Addendum Report

Project:	Hampstead Heath Ponds Project
Subject:	Highgate no.1 Pond Revised Arboricultural Impact Assessment
Date:	9th May 2016

JOB NUMBER: 5139497.082			**DOCUMENT REF:** TBC			
02	For Planning, amendments to route	T Dale	B Jones	J Farrar	M Woolgar	09.05.16
Revision	**Purpose Description**	**Originated**	**Checked**	**Reviewed**	**Authorised**	**Date**

1.1. Introduction

The City of London Corporation (CoL) commissioned Atkins Limited (Atkins) to undertake a review of tree impacts for the updated proposals at the Highgate no.1 pond as part of the Hampstead Heath Ponds Project. Specifically the impacts of the retaining wall structure within the garden of Millfield Cottage.

This report forms an addendum to the submitted and approved Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS) produced by Atkins for the approved planning application reference 2014/4332/P. It is a revised version of the Technical Note dated 15th January 2016 submitted to support an application for flood containment wall at Millfield Cottage (2016/0501/P). This version incorporates an assessment of the following amendments to the scheme:

- Wall material and construction type changed to steel post and sleeper type within the site boundary;
- Wall route amended to go round the group of sycamore trees and the hawthorn stump, on the Sinclair garden side;
- Number of trees to be removed now reduced from 6 to 3 (the ash, the sycamore on the City of London side of the Sinclair's garden fence, and the yew tree next to the group of sycamore trees);
- Tree replacement planting reduced from 8 to 6;
- Steel posts reduced to the level of top of the timber sleepers;
- Trellis panels increased to be a minimum of 0.5m high, increasing to 1.8m as the natural ground rises away from the pond;
- Construction entirely on land within the ownership of Millfield Cottage.

These reports along with the accompanying Tree Protection Plans were produced in accordance with BS5837:2012 Trees in relation to design, demolition and construction – Recommendations. This approach has also been adopted to inform this addendum report including survey methodology and report limitations. If confirmation on the approach is required this is detailed within appropriate sections of the AIA & AMS reports.

This report presents information captured on 16th September 2015 by Atkins Senior Arboriculturist Tom Dale BSc(Hons), Cert Arb (L6 (ABC), M.Arbor.A. The survey was undertaken in the presence of the relevant stakeholders including the Client, Design Team, Contractor and property owner.

1.2. The Site & Trees

This section of the Highgate Chain involves construction to the south-east bank of Highgate no.1 pond and within the garden of Millfield Cottage to the north east of the pond. The proposals follow the eastern bank of the pond and then head north into the garden of Millfield Cottage, where the wall follows the eastern boundary of property before tying back into high ground.

The survey schedule in Appendix A provide more detail on all the trees surveyed on site. In general the trees were showing signs of fair to good vitality with leaf formation and coverage for the tree species and locality. The trees varied in age structure with the majority being young or semi-mature in this area. There were notable exception of larger more mature tree stock including the mature Common Ash tree 1119Y at the eastern extents of the site. The trees in this location are a mixture of planted and self-sown specimens in primarily fair or good vitality and structural condition.

1.3. Arboricultural Impacts

This survey takes into account the tree stock deemed likely to be affected by the proposed scheme and identifies their condition and suitability for retention. The tree protection plans reference 5117039-ATK-P6-ZZ-DR-Y-2000, illustrates the extents of the survey area, the Root Protection Area (RPA) for each tree or trees and the proposals. The proposals are for an ‘H’ section post and timber sleeper wall.

The British Standard relies heavily on the creation of a protected zone referred to as the RPA around each tree. This is the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority. This area should be protected from disturbance “in order to avoid unacceptable damage to the tree as a result of severance or asphyxiation of the root system.” The recommended minimum area (m^2) for each tree to avoid potentially harmful disturbance has been calculated for all of the trees on site and entered into the tree schedule and is illustrated on the tree protection plan.

The RPA(s) for each tree or group of trees is illustrated as a circle centred on the base of the stem. This circular area does not take into account pre-existing site conditions or other factors that can influence or modify the shape and disposition of tree roots. Accordingly, the Arboriculturist can make modifications or judgements on the likely extents of RPAs, where through professional judgement it is deemed likely that the root zones have been restricted in a certain direction because of limiting factors such as; topography, drainage or the presence of existing built infrastructure.

The table below outlines the impacts of the proposals on the tree stock on site and where mitigation measures are likely to be required to facilitate the works.

