, Havant

- prepared on behalf of Ecology Co-op -

The Granary, White Chimney Row, Westbourne PO10 8RS



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1.0 INTRODUCTION & CLIENTS BRIEF

- 1.1 My clients are Ecology Coop who act for the land owners who seek to redevelop the existing site to provide more car parking facilities.
- 1.2 There are on site trees of various species which will need to be catered for in this process as they are within influencing distance of the project,
- 1.3 I have been commissioned to prepare a report to satisfy the arboricultural aspects of this project to meet planning requirements.
- 1.4 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 following Planning Layout drawings as prepared by :-

- **Site Plan – 4046C – 0110 – Rev C – 1:500 @ A1– Aug 2019**
 - **Proposed Ground Floor Plan – 4046A – 200 – Rev B – 1:500 @ A1 - Aug 2019**
- These plans have been provided to me for the purposes of my work and I rely totally on the accuracy of this drawing 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 **31st August 2019** and carried out a tree survey exercise in accordance with BS5837:2012 recommendations on those trees which are closest 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	Comments	Preliminary Management Recommendations	Rem Con yrs	Cat
Shelterbelt 1	Leyland Cypress & Gum Trees	14 to 24	500 to 1000	N 7 E 7 S 7 W 7	0	EM	Ivy smothering base-ivy on Conifers-crown shape dictated by group pressure-merged crowns-dieback-major deadwood and stubs-low branching habit over access road -linear planted screening belt of trees - Leyland Cypress-significant dieback and dead tops in most of them and <i>Coryneum</i> Canker-poor quality trees - Gum trees-dominant and faster growing and generally healthy trees	Sever ivy-remove deadwood and dieback-crown lift to 5.5m above road	20-30	C2
1	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	5	130	N 2 E 2 S 2 W 2	2	Y	Bark wounds at base of tree-two subsidiary stems have been removed close to ground level-good shape and form	No work considered essential at time of survey	>40	A1
Group 1	Rowans <i>Sorbus aucuparia</i> x 6 of	3 to 3.5	Av 75 to 150	N 1.5 E 1.5 S 1.5 W 1.5	1.5	Y	Low crown density-Chlorotic leaves-significant dieback-all were multi stemmed trees but most have been pruned out to leave just one stem-poor quality trees	No work considered essential at time of survey	10-20	C2
2	Norway Maple <i>Acer platanoides</i>	8	480	N 6 E 6 S 6 W 6	2	EM	Roots exposed-mower damaged-epicormics in response to heavy pruning-previously heavily topped out and cleaned /thinned out and more recently topped out again at a higher level	No work considered essential at time of survey	20-30	B1
Group 2	Sawara Cypress <i>Chamaecyparis pisifera</i> x 4 of	8	Av 200 x 4	N 3 E 3 S 3 W 3	0	SM	Brambles and climbers through lower crowns-crown shape dictated by group pressure-merged crowns-low crown density-small diameter deadwood throughout-poor quality trees	No work considered essential at time of survey	<10	U
3	Norway Maple <i>Acer platanoides</i>	7	510	N 5 E 5 S 5 W 5	2	EM	Epicormics in response to heavy lopping-previously heavily topped out, cleaned out and thinned	No work considered essential at time of survey	10-20	C1
4	Norway Maple <i>Acer platanoides</i>	7	500	N 4 E 4 S 4 W 4	2	EM	Epicormics in response to heavy lopping-previously heavily topped out, cleaned out and thinned	No work considered essential at time of survey	10-20	C1
5	Norway Maple <i>Acer platanoides</i>	7	360	N 5 E 4 S 0.5 W 4	3	EM	Multi stemmed at 1m above ground level-significant lean north-epicormics in response to heavy lopping-suppressed by Alder-low crown density-small leaf size-poor quality tree	No work considered essential at time of survey	<10	U

6	Italian Alder <i>Alnus cordata</i>	14	650	N 5 E 5 S 5 W 5	1.5	M	Previously heavily topped out-no central leader as a result	No work considered essential at time of survey	30-40	B1
7	Norway Maple <i>Acer platanoides</i>	9	490	N 5 E 5 S 5 W 5	2	EM	Cavities-not significant to health and stability-multi stemmed 1.5m above ground level-leans north east-previously heavily topped out, cleaned out and thinned	No work considered essential at time of survey	30-40	B1
8	Norway Maple <i>Acer platanoides</i>	9	450	N 6 E 6 S 6 W 6	2	EM	Good shape and form	No work considered essential at time of survey	30-40	B1
9	Norway Maple <i>Acer platanoides</i>	6	440	N 3.5 E 3.5 S 3.5 W 3.5	2	EM	Low crown density-previously heavily topped out, cleaned out and thinned-poor quality tree	No work considered essential at time of survey	10-20	C1
10	Norway Maple <i>Acer platanoides</i>	7	280	N 4 E 4 S 4 W 4	2	SM	Good shape and form	No work considered essential at time of survey	30-40	B1
11	Bastard Service Tree <i>Sorbus thuringiaca</i> 'Fastigiata'	4	300 x 2	N 3 E 3 S 3 W 3	1.5	EM	Multi stemmed 1m above ground level-tight forks with included bark-previously reduced and reshaped-fair shape and form	No work considered essential at time of survey	30-40	B1
12	Bastard Service Tree <i>Sorbus thuringiaca</i> 'Fastigiata'	3.5	160 x 8	N 2 E 2 S 2 W 2	1.5	EM	Multi stemmed 1m above ground level-tight forks with included bark-epicormics in response to heavy lopping-previously heavily topped out	No work considered essential at time of survey	10-20	C1
13	Crimean Lime <i>Tilia x euchlora</i>	6	320	N 4 E 4 S 4 W 4	1.5	SM	Low branching habit over cars-good shape and form	Crown lift to clear cars	>40	A1
14	Crimean Lime <i>Tilia x euchlora</i>	7	330	N 4 E 4 S 4 W 4	1.5	SM	Low branching habit over cars-good shape and form	Crown lift to clear cars	>40	A1
15	Crimean Lime <i>Tilia x euchlora</i>	4.5	270	N 3 E 3 S 3 W 3	2	SM	Low crown density	No work considered essential at time of survey	30-40	B1

