ARBORICULTURAL SURVEY

ST. JOHN'S SCHOOL, WETLEY ROCKS, STAFFORDSHIRE

A Report to Mr Worthington

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March 2011

ARBORICULTURAL SURVEY

ST. JOHN'S SCHOOL, WETLEY ROCKS
STAFFORDSHIRE

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1 OF 2

01 MR WORTHINGTON
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 C109232

March 2011

CONTENTS

1. INTRODUCTION

1.1 PROJECT BRIEF

On 17th February 2011 Mr Worthington commissioned Middlemarch Environmental Ltd to undertake an Arboricultural Survey on trees within the St. John's School site at Wetley Rocks in Staffordshire.

It is understood that the development works proposed for the site include the redevelopment of the land for affordable housing and associated infrastructure.

1.2 SITE DESCRIPTION

The site of St John's School and associated grounds is located in the village of Wetley Rocks in Staffordshire Moorlands at National Grid Reference SJ 963 493. The site is bordered by St John's Church to the east. Mill Lane abuts the site to the south. Residential property forms the south western boundary which becomes farmland to the west and the northern boundaries.

The survey area was dominated by buildings and hard standing forming the school and associated out buildings. Scattered shrub planting was also present within the site. Located within the church grounds abutting the north eastern boundary of the site was a line of mature lime trees (*Tilia x europaea*) these were included within the survey. The eastern half of the study site was dominated by marshy grassland. A line of over mature alder trees (*Alnus glutinosa*) were located on the northern boundary of the survey area and provided an important landscape feature to the area.

The location of the trees surveyed can be found on Middlemarch Environmental Ltd Drawing Number C109232-01-01 in Appendix 1.

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 council.

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 BS 5837 Trees in Relation to Construction (2005).

All trees have been identified with a unique reference number. Individual trees above 75 mm (diameter at 1.5 m above ground level) have had their position confirmed on the survey drawing (Appendix 1). The trees were visually assessed and a schedule prepared listing tree number, species, trunk diameter at 1.5 m above ground level, tree height, crown spread (radius), 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 Table 3.3, in Section 3.3.

The condition of each tree was assessed according to the following categories:

Category A. Those trees of high quality and value. This category includes:

- Significant trees that are structurally sound and can be retained in the long term (i.e. greater than 40 years) or
- Trees that can be retained in the long term following remedial tree surgery.

Category B Those trees of moderate quality and value. This category includes:

- Trees that may only live 15 to 40 years or
- Trees that may live for more than 40 years but whose removal may be required in that timescale to allow development of retained trees or
- Trees that are defective but could be retained in the medium term by remedial tree surgery.

Category C Those trees of low quality and value. This category includes:

- Trees that can only be retained in the short term (i.e. 5 to 15 years) or
- Trees that have little landscape impact due to poor form or condition or
- Trees having a stem diameter of less than 150 mm at 1.5 m above ground level that could be replaced.

Category R Trees that are dead, dying or diseased that will become dangerous in the near future (within 10 years).

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

1: Mainly arboricultural values

2: Mainly landscape values

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 in m^2, which should be left undisturbed around each retained tree.

These figures are calculated utilising the formula below taken from BS5837 Trees in relation to Construction (2005):

Single Stem Tree

$$\text{RPA } (m^2) = \left(\frac{\text{Stem diameter (mm) @ 1.5m x 12}}{1000} \right)^2 \text{ x } 3.142$$

Tree with more than one stem arising below 1.5m above ground level

$$\text{RPA } (m^2) = \left(\frac{\text{Basal diameter (measured immediately above root flare (mm) x 10}}{1000} \right)^2 \text{ x } 3.142$$

3. RESULTS

3.1 DESK STUDY

Steven Massey (Tree Officer (Planning), Staffordshire Moorlands District Council), confirmed by telephone on 2nd March 2011 that there are no Tree Preservation Orders within or closely surrounding the study area. Steven also confirmed that the site is not situated within a Conservation Area.

