

BS5837:2012 TREE SURVEY

15A, Chorleywood Common, Chorleywood

Produced for:



Revised
August 2017

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1. Introduction

1.1 Terms of Reference

Maydencroft Limited was commissioned by Alex Cole of CSA Environmental to undertake a Tree Survey of all trees on an area of Chorleywood Common known as 15A, located close to Chorleywood Bottom Road and adjacent to the car park of Chorleywood Train Station.

The survey has been produced in accordance with British Standard 5837:2012 *Trees in relation to design, demolition and construction* — *Recommendations*, and is based upon a plan showing an indicative site boundary supplied by Alex Cole. The site is owned and managed by Chorleywood parish Council, and it is understood that the council intend to construct within the site a naturalistic play area.

The aim of this survey is to provide information on the location, quality and condition of trees on 15A in order to inform the design and construction of the play area, and to minimise or where possible avoid impact on the Root Protection Areas (RPAs) of retained trees. The survey also gives pragmatic advice about the removal of trees or particular surgery works where deemed essential.

It should be noted that this report does not constitute an Arboricultural Impact Assessment, Arboricultural Method Statement or Tree Protection Plan.

1.2 Scope of Works

A survey of 15A was carried out on Friday 28th July 2017 by Mark McCallum, Consultant Arboriculturalist & Woodland Specialist at Maydencroft Limited. Mark has a degree in BSc (hons) Rural Environment Studies and holds the Lantra Professional Tree Inspection qualification. He has over 15 years of experience as an arboricultural consultant and works for a broad range of clients carrying out tree surveys, tree safety inspections, woodland management plans, and forestry.

Writing of the report and production of mapping was led by Jon Collins BSc (Hons) CMLI, Senior Landscape Consultant at Maydencroft Limited. Jon has a degree in BSc (hons) Landscape Management, is a Chartered Member of the Landscape Institute, and holds the Lantra Professional Tree Inspection qualification. He manages large tree safety inspections on behalf of utility companies and local authorities, and specialises in BS5837:2012 related tree planning work, including Tree Surveys.

The weather on the day of the survey was warm with occasional showers and blustery winds. All of the trees on 15A were inspected using the Visual Tree Assessment (VTA) methodology, detailed in "The Body Language of Trees" (*Mattheck & Breloer*, HMSO, 1994). The absence of a Topographic Site Survey meant that grid references were recorded for each of the trees to enable their locations to be plotted.



Details of all trees are listed in the schedule below with quantitative and qualitative information included as required by BS 5837:2012 sections 4.4 to 4.6. The information has been used to create a Tree Survey Plan (Appendix A) showing the location of the trees, their crown spread, and their Root Protection Areas (RPAs). Appendix B includes a version of this plan with the RPAs removed for clarity.

1.3 Site Description

The small site of 15A lies on the south eastern corner of Chorleywood Common, a County Heritage Site and Local Nature Reserve consisting of approximately 80 hectares of grassland and broadleaf secondary woodland.

The trees and woodland on site have flourished since the early 20th Century, when cattle grazing by the commoners' stopped, allowing scrub to develop and birch, oak, cherry and ash to mature. The site has open public access and is well used by dog walkers, horse riders, hikers and golfers.

15A comprises a small compartment of secondary woodland, scrub and grassland approximately 0.7ha in size. It is located to the north east of the access road that links the train station car park with Chorleywood Bottom road, and to the south west of the railway line.



2. Tree Survey

This chapter is supported by the **Tree Survey** plans included in Appendix A and B of this report.

2.1 On site trees

15A contains a variety of semi-mature broadleaf species comprising ash (60%), oak (15%), field maple (10%), cherry (10%), hazel (4%) and hornbeam (1%).

2.2 Off site trees

It is not thought that any off site trees stand to be affected by the development proposal.

2.3 Tree categories

All trees on 15A have been assessed and categorised in accordance with the guidelines in BS5837:2012. The following table includes a brief summary of the categories with more details provided in Table 1 of the British Standard.

Trees to be considered	ed for retention
Category A	Trees of high quality with an estimated remaining life
	expectancy of at least 40 years.
Category B	Trees of moderate quality with an estimated remaining life
	expectancy of at least 20 years.
Category C	Trees of low quality with an estimated remaining life
	expectancy of at least 10 years, or young trees with a stem
	diameter below 150mm.
Trees unsuitable for	retention
Category U	Those in such a condition that they cannot realistically be
	retained as living trees in the context of the current land use
	for longer than 10 years.