16	Crimean Lime <i>Tilia x euchlora</i>	6	370	N 5 E 5 S 4 W 4	2	SM	Suckers-good shape and form	No work considered essential at time of survey	>40	A1
17	Norway Maple <i>Acer platanoides</i>	7.5	440	N 7 E 6 S 4 W 5	2.5	EM	Small diameter deadwood-previously cleaned out and thinned	No work considered essential at time of survey	20-30	B1
18	Crimean Lime <i>Tilia x euchlora</i>	5	250	N 3 E 3 S 3 W 3	1.5	SM	Suckers-low branching habit-good shape and form	Remove suckers	>40	A1
19	Rowan <i>Sorbus aucuparia</i>	3	100	N 1.5 E 1 S 1 W 1	2	Y	Epicormics-bark wounds on east side-dieback on east side-low vigour and vitality-poor quality tree-short life expectancy	Remove epicormics	<10	U
20	Rowan <i>Sorbus aucuparia</i>	3	60	N - E - S - W -	-	Y	Dead tree	Fell and grub out	<10	U
21	Rowan <i>Sorbus aucuparia</i>	3	65	N 1.5 E 1.5 S 1 W 1	2	Y	Bark wounds-low crown density	No work considered essential at time of survey	10-20	C1
22	Rowan <i>Sorbus aucuparia</i>	3.5	150	N 2 E 2.5 S 1.5 W 1.5	2	Y	Leans north-low crown density-low vigour and vitality-significant dieback-dead top	Fell and grub out	<10	U
23	Rowan <i>Sorbus aucuparia</i>	3	100	N 2 E 2 S 1 W 1	2	Y	Epicormics-leans east	No work considered essential at time of survey	20-30	B1
24	Rowan <i>Sorbus aucuparia</i>	3	100	N 1.5 E 1.5 S 1 W 1	2	Y	Low crown density-low vigour and vitality-significant dieback- dead top	Fell and stump grind	<10	U
25	Raywood Ash <i>Fraxinus oxycarpa</i> 'Raywood'	9	390	N 5 E 3 S 5 W 5	2	EM	Small and large diameter deadwood-recently storm damaged leaving broken branches and hangers-low branching habit	Remove storm damage and deadwood-remove lodged branch and advise reduce and reshape by 2-3m	10-20	C1

26	Raywood Ash <i>Fraxinus oxycarpa</i> 'Raywood'	12	350	N 3 E 4 S 6 W 6	2	EM	Bark wounds-weak forks-previously storm damaged-low branching habit	Remove deadwood and stubs-advise reduce and reshape by 3m	10-20	C1
27	Hawthorn <i>Crataegus monogyna</i>	3	250 200 100	N 4 E 3 S 2 W 3	2	EM	Multi stemmed at ground level-suckers-epicormics-small diameter deadwood-crown lifted by 2m leaving stubs	No work considered essential at time of survey	20-30	B1
28	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	4	150	N 1.5 E 1.5 S 1.5 W 1.5	2	Y	Epicormics –leans east-crown weighted east	Remove epicormics	30-40	B1
29	Purple Plum <i>Prunus cerasifera</i> 'Nigra'	3	200	N 2 E 4 S 2 W 1.5	2	SM	Crown weighted east-low crown density-low vigour and vitality-small diameter deadwood throughout-poor quality tree	No work considered essential at time of survey	<10	U
30	Hawthorn <i>Crataegus monogyna</i>	2.5	170	N 1.5 E 1.5 S 1.5 W 1.5	1.5	Y	Epicormics-basal decay-low crown density-previously reduced and reshaped- poor quality tree	Remove epicormics	10-20	C1
31	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	3	120	N 2 E 2 S 1 W 1	2	Y	Fair shape and form	No work considered essential at time of survey	30-40	B1
32	Cockspur Thorn <i>Crataegus prunifolia</i>	2.5	170	N 3.5 E 3.5 S 2 W 2	1.5	SM	Crown lifted by 1.5m-good shape and form	Crown lift to clear cars	>40	A1
33	Box Elder <i>Acer negundo</i>	6	300	N 4 E 5 S 2 W 2	2	M	Epicormics-bark wounds-significant dieback-small diameter deadwood throughout-previous heavy lopping has provided access for a fungal pathogen which has caused 70% defoliation and decline-poor quality tree-short life expectancy	Remove deadwood and stubs	<10	U
34	Silver Maple <i>Acer saccharinum</i>	16	750	N 10 E 10 S 10 W 10	2	M	Roots exposed and mower damaged-multi stemmed 2m above ground level and sound forks-epicormics-small and large diameter deadwood throughout-good shape and form	No work considered essential at time of survey	>40	A1
35	Crimean Lime <i>Tilia x euchlora</i>	5	250	N 2.5 E 2.5 S 2.5 W 2.5	2	SM	Epicormics-previously very heavily topped out to a trunk that has now leafed up-poor quality tree	No work considered essential at time of survey	10-20	C1

36	Common Ash <i>Fraxinus excelsior</i>	18	460	N 7 E 3 S 7 W 5	3	EM	Crown shape dictated by group pressure-merged crowns-low crown density-small diameter deadwood throughout-major deadwood and stubs-crown lifted to 3m old pruning wounds occluding	Remove deadwood and stubs because of car park	30-40	B1
37	Common Ash <i>Fraxinus excelsior</i>	16	480	N 9 E 8 S 8 W 4	3	EM	Roots exposed-mower damaged-crown shape dictated by group pressure-merged crowns-small diameter deadwood throughout-major deadwood and stubs-crown lifted to 3m-old pruning wounds occluding-engulfing lamp column	Remove deadwood and stubs because of car park and clear around lamp column	30-40	B1
38	Whitebeam <i>Sorbus aria</i>	3	75	N 4 E 2 S 0.5 W 0.5	1.5	Y	Significant lean north east-suppressed and dominated by Cherry-crown weighted north east-poor quality tree	Advise fell and stump grind	<10	U
39	Wild Cherry <i>Prunus avium</i>	14	720	N 10 E 8 S 8 W 8	2.5	OM	Roots exposed and mower damaged-decay at ground level-large <i>Ganoderma</i> bracket attached to east side at ground level and <i>Laetiporus</i> bracket attached to lowest major northern stem growing out above footpath-low crown density-major deadwood and stubs-short life expectancy in view of age and fungal attack	Advise fell and stump grind for safety reasons	<10	U
40	Common Ash <i>Fraxinus excelsior</i>	6	260	N 5 E 5 S 5 W 2	2	Y	Epicormics-bark wounds on lower limbs and trunk-low crown density-low vigour and vitality-poor quality tree in a state of terminal decline	Fell and stump grind for safety reasons	<10	U
41	Norway Maple <i>Acer platanoides</i>	15	650	N 7 E 8 S 10 W 6	2	M	Roots exposed and mower damaged-multi stemmed 2m above ground level-crown shape dictated by group pressure-merged crowns-small diameter deadwood throughout-major deadwood and stubs	Remove deadwood and stubs for safety reasons	30-40	A1
42	Norway Maple <i>Acer platanoides</i>	15	600	N 8 E 7 S 8 W 7	2	M	Roots exposed and mower damaged-multi stemmed 2m above ground level-crown shape dictated by group pressure-merged crowns-small diameter deadwood throughout-major deadwood and stubs	Remove deadwood and stubs for safety reasons	30-40	A1
43	Rowan <i>Sorbus aucuparia</i>	4.5	220	N 3 E 3 S 3 W 3	1.5	Y	Small diameter deadwood-bark cankering	No work considered essential at time of survey	20-30	B1
44	Purple Beech <i>Fagus sylvatica</i> 'Purpurea'	5	110	N 2 E 2 S 2 W 2	2	Y	Epicormics-good shape and form	No work considered essential at time of survey	>40	A1
45	Rowan <i>Sorbus aucuparia</i>	3	100 50	N 1.5 E 1.5 S 1.5 W 1.5	1.5	Y	Bifurcated 1m above ground level-low crown density-low vigour and vitality-significant dieback- dead top-poor quality tree with a short life expectancy	Fell and stump grind	<10	U