Highgate Chain – Highgate No. 1 Pond
Drawing 5117039-ATK-P6-ZZ-DR-Y-2000;

Sheet no.	Group/ Tree No.	Species	Cat	Removal due to		Details of how proposed build layout affects trees and mitigation.
				Cons	Cond	
Trees on or near dam at Highgate No.1 pond, within City of London land						
P6-2000	0134	Common Ash	U	N/A	N/A	Tree to be retained.
P6-2000	0135	Common Ash	C2	N/A	N/A	Tree to be retained.
P6-2000	0141	Alder	B2	X	N/A	Tree located within footprint of the spillway. Tree already felled as part of the clearance works.
P6-2000	0142	Lime	B2	X	N/A	Tree located within footprint of the spillway. Tree already felled as part of the clearance works.
P6-2000	0144	Alder	B1	X	N/A	Tree located within footprint of the spillway. Tree already felled as part of the clearance works.
P6-2000	G16-0151	Hawthornx1, Ashx1, Elderx2	C2	X	N/A	Tree 0151 to be felled. Tree located in the footprint of the spillway. Tree already felled as part of the clearance works.
P6-2000	0153	Lime	B2	N/A	N/A	Tree to receive pollarding operations as instructed onsite by the supervising Arboriculturist. Tree already worked upon as part of the clearance works.
P6-2000	G14-0161	Sycamore, Alder, Elm, Hawthorn	B2/3	N/A	N/A	Adjacent sheet piled wall to be located as directed on site by the Arboriculturist. Requirements for facilitation pruning to be confirmed during onsite walk through with the Contractor, Arboriculturist and engineers.
P6-2000	G0156	Sycamore, Elm, Yew	C2	X	N/A	Approximately 6no. Trees to be coppiced to facilitate the installation of the sheet piled wall along the dam crest, approximately 5no. trees to be coppiced where the sheet piled wall heads down the dam slope as illustrated in the red hatch on the TPP. These works have been agreed as part of the original planning application. Requirements for facilitation pruning to be confirmed during onsite walk through with the Contractor, Arboriculturist and engineers.

Sheet no.	Group/ Tree No.	Species	Cat	Removal due to		Details of how proposed build layout affects trees and mitigation.
				Cons	Cond	
P6-2000	G1120	Sycamore	C2	N/A	N/A	Trees to be retained. Previously identified for coppicing. Saving 2 x trees.
P6-2000	G1125	Elmx3	C1	N/A	N/A	Trees to be retained. Previously identified for coppicing. Saving 3 x trees.
P6-2000	1126	Sycamore	B2	N/A	N/A	Tree to be retained. Previously identified for coppicing.
Trees within site boundary for Millfield Cottage wall						
P6-2000	1119	Sycamore	U	X	X	Tree to be coppiced to facilitate the post and sleeper wall installation works and given poor structural condition, unsafe for workers to be undertaking works beneath tree.
P6-2000	1119A	Common Ash	B2	X	N/A	Tree to be felled to facilitate the installation of post and sleeper wall adjacent to boundary fence.
P6-2000	G1119B	Yewx1, Hollyx6, Sycamore x1	C2	N/A	N/A	Trees to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119C	Cherry	C2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119D	Sycamore	B2	N/A	N/A	Tree to be retained by circumventing the trunk and large diameter structural roots as per the route on the tree protection plan with a post and sleeper type wall.
P6-2000	1119E	Sycamore	C2	N/A	N/A	Tree to be retained by circumventing the trunk and large diameter structural roots as per the route on the tree protection plan with a post and sleeper type wall.
P6-2000	1119F	Field Maple	B2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.

Sheet no.	Group/ Tree No.	Species	Cat	Removal due to		Details of how proposed build layout affects trees and mitigation.
				Cons	Cond	
P6-2000	1119G	Hawthorn	C2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119H	Cherry	C2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119I	Beech 'japonica'	B2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119J	Cherry Plum	B2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119K	Lawson's Cypress	B2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119L	Whitebeam	B2	N/A	N/A	Tree to be retained. Foundations for new flood wall to be excavated by hand in the RPA of tree 1119L. Works to be supervised by the supervising Arboriculturist. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119M	Holly	B2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the

Sheet no.	Group/ Tree No.	Species	Cat	Removal due to		Details of how proposed build layout affects trees and mitigation.
				Cons	Cond	
						contractor and the supervising Arboriculturist.
P6-2000	1119N	Sycamore	C1	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119O	Cherry	C1	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119P	Sycamore	C1	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119Q	Yew	C1	X	N/A	Tree to be felled to facilitate the installation of sleeper type wall.
P6-2000	1119R	Hawthorn stump, Dead Elder	U	N/A	N/A	Trees to be retained by circumventing the trunk and large diameter structural roots as per the route on the tree protection plan with a post and sleeper type wall. Where any dead branches are within the works area these should be cut back as instructed by the supervising Arboriculturist.
P6-2000	1119S	Honey Locust	C1	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	G1119T	Laurel, Hawthorn x1	C2	N/A	N/A	Trees to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119U	Holly	C2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be