3.2 WEATHER CONDITIONS

The survey was completed on 24th February 2011 by Lucy Philpott, Arboricultural Manager and Iain Clark Aboricultural Officer. The weather conditions at the time of the survey are shown in Table 3.1.

Conditions	Result
Temperature (°C)	8
Cloud Cover (%)	100
Precipitation	Dry
Wind Speed (Beaufort)	F 1

Table 3.1: Weather Conditions at Time of Survey

3.3 SURVEY RESULTS

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

Common Name	Scientific Name
Alder (Common)	*Alnus glutinosa*
Ash (Common)	*Fraxinus excelsior*
Blackthorn	*Prunus spinosa*
Common Lime	*Tilia x europaea*
English Yew	*Taxus baccata*
Hawthorn	*Crataegus monogyna*
Holly	*Ilex aquifolium*
Horse Chestnut	*Aesculus hippocastanum*
Lawson Cypress	*Chamaecyparis lawsoniana*
Norway Maple	*Acer platanoides*
Rowan	*Sorbus* sp.
Silver Birch	*Betula pendula*
Yew	*Taxus baccata*

Table 3.2: Tree Species Recorded During Survey

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

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
T1	Yew	780	12.5	5.0	3.0	5.0	4.5	1.6	Mature Tree	40+	A1,2,3	• Fair physiological condition. Fair structural condition. • The main stem bifurcates at approximately 4.5m with a tight union present, no movement noted. • Previously pruned on the northern side of the main stem at approximately 2.0m. • Previously crown raised. • Minor limb damage at approximately 5.0m on the north eastern side of the main stem.	-
T2	Irish Yew	450 Base	7.5	1.5	1.5	2.0	1.5	0.5	Early Mature Tree	20+	B2	• Good physiological condition. Fair structural condition. • Multi stemmed at approximately 0.5m. • Footpath bisects between T2 and T3. • The canopy has been wired to retain the 'fastigiated' appearance. • Telephone lines pass through the south east of the canopy.	-
T3	Irish Yew	390 Base	7.5	1.3	1.2	1.0	1.5	0.5	Early Mature Tree	20	B2	• Good physiological condition. Fair structural condition. • Multi stemmed at approximately 0.5m. • The canopy has been wired to retain the 'fastigiated' appearance.	-
T4	Lime	105	5.5	1.5	2.5	2.0	2.0	1.0	Young Tree	20	C1	• Good physiological condition. Fair structural condition. • The tree is a regenerated sucker from adjacent stump. • The main stem bifurcates at approximately 1.7m with a tight union present.	-

Table 3.3: Results of Arboricultural Survey (continues)

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
T5	Lime	810	14.0	6.5	5.0	5.5	5.0	1.5	Mature Tree	10-20	C2	• Fair physiological condition. Poor structural condition. • Bird box present on the north east side of the main stem at approximately 2.0m. • Decayed fungal bracket (*Ganoderma* sp) present on the north west face of the main stem at approximately 1.6m and 1.8m. • Mallet testing o the main stem indicated a decay pocket internally. • The tree has been heavily reduced in the past to approximately 9.0m. • Deadwood present within the canopy.	• Advise to investigate level of decay internally at 1.0m and 2.0m (see Section 4). • Advise to remove deadwood. • Advise to reduce to previous reduction points on a 5-10 year basis.
T6	Lime	820	16.0	6.4	5.5	6.0	5.0	1.4	Mature Tree	20+	B2	• Fair physiological condition. Fair structural condition. • The main stem bifurcates at approximately 2.0m. • The tree has been heavily reduced in the past to approximately 11.0m. • Deadwood present within the canopy.	• Advise to remove deadwood. • Advise to reduce to previous reduction points on a 5-10 year basis.
T7	Lime	790	16.0	5.9	5.0	5.0	4.0	5.0	Mature Tree	10-20	C2	• Fair physiological condition. Poor structural condition. • Decayed fungal growth (*Ganoderma* sp) at approximately 1.6m on the north west side of the main stem. • Mallet testing indicated decay pocket to approximately 1.5m from ground level. • Major decay evident at approximately 1.0m on the southern side of the main stem. • Deadwood present within the canopy. • The tree has been heavily reduced in the past to approximately 10.0m.	• Advise to investigate level of decay internally at buttress level and 1.5m (see Section 4). • Advise to remove deadwood. • Advise to reduce to previous reduction points on a 5-10 year basis.