46	Rowan <i>Sorbus aucuparia</i>	4	150	N 3 E 2 S 1 W 2	2	Y	Suckers –leans north-crown weighted north-small diameter deadwood-one stem removed at ground level	No work considered essential at time of survey	20-30	B1
47	Rowan <i>Sorbus aucuparia</i>	3.5	80	N - E - S - W -	-	Y	Dead tree	Fell and stump grind for safety reasons	<10	U
48	Crimean Lime <i>Tilia x euchlora</i>	7	250	N 3 E 3 S 3 W 3	2	Y	Suckers-previously heavily topped out-epicormics forming new crown	No work considered essential at time of survey	10-20	C1
49	Hawthorn <i>Crataegus monogyna</i>	4	320	N 4 E 4 S 4 W 4	2	EM	Ivy smothering base and trunk-suckers –epicormics-good shape and form	No work considered essential at time of survey	>40	A1
50	Norway Maple <i>Acer platanoides</i>	16	350 x 4	N 8 E 8 S 8 W 8	2	M	Multi stemmed at ground level-tight forks with included bark-small and large diameter deadwood-low branching habit-fair shape and form	Remove deadwood and stubs for safety reasons-crown lift to clear footpath	>40	B1
51	Crimean Lime <i>Tilia x euchlora</i>	10	350 300 300	N 6 E 6 S 6 W 6	1.5	SM	Multi stemmed at ground level-tight forks with included bark-suckers-crown shape dictated by group pressure-merged crowns	No work considered essential at time of survey	30-40	B1
52	Crimean Lime <i>Tilia x euchlora</i>	8	200 200 180 180	N 4 E 4 S 4 W 4	1.5	SM	Multi stemmed at ground level-tight forks with included bark-suckers-crown shape dictated by group pressure-merged crowns-low branching habit over cars	Crown lift to clear cars	30-40	C1
53	Rowan <i>Sorbus aucuparia</i>	4	110	N 1.5 E 1.5 S 1.5 W 1.5	1.5	Y	Fair shape and form	No work considered essential at time of survey	20-30	B1
54	White Willow <i>Salix alba</i>	24	1150	N 11 E 8 S 7 W 8	3	M	Multi stemmed 3m above ground level-major deadwood and stubs-storm damaged leaving broken branches and hangers-fastigate habit	For safety reasons remove storm damage and deadwood and stubs	30-40	B1
55	White Willow <i>Salix alba</i>	15	1100	N 7 E 8 S 3 W 5	3	M	Ivy smothering base and trunk-multi stemmed 3m above ground level-tight forks with included bark-decay and cavities in old pruning wounds-crown weighted north east-significant dieback-major deadwood and stubs-storm damaged with broken branches and hangers-previously heavily topped out-poor quality tree	For safety reasons remove storm damage and hangers and deadwood and stubs and dieback	10-20	C1

56	White Willow <i>Salix alba</i>	12	1100	N 5 E 8 S 8 W 8	3	M	Multi stemmed 3m above ground level-tight forks with included bark-significant dieback-major deadwood and stubs-previously heavily topped out	Remove deadwood and stubs and dieback for safety reasons	10-20	C1
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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
Shelt 1	Leyland Cypressess & Gum Trees	C2	500 to 1000	6.0 12.0	113 453	NO – there are constraints all around these trees which cancel each other out
1	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	A1	130	1.6	8	NO – free rooting to all directions
Group 1	Rowans <i>Sorbus aucuparia</i> x 6 of	C2	75 to 150	0.9 1.8	3 10	NO – free rooting to all directions
2	Norway Maple <i>Acer platanoides</i>	B1	480	5.8	104	NO – free rooting to all directions
Group 2	Sawara Cypressess <i>Chamaecyparis pisifera</i> x 4 of	U	Av 200 x4	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
3	Norway Maple <i>Acer platanoides</i>	C1	510	6.1	118	NO – there are constraints all around this tree which cancel each other out
4	Norway Maple <i>Acer platanoides</i>	C1	500	6.0	113	NO – there are constraints all around this tree which cancel each other out
5	Norway Maple <i>Acer platanoides</i>	U	360	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals

6	Italian Alder <i>Alnus cordata</i>	B1	650	7.8	191	NO – there are constraints all around this tree which cancel each other out
7	Norway Maple <i>Acer platanoides</i>	B1	490	5.9	109	NO – there are constraints all around this tree which cancel each other out
8	Norway Maple <i>Acer platanoides</i>	B1	450	5.4	92	NO – there are constraints all around this tree which cancel each other out
9	Norway Maple <i>Acer platanoides</i>	C1	440	5.3	88	NO – there are constraints all around this tree which cancel each other out
10	Norway Maple <i>Acer platanoides</i>	B1	280	3.4	35	NO – there are constraints all around this tree which cancel each other out
11	Bastard Service Tree <i>Sorbus thuringiaca</i> 'Fastigiata'	B1	300 x 2	5.1	81	NO – there are constraints all around this tree which cancel each other out
12	Bastard Service Tree <i>Sorbus thuringiaca</i> 'Fastigiata'	C1	160 x 8	5.4	92	NO – there are constraints all around this tree which cancel each other out
13	Crimean Lime <i>Tilia x euchlora</i>	A1	320	3.8	46	NO – there are constraints all around this tree which cancel each other out
14	Crimean Lime <i>Tilia x euchlora</i>	A1	330	4.0	49	NO – there are constraints all around this tree which cancel each other out
15	Crimean Lime <i>Tilia x euchlora</i>	B1	270	3.2	33	NO – there are constraints all around this tree which cancel each other out
16	Crimean Lime <i>Tilia x euchlora</i>	A1	370	4.4	62	NO – there are constraints all around this tree which cancel each other out

