

ARBORICULTURAL SURVEY
SHEFFIELD ROAD, PENISTONE

A Report to The Co-Operative Group

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SHEFFIELD ROAD, PENISTONE

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1 OF 2

01 THE CO-OPERATIVE GROUP
02 MIDDLEMARCH ENVIRONMENTAL LTD

This study was conducted and compiled by
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*This report is the responsibility of Middlemarch Environmental Ltd.
It should be noted that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment.*

Contract Number C113193

December 2012

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1. INTRODUCTION

1.1 PROJECT BRIEF

In November 2012 Middlemarch Environmental Ltd were commissioned by The Co-Operative Group to undertake an Arboricultural Survey of trees growing on land at Sheffield Road, Penistone.

Middlemarch Environmental Ltd has also carried out an Extended Phase 1 Habitat Survey and an Initial Bat Survey at the site. The findings of these surveys are detailed in Middlemarch Environmental Ltd Reports RT-MME-113193-01 and RT-MME-113193-02 respectively.

It is understood that an outline planning application for between 30 to 40 units will be submitted for the site, however the precise details of the development have not been finalised at this stage.

1.2 SITE DESCRIPTION

The site under consideration, hereinafter referred to as the study area, is a triangular parcel of land located in the eastern outskirts of Penistone off the B6462 in the Metropolitan Borough of Barnsley, South Yorkshire, at Ordnance Survey Grid Reference SP 087 578.

The study area consisted mainly of poor semi-improved grassland with scattered trees, and scrub and a strip of plantation woodland along the northern boundary.

The location of the trees surveyed can be found on Middlemarch Environmental Ltd Drawing Number C113193-03-01.

2. ARBORICULTURAL SURVEY METHODOLOGY

2.1 DESK STUDY

A desk study was undertaken to identify if any of the trees present within or in close proximity to the site are covered by Tree Preservation Orders (TPOs) or if the site is situated within a Conservation Area. This involved consultation with the Local Planning Authority.

2.2 CONDITION STATUS

To determine the status of the trees within the site a full arboricultural survey has been undertaken, assessing the species and status of all trees present. This survey has been carried out in accordance with British Standard 5837: 2012 'Trees in Relation to design, demolition and construction – Recommendations'.

All trees have been given a unique reference number. Individual trees above 75 mm (diameter at 1.5 m above ground level) have had their position plotted to a survey drawing. The trees were visually assessed and a schedule prepared listing tree number, species, trunk diameter at 1.5 m above ground level (or in accordance with Annex C of BS5837:2012), tree height, crown spread (cardinal points), crown clearance (cardinal points), height of first branch and growth direction, age class and estimated remaining years. Any specific observations or recommendations with regard to management were also noted. All these observations and measurements are summarised in Section 3.3.

Each tree was assessed and assigned to one of the following categories:

- Category A: Those trees of high quality and value with an estimated remaining life expectancy of at least 40 years.
- Category B: Those trees of moderate quality and value with an estimated remaining life expectancy of at least 20 years.
- Category C: Those trees of low quality and value with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm.
- Category U: Trees 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.

Categories A, B and C have further sub-categories with regards to the reasons for tree retention:

- 1: Mainly arboricultural qualities
- 2: Mainly landscape qualities
- 3: Mainly cultural values, including conservation.

2.3 ROOT PROTECTION AREA (RPA)

In order to avoid damage to the roots or rooting environment of retained trees, the RPA has been calculated for each of the Category A, B and C trees. This is a minimum area around a tree which is deemed to contain sufficient roots and rooting volume to maintain the trees viability. Protection of the roots and soil structure in this area should be treated as a priority.

These figures have been calculated utilising the formulas within Section 4.6 and Annex D of British Standard 5837:2012.

3. RESULTS

3.1 DESK STUDY

Edward Jowett (Tree Officer, Barnsley Metropolitan Council, 2012, *Pers. Comm.*), confirmed by telephone on 6th December 2012 that there are no Tree Preservation Orders within or closely surrounding the study area. Edward also confirmed that the study area is not situated within a Conservation Area.

