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ARBORICULTURAL CONSTRAINTS REPORT

Land adjacent to Smethurst Street
Heywood
OL10 4QA

Prepared for:
Fleetgrace Ltd

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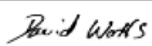
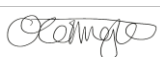
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EXECUTIVE SUMMARY

Site Address	Land adjacent to Smethurst Street, Heywood OL10 4QA
Grid Reference	SD 84932 10839
Site Area	0.25 ha.
Proposed Development	At the time of writing the development proposals have not been finalised.
Results	The site survey identified a total of 15 individual trees and four groups of trees with the potential to be affected by the development proposals. The trees on the site include two Category B trees of moderate-quality, and 13 Category C trees and four groups of trees of low-quality, and one. There were no Category A trees of high-quality or Category U trees with an estimated life expectancies of < 10 years identified at the site. According to Rochdale Council, at time of survey none of the trees on or immediately adjacent to the site are afforded protection by Tree Preservation Orders (TPOs), nor are they located within the boundary of a Conservation Area.
Conclusions and Recommendations	It is recommended that both an arboricultural impact assessment (AIA) and arboricultural method statement (AMS) are compiled once the development proposals are finalised and submitted. This should include the provision of temporary tree protection fencing and ground protection during construction works. If the finalised development proposals necessitate the removal of trees at the site, this should be mitigated through post-development tree planting.



1. INTRODUCTION

1.1. BACKGROUND

E3P Ltd have been instructed by Fleetgrace Ltd to undertake an Arboricultural Impact Assessment of the land adjacent to George Street, Heywood OL10 1JG in relation to an application for planning. The purpose of the report is to:

- ✿ Assess the quality of the trees on and immediately adjacent to the site, in accordance with BS 5837:2012 “Trees in Relation to Design, Demolition and Construction: Recommendations” (hereafter referred to as BS 5837:2012);
- ✿ Identify trees suitable for retention and for removal;
- ✿ Prescribe preliminary tree protection measures to ensure that retained trees survive the proposed development and thrive after its completion; and
- ✿ Prescribe arboricultural recommendations for the long-term management of trees on the site.

1.2. SITE DETAILS

The site is accessed east off Smethurst Street, is approximately 0.25 ha in size, and is located at grid reference SD 84932 10839. The site is bound by commercial property to the east, Bridge Street to the south, Smethurst Street to the west, new build homes to north-west (not shown in Fig. 3.1), and recreational grassland to the north-east.

At the time of the survey can be described as a disused and overgrown area of scrubland.

FIGURE 1.1 AERIAL IMAGERY SHOWING APPROXIMATE BOUNDARY OF THE SITE (GOOGLE EARTH PRO, 2018)



2. METHODS

2.1. DESK STUDY

The local council was consulted to determine if any trees on the site and immediately adjacent to the site are protected by tree preservation orders (TPOs) and/or are within conservation areas. Cranfield (2018) was consulted as to the soil type of the surrounding area.

2.2. SITE SURVEY

The original site survey for the wider site was carried out on 2nd September 2018.

A secondary site survey was carried out on 20th August 2019. The weather at the time of the survey was fine, with a slight breeze; visibility was good.

The survey was carried out by Jack Delaney. Jack Delaney is an arboricultural consultant, who has worked in the arboricultural industry for ten years, holds an FdSc in Arboriculture, and is a Professional Member of the Arboricultural Association.

All trees on site were inspected from ground level, using the visual tree assessment (VTA) method (Mattheck et al., 2015). Any notable defects of trees were recorded, although the site survey did not constitute a full tree safety assessment.

Tree heights and crown clearances were measured to the nearest 0.5 m with a clinometer. Crown spreads of trees were measured on their north, east, south and west aspects to the nearest 0.5 m.

The diameter at breast height (DBH) of trees was measured to the nearest 10 mm. This was used to calculate the root protection area (RPA) of trees using methods prescribed in BS 5837:2012 and reproduced here.

- ✿ For single stem trees, the RPA was calculated as a circle with a radius of $12 \times \text{DBH}$.
- ✿ For trees with 2–5 stems, the RPA was calculated using the formula:
$$\text{RPA} = \sqrt{(\text{Stem 1 DBH})^2 + (\text{Stem 2 DBH})^2 + \dots (\text{Stem 5 DBH})^2}.$$
- ✿ For trees with 6 or more stems, the RPA was calculated using the formula:
$$\text{RPA} = \sqrt{(\mu \text{ DBH})^2 \times \text{number of stems}}.$$

In accordance with BS 5837:2012, trees were classified as either A, B, C or U, using the criteria shown in Table 2.1. Trees are further classified by the subcategories 1, 2 and 3, depending upon whether they have mainly arboricultural qualities, landscape qualities, or cultural values. The additional subcategory does not affect the retention value of the tree, e.g. a Category A2 tree does not have a higher retention value than a Category A1 tree.