Table 3.3 contd: Results of Arboricultural Survey (continues)

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
T8	Lime	735	16.5	5.9	4.5	5.5	5.0	5.0	Mature Tree	20+	B2	• Fair physiological condition. Fair structural condition. • The tree has been heavily reduced in the past to approximately 10.0m.	• Advise to reduce to previous reduction points on a 5-10 year basis.
T9	Lime	850	16.5	6.0	4.5	5.5	5.0	4.0	Mature Tree	20+	B2	• Fair physiological condition. Fair structural condition. • The main stem bifurcates at approximately 4.0m. • Cavity present on the south side of the main stem at approximately 8.0m. • Bird box present on the main stem at approximately 2.5m. • Dense canopy. • The tree has been heavily reduced in the past to approximately 10.0m.	• Advise to reduce to previous reduction points on a 5-10 year basis.
T10	Lime	780	16.0	6.0	5.5	6.0	5.0	5.0	Mature Tree	20+	B2	• Fair physiological condition. Fair structural condition. • Co-dominant leader has been previously removed at approximately 8.0m. • Crown raised on the northern side of the canopy. • Dense lower canopy. • Deadwood present within the canopy. • Cavity present at approximately 9.0m on the south side of the main stem.	• Advise to reduce to previous reduction points on a 5-10 year basis. • Advise to remove deadwood.
T11	Holly	(400)	5.0	2.0	2.0	2.0	2.0	1.5	Early Mature Tree	<10	R	• Poor physiological condition. Fair structural condition. • Multi stemmed at ground level. • The tree is in serious decline approximately 50% die back present within the canopy. • Located adjacent to the boundary wall.	• Advise removal.

Table 3.3 contd: Results of Arboricultural Survey (continues)

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
T12^	Silver Birch	350 Base	13.0	5.0	5.0	5.0	(1.0)	4.0	Early Mature Tree	20	C2	• Fair physiological condition. Fair structural condition. • No access to undertake detailed inspection, located approximately 0.6m from boundary fence outside the development area. • The main stem bifurcates at approximately 0.8m. • A second silver birch is growing directly behind this tree in a westerly direction.	-
T13	Alder	280	8.5	4.0	4.0	4.0	4.0	2.0	Early Mature Tree	20+	B1,2	• Fair physiological condition. Fair structural condition. • Canopy biased in a north easterly direction. • Sucker growth at base. • Limb removal on the eastern side of the main stem at ground level.	-
T14	Alder	440	12.0	5.0	5.0	4.5	5.0	3.5	Early Mature Tree	10+	C2	• Good physiological condition. Fair structural condition. • 5m of sucker growth on the south side of the tree. • Minor wound on the south side of the main stem at approximately 0.5m-0.6m. • Bark delaminating on the north side of the main stem at approximately 3.0m-3.3m. • The main stem bark is splitting on all cardinal points at approximately 0.5m-1.6m.	• Advise to monitor health of main stem on an annual basis.
T15	Alder	180	6.5	3.0	3.0	2.5	2.0	2.0	Early Mature Tree	20	C1,2	• Fair physiological condition. Fair structural condition.	-

Table 3.3 contd: Results of Arboricultural Survey (continues)