3.2 WEATHER CONDITIONS

The survey was completed on 5th December 2012 by Lucy Philpott, Arboricultural Manager. The weather conditions at the time of the survey are shown in Table 3.1.

Conditions	Result
Temperature (°C)	0
Cloud Cover (%)	0
Precipitation	Dry
Wind Speed (Beaufort)	F1-2

Table 3.1: Weather Conditions at Time of Survey

3.3 SURVEY RESULTS

Tree and shrub species recorded during the survey are listed in Table 3.2.

Common Name	Scientific Name
Alder	<i>Alnus glutinosa</i>
Dog rose	<i>Rosa canina</i>
Elder	<i>Sambucus nigra</i>
Elm	<i>Ulmus</i> sp.
False acacia	<i>Robinia pseudoacacia</i>
Goat willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Lawson cypress	<i>Chamaecyparis lawsoniana</i>
Norway maple	<i>Acer platanoides</i>
Rowan	<i>Sorbus aucuparia</i>
Silver birch	<i>Betula pendula</i>

Table 3.2: Tree and Shrub Species Recorded During Survey

The full results of the Arboricultural Assessment are detailed in Table 3.3.

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	H't 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
1	Alder	1	200	6.0	1.0 W	1.5	3.0	1.5	2.0	1.0	1.0	1.0	1.0	EM	G	G	20+	B1,2	<ul style="list-style-type: none"> Naturally regenerated specimen located on steep bank. Butt swept to the south, now corrected. 	-
2	Alder	1	250	7.0	1.0 S	2.5	2.0	2.5	2.5	1.5	1.5	1.0	1.0	EM	G	F	20+	C3	<ul style="list-style-type: none"> Naturally regenerated specimen located at the base of a steep bank. Co-dominant leaders form at 0.5 m with tight union. 	-
3	Goat willow	4	200	5.0	1.0 W	3.0	2.5	2.0	2.0	1.5	1.0	1.0	1.0	EM	G	F	10+	C2,3	<ul style="list-style-type: none"> Located at top of retaining wall. Multi-stemmed from 0.25m. 	-
4	Goat willow	3	180	6.0	0.5 E	3.0	3.5	3.0	2.5	1.0	1.0	1.0	1.0	EM	G	F	10+	C2,3	<ul style="list-style-type: none"> Tight unions present in crown. 	-
5	Alder	1	300	10.0	0.5 N	4.0	4.0	4.0	3.0	0.5	1.0	3.0	4.0	M	G	G	20+	B2	<ul style="list-style-type: none"> Located on embankment. 	-
6	Goat willow	2	360	12.0	2.0 N	3.0	5.0	5.0	5.0	3.0	>5.0	>5.0	>5.0	M	F	P	<10	U	<ul style="list-style-type: none"> Numerous stems and large branches removed. Bifurcates at 0.5m from tight union with included bark. 	-
7	Goat willow	1	260	12.0	3.0 E	3.0	6.0	5.0	6.0	>5.0	3.0	>5.0	>5.0	M	F	P	<10	U	<ul style="list-style-type: none"> Stem and major limb removal over footpath. Split limbs present. 	-
8	Elder	6	200	3.0	0.5 N	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	M	F	F	10+	C3	<ul style="list-style-type: none"> Located on top of degraded retaining wall. 	-
9	Elder	4	200	3.0	0.5 E	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	M	F	F	10+	C3	<ul style="list-style-type: none"> Located on top of degraded retaining wall. 	-
10	Goat willow	4	560	12.0	1.0 N	6.0	5.0	5.0	5.0	1.0	2.0	3.0	3.0	M	G	F	20+	B2	<ul style="list-style-type: none"> Minor deadwood present. 	-
H1	Lawson cypress	1	150	3.0	~0.5 E	1.0	1.0	1.0	1.0	~0.5	~0.5	~0.5	~0.5	Y	G	G	20+	C2	<ul style="list-style-type: none"> Off site hedgerow comprising seven stems. Overhangs site by 0.5m 	-