Sheet no.	Group/ Tree No.	Species	Cat	Removal due to		Details of how proposed build layout affects trees and mitigation.
				Cons	Cond	
						confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119V	Yew	C2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119W	Elder	C2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	G1119X	Hornbeam, Elder, Horse Chestnut, Yew, Holly	C2	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.
P6-2000	1119Y	Common Ash	B2/ 3	N/A	N/A	Tree to be retained. Requirements for tree protective barriers to be confirmed during an onsite walkthrough between the contractor and the supervising Arboriculturist.

1.4. Conclusions

The impacts of the proposals have been quantified as accurately as possible given the information available at this time. The Proposed Development will require the removal of trees through direct impact by trees being located within the proposed footprint of the works and through indirect impact where the tree roots will be severed to such an extent that the tree's should be removed given concerns over the tree's remaining stability and health.

Trees will tolerate a degree of root zone infringement depending on the works proposed and if they require any excavations, similarly, other factors to consider are species tolerance and the remaining un-surfaced RPA that can be retained. The BS5837 makes reference to 20% as a general rule in determining the amount of RPA infringement that could be achievable.

The design process has taken into account the constraints imposed by the trees on site, ensuring sympathetic design solutions where feasible. In some cases trees have already been agreed for removal as part of the original planning application. A comparison between the trees agreed for removal and those that can be retained or have to be removed to facilitate this design change are listed below:

Trees already agreed for removal:

- 3no. BS Category B trees (refs 0141, 0142 & 0144); and,
- 12no. BS Category C trees (refs G16-0151 & G0156x11).

Trees previously identified for removal that can now be retained:

- 1no. BS Category B trees (ref 1126); and,
- 5no. BS Category C trees (refs G1120x2 & G1125x3).

New trees identified for removal to facilitate this design change:

- 1no. BS Category B tree (ref 1119A);
- 1no. BS Category C tree (ref 1119Q); and,
- 1no. BS Category U tree (ref 1119).

New trees previously identified for removal that can now be retained by using post and sleeper type wall:

- 1no. BS Category B tree (ref 1119D, sycamore)
- 1no. BS Category C tree (ref 1119E, sycamore); and,
- 1no. BS Category U tree (ref 1119R, hawthorn stump)

Therefore, the total number of trees now requiring removal is half of the total previously agreed within the original planning application, this is through the saving of certain trees to offset the new ones now identified for felling. Therefore, the change has a positive impact in comparison with the approved scheme. It also must be noted that one of these trees is in poor structural condition meaning its removal can also be justified on the grounds of safety and sound arboricultural management.

The trees to be felled are to be coppiced where feasible. This will allow for rapid multi-stem regeneration from the coppice stools which will establish at a quicker rate than newly planted stock. Mitigation planting is covered in further documentation, however, more mature stock is proposed along this boundary as the coppicing of the trees directly on the line of the sheet pile wall is not feasible.

It must be noted that any fence posts for new fencing or timber training walls outside existing fence post holes shall be excavated by hand to a depth of 1m, where the works are within the RPAs of retained trees. Beyond 1m mechanical tools maybe used such as an auger. The post holes shall be repositioned if tree roots are encountered over 25mm in diameter or as confirmed with the supervising Arboriculturist.

Reference has been made within the impacts tables to the use of protective barriers where trees are being retained. The locations of these barriers are to be determined through consultation with the Contractor BAM Nuttall. Barriers will be required to create Construction Exclusion Zones (CEZ's) in order to protect the Root Protection Areas (RPA's) of trees affected by any proposed works.

The CEZ's will be defined as all the areas behind the fencing or any existing boundary fencing. Site operations not permitted in the CEZ without consultation with an Arboriculturist include storage of plant, equipment or materials, vehicular or plant access, washing down of vehicles or machinery, handling, discharge or spillage of any substances, including cement washings, actions likely to cause

localised water-logging, no mechanical digging, scraping or excavation shall be permitted in the CEZ and no earthworks or changes in the finished ground levels other than those agreed by an Arboriculturist.

The location and requirements for protective barriers will be defined on site through a site walkthrough with the Contractor and the supervising Arboriculturist. Any protective barriers will need to be installed prior to any construction works commencing. The barriers are to be erected to exclude construction activity in the RPAs of retained trees.

The requirements for facilitation pruning, i.e. the selective removal of branches to enable plant access, will be defined on site through a site walkthrough with the Contractor and the supervising Arboriculturist.