TABLE 2.1 BS 5837 CASCADE CHART (ADAPTED FROM BRITISH STANDARDS, 2012)

CATEGORY	DEFINITION	RETENTION	COLOUR CODE
Category A	Trees of high quality with an estimated remaining life expectancy of at least 40 years; trees that are particularly good examples of their species, especially if rare or unusual.	Highly desirable	Light green
Category B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years; trees lacking the special quality to merit Category A designation.	Desirable	Dark blue
Category C	Trees of low quality with an estimated remaining contribution of at least 10 years, or trees with a stem diameter below 150 mm; unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Feasible, but should be removed if posing a constraint to development	Grey
Category U	Trees that have serious, irremediable, structural and/or physiological defects, including those that will become unviable after removal of other Category U trees.	Unfeasible	Dark red

2.3. CONSTRAINTS

The survey was constrained by the season in which it took place. Some pathogens of trees, in particular fruiting bodies of decay fungi, are only visible at certain times of year.

The majority of the site was covered by a dense layer of undergrowth which restricted access to certain areas.

2.4. ADDITIONAL INFORMATION

Tree identification numbers in this report correlate with those applied in an Arboricultural Impact Assessment previously compiled for the wider site (Delaney, 2018). Additional trees which were identified in the secondary survey have been assigned new numbers.



4. RESULTS

4.1. DESK STUDY

According to Rochdale Council, at time of survey none of the trees on or immediately adjacent to the site are afforded protection by Tree Preservation Orders (TPOs), nor are they located within the boundary of a Conservation Area.

Cranfield (2018) states that the surrounding area consists of acidic, slowly permeable, loamy and clayey soils that are seasonally wet. No further detailed soil analysis was carried out as part of the survey.

4.2. TREE POPULATION ASSESSMENT

The site survey identified a total of 15 individual trees and four groups of trees with the potential to be affected by the development proposals.

The trees on the site include two Category B trees of moderate-quality, and 13 Category C trees and four groups of trees of low-quality, and one.

There were no Category A trees of high-quality or Category U trees with an estimated life expectancies of < 10 years identified at the site.

TABLE 3.1 SUMMARY OF TREE CATEGORIES

CATEGORY	DESCRIPTION	TREE/GROUP NUMBERS	TOTALS
A	Trees of high-quality that should, where possible, be retained throughout any proposed development	–	-
B	Trees of moderate-quality that should, where possible, be retained throughout any proposed development	T5, T13	2 Trees
C	Trees of low-quality that should not be considered a constraint to development	T2, T3, T4, T6, T7, T8, T9, T10, T11, T12, T14, T15, T16 G1, G2, G3, G4	13 Trees 4 Groups
U	Trees that should be removed for sound management reasons, regardless of proposals	-	-
Total: 15 Trees and 4 Groups			

Tree data can be viewed in **Appendix II: Tree Survey Schedule**. Tree locations can be viewed in **Appendix IV: Tree Constraints Plan**.

Tree species on and adjacent to the site include; sycamore (*Acer pseudoplatanus*), dog rose (*Rosa canina*), field maple (*Acer campestre*), hawthorn (*Crataegus monogyna*), silver birch (*Betula pendula*), Italian alder (*Alnus cordata*), rowan (*Sorbus aucuparia*), wild cherry (*Prunus avium*) and goat willow (*Salix caprea*).



5. RECOMMENDATIONS

5.1. TREE CATEGORISATION METHOD

The purpose of the tree categorisation method applied in this report is to identify the quality and value of the existing tree stock at the site. This will subsequently allow informed decisions to be made with regards to which trees should be removed or retained due to the proposed development.

5.2. TREE RETENTION

Category A trees are specimens that are particularly good examples of their species, or those that are essential components of groups of trees. These trees may also be of significant visual importance as landscape features (e.g. the dominant and/or principal tree in an avenue of trees).

There were no Category A trees identified at the site.

Category B trees are those that might have been recorded as Category A, but are downgraded because of significant – yet remedial – physiological defects, and/or are trees lacking the special quality necessary to merit Category A designation.

Two Category B trees were identified at the site; if possible, these should be retained throughout any proposed development.

5.3. TREE REMOVAL

Category C trees are unremarkable specimens of very limited merit and/or of such impaired condition that they do not warrant higher classification.

13 Category C trees and four Category C groups were recorded at the site; these should not be considered a constraint to the development, and can be removed where necessary.

According to Rochdale Council, at time of survey none of the trees on or immediately adjacent to the site are afforded protection by Tree Preservation Orders (TPOs), nor are they located within the boundary of a Conservation Area.

However, as these can be liable to change, any legal designations affecting the trees on the site should be checked and verified with the local authority prior to the commencement of any future arboricultural works.