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
T16	Alder	840 Base	8.5	5.0	3.0	5.0	(6.0)	4.0	Mature Tree	20	B2,3	• Fair physiological condition. Fair structural condition. • Previously heavily reduced due to the presence of power lines. • Historic boundary line planting. • Major fence inclusion at base of tree. • Multi stemmed at approximately 0.5m. • Pollard stump present on the eastern side of the main stem.	• Advise to monitor health of main stem on an annual basis.
T17	Alder	1130 Base	11.5	7.0	6.0	5.0	5.0	3.0	Mature Tree	20	B2,3	• Fair physiological condition. Poor structural condition. • Historic boundary line planting. • The main stem bifurcates at ground level. • Fence inclusion on the south side of the main stem. • Decay evident in the eastern stem at ground level -1.3m and the western stem at ground level -1.1m. • Deadwood present within the canopy. • Previously heavily reduced due to the presence of power lines.	• Advise to monitor health of main stem on an annual basis.
T18	Alder	850 Base	10.5	6.0	3.0	5.5	5.0	4.0	Mature Tree	20	B2,3	• Fair physiological condition. Poor structural condition. • Historic boundary line planting. • Previously heavily reduced due to the presence of power lines. • Fence inclusion at base of the tree. • Decay cavity present on the south side of the main stem at ground level – 1.3m.	• Advise to monitor health of main stem on an annual basis.

Table 3.3 contd: Results of Arboricultural Survey (continues)

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
T19	Alder	750 Base	9.5	6.0	6.0	5.0	2.0	4.0	Mature Tree	20	B2,3	• Fair physiological condition. Fair structural condition. • Fence inclusion on the south side of the main stem. • Previously heavily reduced due to the presence of power lines.	-
T20	Norway Maple	360	10.0	3.5	3.5	4.0	4.0	5.6+	Mature Tree	<10	R	• Fair physiological condition. Poor structural condition. • Major delaminating bark on all cardinal points at ground level -1.4m. • Power lines pass through the eastern canopy.	• Advise removal.
T21	Norway Maple	230	9.5	3.0	1.0	2.0	3.0	4.0	Early mature tree	5-10	R	• Fair physiological condition. Poor structural condition. • Major delaminating bark on the north side of the main stem at ground level -1.6m.	• Advise removal.
T22	Rowan	225	9.0	1.5	1.5	1.5	1.5	5.0+	Early mature tree	10-20	C1	• Poor physiological condition. Poor structural condition. • Suppressed phototrophic tree.	-
T23	Norway Maple	390	11.5	3.0	4.0	4.0	6.0	4.0	Early mature tree	10-20	C1	• Fair physiological condition. Poor structural condition. • Bark delaminating on the western side of the main stem at ground level – 1.0m which has started to callous satisfactorily.	-
T24^	Horse Chestnut	(120)	6.5	1.0	0.5	2.0	1.5	4.0	Young Tree	10+	C1	• Fair physiological condition. Fair structural condition. • Access restricted, detailed survey not undertaken. • Located 1.5m from boundary fence line.	-

Table 3.3 contd: Results of Arboricultural Survey (continues)

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
T25^	Horse Chestnut	220 (Base)	6.5	2.5	2.5	2.5	2.5	2.0	Young Tree	10+	C1	• Fair physiological condition. Fair structural condition. • Browsing damage on the eastern stem at approximately 1.5m. • The main stem bifurcates at approximately 0.5m. • Located 1.5m from boundary fence line. • No access to undertake detailed inspection.	-
T26^	Horse Chestnut	(150)	5.0	1.5	1.5	1.5	1.5	2.0	Young Tree	5-10	C1	• Poor physiological condition. Fair structural condition. • Located 1.5m from boundary fence line. • The tree is in decline.	-
G1^	Lawson cypress	100-(180)	7.0	Overhang into site of 0.6m				0.0	Young-Early Mature Hedgerow	20	C2	• Good physiological condition. Good structural condition. • Residential hedge row. • No access to undertake detailed inspection, located approximately 0.5m from boundary fence outside the development area.	-

Table 3.3 contd: Results of Arboricultural Survey (continues)