17	Norway Maple <i>Acer platanoides</i>	B1	440	5.3	88	NO – there are constraints all around this tree which cancel each other out
18	Crimean Lime <i>Tilia x euchlora</i>	A1	250	3.0	28	NO – there are constraints all around this tree which cancel each other out
19	Rowan <i>Sorbus aucuparia</i>	U	100	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
20	Rowan <i>Sorbus aucuparia</i>	U	60	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
21	Rowan <i>Sorbus aucuparia</i>	C1	65	0.8	2	NO – there are constraints all around this tree which cancel each other out
22	Rowan <i>Sorbus aucuparia</i>	U	150	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
23	Rowan <i>Sorbus aucuparia</i>	B1	100	1.2	5	NO – there are constraints all around this tree which cancel each other out
24	Rowan <i>Sorbus aucuparia</i>	U	100	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
25	Raywood Ash <i>Fraxinus oxycarpa</i> 'Raywood'	C1	390	4.7	69	NO – there are constraints all around this tree which cancel each other out
26	Raywood Ash <i>Fraxinus oxycarpa</i> 'Raywood'	C1	350	4.2	55	NO – there are constraints all around this tree which cancel each other out
27	Hawthorn <i>Crataegus monogyna</i>	B1	250 200 100	4.0	51	NO – there are constraints all around this tree which cancel each other out

28	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	B1	150	1.8	10	NO – there are constraints all around this tree which cancel each other out
29	Purple Plum <i>Prunus cerasifera</i> 'Nigra'	U	200	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
30	Hawthorn <i>Crataegus monogyna</i>	C1	170	2.0	13	NO – there are constraints all around this tree which cancel each other out
31	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	B1	120	1.4	7	NO – there are constraints all around this tree which cancel each other out
32	Cockspur Thorn <i>Crataegus prunifolia</i>	A1	170	2.0	13	NO – there are constraints all around this tree which cancel each other out
33	Box Elder <i>Acer negundo</i>	U	300	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
34	Silver Maple <i>Acer saccharinum</i>	A1	750	9.0	255	NO – free rooting to all directions
35	Crimean Lime <i>Tilia x euchlora</i>	C1	250	3.0	28	NO – free rooting to all directions
36	Common Ash <i>Fraxinus excelsior</i>	B1	460	5.5	96	NO – free rooting to all directions
37	Common Ash <i>Fraxinus excelsior</i>	B1	480	5.8	104	NO – free rooting to all directions
38	Whitebeam <i>Sorbus aria</i>	U	75	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals

39	Wild Cherry <i>Prunus avium</i>	U	720	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
40	Common Ash <i>Fraxinus excelsior</i>	U	260	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
41	Norway Maple <i>Acer platanoides</i>	A1	650	7.8	191	NO – free rooting to all directions
42	Norway Maple <i>Acer platanoides</i>	A1	600	7.2	163	NO – free rooting to all directions
43	Rowan <i>Sorbus aucuparia</i>	B1	220	2.6	22	NO – free rooting to all directions
44	Purple Beech <i>Fagus sylvatica</i> 'Purpurea'	A1	110	1.3	5	NO – free rooting to all directions
45	Rowan <i>Sorbus aucuparia</i>	U	100 50	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
46	Rowan <i>Sorbus aucuparia</i>	B1	150	1.8	10	NO – there are constraints all around this tree which cancel each other out
47	Rowan <i>Sorbus aucuparia</i>	U	80	n/a	n/a	NO – would be removed for sound arboricultural management reasons regardless of any redevelopment proposals
48	Crimean Lime <i>Tilia x euchlora</i>	C1	250	3.0	28	NO – free rooting to all directions
49	Hawthorn <i>Crataegus monogyna</i>	A1	320	3.8	46	NO – free rooting to all directions

50	Norway Maple <i>Acer platanoides</i>	B1	350 x 4	8.4	222	NO – free rooting to all directions
51	Crimean Lime <i>Tilia x euchlora</i>	B1	350 300 300	6.6	137	NO – free rooting to all directions
52	Crimean Lime <i>Tilia x euchlora</i>	C1	200 200 180 x2	4.6	66	NO – free rooting to all directions
53	Rowan <i>Sorbus aucuparia</i>	B1	110	1.3	5	NO – free rooting to all directions
54	White Willow <i>Salix alba</i>	B1	1150	13.8	598	NO – free rooting to all directions
55	White Willow <i>Salix alba</i>	C1	1100	13.2	547	NO – free rooting to all directions
56	White Willow <i>Salix alba</i>	C1	1100	13.2	547	NO – free rooting to all directions

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: **NO-RSAM** = Remove for sound arboricultural management reasons **NO-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 Table D1 Root Protect. Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
Shelt 1	Leyland Cypress & Gum Trees	C2	500 to 1000	6.0 12.0	113 453	4m to existing road 19m to new parking bays	YES
1	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	A1	130	1.6	8	4m to existing road 8m to new parking bays	YES
Group 1	Rowans <i>Sorbus aucuparia</i> x 6 of	C2	75 to 150	0.9 1.8	3 10	UF of new parking bays and new buildings	NO-RTFD
2	Norway Maple <i>Acer platanoides</i>	B1	480	5.8	104	UF of new parking bays	NO-RTFD
Group 2	Sawara Cypress <i>Chamaecyparis pisifera</i> x 4 of	U	Av 200 x4	n/a	n/a	Unaffected by the building proposals but would be removed for sound arboricultural reasons	NO-RSAM
3	Norway Maple <i>Acer platanoides</i>	C1	510	6.1	118	UF of new parking bays and new buildings	NO-RTFD
4	Norway Maple <i>Acer platanoides</i>	C1	500	6.0	113	UF of new parking bays and new buildings	NO-RTFD

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Table D1 Root Protect. Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
5	Norway Maple <i>Acer platanoides</i>	U	360	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
6	Italian Alder <i>Alnus cordata</i>	B1	650	7.8	191	UF of new parking bays and new buildings	NO-RTFD
7	Norway Maple <i>Acer platanoides</i>	B1	490	5.9	109	UF of new parking bays and new buildings	NO-RTFD
8	Norway Maple <i>Acer platanoides</i>	B1	450	5.4	92	UF of new parking bays and new buildings	NO-RTFD
9	Norway Maple <i>Acer platanoides</i>	C1	440	5.3	88	UF of new parking bays and new buildings	NO-RTFD
10	Norway Maple <i>Acer platanoides</i>	B1	280	3.4	35	UF of new parking bays and new buildings	NO-RTFD
11	Bastard Service Tree <i>Sorbus thuringiaca</i> 'Fastigiata'	B1	300 x 2	5.1	81	UF of new parking bays and new buildings	NO-RTFD
12	Bastard Service Tree <i>Sorbus thuringiaca</i> 'Fastigiata'	C1	160 x 8	5.4	92	UF of new parking bays and new buildings	NO-RTFD
13	Crimean Lime <i>Tilia x euchlora</i>	A1	320	3.8	46	UF of new parking bays and new buildings	NO-RTFD
14	Crimean Lime <i>Tilia x euchlora</i>	A1	330	4.0	49	UF of new parking bays and new buildings	NO-RTFD