Table 3.3: Results of Arboricultural Survey (continues)

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	H't 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
G1	Birch, Alder, Goat willow, Hazel, Rowan, Elm, False acacia	1	~200	~12.0	~1.0	~3.0	~3.0	~3.0	~3.0	~1.0	~1.0	~1.0	~1.0	EM	G	G-F	20+	B2	<ul style="list-style-type: none"> Group of early mature landscape planting on embankment. Some declining specimens of false acacia present. 	Remove dead and declining specimens.
G2	Alder, Goat willow, Rose, Hawthorn, Silver birch	1	~100	~4.0	~0.5 E	~2.0	~2.0	~2.0	~2.0	0.5	0.5	0.5	0.5	Y	G	G	10+	C2	<ul style="list-style-type: none"> Extensive group of naturally regenerated saplings and young trees that cover the majority of the site. 	-
G3	Norway maple, Goat willow	~5	~600	~8.0	0.0 E	~4.0	~4.0	~4.0	~4.0	0.5	0.5	0.5	0.5	EM	G	F	10+	C2	<ul style="list-style-type: none"> Naturally regenerated specimens growing on top of retaining wall. 	Consider removal to prevent damage to wall in the long-term.
G4	Goat willow, Silver birch	1	~100	~5.0	0.5 E	~1.5	~1.5	~1.5	~1.5	0.5	0.5	0.5	0.5	Y	G	G	20+	C2	<ul style="list-style-type: none"> Group of young landscape planting on slope. 	-

Key

Age Class

Y: Young = tree within first third of average life expectancy
 EM: Early mature = tree within second third of average life expectancy
 M: Mature = tree within final third of average life expectancy
 OM: Over mature = tree beyond average life expectancy

Physiological Condition

G: Good = no health problems
 F: Fair = symptoms of ill health that may be remedied
 P: Poor = poor health

Structural Condition

G: Good = no structural defects
 F: Fair = remedial structural defects
 P: Poor = significant structural defects

~: average dimension

Major deadwood: branches in excess of 50 mm diameter
 Minor deadwood: branches/twigs less than 50 mm diameter

Table 3.3 cont'd: Results of Arboricultural Survey

3.4 ROOT PROTECTION AREA (RPA)

Table 3.4 provides details of the Root Protection Area (RPA) of all trees surveyed which were classified as Category A, B or C specimens. This table also gives an approximate root protection radius for these trees.

Tree No.	Species	Diameter (mm)	Approximate Root Protection Radius (m)	Root Protection Area (m ²)
1	Alder	200	2.4	18
2	Alder	250	3.0	28
3	Goat willow	200	2.4	18
4	Goat willow	180	2.4	18
5	Alder	300	3.6	41
6	Goat willow	360	4.5	64
7	Goat willow	260	3.3	34
8	Elder	200	2.4	18
9	Elder	200	2.4	18
10	Goat willow	560	6.9	150
H1	Lawson cypress	150	1.8*	10*
G1	Birch, Alder, Goat willow, Hazel, Rowan, Elm, False acacia	~200	2.4*	18*
G2	Alder, Goat willow, Rose, Hawthorn, Silver birch	~100	1.2*	5*
G3	Norway maple, Goat willow	~600	7.2*	163*
G4	Goat willow, Silver birch	~100	1.2*	5*
Key: ~: average dimension *: around each individual within group/hedgerow				

Table 3.4: RPA and Approximate Root Protection Radius of Category A, B and C Trees Surveyed

4. DISCUSSION AND CONCLUSIONS

4.1 DESK STUDY

The desk study identified that no trees within the study site are subject to Tree Preservation Orders (TPO). The site is not situated within a Conservation Area.