Tree Survey Schedule; Highgate Chain – Highgate No.1

Drawings 5117039-ATK-P6-ZZ-DR-Y-2000.

Sheet no.	Tree No	Species in Group	Ht (m)	Stem diameter (mm)	Branch spread (m) N E S W	1st major branch height (m) & Direction N/E/S/W	Canopy height (m)	Life stage Y SM EM M OM	General observations Structural and/or physiological condition	Preliminary management recommendations	Est'd Remaining contribution (years) <10/10+/20+/ 40+	Category grading A B C U 1/2/3	Root Protection Area Radius (m)
P6-2001	0132	Sycamore	10	340	4, 3, 3, 4	3.0-S	1.8	SM	Average vitality. Located on bank of pond. Unable to inspect north side of main stem. Ivy encroachment of main stem to 2.0m above ground level. Main stem leans 10 degrees from vertical to north, uncorrected. 5% deadwood in crown to 20mm diameter.	No works presently required	20+	C2	4.08
P6-2001	0133	Common Ash, Hawthorn	6	500	To 3	2.5-E	1	EM	Growing on water's edge. Ash-pollarded at 5m, Epicormic growth on main stem. Northern scaffold limb growing through adjacent hawthorn. Hawthorn multi-stem at base. Mutual crown suppression. Fair vitality	No works presently required	10+	C2	6.00

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Sheet no.	Tree No	Species in Group	Ht (m)	Stem diameter (mm)	Branch spread (m) N E S W	1st major branch height (m) & Direction N/E/S/W	Canopy height (m)	Life stage Y SM EM M OM	General observations Structural and/or physiological condition	Preliminary management recommendations	Est'd Remaining contribution (years) <10/10+/20+/ 40+	Category grading A B C U 1/2/3	Root Protection Area Radius (m)
P6-2001	0134	Common Ash	3.5	210	mean 1	3.5-W	1.5	SM	Poor condition tree. Previously topped at 3.5m above ground level.	fell to ground level	<10	U	0.00
P6-2001	0135	Common Ash	4	450	2.5, 0, 0, 3	3.0-W	2	EM	Located on bank of pond. Main stem leans 45 degrees from vertical to west and is in contact with adjacent metal fence. Ivy encroachment of main stem to 3.0m above ground level. Previously topped at 3.5m above ground level. Small hawthorn at base.	No works presently required	10+	C2	5.40
P6-2001	0136	Crack Willow	12	11x250 average	8, 1, 2, 3	3.0-N	NA	SM	3no willow located on bank of pond. All specimens multi stemmed at ground level, all crowns predominate heavily to north. Weak stem unions make likelihood of failure high.	Coppice all stems 1.0m above ground level	10+	C2	9.96
P6-2001	G10-0137	Crack Willow	2.5	500	NA	NA	NA	OM	Standing dead willow. Current size and location are low risk.	No works presently required	<10	U	0.00

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P6-2001	0138	Common Ash	17	500	E-10.5, W-4.5, 10	4-S	2	M	Co-dominant stems at 4. Lean to south. Open, pendulous crown. Good vitality. Old tear out wound at 10m in west crown extents.	Reduce west stem by 1m to reduce end weight on limb, remove failed limbs beneath	20+	B2	6.00
P6-2001	G12-0139	Hawthorn	8	To 300	To 4.5	n/a	1	M	Group of 3 trees. Mutual crown suppression. Good vitality. Desire line east & west. Leans, Crossing and rubbing branches	No works presently required	20+	B2	3.60
P6-2001	0140	English Oak	11	108	6, 6, 5, 7	4.0-N	2	M	Average vitality. Decay cavity on north side of main 1.8m above ground level extending vertically to 2.5m above ground level. Crown has received significant reduction in past to 5.0m above ground level. 5% deadwood in crown to 80mm diameter.	Investigate cavity at 1.8m above ground level to assess significance of decay. remove deadwood in crown	20+	B2	1.30
P6-2001	0141	Alder	17	500	5	2-NE	2	M	Good vitality. Single leader. Pronounced north east buttress root.	No works presently required	20+	B2	6.00

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P6-2001	0142	Lime	16	500	6.5, S-7.5	4-S	1.5	M	Good vitality. Heavy suckering growth at base hindering inspection of basal condition. Exposed surface root activity to 2.8m from main stem. Crown periodically lifted.	Remove suckering growth at base	20+	B2	6.00
P6-2001	G11-0143	Hawthornx2, Elderx1	9	9x250 estimated	3, 3, 4, 3	1.8-N	1.8	M	2no hawthorn and 1no Elder trees. All poor vitality. Specimen to south-west of group is 70% dead/dying. Dense ivy encroachment of all stems to 5.0m above ground level.	coppice all stems at 1.5m above ground level	<10	U	0.00
P6-2001	0144	Alder	14	510	mean 4	3.0-N	2	M	Co-dominant stems union 5.0m above ground level. Adequate union. Less than 5% minor deadwood in crown. Elder growing at base of tree.	No works presently required	20+	B1	6.12