Any future arboricultural works, including tree removals, should be carried out by a fully insured and suitably qualified arboricultural contractor who is able to comply with BS 3998:2010 “Tree Works: Recommendations”.

Killing or damaging a protected tree is a criminal offence and can result in an unlimited fine.

5.4. TREE PROTECTION

It is recommended that any development proposals put forward following submission of this report are evaluated by an arboricultural consultant, who can then accurately compile an arboricultural impact assessment (AIA) and method statement (AMS).



Temporary tree protection fencing and ground protection should be put in place throughout development works to ensure that retained trees survive the development and thrive upon its completion.

The exact location of tree protection fencing can be decided upon once detailed plans of the development are available. This should be illustrated in a tree protection plan, which will be appended to an AIA. Details regarding its specification should be given in an AMS.

5.5. MITIGATION

Any tree removals required to make future development proposals feasible would require mitigation by further tree plantings; these should be specified in an AIA. The location of trees planted should be detailed on a landscape planting plan.

Trees planted for mitigation should be standard in size and should be planted in accordance with BS 8545:2014 "Trees: from nursery to independence in the landscape. Recommendations". All trees should be affixed with a wooden stake, secured to the tree by a biodegradable cable tie. An organic woodchip mulch should be applied in a 1 m radius around tree stems.

Tree species should be agreed with by the local authority tree officer.

Suggested species include:

- ✿ Field maple (*Acer campestre*);
- ✿ Hawthorn (*Crataegus monogyna*);
- ✿ Rowan (*Sorbus aucuparia*);
- ✿ Sessile oak (*Quercus petraea*);
- ✿ Aspen (*Populus tremulus*); and
- ✿ Silver birch (*Betula pendula*).

Aftercare will be required for a period of at least three years after planting. This should include watering, removal of weeds and, if necessary, removal of cable ties, formative pruning and reapplication of mulch.

END OF REPORT



APPENDIX I

REFERENCES

REFERENCES

- ✿ British Standards (2010). BS 3998:2010 "Tree work: Recommendations". British Standards Institution, London.
- ✿ British Standards (2012). BS 5837:2012 "Trees in relation to design, demolition and construction: Recommendations". British Standards Institution, London.
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- ✿ Mattheck, C., Bethge, K., Weber, K. (2015). *The Body Language of Trees*. The Karlsruhe Research Institute, Karlsruhe (Germany).



APPENDIX II TREE SURVEY SCHEDULE

A plan of the tree locations can be viewed in **Appendix IV: Tree Constraints Plan**.

TABLE A.1 KEY FOR TREE TABLES

KEY		
Species	Common name following Johnson & More (2004)	
Height	Measured to nearest 0.5 m	
CC	Height of crown clearance, measured to nearest 0.5 m	
Stems	Number of stems bifurcating below 1.5 m	
DBH	Diameter at breast height (1.5 m), in centimetres	
Crown Spread	Measured to nearest 0.5 m	
Age	Y	Young sapling/newly planted tree
	SM	Semi-mature; tree in 1/3 of estimated lifespan
	EM	Early-mature; tree in 2/3 of estimated lifespan
	M	Mature; tree in 3/3 of estimated lifespan
	OM	Over mature; tree that has exceeded its natural lifespan
	V	Veteran tree
SULE	Safe useful life expectancy of tree, in years	
Category	See cascade chart (Table 2.1)	
#	Denotes estimated value	



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TABLE A.2 INDIVIDUAL TREES

TREE NO.	SPECIES	HEIGHT	C C	STEMS	DBH	CROWN SPREAD				AGE	COMMENTS	SULE	CATEGORY
						N	E	S	W				
T2	Goat willow (<i>Salix caprea</i>)	9	0.5	3	12 22 24	0	4.5	5	4	EM	Suppressed by adjacent trees. Included primary branch union at base. Limited arboricultural merit.	11-20	C1
T3	Goat willow (<i>Salix caprea</i>)	7	0	1	34	1	3.5	4	3	EM	Suppressed by adjacent trees, limited arboricultural merit.	11-20	C1
T4	Goat willow (<i>Salix caprea</i>)	6	1	1	26	2	3	4	3.5	EM	Suppressed by adjacent trees, limited arboricultural merit. Cable lighting wrapped around crown.	11-20	C1
T5	Sycamore (<i>Acer pseudoplatanus</i>)	12	2	1	37 36	4.5	5	5	4	M	Codominant primary stems, inclusion at base. Multiple crossing branches. Lacks qualities for Category A classification.	>40	B1
T6	Goat willow (<i>Salix caprea</i>)	9.5	1	1	54	4	4.5	3	4.5	M	Multiple included primary branch unions at 0.5m. Minor deadwood <100mm diameter throughout crown. Limited arboricultural merit.	11-20	C1