4.2 TREE QUALITY

Thirty trees and eight groups have been inspected in accordance with BS 5837: 2012 Trees in Relation to design, demolition and construction - recommendations.

- No trees or groups are considered to be Category A – Trees of high quality and value
- Three trees and one group are considered to be Category B – Trees of moderate quality and value
- Five trees, three groups, and one hedgerow are considered to be Category C – Trees of low quality and value
- Two trees are considered to be Category U – Trees whose immediate removal is advised

A summary of the trees in each of the four categories is given in Table 4.1.

BS 5837 (2012) Category	Tree Number
A	-
B	1, 5, 10, G1.
C	3, 4, 2, 8, 9, H1, G2, G3, G4.
U	6, 7.

Table 4.1: Summary of Trees in BS 5837 (2012) Categories

5. RECOMMENDATIONS

The following site-specific recommendations are made:

- The retention of the Category B trees and groups across the site should be considered as a priority as these specimens are likely to make a substantial contribution to the continued landscape character of the site.
- The retention of the Category C trees should be considered where possible though it must be noted that these specimens have a low retention value and are likely to only offer a temporary contribution to the landscape character of the site.
- Trees 6 and 7 (Category U) should be removed within 6 months irrespective of the development proposals.
- In general all new development shall be located outside of the RPA or canopy spread of any retained tree.
- Where any new development is proposed within the RPA or canopy spread of a retained tree it must be constructed in such a way that damage of the trees root system or crown can be avoided.
- Should new development require works within the RPA of any retained tree an Arboricultural Method Statement should be prepared to set out what steps are to be taken to protect the trees during the course of development.
- Any proposed new planting should consist of native and wildlife attracting species with a robust five year management plan to assist with the development proposal and to offer mitigation for any tree loss
- This Arboricultural Survey is valid for a period of 12 months. If works are not commenced within this time period then it is advised that the trees are re-inspected to ensure no significant defects have developed since the original survey.

The following generic guidance should also be taken into account during the construction phase of any development, or significant engineering. The following proposals are made for this site:

- Any trees, hedges or woodlands that are to be retained should be adequately protected by Heras fencing, in line with BS5837:2012, extending at least to the Root Protection Radius, to prevent accidental damage by vehicles or contractors (see Table 3.4, page 10, for RPA data for each tree).
- All pruning works are to be carried out by a competent and qualified arborist to BS3998 (2010) standards.
- Tree protection should be included in the induction and/or briefing sessions by the contractors to site personnel.
- Soil compaction, from the storage of large quantities of materials and plant tracking, may result in changes to soil permeability and local drainage. This may lead to waterlogging or loss of soil crumb structure. These effects may in turn lead to root asphyxiation and root death, a cause of instability and or mortality in trees. For this reason, heavy machinery and the storage of materials should be excluded from the crown and Root Protection Radius of all trees.

- The recommendations of BS5837 (2012) and National Joint Utilities Group Volume 4 (Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees) (as appropriate to operations) should be followed when working close to trees.
- If works take place during the bird breeding season, usually from March to September inclusive, trees and hedgerows should be checked for nesting birds. If any trees are to be removed this should be done outside the breeding season or in the presence of a suitably qualified ecologist.

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DRAWINGS

Middlemarch Environmental Ltd Drawing Number C113193-03-01: Arboricultural Survey

Legend

- Category B tree
- Category C tree
- Category U tree
- Current canopy extent
- - - Root Protection Area
- Category B group
- Category C group
- - - Survey boundary



The original of this drawing was produced in colour - a monochrome copy should not be relied upon

Client	The Co-operative Group	Project	Sheffield Road, Penistone
Drawing	Arboricultural Survey	Drawing Number	C113193-03-01
Revision	00	Date	December 2012
Scale at A3	1:700	Drawn By	SKS
Approved By	LP	Notes	-

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QUALITY ASSURANCE

TITLE: ARBORICULTURAL SURVEY

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Checked by:

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