Sheet no.	Tree No	Species in Group	Ht (m)	Stem diameter (mm)	Branch spread (m) N E S W	1st major branch height (m) & Direction N/E/S/W	Canopy height (m)	Life stage Y SM EM M OM	General observations Structural and/or physiological condition	Preliminary management recommendations	Est'd Remaining contribution (years) <10/10+/20+/ 40+	Category grading A B C U 1/2/3	Root Protection Area Radius (m)
P6-2001	0145	Common Ash	18	930	6, 4, 3, 5	1.8-W	1.8	M	Decay cavity at base of tree on north-west side of main stem. Cavity is 300mm wide and extends approximately 600mm towards centre of tree. 3 large and one new Ganoderma spp fungal fruiting bodies attached to base of main stem to west. Sunken bark and hollow sounds to 1.0m above ground level above brackets. Further small Ganoderma brackets on north, east and south sides of main stem between buttress roots. Tree has been veteranised with pruning at 12.0m above ground level.	Investigate base of tree using PICUS to assess extent of decay.	10+	C1	11.16
P6-2001	0146	English Oak	18	600	N-3, W-4.6, 5	5-N	2	EM	Fair to good vitality. Mutual crown suppression. Dieback a deadwood in crown to west - <80mm. Frayed wounds in crown from previous limb failure. Bat potential.	Target area not frequently used, therefore, retain deadwood habitat	40+	B2	7.20

Sheet no.	Tree No	Species in Group	Ht (m)	Stem diameter (mm)	Branch spread (m) N E S W	1st major branch height (m) & Direction N/E/S/W	Canopy height (m)	Life stage Y SM EM M OM	General observations Structural and/or physiological condition	Preliminary management recommendations	Est'd Remaining contribution (years) <10/10+/20+/ 40+	Category grading A B C U 1/2/3	Root Protection Area Radius (m)
P6-2001	0147	Common Ash	16	540	N-2.5, E-3, 7.5	4-W	3	EM	Fair vitality. Tree on lean to south. Decayed south buttress root. Sunken bark from ground level to 3m south side of main stem. *Daldinia concentrica* brackets present on south side of main stem. Indicating presence of decay and deadwood. Footpath within 1 and a half trees height	reduce south and west crown extents to reduce loading	10+	C2	6.48
P6-2001	0148	Common Ash	6.5	450	NA	NA	NA	EM	Standing dead ash tree. monolithed at 6.5m above ground level. *daldinia concentrica* fruiting bodies attached to main stem. Wood pecker holes at 4.0m above ground level in scaffold limb and 6.0m above ground level on main stem. potential for bat habitat	inspect for bat roost potential	<10	U	0.00

Sheet no.	Tree No	Species in Group	Ht (m)	Stem diameter (mm)	Branch spread (m) N E S W	1st major branch height (m) & Direction N/E/S/W	Canopy height (m)	Life stage Y SM EM M OM	General observations Structural and/or physiological condition	Preliminary management recommendations	Est'd Remaining contribution (years) <10/10+/20+/ 40+	Category grading A B C U 1/2/3	Root Protection Area Radius (m)
P6-2001	0149	English Oak	20	970	9, 7, 10, 7	4.0-N	0.5	M	Average vitality. Crown breaks 5.0m above ground level. Mutual suppression to west from T0150. Adequate physiological and structural condition. Less than 5% deadwood to 100mm diameter in crown.	No works presently required	40+	A1	11.64
P6-2001	0150	Common Ash	20	920	13	7-N	3	M	Good vitality. Co dominant stems at 5m. Crown suppression to north, dominant to south. Desire line 2m west. Dense crown hindering inspection of branch attachments and canopy condition.	Remove hung up dead branch in east stem. no works presently required	20+	B2	11.04
P6-2001	G16-0151	Hawthornx1, Ashx1, Elderx2	7	average 6x80	mean 3	0.5-N	NA	SM	1no Hawthorn, 1no Ash, 2no Elder. All adequate physiological and structural condition. Ivy encroachment on main stem of hawthorn.	sever ivy at base of hawthorn	20+	C2	2.40