2.4 Root Protection Areas (RPAs)

The RPAs for the trees recorded by the tree survey have been calculated in accordance with the guidance in chapter 4.6 of BS5837:2012. For single stem trees, the RPA is equivalent to a circle with radius 12 times the stem diameter.

For trees with between two to five stems, the combined stem diameter is calculated by finding the square root of the sum of the squared stem diameters. For trees with more than five stems, the combined stem diameter is calculated by finding the square root of the sum of the mean stem diameter squared multiplied by the number of stems.





2.5 Schedule of Trees

The table below summarises the trees surveyed on 15A. See Appendix C for a description of terms.

Tre		Scientific	Height	į	, o	DBH	RPA		Branch	Branch Spread		BS	9-617-0	
e No.	species	name	(m)	Age	stems	(mm)	radius (m)	Z	Е	S	W	cat	Grid Kei	General observations
1	Hawthorn	Crataegus monogyna	13	SM	2	230/200	3.0	2	4	9	9	B2	TQ 02808 95892	Ivy
2	Ash	Fraxinus excelsior	14	Y	2	110/100	1.5	3	2	0.5	2	n	TQ 02818 95886	Leaning over railway fence. Decay cavity 1.5m @ base of one stem. Tag 1152. Fell
3	Hazel	Corylus avellana	13	M	23	200	8.4	9	9	9	9	A1	TQ 02820 95890	Mature coppice stool
4	Ash	Fraxinus excelsior	16	SM	1	200	2.4	3	2.5	1.5	3	B2	TQ 02823 95881	
5	Hawthorn	Crataegus monogyna	14	M	3	240/260 /240	4.3	7	3	2.5	4	A2	TQ 02823 95877	Ivy
9	Hawthorn	Crataegus monogyna	13	SM	5	170	2.0	-	-	-	-	n	TQ 02830 95879	Ivy, in poor condition. Fell
7	Ash	Fraxinus excelsior	22	SM	1	420	5.0	8	4	3	7	C2	TQ 02828 95879	Possible chalara, numerous dead limbs in crown on NE side
8 Grp	Cherry	Prunus spp.	1	1	40	100 to 280		1	1			n		40x poor to very poor quality cherry stems. Many ivy clad. All in decline with poor stems and crowns. Fell all.
6	Oak spp	Quercus robur	26	SM	2	190/370	4.1	3	1	2	0.5	B2	TQ 02850 95877	Ivy
10	Oak spp	Quercus robur	27	SM	1	480	5.9	2	8	10	6	A1	TQ 02864 95860	Ivy
11	Oak spp	Quercus robur	27	SM	2	750/195	7.7	5	10	8	11	A2	TQ02871 95844	Some minor dead wood in crown
12	Oak spp	Quercus robur	16	SM	1	200	2.4	0.5	4	9	2	A1	TQ 02871 95847	
13	Hornbeam	Carpinus betulus	11	Y	1	185	2.2	2	1	1	2	B2	TQ 02873 95849	Some minor bark damage
14	Cherry	Prunus spp.	17	M	1	320	3.8	3	5	0.5	0	n	TQ 02862 95844	Ivy. In decline, poor crown condition. Numerous dead wood in crown. Fell
15	Oak spp	Quercus robur	18	SM	1	370	4.	4	3	8	3	B1	TQ 02854 95845	Ivy. Some dieback in crown
16	Ash	Fraxinus excelsior	28	M	4	450/470 /310 330	7.9	11	12	11	12	B1	TQ02876 95843	Ivy. Lovely example of a mature ash coppice stool but crown showing signs of chalara. Numerous medium dead limbs present.
17	Ash	Fraxinus excelsior	23	SM	1	380	4.5	2	1.5	2	2	B1	TQ 02838 95857	Ivy. Minor dead wood in crown