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Table D1 Root Protect. Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
15	Crimean Lime <i>Tilia x euchlora</i>	B1	270	3.2	33	UF of new parking bays and new buildings	NO-RTFD
16	Crimean Lime <i>Tilia x euchlora</i>	A1	370	4.4	62	UF of new parking bays and new buildings	NO-RTFD
17	Norway Maple <i>Acer platanoides</i>	B1	440	5.3	88	UF of new parking bays and new buildings	NO-RTFD
18	Crimean Lime <i>Tilia x euchlora</i>	A1	250	3.0	28	UF of new parking bays and new buildings	NO-RTFD
19	Rowan <i>Sorbus aucuparia</i>	U	100	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
20	Rowan <i>Sorbus aucuparia</i>	U	60	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
21	Rowan <i>Sorbus aucuparia</i>	C1	65	0.8	2	UF of new parking bays and new buildings	NO-RTFD
22	Rowan <i>Sorbus aucuparia</i>	U	150	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
23	Rowan <i>Sorbus aucuparia</i>	B1	100	1.2	5	UF of new parking bays and new buildings	NO-RTFD
24	Rowan <i>Sorbus aucuparia</i>	U	100	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Table D1 Root Protect. Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
25	Raywood Ash <i>Fraxinus oxycarpa</i> 'Raywood'	C1	390	4.7	69	Unaffected by the building proposals	YES
26	Raywood Ash <i>Fraxinus oxycarpa</i> 'Raywood'	C1	350	4.2	55	Unaffected by the building proposals	YES
27	Hawthorn <i>Crataegus monogyna</i>	B1	250 200 100	4.0	51	UF of new parking bays and new buildings	NO-RTFD
28	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	B1	150	1.8	10	UF of new parking bays and new buildings	NO-RTFD
29	Purple Plum <i>Prunus cerasifera</i> 'Nigra'	U	200	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
30	Hawthorn <i>Crataegus monogyna</i>	C1	170	2.0	13	UF of new parking bays and new buildings	NO-RTFD
31	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	B1	120	1.4	7	UF of new parking bays and new buildings	NO-RTFD
32	Cockspur Thorn <i>Crataegus prunifolia</i>	A1	170	2.0	13	Unaffected by the building proposals	YES
33	Box Elder <i>Acer negundo</i>	U	300	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
34	Silver Maple <i>Acer saccharinum</i>	A1	750	9.0	255	4m to existing banking and gabion supports at edge of existing car park 4.5m to new parking bays	YES (1)

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Table D1 Root Protect. Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
35	Crimean Lime <i>Tilia x euchlora</i>	C1	250	3.0	28	UF of new parking bays and new buildings	NO-RTFD
36	Common Ash <i>Fraxinus excelsior</i>	B1	460	5.5	96	Unaffected by the building proposals	YES
37	Common Ash <i>Fraxinus excelsior</i>	B1	480	5.8	104	Unaffected by the building proposals	YES
38	Whitebeam <i>Sorbus aria</i>	U	75	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
39	Wild Cherry <i>Prunus avium</i>	U	720	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
40	Common Ash <i>Fraxinus excelsior</i>	U	260	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
41	Norway Maple <i>Acer platanoides</i>	A1	650	7.8	191	UF of new parking bays and new buildings	NO-RTFD
42	Norway Maple <i>Acer platanoides</i>	A1	600	7.2	163	UF of new parking bays and new buildings	NO-RTFD
43	Rowan <i>Sorbus aucuparia</i>	B1	220	2.6	22	UF of new parking bays and new buildings	NO-RTFD

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Table D1 Root Protect. Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
44	Purple Beech <i>Fagus sylvatica</i> 'Purpurea'	A1	110	1.3	5	UF of new parking bays and new buildings	NO-RTFD
45	Rowan <i>Sorbus aucuparia</i>	U	100 50	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
46	Rowan <i>Sorbus aucuparia</i>	B1	150	1.8	10	Unaffected by the building proposals	YES
47	Rowan <i>Sorbus aucuparia</i>	U	80	n/a	n/a	This tree would be removed for sound arboricultural management reasons regardless of any redevelopment proposals.	NO-RSAM
48	Crimean Lime <i>Tilia x euchlora</i>	C1	250	3.0	28	Unaffected by the building proposals	YES
49	Hawthorn <i>Crataegus monogyna</i>	A1	320	3.8	46	Unaffected by the building proposals	YES
50	Norway Maple <i>Acer platanoides</i>	B1	350 x 4	8.4	222	Unaffected by the building proposals	YES
51	Crimean Lime <i>Tilia x euchlora</i>	B1	350 300 300	6.6	137	UF of new parking bays and new buildings	NO-RTFD
52	Crimean Lime <i>Tilia x euchlora</i>	C1	200 200 180 x2	4.6	66	UF of new parking bays and new buildings	NO-RTFD
53	Rowan <i>Sorbus aucuparia</i>	B1	110	1.3	5	Unaffected by the building proposals	YES

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Table D1 Root Protect. Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
54	White Willow <i>Salix alba</i>	B1	1150	13.8	598	7.5m to new parking bays	YES (1)
55	White Willow <i>Salix alba</i>	C1	1100	13.2	547	7.5m to new parking bays	YES (1)
56	White Willow <i>Salix alba</i>	C1	1100	13.2	547	7.5m to new parking bays	YES (1)

4.2 Summary

	YES Can be retained and fully protected in accordance with BS5837 recommendations - see Tree Protection Plan BJH.03/04 at appendix BH3	YES (1) Can be retained and protected in accordance with BS5837 recommendations (see Tree Protection Plan BJH.03/04 at appendix BH3) - subject to adherence to the methodology prescribed in this report – see Section 6 for full details.	NO-RTFD Recommended for removal in order to facilitate development proposals	NO-RSAM Recommended for removal on sound arboricultural management grounds [health and safety grounds] regardless of any redevelopment proposals
A	1 Pear; 32 Thorn & 49 Hawthorn	34 Silver Maple	2 N.Maple; 3 N.Maple; 4 N.Maple; 6 Italian Alder; 7 N.Maple; 8 N.Maple; 9 N.Maple; 10 N.Maple; 11 Service Tree; 12 Service Tree; 13 Crimean Lime; 14 Crimean Lime; 15 Crimean Lime; 16 Crimean Lime; 17 N.Maple; 18 Crimean Lime; 21 Rowan; 23 Rowan; 27 Hawthorn; 28 Pear; 30 Hawthorn; 31 Pear; 35 Crimean Lime; 41 N.Maple; 42 N.Maple; 43 Rowan; 44 Purple Beech; 51 Crimean Lime; 52 Crimean Lime & Group 1 Rowans	5 N.Maple; 19 Rowan; 20 Rowan; 22 Rowan; 24 Rowan; 29 Purple Plum; 33 Box Elder; 38 Whitebeam; 39 Cherry; 40 Ash; 45 Rowan; 47 Rowan & Group 2 Sawara Cypress
B	36 Ash; 37 Ash; 46 Rowan; 50 Norway Maple & 53 Rowan	54 White Willow		
C	25 Raywood Ash; 26 Raywood Ash; 48 Crimean Lime & Shelterbelt 1 Leylandii/Gum Trees	55 White Willow & 56 White Willow		
U	-	-	-	

- 4.3 As part of this project it will be necessary to remove the majority of the existing trees because of the major revamping of the site that is proposed. These are for the most part trees that were planted to fit in with the original car parking and building layout with most trees existing in very small and confined grassed verges between parking bays. They are for the mainly trees of relatively small stature that contribute to the local landscape but make little impact in the wider landscape being hardly visible from outside the site. It is my understanding that these losses will be mitigated by the planting of new trees which will be of mixed sizes and where larger trees are proposed for removal semi-matures will be planted to make an instant impact in the landscape.
- 4.4 Trees **34 Silver Maple and 54; 55 & 56 White Willows** are proposed for retention with mitigation measures being applied subject to adherence to the methodology prescribed in this report – see Section 6 for full details.