Sheet no.	Tree No	Species in Group	Ht (m)	Stem diameter (mm)	Branch spread (m) N E S W	1st major branch height (m) & Direction N/E/S/W	Canopy height (m)	Life stage Y SM EM M OM	General observations Structural and/or physiological condition	Preliminary management recommendations	Est'd Remaining contribution (years) <10/10+/20+/ 40+	Category grading A B C U 1/2/3	Root Protection Area Radius (m)
P6-2001	0152	Common Ash	15	730	mean 8	3.5-E	1	M	Average vitality. Crown break at 4.0m above ground level. Woodpecker holes at 7.0m and 10.0m above ground level on east co-dominant stem. Bat roost potential. Crown historically reduced by approximately 25%. 10% deadwood in crown to 100mm diameter.	Reduce east co dominant stem by 2.0m to reduce loading over weak stem. Remove deadwood in crown. Examine woodpecker holes for bat roost potential.	10+	C2	8.76
P6-2001	0153	Lime	14	460	4	4.5-E	1	SM	Good vitality. Heavy suckering growth at base hindering inspection of basal condition. Cavity west side of main stem at 1.4m - 400mm by 100mm. Onset of decay, probed to 30mm before hitting sound wood. Suppression to west from adjacent tree. Desire line 3m	Compaction at base. Surface root activity to 1m from main stem	20+	B2	5.52

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P6-2001	0154	Horse Chestnut	17	910	7,5 ,8, 8	4.0-SE	1.8	M	Average vitality. Multi stemmed at 2.0m above ground level. Partially occluded pruning wound at base of co dominant stem to north. Surrounding wood sounds solid when tapping with rubber mallet. Dense crown with minor crossing rubbing branches.	Thin crown by 10% and remove crossing rubbing branches.	10+	B2	10.92

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P6-2001	G13-0155, 0156	Common Ash, Sycamore, Yew, Elm, Hawthorn,	To 19	50-500	To 8	n/a	GL	Y-M	Fair to good vitality. Woodland area. Ash & Sycamore canopy trees. Hawthorn understorey. Growing on embankment. Screening function. Mutual crown suppression. Limb failure on 0155-frayed wound remaining on hazard beam to north, bat roost potential. Unbalanced crowns. Self-sown sycamore & ash dominate the understorey. Heavy ivy encroachment hindering inspection of basal conditions of mature trees and their canopies. Leans and Drawn forms through competition for light. Crowns formed at height. Younger trees dominate eastern area, Av 10 trees. Elms failing due to Dutch Elm Disease. Causeway at top of ridge. Trees within falling distance of residential property to south	Sever ivy to enable condition assessments. Selective coppicing	40+	A2/3	4.80

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P6-2001	0157	Common Ash	6	1300	mean 2	4.5-S	4	OM	Below average vitality. Historically monolithed 4.5m above ground level. Minor re-growth. Dense ivy encroachment of main stem. *daldinia concentrica* fruiting bodies attached to main stem. small stature and location mean low risk	No works presently required	10+	C2, 3	15.60
P6-2001	G15-0162	Common Ash, English oak, Laurel, Cherry	To 18	To 600est	To 10-N	n/a	GL	Y-M	Squared woodland area. No access, third party ownership. Fair vitality. Mutual crown suppression. Heavy ivy encroachment. Over extended limbs to north on mature trees at top of embankment. Decay entry points. Old branch wounds. Recently failed branch from tree in group on causeway. Target area used.	Sever ivy. Reduce northern crown extents	20+	B2/3	7.20
P6-2001	1140	Lime	15	630	5	4	2	EM	Good vitality. Hanging branch at approximately 6m.	Remove hanging branch	40+	B2	7.56

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P6-2001	1141	Common Ash	7.5	560	2	2-N	2	EM	Poor vitality. Crown reduced in height & spread. Minimal live crown remaining. Dieback & deadwood at old pruning points. Loose bark to 2m Westside of tree. Insect bore holes evident. *Daldinia concentrica* brackets below old tear out wound at 3m west.	Tree risk management works undertaken.	<10	U	6.72
P6-2001	1142	Horse Chestnut	12	660	5	3	2	EM	Good vitality. Surface roots visible. No apparent significant structural	No works presently required	40+	B2	7.92

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P6-2000	0158	English Oak	19	1600	mean 8	10.0-N	6	M	Average vitality for maturity. Crown break at 5.0m above ground level. Ivy encroachment on main stem and scaffold limbs, severed at base and dying back. Fungal fruiting body attached to main stem 1.0m above ground level on south side. No hollow sound in vicinity when tapping with rubber mallet. Not currently significant. Dense branch ends caused by previous ivy encroachment of scaffold limbs.	Consider small reduction of crown to promote secondary growth on scaffold limbs. Monitor annually for signs of increased fungal activity at base.	20+	B2	19.21