Tree No.	Species	Diam at 1.5 m (mm)	Height (m)	Crown Spread (m)				Crown Clearance (m)	Age Class	Estimated Remaining Contribution (Years)	Category	Comments including Physiological & Structural Condition	Preliminary Management Recommendations
				N	E	S	W						
G2	Hawthorn	20-75	1.5	As illustrated on survey drawing				0.0	Young Hedgerow	20	C2	• Fair physiological condition. Fair structural condition. • Managed hedge line.	-
G3	Holly, Hawthorn	100-200	4-5	As illustrated on survey drawing				0	Early Mature Hedgerow	20	C2,3	• Fair physiological condition. Fair structural condition. • Unmanaged hedge line.	-
G4	Holly, Hawthorn	100-250	5.0	As illustrated on survey drawing				1.0	Early Mature / Mature Hedgerow	20+	B2,3	• Fair physiological condition. Fair structural condition. • Historic hedgerow.	-
G5	Hawthorn, Blackthorn	50-70	2.0	As illustrated on survey drawing				0.0	Early Mature Hedgerow	20+	C2.3	• Fair physiological condition. Good structural condition. • Laid hedge line.	-

Key

Age Class
Young = tree within first third of average life expectancy
Early mature = tree within second third of average life expectancy
Mature = tree within final third of average life expectancy
Over mature = tree beyond average life expectancy

() – numbers in brackets are estimated figures due to access restrictions
* Ivy *Hedera helix* clad bole –precludes detailed inspection
^ Access restricted, full inspection could not be undertaken

Physiological Condition
Good = no health problems
Fair = symptoms of ill health that may be remedied
Poor = poor health

Structural Condition
Good = no structural defects
Fair = remedial structural defects
Poor = significant structural defects

Table 3.3 contd: 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 at 1.5 m (mm)	Approximate Root Protection Radius (m)	Root Protection Area (m^2)
T1	Yew	780	9.36	275.23
T2	Irish Yew	450 Base	4.50	63.62
T3	Irish Yew	390 Base	3.90	47.78
T4	Lime	105	1.26	4.99
T5	Lime	810	9.72	296.81
T6	Lime	820	9.84	304.19
T7	Lime	790	9.48	282.34
T8	Lime	735	8.82	244.39
T9	Lime	850	10.20	326.85
T10	Lime	780	9.36	275.23
T12	Silver Birch	350 Base	3.50	38.48
T13	Alder	280	3.36	35.47
T14	Alder	440	5.28	87.58
T15	Alder	180	2.16	14.66
T16	Alder	840 Base	8.40	221.67
T17	Alder	1130 Base	11.30	401.15
T18	Alder	850 Base	8.50	226.98
T19	Alder	750 Base	7.50	176.71
T22	Rowan	225	2.70	22.90
T23	Norway maple	390	4.68	68.81
T24	Horse Chestnut	120	1.44	6.51
T25	Horse Chestnut	220 Base	2.20	15.21
T26	Horse Chestnut	150	1.80	10.18
G1*	Lawson	100-180	2.16	14.66
G2*	Hawthorn	20-75	0.90	2.54
G3*	Holly, Hawthorn	100-200	2.40	18.10
G4*	Holly, Hawthorn	100-250	3.00	28.27
G5*	Hawthorn, Blackthorn	50-70	0.84	2.22
KEY: * Indicates distance around each stem within the group				

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

4. DISCUSSION & CONCLUSIONS

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.

Twenty six trees and five groups have been inspected in accordance with BS 5837: 2005 Trees in Relation to Construction.

- One tree is considered to be Category A – Trees of high quality and value
- Ten trees and one group are considered to be Category B – Trees of moderate quality and value
- Twelve trees and four groups are considered to be Category C – Trees of low quality and value
- Three trees are considered to be Category R – 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 (2005) Category	Tree Number
A	T1
B	T2, T3, T6, T8, T9, T10, T16, T17, T18, T19, G4
C	T4, T5, T7, T12, T13, T14, T15, T22, T23, T24, T25, T26, G1, G2, G3, G5
R	T11, T20, T21

Table 4.1: Summary of Trees in BS 5837 (2005) Categories

A full assessment of the development impact can be found in Middlemarch Environmental Ltd Arboricultural Implications Assessment RT-MME-109232-02.