5.0 RECOMMENDED TREE WORKS

No	Species	Tree Works Recommended
Shelt 1	Leyland Cypresses & Gum Trees	- Sever ivy-remove deadwood and dieback - Crown lift to 5.5m above road
1	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	No works proposed at this time
Group 1	Rowans <i>Sorbus aucuparia</i> x 6 of	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
2	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
Group 2	Sawara Cypresses <i>Chamaecyparis pisifera</i> x 4 of	- Fell to ground level in a controlled manner - Leave the stumps in situ
3	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs

4	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
5	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
6	Italian Alder <i>Alnus cordata</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
7	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
8	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
9	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
10	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
11	Bastard Service Tree <i>Sorbus thuringiaca</i> 'Fastigiata'	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
12	Bastard Service Tree <i>Sorbus thuringiaca</i> 'Fastigiata'	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
13	Crimean Lime <i>Tilia x euchlora</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
14	Crimean Lime <i>Tilia x euchlora</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs

15	Crimean Lime <i>Tilia x euchlora</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
16	Crimean Lime <i>Tilia x euchlora</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
17	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
18	Crimean Lime <i>Tilia x euchlora</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
19	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
20	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
21	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
22	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
23	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
24	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
25	Raywood Ash <i>Fraxinus oxycarpa</i> 'Raywood'	- Remove storm damage and deadwood - Remove lodged branch - Advise reduce and reshape by 2-3m

26	Raywood Ash <i>Fraxinus oxycarpa</i> 'Raywood'	- Remove deadwood and stubs- - Advise reduce and reshape by 3m
27	Hawthorn <i>Crataegus monogyna</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
28	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
29	Purple Plum <i>Prunus cerasifera</i> 'Nigra'	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
30	Hawthorn <i>Crataegus monogyna</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
31	Chanticleer Pear <i>Pyrus calleryana</i> 'Chanticleer'	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
32	Cockspur Thorn <i>Crataegus prunifolia</i>	Crown lift to clear cars
33	Box Elder <i>Acer negundo</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
34	Silver Maple <i>Acer saccharinum</i>	- Crown reduce to previous pruning points (approximately 4m reduction in height and spread) - Remove all deadwood
35	Crimean Lime <i>Tilia x euchlora</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
36	Common Ash <i>Fraxinus excelsior</i>	Remove deadwood and tidy old branch stubs

37	Common Ash <i>Fraxinus excelsior</i>	- Remove deadwood and tidy old branch stubs - Prune to clear away from lamp column
38	Whitebeam <i>Sorbus aria</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
39	Wild Cherry <i>Prunus avium</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
40	Common Ash <i>Fraxinus excelsior</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
41	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
42	Norway Maple <i>Acer platanoides</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
43	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
44	Purple Beech <i>Fagus sylvatica</i> 'Purpurea'	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
45	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
46	Rowan <i>Sorbus aucuparia</i>	No works proposed at this time
47	Rowan <i>Sorbus aucuparia</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs

48	Crimean Lime <i>Tilia x euchlora</i>	No works proposed at this time
49	Hawthorn <i>Crataegus monogyna</i>	No works proposed at this time
50	Norway Maple <i>Acer platanoides</i>	- Remove deadwood and tidy old branch stubs - Prune to provide a safe clearance above footpath
51	Crimean Lime <i>Tilia x euchlora</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
52	Crimean Lime <i>Tilia x euchlora</i>	- Fell to ground level in a controlled manner - Grub out the stump and primary root runs
53	Rowan <i>Sorbus aucuparia</i>	No works proposed at this time
54	White Willow <i>Salix alba</i>	- Remove storm damaged limbs and all deadwood and stubs - Reduce in height by approximately 30% (which equates to 6m to 7m) - Reduce spread by 2m to 3m to balance the overall crown form
55	White Willow <i>Salix alba</i>	Remove storm damaged limbs and all deadwood and stubs
56	White Willow <i>Salix alba</i>	Remove storm damaged limbs and all deadwood and stubs

6.0 METHOD STATEMENT

Generic

- 6.1 All of the recommended tree works should be undertaken by an approved and experienced tree contractor prior to any construction contractors commencing works on site.
- 6.2 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.
- 6.3 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 [**Construction Exclusion Zone**]:-

- **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
- 6.4 All site works storage areas and compounds/welfare units/toilet blocks and any mixing areas are to be located outside of and well clear of retained tree RPA's – see **Tree Protection Plan BJH03/04 at appendix BH3**.
- 6.5 All Utility Service connections are to be located outside of tree RPA's and there is adequate space on this site to ensure that retained trees are not placed under pressure by this process.

Site Specific6.6 T34 Silver Maple

There will be a need to work within the RPA of this tree in order to construct the parking bays as proposed but there is a desire to retain this tree. The east side remains as it is currently but the west side impinges into the RPA so mitigation measures will need to be applied. The principle will be for a 'No Dig' Porous solution to be applied here but as yet the exact proprietary brand of materials has not been decided upon, nevertheless the following prescribes the procedures that will need to be followed regardless of which brand is eventually selected for this project. It is suggested that this can be made a Condition of Planning for the full details of the materials to be used to be submitted and approved in writing by the Council before being laid :-

- ***IF** the work is carried out in the growing season then the first operation will be to spray the grass/vegetation with an approved chemical weed killer in a safe and controlled manner – this would normally be with **Glyphosate** as the active ingredient and it would then require a period of ten days for this to be taken down into the root system before skimming the surface.*
- *Skim the existing surface vegetation along the route of the drive/path/parking bay with hand tools **ONLY** to a maximum depth of 50mm.*
- *Backfill any voids and levels changes with washed sharp sand to achieve a basic level grade throughout the area to be worked on – tamp down lightly with hand tools only.*
- *Cover the exposed ground [with a 50mm overlap on either side] with a geotextile membrane pegging the edges down to secure it in place.*
- *Use Railway Sleepers or pinned Kerbing to define the edges of the area within the RPA of retained trees which are to be protected – into this zone lay 150mm minimum depth flexible cellular confinement system (e.g. **CellWeb or GeoCell**) and expand and peg out the cells ready to receive an infill of washed gravel/aggregate - this will be sufficient to absorb vehicular movements whilst permitting water and gaseous exchange - but if levels will permit and subject to client preference this could be topped off with a layer of porous brick setts (e.g. **Aquapave or Aquaflo**) bedded onto sharp sand – or just topped off with a layer of gravel as appropriate.*
- *Adjust any levels differences outside this zone by grading away from the raised porous parking bays and across the width of the overall parking zone.*