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P6-2000	0159	Sycamore	19	1150	9, 8, 2, 9	5.0-N	5	M	Average vitality. Twin stemmed at 2.0m above ground level. Stem to south has been reduced to 8.0m above ground level and is now densely ivy clad. 300mm section of dead bark with exposed desiccated wood to 2.0m above ground level on west side of main stem. Resistant to probing. Crown predominates heavily to north due to reduction of stem to south.	Monitor base annually for signs of decay on east side of main stem at location of dead bark.	20+	B2	13.80
P6-2000	0160	English Oak	20	1150	10, 9, 9, 11	6.0-E	5	M	Average vitality. Minor ivy encroachment on main stem. Multi stemmed from 3.5m above ground level. Multiple historic failures in crown with deadwood and cavities to 300mm diameter. High bat roost potential.	Sever and remove 1.0m section of ivy at base of main stem.	20+	B2, 3	13.80

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P6-2000	G14-0161	Sycamore, Alder, Elm, Hawthorn	To 16	550-0161, Av-300	To 4	n/a	GL	Y-M	Linear group on wars edge. Fair to good vitality. 0161-dominant tree in group, single leader, heavy ivy encroachment to full crown extents. Mutual crown suppression throughout group. Leans and drawn forms. Self sown vegetation. Vegetation management undertaken recently with removal of scrub, dead elms and selective tree removal. Intermittent line.	No works presently required-no targets at present	20+	B2/3	6.60
P6-2000	1119	Sycamore	14		4	n/a		SM	Fair vitality with relatively sparse crown. Crown break at 1.5m into 4xstems. Column of decay from base to 2m south side of stem. Limited remaining sapwood. Within falling distance of target areas to north. Poor structural integrity. Fluxing in between north and west buttress roots. Tree on Millfield Cottage application site boundary	Fell on the grounds of safety & sound arboricultural management.	<10	U	0.00

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P6-2000	G1120	Sycamore	15	5x250	4	5N	6	SM	Multi stemmed with included bark unions. Ivy at base. Decay at base of central tree. tall elongated stems, fair vitality	No works presently required	20+	C2	5.60
P6-2000	G1121-1122	Sycamore	Up to 17	up to 500	5	4N	4	EM	30no. Sycamore with understorey of Elm and Holly. Growing on edge of pond. Majority are multi stemmed. Ivy encroachment. Fair to good vitality. Some moderate dead wood	No works presently required	20+	B2	6.00
P6-2000	1123	Yew	12	530	S-4.5	4-W	4	SM	Fair vitality with small diameter deadwood throughout crown. Heavy ivy encroachment at root flare. Mutual crown suppression. Crown lifted to 4m. Loss of vitality through competition for light. Tree on Millfield Cottage application site boundary	Clear ivy from root flare	40+	B1	6.36

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P6-2000	1124	Yew	10	320	3	2S	2	Y	Suppression canopy. Exudates from old wound at 1.5m. No significant. Tree on Millfield Cottage application site boundary	No works presently required	40+	B2	3.84
P6-2000	G1125	Elmx3	8	To 180	3.5	2-NW	2	Y	Fair vitality, 1xtree failed at base. Mutual crown suppression. 1125- Ivy severed at base. Co-dominant stems from 3m.	No works presently required	20+	C1	2.16
P6-2000	1126	Sycamore	17	450	5	4N	5	EM	Ivy encroachment. Fair vitality. Small diameter deadwood. Bifurcates at 3m. No apparent significant structural defects	No works presently required	20+	B2	5.40
P6-2000	G0156	Sycamore, Elm	To 12	To 150	To 3	n/a	1	Y	Group of self-sown trees forming part of larger group. Fair vitality. Tall drawn forms through competition for light and close spacing.	No works presently required	10+	C2	
Trees within application site boundary (Millfield Cottage)													

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	1119A	Common Ash	10	260	W-3, 5.5	4-S	4	SM	Good vitality. Growing on boundary fence. Ivy severed at base. Co-dominant stems at 3.5m. Slight lean to east.	To be felled to facilitate post and sleeper wall installation.	20+	B2	3.1
	G1119B	Yewx1, Hollyx6, Sycamore x1	To 10	To 150	To 2	n/a	GL	Y	Fair vitality. Topped crowns on evergreens-3-4m. Mutually suppressed crowns.	No works presently required	20+	C2	1.8
	1119C	Cherry	10	250	E-7, W-0, 3	1.5-E	3	SM	Good vitality. Graft point at 1.5m. Co-dominant stems. Asymmetrical crown - dominant to east. Crown reduced in past	No works presently required	20+	C2	3.0
	1119D	Sycamore	14	350	W-4	2.5-S	2	SM	Fair vitality. Third party tree. Dieback & deadwood in crown from ivy encroachment. Suckering growth at base	girdle 1m section of ivy at base	20+	B2	4.2
	1119E	Sycamore	12	220	W-4	4-W	4	Y	Fair vitality. Suppressed crown. Heavy ivy encroachment.	girdle 1m section of ivy at base	10+	C2	2.6