		Scientific	Height		į	DBH	RPA		Branch	Branch Spread	7	BS		
	Species	name	(m)	Age	Stems	(mm)	radius (m)	Z	Е	S	W	cat	Grid Ref	General observations
	Field Maple	Acer campestre	19	M	-	400	4 %.	2	4	9	0	A1	70 02829 95867	lvy. Large example of species
	Field Maple	Acer campestre	19	SM	2	220/190	2.9	ж	1	2	1	A2	TQ 02826 95872	Ivy
	Ash	Fraxinus excelsior	22	SM	1	300	3.6	3	4	2	3	C1	TQ 02822 95872	Ivy. Crown in decline with numerous dead limbs. Crown clean as near path
	Ash	Fraxinus excelsior	23	SM	1	310	3.7	3	2	3	1	B1	TQ 02817 95874	lvy. Very minor crown decline
	Hawthorn	Crataegus monogyna	14	SM	2	180/170	2.5	9	1	0	2	B2	TQ 02817 95877	Ivy
	Ash	Fraxinus excelsior	23	SM	1	280	3.4	3	3	3	3	B1	TQ 02818 95874	lvy
24	Hazel	Corylus avellana	11	M	20 plus	Average 50	2.2	4	4	1	3	A1	TQ 02809 95884	Coppice in long term before it gets overstood
25	Ash	Fraxinus excelsior	21	SM	П	260	3.1	2	-	2	2	B1	TQ 02823 95862	lvy
26	Field Maple	Acer campestre	15	SM	1	230	2.8	4	0	4	3	A1	TQ 02829 95865	Ivy
27	Ash	Fraxinus excelsior	25	SM	1	360	4.3	2	9	7.	1	B1	TQ 02831 95858	lvy
28	Ash	Fraxinus excelsior	25	M	5	180/200 /280/20 0/300	5.3	4	7.2	3	4	B1	TQ 02827 95867	lvy. Mature coppice stool
29	Ash	Fraxinus excelsior	19	SM	2	240/245	3.4	3	2	2	2	B1	TQ 02832 95853	Ivy. Minor dead wood in crown
30	Ash	Fraxinus excelsior	18	SM	1	220	2.6	1	2	1	2	C2	TQ 02829 95854	lvy
	Ash	Fraxinus excelsior	19	SM	1	260	3.1	1	2	1	2	C2	TQ 02825 95853	Ivy
	Ash	Fraxinus excelsior	21	SM	2	360/350	5.0	3	2	2	3	C2	TQ02823 95853	Ivy. Minor dead wood in crown



Tre		Scientific	Height		č	DBH	RPA		Branch	Branch Spread		BS	2.41.0	
e No.	species	name	(m)	Age	Stems	(mm)	radius (m)	Z	Е	S	W	cat	Grid Kei	General observations
33	Ash	Fraxinus excelsior	19	SM	1	260	3.1	2	1	2	2	C2	TQ 02826 95858	lvy. Minor dead wood in crown
34	Ash	Fraxinus excelsior	21	Å	2	140/110	1.8	3	1	0	2	C2	TQ 02818 95860	lvy. Spindly. Could be felled
35	Ash	Fraxinus excelsior	20	SM	1	290	3.5	0.5	0.5	3	3	C2	TQ 02808 95857	lvy. Minor dead wood and medium sized limbs dead in crown
36	Ash	Fraxinus excelsior	21	SM	2	290/290	4.1	3	33	3	2	C2	TQ 02817 95866	lvy. Minor dead wood and medium sized limbs dead in crown
37	Ash	Fraxinus excelsior	21	WS	1	300	3.6	3	3	2	0	C2	TQ 02819 95867	lvy. Minor dead wood and medium sized limbs dead in crown
38	Hawthorn	Crataegus monogyna	14	SM	1	160	1.9	ı		1		n	TQ 02815 95866	Heavy lean over path. Fell
39	Field Maple	Acer campestre	14	SM	4	260/250 /240/11 0	5.4	4	3	4	3	B1	TQ 02793 95756	
40	Ash	Fraxinus excelsior	19	SM	2	280/180	3.3	2	2	9	4	B1	TQ 02807 95862	lvy. Minor and medium dead wood in crown over road. Crown clean
41	Field Maple	Acer campestre	18	SM	1	340	4.1	3	3	4	5	A1	TQ02811 95856	Ivy
42	Ash	Fraxinus excelsior	20	SM	1	340	4.1	9	5	4	1	C2	TQ 02813 95855	Ivy. Minor dead wood in crown
43	Field Maple	Acer campestre	18	SM	1	280	3.4	4	2	2	2	A1	TQ 02822 95851	Ivy
4	Field Maple	Acer campestre	17	SM	-	250	3.0	0.5	-	3	ж	Α1	TQ 02820 95850	lvy
45	Ash	Fraxinus excelsior	21	SM	1	340	4.1	2	3	2	4	B1	TQ 02819 95845	lvy. Minor and medium dead wood in crown over road. Crown clean
46	Ash	Fraxinus excelsior	22	SM	1	240	2.9	2	1	2	1	C2	TQ 02820 95850	lvy. Minor dead wood in crown
47	Ash	Fraxinus excelsior	17	SM	1	160	1.9	1	2	4	5	C2	TQ02828 95845	
48	Ash	Fraxinus excelsior	17	SM	1	190	2.3	1	1	1	1	C2	TQ 02829 95843	