T54; 55 & 56 White Willows

There will be a need to work within the RPA of these trees [west side only] in order to construct the parking bays as proposed but there is a desire to retain them all so mitigation measures will need to be applied as follows :-

- Firstly undertake all tree surgery works that have been prescribed at Section 5 of this report.
- It is of note that trees 55 & 56 have been heavily topped out in the past - probably due to the fact that mature trees of this species are highly prone in exposed coastal locations such as this to shed branches being a brittle form of tree that lays down growth tissues by preference at the expense of strengthening tissues within the cells. As such these trees have been prescribed with a standard RPA for healthy trees with full crowns and this will be considerably less in actual fact as their crown areas will not place such heavy demands on the root systems to supply water and nutrients so the extent of rooting area will be much reduced. In fact I doubt that much root will be uncovered from these trees in the excavation works but nevertheless mitigation measures are proposed.
- With regards to tree 54 this has a full crown and does not appear to have been reduced in the past but does contain storm damaged and broken limbs which are retained within the crown and also contains a lot of deadwood and dieback. The reduction works proposed are therefore for health and safety reasons as much as to accommodate the development works.
- The mitigation work proposed will require an Arboricultural Expert to be present when the existing banking is being removed along with the stumps of trees 51 & 52 which cannot be retained.
- Initially this work **MUST** be 'Hand Digging' **ONLY** in order to expose and tease out any roots that may be present from tree 54.
- **IF** the supervising Arb Expert deems it appropriate a small mini excavator may be employed to work at 90 degrees to the bank (facing it and the tree) to the east. Utilising a wide toothed bucket attachment the soil must be pulled from the back of the Parking Bays towards the body of the excavator so that it works in line with the rooting pattern and not transverse to it which could lead to tearing and ripping issues in the event that a root was to be exposed. The Arb Expert will only approve this form of working if the 'Hand Digging' exercise shows little sign of roots and certainly nothing above 25mm diameter has been teased out up to that point in time.
- Once the soil has been cleared away it will be necessary to erect a vertical brick retaining wall at the rear of the parking bays to limit the extent of the dig and avoid the need to batter the banking back towards the tree.

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.

- 7.1 A Pre-commencement site meeting is to take place between the development teams arboricultural consultant and the site manager and client representative where the protective fencing will be inspected to verify that it is 'Fit For Purpose' and has been erected as shown on the **Tree Protection Plan**.
- 7.2 There will be a further requirement for site visits by the Arb Expert when the new boundary fencing is being erected.
- 7.3 Lines of communication will be established with the Site Manager so that in the event that an incident occurs involving the retained trees that requires urgent advice and guidance from the project Arboricultural Expert this can be easily organised.
- 7.4 The details of the PCSM works will be photographed by the Arb Expert and the following reporting procedure will be adopted. This is an example of the format for the **Site Monitoring Schedule** that would be prepared. :-

Schedule Of Site Monitoring & Supervision for – Langstone Technology Park, Havant

- In accordance with the Arboricultural Method Statement Report - 1087.bjh.Sept19 & Tree Protection Plan - BJH 03/04

Date of Inspection	Item	In Attendance	Notes/Observations From Inspection	Details Of Any Follow Up Action Required
tba	Pre-Commencement Meeting	Local Authority Tree Officer (to be invited to attend) Project Arb Consultant & Site Construction Manager	A joint site inspection was conducted and agreement reached that the protection measures are in place and that everyone understands their responsibilities in respect of protecting the trees.	
tba	Excavation Work close to trees 54; 55 & 56 to form Parking Bays	Project Arb Consultant & Site Construction Manager	The excavation works were undertaken under the supervision and monitoring of the Arboricultural Expert.	

8.0 CONCLUSIONS

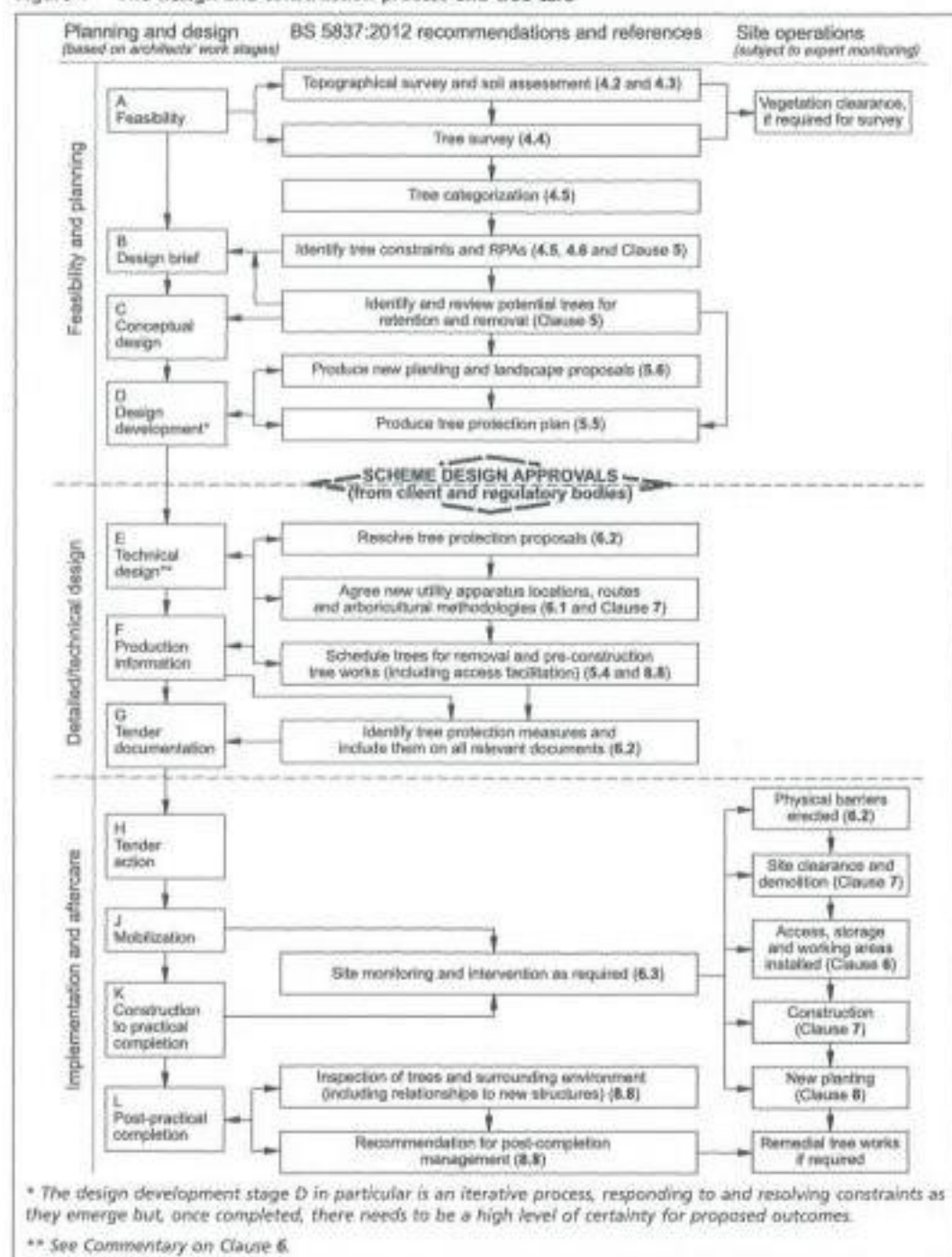
- With this layout a significant number of existing trees will have to be removed but provision has been made within the Landscaping Master Plan to plant a significant amount of new trees of varying sizes up to semi-mature size to mitigate these losses.
- In addition to this there is work proposed within the RPA's of tree **34; 54; 55 & 56** but there is a desire to see these trees retained and provision has been made to have 34 & 54 reduced and reshaped in overall crown area to help them cope with the ground disturbance proposed.
- A 'No Dig' porous solution has been recommended for tree 34 which avoids the need for any excavation within its RPA.
- It is not possible to work within the RPA of trees 54; 55 & 56 without excavation as there is soil bund present that will need to be cut into to provide the necessary car parking spaces. For this reason it is recommended that ALL excavation work MUST be supervised and monitored by an Arboricultural Expert.
- Provided that the above methodology is strictly adhered to and in the manner set out in this report then I would not foresee any detrimental impact taking place that might undermine the health and stability or visual amenity value of those trees shown for retention on this site.