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	1119F	Field Maple	12	170	3	4-W	4	SM	Good vitality. Crown break at 3m. No apparent significant structural defects recorded	No works presently required	20+	B2	2.0
	1119G	Hawthorn	10	160x2	W-4	2-W	1	SM	Growing on boundary. Multi stem form from 0.5m. Crown topped in past at 3m.	No works presently required	20+	C2	2.7
	1119H	Cherry	6	200	W-7, E-0, 4	2-W	1	SM	Pronounced lean to west. Root plate sound. Co dominant stems at 2m. Fair vitality	No works presently required	20+	C2	2.4
	1119I	Beech 'japonica'	10	130	2.5	1-N	1	Y	Significant for owner. Good vitality. No apparent significant structural defects recorded	No works presently required	20+	B2	1.6
	1119J	Cherry Plum	10	220, 140	E-8, 4	2-E	1.5	SM	Good vitality. Co-dominant stems at 1m. Crown leans to east. Previously topped at 5m.	No works presently required	20+	B2	3.1

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	1119K	Lawson's Cypress	12	200	1.5	1.5-W	1.5	SM	Good vitality. Balanced crown. No apparent significant structural defects recorded	No works presently required	20+	B2	2.4
	1119L	Whitebeam	14	420	S-7	3.5-S	2	M	Good vitality. Lean to south east. Crown break at 3.5m into multi stems. North stem broken om Storm damage.	No works presently required	20+	B2	5.0
	1119M	Holly	14	130, 200	3	2-W	1.5	EM	Good vitality. Co-dominant stems at base. Minor ivy encroachment. No apparent significant structural defects recorded	No works presently required	20+	B2	2.9
	1119N	Sycamore	5	90	1, NW-4	1-NW	1	Y	Dead central leader. Light ivy encroachment. North west scaffold limb live growth.	No works presently required	<10	U	1.1
	1119O	Cherry	3	60	3	2-E	1	Y	Grafted tree. 1m graft point. Good vitality. Growing in planted pit.	No works presently required	10+	C1	0.7

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	1119P	Sycamore	5	120, 100	N-4, 2	1-N	0.5	Y	Growing directly on boundary fence, co-dominant leaders at 0.5m. South stem cut. North stem growing through fence. Fair vitality. Unbalanced & suppressed crown	No works presently required	<10	U	1.9
	1119Q	Yew	6	130	4, N-0	0.5-S	0.2	Y	Fair vitality. Crown suppression to north. Drawn stem. No apparent significant structural defects recorded	To be felled to facilitate post and sleeper wall installation.	10+	C1	1.6
	1119R	Hawthorn stump, Dead Elder	4	n/a	n/a	n/a	n/a	OM	Tree cut to 1.5m, 1xstem alive, no further generated stems	No works presently required	<10	U	0.0
	1119S	Honey Locust	8	120	5, E-2	4-S	2	Y	Good vitality, crown suppression to east. Drawn stem.	No works presently required	10+	C1	1.4
	G1119T	Laurel, Hawthorn x1	Av 4	Av 80	Av-3	n/a	GL	Y	Internal group. Random planting layout.	No works presently required	10+	C2	1.0

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	1119U	Holly	6	120	4, S-0	n/a	GL	Y	Growing directly on boundary fence. Fair vitality. Crown suppression	No works presently required	10+	C2	1.4
	1119V	Yew	6	100	2, E-0	n/a	GL	Y	Growing directly on boundary fence. Fair vitality. Crown suppression	No works presently required	10+	C2	1.2
	1119W	Elder	6	300*	5, S-1	1.5-SE	1.5	M	Growing directly on boundary fence. Lean on main stem to south. Crown break at 2m into 4xstems. Deadwood & dieback throughout crown. Fair vitality.	No works presently required	10+	C2	3.6
	G1119X	Hornbeam, Elder, Horse Chestnut, Yew, Holly	To 7	To 200	To 4	n/a	GL	Y-SM	Intermittent line of trees. Topped in places opposite building. Horse Chestnut growing through fence to north west, stem engulfed the iron bars. Drawn stems, leans. Multi stems & single leaders.	No works presently required	10+	C2	2.4

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	1119Y	Common Ash	16	640	To 7	4-NE	4	M	Fair vitality, crown previously reduced. Dieback in crown, overhanging footpath.	Remove deadwood	20+	B2/3	7.7