Tre		Scientific	Heiaht			DRH	RPA		Branch	Branch Spread	1	RS		
o. No.	Species	name	(m)	Age	Stems	(mm)	radius (m)	Z	Ξ	S	W	cat	Grid Ref	General observations
49	Ash	Fraxinus excelsior	19	SM	1	280	3.4	3	4	1	2	C2	TQ 02829 95844	lvy
50	Ash	Fraxinus excelsior	22	SM	1	290	3.5	3	3	2	2	C2	TQ 02830 95845	Ivy
51	Ash	Fraxinus excelsior	26	SM	1	350	4.2	3	5	2	9	C2	TQ 02831 95854	lvy. Medium and major dead wood in crown. Crown clean
52	Ash	Fraxinus excelsior	23	SM	1	280	3.4	2	3	1	3	C2	TQ 02832 95846	lvy. Minor dead wood in crown
53	Ash	Fraxinus excelsior	21	SM	1	220	2.6	1	2	2	1	C2	TQ 02826 95842	lvy. Minor dead wood in crown
54	Ash	Fraxinus excelsior	21	SM	1	170	2.0	1	2	2	0	B1	TQ 02827 95841	lvy. Minor dead wood in crown
55	Ash	Fraxinus excelsior	23	SM	1	270	3.2	3	4	2	2	B1	TQ 02829 95832	lvy. Minor dead wood in crown
26	Ash	Fraxinus excelsior	20	SM	2	220/230	3.2	1	1	1	1	B1	TQ 02830 95832	lvy. Minor dead wood in crown
57	Ash	Fraxinus excelsior	20	SM	2	280/210	3.5	1	1	2	2	B1	TQ 02832 95836	lvy. Minor dead wood in crown
58	Ash	Fraxinus excelsior	22	SM	1	320	3.8	1	1	2	2	B1	TQ 02834 95833	Ivy. Minor dead wood in crown
59	Ash	Fraxinus excelsior	22	SM	4	340/280	4.8	2	4	4	4	B1	TQ 02837 95828	lvy. Minor dead wood in crown
09	Ash	Fraxinus excelsior	22	SM	-	280	3.4	2	2	2	2	B1	TQ 02838 95841	Ivy. Minor dead wood in crown
61	Hawthorn	Crataegus monogyna	17	SM	4	270/250 /100/25 0	4.4	3	2	2	-	B1	TQ 02839 95846	
62	Hawthorn	Crataegus monogyna	17	SM	10	Average 80	2.5	2	2	2	2	B1	TQ 02842 95838	
63 Grp	Ash, hawthorn, sycamore, holly	1		SM	20	Average 100				1	1	B1	TQ02841 95821	Good group to remove to improve view from village