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 :- **■** (dark red); **■** (light green); **■** (mid-blue) and **■** (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 ■ 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 ■ 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 ■ 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 ■ 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

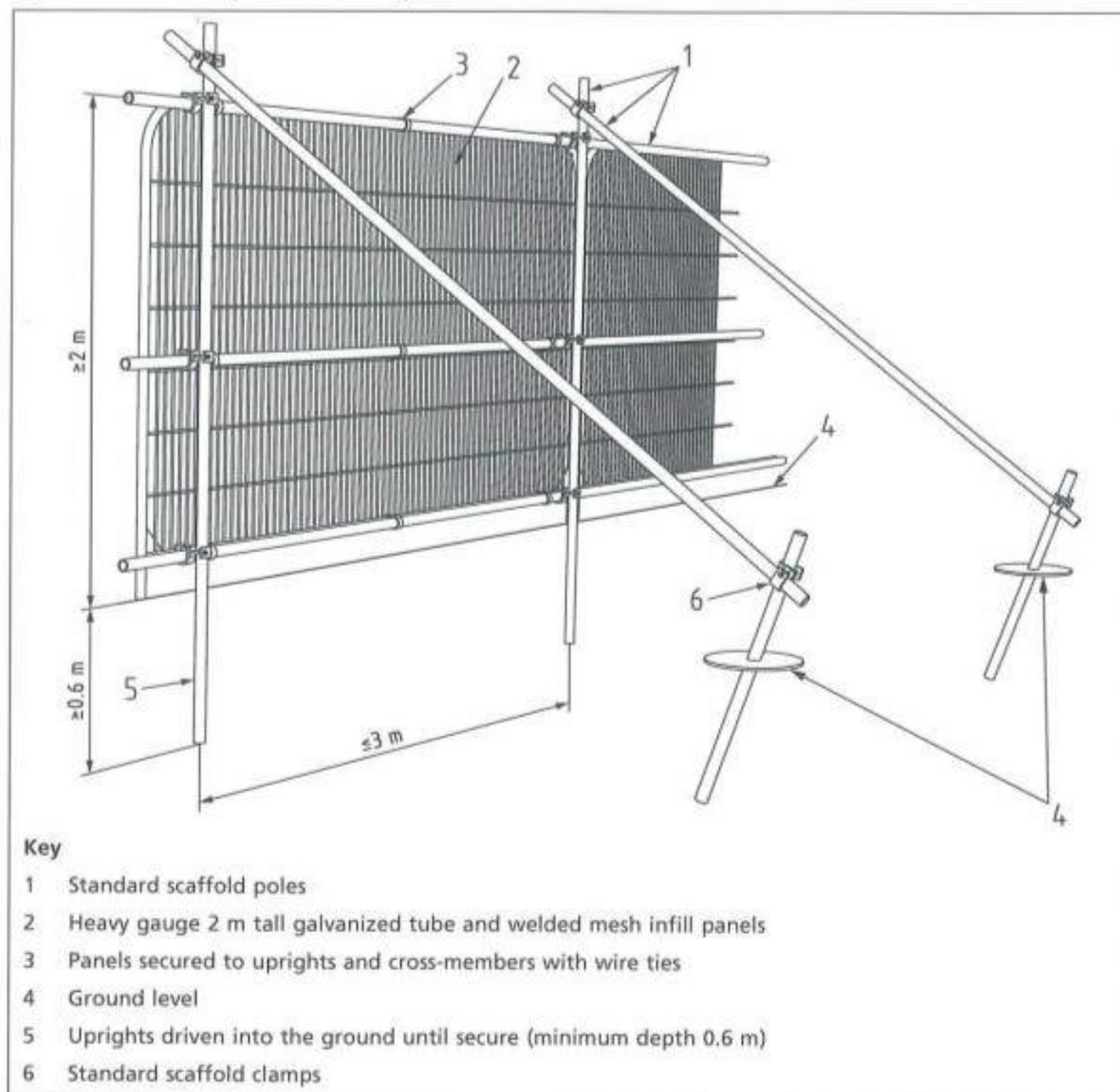


BH 3

Tree Protection Plan BJH 03/04

- + BS5837:2012 – Figures 2
- + Example of No Dig Surfacing

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 : –

The Granary, White Chimney Row, Westbourne PO10 8RS

- I hold the following arboricultural qualification – **National Diploma in Arboriculture (Royal Forestry Society – 1976)**
- I have **forty eight** 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 Surgeons and twelve years with CBA Trees as Managing Director & Senior 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.

The Granary, White Chimney Row, Westbourne PO10 8RS

- [REDACTED]