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TREE NO.	SPECIES	HEIGHT	C C	STEMS	DBH	CROWN SPREAD				AGE	COMMENTS	SULE	CATEGORY
						N	E	S	W				
T7	Silver birch (<i>Betula pendula</i>)	11	1	1	18	1.5	0.5	1	2.5	EM	Suppressed by adjacent trees, tall and leggy. Asymmetric crown.	11-20	C1
T8	Sycamore (<i>Acer pseudoplatanus</i>)	12	2	3	28 24 26	4.5	5	4.5	5	M	Included primary branch unions at base . No other major visible defects. Lacks qualities for Category B classification.	21-40	C1
T9	Goat willow (<i>Salix caprea</i>)	9	0	2	52 15	6	6	4	0.5	M	Suppressed by adjacent trees, asymmetric crown and leans to E. Minor deadwood <100mm diameter throughout crown.	11-20	C1
T10	Rowan (<i>Sorbus aucuparia</i>)	6	0. 5	2	16 15	1	2	3	2	EM	Sparse foliage. Limited arboricultural merit.	11-20	C1
T11	Elder (<i>Sambucus nigra</i>)	4	2	2	7 13	2	1.5	2	2	EM	Growing at base of boundary fence. Limited arboricultural merit.	11-20	C1



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TREE NO.	SPECIES	HEIGHT	C C	STEMS	DBH	CROWN SPREAD				AGE	COMMENTS	SULE	CATEGORY
						N	E	S	W				
T12	Sycamore (<i>Acer pseudoplatanus</i>)	10	1.5	1	33	3	3.5	2.5	4	EM	Growing at base of boundary fence. No major visible defects though of limited arboricultural merit.	21-40	C1
T13	Italian alder (<i>Alnus cordata</i>)	13	1	1	29	3	3	3	3	EM	No major visible defects. Growing through telephone wire at 6.5m.	21-40	B1
T14	Wild cherry (<i>Prunus avium</i>)	15	2	2	32 25	2	6.5	7	3.5	M	Bifurcates at ground level into two co-dominant stems - bark inclusion at union. Minor deadwood <100mm diameter.	11-20	C1
T15	Wild cherry (<i>Prunus avium</i>)	13	0	1	31	1	6	7	1	SM	Suppressed by adjacent tree with asymmetrical crown spread predominantly confined to south and east. Minor deadwood <100mm diameter.	11-20	C1
T16	Wild cherry (<i>Prunus avium</i>)	16	2	2	36 39	7	7.5	7	5	M	Bifurcates at ground level into two co-dominant stems - bark inclusion at union. Mechanical damage to north aspect of smaller main stem at 1.5m. Minor deadwood <100mm diameter.	11-20	C1



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TABLE A.3 GROUPS OF TREES

TREE NO.	SPECIES	AV. HEIGHT	AV. CC	ESTIMATED NO. STEMS	AV. DBH	AV. CROWN SPREAD	AGE	COMMENTS	SULE	CATEGORY
G1	Wild cherry (<i>Prunus avium</i>)	14	2	7	35	3	M	Linear group, ivy throughout. Multiple included unions. Minor deadwood 100mm diameter throughout.	11-20	C1
G2	Goat willow (<i>Salix caprea</i>), silver birch (<i>Betula pendula</i>)	7	0	15	10	1	SM	Dense group of limited arboricultural merit.	11-20	C1
G3	Goat willow (<i>Salix caprea</i>), sycamore (<i>Acer pseudoplatanus</i>), silver birch (<i>Silver birch</i>), hawthorn (<i>Crataegus monogyna</i>), dog rose (<i>Rosa canina</i>)	7	1	15	30	4	M	Goat willow dominant species within group. Mostly multiple stem trees of limited arboricultural merit. Dense bramble understorey.	11-20	C1
G4	Goat willow (<i>Salix caprea</i>), elder (<i>Sambucus nigra</i>), cotoneaster (<i>Cotoneaster frigidus</i>), field maple (<i>Acer campestre</i>)	3	0	8	10	1	SM	Linear group running along boundary fence. Limited arboricultural merit.	11-20	C1



APPENDIX III

PHOTOGRAPHS

PLATE 1 T1



PLATE 2 T14, T15 AND T16, WITH G1 TO REAR



PLATE 3 T6 – T10



PLATE 4 G2



PLATE 5 T12 AND T13



PLATE 6 G4



APPENDIX IV TREE CONSTRAINTS PLAN

Appendix IV: Tree Constraints Plan

Project:	Land adjacent to Smethurst Street
Drawn by:	Jack Delaney
Date:	30th August 2019
Scale:	1:200 @ A1

Do not scale off this drawing - to be reproduced in colour only

Key:

Category B trees of moderate quality

Root protection area (RPA) →

Tree stem →

Tree canopy →

Category C trees/groups of low quality

Root protection area (RPA) →

Tree stem →

Tree canopy →