Tre		Scientific	Height		č	DBH	RPA		Branch	Branch Spread	Į.	BS	2.6	
e No.	sbecies	name		Age	Stems	(mm)	radius (m)	Z	E	S	W	cat	Grid Kei	General observations
64	Ash	Fraxinus excelsior	19	WS	1	280	3.4	4	9	7.0	9	B1	TQ 02847 95827	
65	Oak spp	Quercus robur	18	WS	1	320	3.8	0	0	∞	8	A2	TQ 02844 95839	Could be felled to free-up T66
99	Oak spp	Quercus robur	24	SM	1	380	4.6	4	4	3	5	A1	TQ 02843 95834	Lovely formed tree, preferably to be retained
67	Oak spp	Quercus robur	17	SM	3	300/180	3.8	2	4	4	3	A2	TQ 02846 95844	
89	Oak spp	Quercus robur	24	WS	1	360	4.3	2	2	9	9	A1	TQ 02851 95841	Lovely tree, preferably to be retained
69	Oak spp	Quercus robur	24	WS	2	370/310	4.8	3	9	1	9	A2	TQ 02852 95839	Could be felled to free-up T68
70	Oak spp	Quercus robur	16	Sm	4	260/260 /270/22 0	5.1	0	r.	2	1	A2	TQ 02853 95838	Multi-stemmed. Could be removed to improve view from village



3. Recommendations

3.1 Chalara dieback of ash (Hymenoscyphus fraxineus)

Approximately 95% of the ash trees on 15A are displaying signs consistent with the early on-set of Chalara. General crown condition is weaker than would normally be expected at the time of year, with a reduced number of leaves present and numerous dead minor to medium sized branches throughout the crowns. Some trees are at a more advanced stage with medium to major limbs infected and dead (i.e. T16 – a mature ash coppice stool).

60% of the trees on site are ash. Due to the nature of the proposed development, its high public use and its proximity to a public highway, a long-term plan for the species should be developed. This could comprise two options:

- Option 1: Select and fell the worse effected ash trees that are within the closest proximity to the development and the road. Regularly monitor the remaining trees (preferably annually) and fell as required.
- Option 2: Fell all ash on site and replace with a suitable, low growing, native broadleaf species such as hazel, or a mix of natives. Although a drastic approach, this option will ensure long term public safety and will not require expensive ongoing monitoring.

Either of the above options will require a Forestry Commission Felling License which should be acquired before any work commences.

3.2 Ivy

As is common in secondary woodland, many of the trees on 15A are ivy clad. This is problematic as it impedes the accurate visual assessment of stems and crowns. It can also prove to be a problem for the safety of the trees themselves by creating a "sail-effect" in high winds, meaning that the trees are potentially more unstable and more prone to wind blow. Any trees to be retained should have ivy carefully severed at the base. This work should be carried out on a regular basis, usually every 3 years on a site such as this.

3.3 Cherry

This species on site is displaying obvious signs of distress with all stems in decline. All trees within group 8 on the north east corner of 15A (approximately 40 stems of varying diameters) have very poor leaf growth and their stems are in poor condition. It is recommended that these trees are felled due to their location being within falling distance of the railway security fence and the proposed development. Tree 14 is displaying similar problems and should also be felled.

3.4 Trees for retention

Other species on 15A are doing very well and should be retained for their ecological and aesthetic qualities. Semi-mature oak, field maple, hazel and hornbeam trees should all be retained where possible. All will require ivy to be severed at their bases, if necessary, and



some would benefit from having understorey species such as holly and blackthorn cleared from around their root zones in order to fully display their aesthetic qualities.

It is recommended that oak trees T65 and T69 are felled in order to free-up the adjacent oaks T66, T67 and T68. This will allow the retained stems to flourish.

T16 is a lovely example of a mature ash coppice stool. Although it shows relatively advanced effects of Chalara, it could be retained and even incorporated in to the proposed development, particularly if it was heavily reduced. The tree would require on-going annual monitoring, but its size and age (at least 150 years old) should warrant retention.

3.5 Improving views

Certain trees or groups of trees could be felled to improve the view of 15A from the road to the south and the nearby village. At present, the large volume of trees is preventing this. In particular, trees along the southern boundary (no. T43 to T59), group 63 on the south east corner, and those on the eastern boundary. These trees could either be thinned (selectively felled) or removed entirely if improving views is desirable as part of this project.