As highlighted within the survey Trees T5 and T7 (lime) have been identified as having potential decay pockets within the main stem of the trees. This conclusion was drawn following mallet testing and the presence of decaying fungal brackets. The fungal bracket was identified as *Ganoderma sp*, these types of decay eventually causes white heart rot, with the wood becoming soft and spongy, resulting in possible ductile fracture. Therefore recommendations are made within Section 5 to ascertain the level of decay internally. As the tree is currently located in an area of pedestrian usage, testing is essential. Following the results of the investigations it may be required to crown reduce these trees on health and safety grounds.

Trees T16-T19 inclusively (alder) are located on the northern boundary of the site. Structurally the trees are in a relatively poor condition, however as highlighted within the survey have been reduced heavily on a regular basis due to the presence of power lines above the canopy, and subsequently reducing stress on the decayed areas. The trees are of landscape and wildlife importance and the

presence of decay should not automatically be considered for justification to remove them. The usage of the site in this location is to be minimal as the proposed access track passes in an easterly direction away from trees.

5. RECOMMENDATIONS

The following site specific recommendations are made:

- All Category R trees (T11, T20, and T21) should be removed.
- Where possible all Category A and B trees should be retained and protected as part of the development.
- Trees T5 and T7 (lime): Perform a test to ascertain the level of decay internally. The suggested method is with a 'Picus' sonic tomograph which provides information about the presence of decay and cavities internally within the tree. This method is preferred, as it is one of the least invasive methods of decay detection on standing trees.
- Any proposed new planting should consist of native and wildlife attracting species.
- 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 woodland that are to be retained should be adequately protected by Heras fencing (in line with BS5837) extending at least to the Root Protection Radius (RPR), to prevent accidental damage by vehicles or contractors (see Table 3.4, pages 16, for RPA and RPR for each tree).
- All pruning woks are to be carried out by a competent tree surgeon to BS3998 (2010).
- Tree protection should be included in the induction and/or briefing sessions by the contractors to their workforce.
- 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 radius of all trees.
- The recommendations of BS5837 (2005) and NJUG Volume 4 (as appropriate to operations) should be followed when working close to trees.
- Any damaged tree branches should be treated by a competent tree surgeon.
- 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.

REFERENCES AND BIBLIOGRAPHY

Arboricultural Advisory Information Services. (2007). 'Practice Note 12. Through Trees to Development'.

BS5837. (2005). 'Guide for trees in relation to construction'.

Johnson, O. and More, D. (2004). *Tree Guide*. Collins, London.

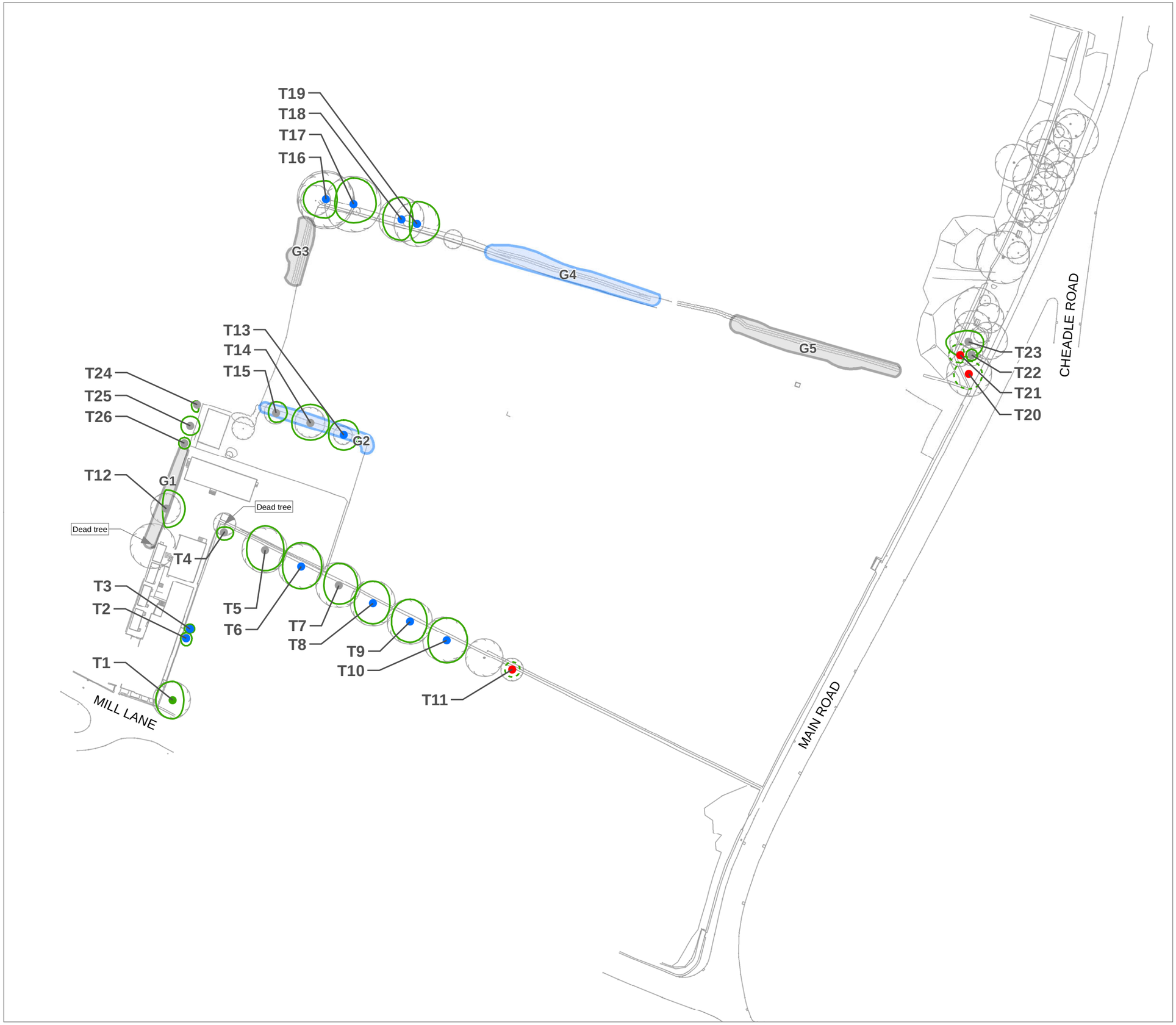
NJUG Volume 4. (2007). 'Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees'.

Middlemarch Environmental Ltd (2011) Report Number RT-MME-109232-02, Arboricultural Implication Assessment, Old School, Wetley Rocks.

APPENDIX 1

Middlemarch Environmental Ltd Drawing C109232-01-01

- Location of Trees Surveyed



C109232-01-01

Legend

- Category A tree
- Category B tree
- Category C tree
- Category R tree
- Category B group
- Category C group
- Current canopy extent, tree to be retained
- Current canopy extent, tree to be removed

N

Client: John Pointon & Sons	Project: St John's School, Wetley Rocks
Drawing: Arboricultural Survey	Drawing Number: C109232-01-01
Revision: 00	Date: March 2011
Scale at A3: 1:1,000	Drawn By: SKS
Approved By: IC	Notes: -

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QUALITY ASSURANCE

TITLE: ARBORICULTURAL SURVEY

ST JOHN'S SCHOOL, WETLEY ROCKS,
STAFFORDSHIRE

A Report to Mr Worthington

Contract Number: C109232

Report Number: RT-MME-109232-01

Revision Number: 00

Description: Final

Date: February 2011

Checked by:

Lucy Philpott
Arboricultural Manager

Approved by:

Dr Philip Fermor
Managing Director