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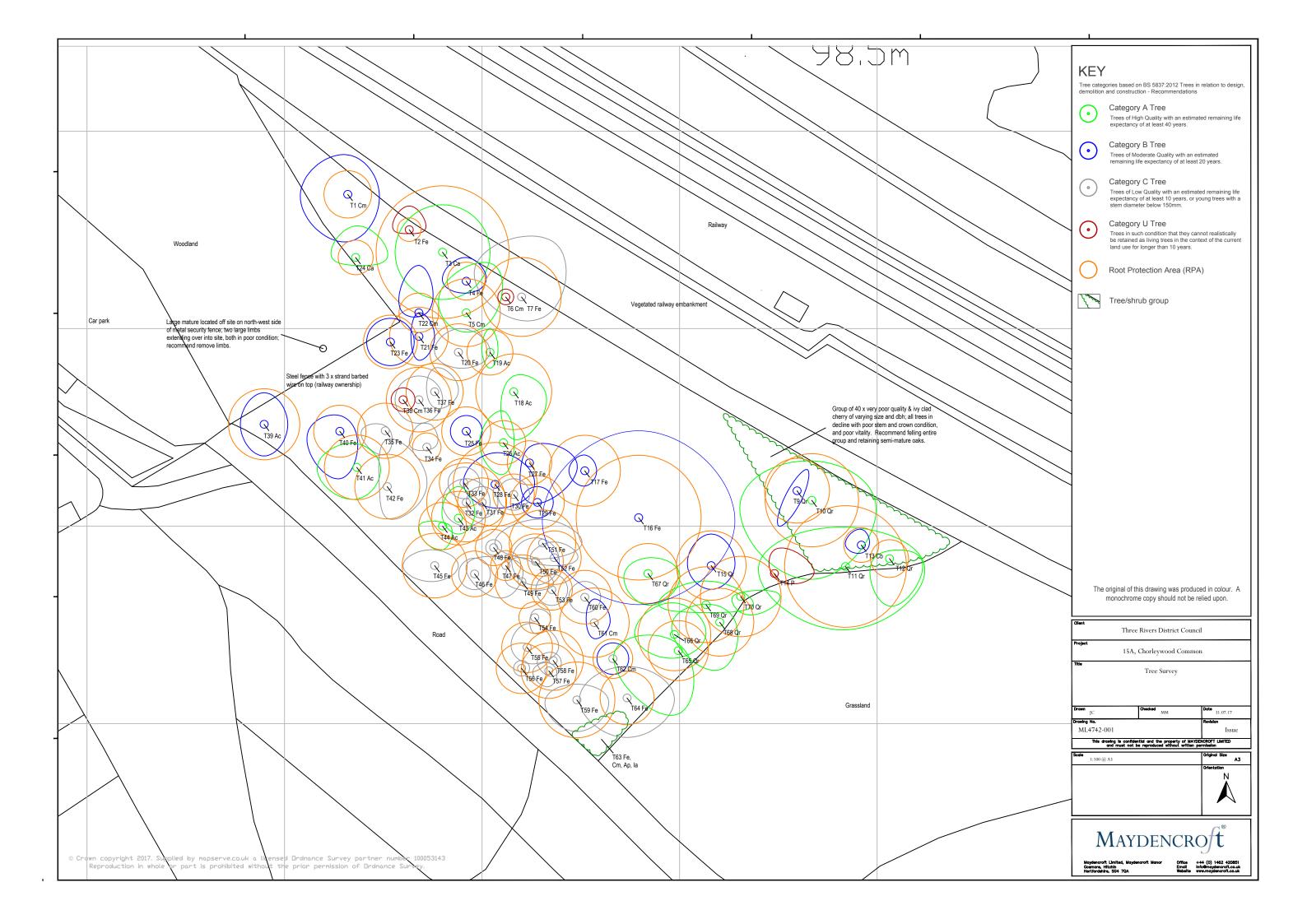
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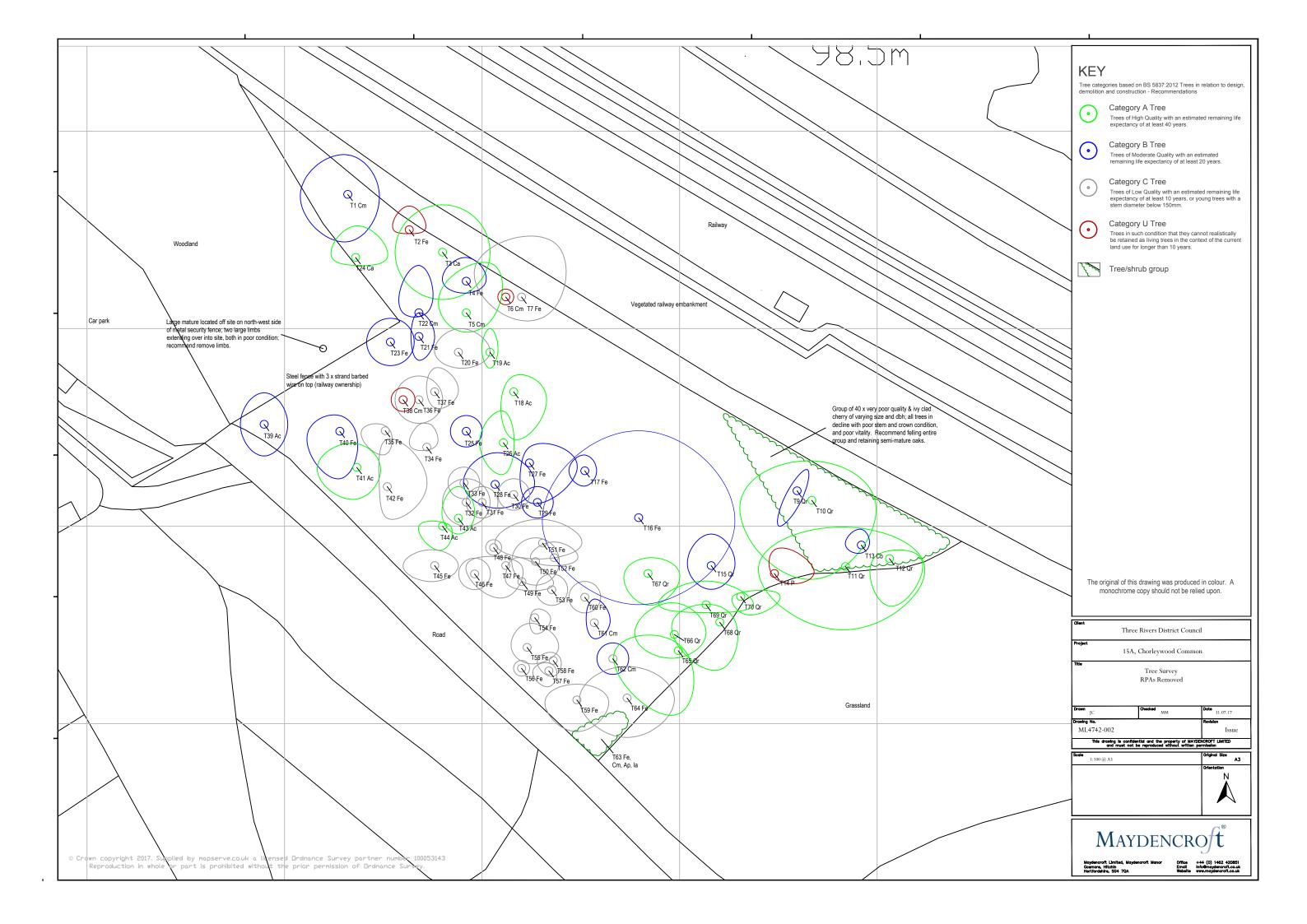
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1st August 2017







Appendix C

TREE SCHEDULE TERMS

TREE NO. Code used to identify each tree on the Tree Survey Plan

SPECIES The common name for each tree.

HEIGHT The height of the tree in metres.

AGE The age of the tree recorded as follows:

Y Young Recently planted or establishing tree;

SM Semi-mature Established tree which has yet to reach its full

growing height;

M Mature A tree which has reached its likely maximum size; OM Over-mature A mature tree which has ceased to grow or is in

decline;

V Veteran An over-mature tree of high value due to age, size

and other factors.

STEMS Number of stems present (i.e. is the tree a multi-stemmed specimen).

DBH The Diameter at Breast Height of the tree in millimetres; this figure is used

to calculate the RPA.

RPA RADIUS The radius of the tree's Root Protection Area in metres.

CROWN SPREAD The extent of the tree's crown to the north, south, east and west, in

metres.

BS CAT The BS 5837:2012 Category for the tree, in accordance with the table in

paragraph 2.3 of this report.

GRID REF The full grid reference recorded for each tree on site using a Personal

Digital Assistant (PDA).

GENERAL Any significant defects or other observations recorded as part of the

OBSERVATIONS survey.