

Cheshire Ecology Ltd.

**LAND OFF PONT ADAM CRESCENT
RUABON, WREXHAM**

PRELIMINARY BAT SURVEY REPORT

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EXECUTIVE SUMMARY

Cheshire Ecology Ltd. was commissioned by the Castlemead Group Ltd. to carry out a preliminary bat survey of land off Pont Adam Crescent, Ruabon, Wrexham County Borough, henceforth referred to as 'the site'. The survey consisted of a tree condition survey, a single activity transect of the site and its surroundings and a dusk survey of a single mature sessile oak tree. The aim of the survey was determine the site's potential for bats and inform the potential need for further surveys.

The surveys revealed that there was very little bat activity within the site boundary and that most activity occurred along the Llangollen Road, immediately to the south of the site.

The old sessile oak tree in the centre of the site was assessed as being a Category 1* tree, with potential to support a larger bat roost. There was no evidence that bats were using the tree, but we cannot discount the possibility that it may be used in the future. It has high amenity value and should be retained.

Bright lights are known to deter bats from roosting in trees, even if they have high potential as roosts. Street lighting and domestic security lights may also disturb bats that are already roosting. Street and security lighting should therefore be directed away from the tree and, to prevent any damage to the roots, no excavation should take place within at least 10m of the trunk. A buffer zone of one and half times the crown of the tree should be created to retain its value as a potential bat roost.

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1 INTRODUCTION

1.1 Background

- 1.1.1 Cheshire Ecology Ltd. was commissioned by the Castlemead Group Ltd. to carry out a preliminary bat survey of land off Pont Adam Crescent, Ruabon, Wrexham County Borough, henceforth referred to as 'the site'. The survey consisted of a tree condition survey, a single activity transect and a dusk survey of a single mature sessile oak tree. The aim of the survey was determine the site's potential for bats and inform the potential need for further surveys.
- 1.1.2 Tree Solutions Ltd. carried out a tree survey to BS5837: 2012 on 27th March 2014. The most significant tree was a mature sessile oak *Quercus petraea* (Tree 32), which was assessed as being 17m high with a crown of approximately 14m in diameter. A large number of younger oak trees were recorded around the northern margin of the site.
- 1.1.3 Enzygo Ltd. carried out a Preliminary Ecological Assessment of the site on 14th March 2014. Their report concluded that a group of mature beech, lime and sycamore trees in the south-western corner of the site had medium potential for bats (Category 2). They assessed the large oak tree as having high potential for a bat roost (Category 1*).

1.2 Site context

- 1.2.1 The centre of the site is located at OS Grid Reference SJ295436. The site measures approximately 1.5ha in extent and lies at an altitude of approximately 138m AOD (see Figure 1).
- 1.2.2 The site is bounded to the north by Pont Adam Crescent, a residential road, to the east by a children's play area, to the south by a railway cutting and the A539 Llangollen Road. A beech hedge and residential property forms the western boundary.
- 1.2.3 The majority of the site consists of rank, unmanaged mesotrophic grassland and is dominated by cock's-foot *Dactylis glomerata*, false oat-grass *Arrhenatherum elatius* and hogweed *Heracleum sphondylium*. A number of deciduous trees have been planted around the northern margin and self-sown trees such as sycamore *Acer pseudoplatanus* are common along the southern boundary. A large, well-developed sessile oak tree *Quercus petraea* dominates the northwest corner of the site.



Figure 1: Site location

- 1.2.4 A large number of different tree species were recorded around the margin of the site. A number of young pedunculate *Quercus robur* and sessile oaks were found near Pont Adam Crescent. Other species included two large and wind-damaged Leyland cypress *X Cuprocyparis leylandii*, a couple of ash trees *Fraxinus excelsior*, a number of small horse chestnut trees *Aesculus hippocastanum*, young sycamores and several hawthorn trees *Crataegus monogyna*.
- 1.2.5 Hawthorn trees were also present along the eastern boundary and elder *Sambucus nigra* occurred in a couple of places. Beech *Fagus sylvatica* and self-sown sycamores were common on the steep bank beside the Llangollen Road. A dead, multi-stemmed ash tree was noted on ground belonging to Network Rail, on the opposite side of the palisade fence marking the southern boundary of the site.
- 1.2.6 A well-established beech hedge marks the western boundary. The hedge belongs to 'Tir-y-Fron', a detached property immediately to the west of the site. A number of silver birch *Betula pendula* and beech trees *Fagus sylvatica* have also been planted along the hedge line. A large sweet chestnut *Castanea sativa*, a lime (presumed to *Tilia x europaea*) and a holly tree *Ilex aquifolium* are located a few metres from the hedge, but overhang the site.

1.3 Existing records

- 1.3.1 A data trawl has already been carried out for the Preliminary Ecological Assessment (Enzygo, 2014).
- 1.3.2 Cofnod (The North Wales Environmental Information Service) carried out the data trawl on Enzygo's behalf (Enzygo, 2014). The most recent record was for an unidentified pipistrelle species at 1,232m from the centre of the site in 2000. Another record at 926m from the site was made in 1995 and can probably be treated as historical. There were five more records that could not be allocated to a particular species of bat. The closest was 425m away from the centre of the site and the most recent was 1,048m away in 2008.
- 1.3.3 The paucity of these records is probably the result of a lack of survey effort, rather than an absence of bats.

1.4 Legislation

- 1.4.1 All bats are protected under Schedule 2 of the Conservation of Habitats and Species (Amendment) Regulations 2012 (they are a 'European Protected Species' or EPS). They are also included in Schedule 5 of the Wildlife and Countryside Act 1981 and receive protection under Section 9 of the Act (as amended by the Countryside and Rights of Way Act 2000).
- 1.4.2 It is an offence to:
- Deliberately capture, injure or kill a bat;
 - Deliberately disturb in a way that would affect their local distribution or abundance, or affect their ability to survive, or raise young;
 - Intentionally or recklessly disturb a bat;
 - Intentionally or recklessly obstruct access to any structure or place that a bat uses for shelter or protection;
 - Damage or destroy a bat roost; and
 - To possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.

- 1.4.3 On August 21st 2007 new regulations for European Protected Species came into force. It is no longer a valid defence to show that the killing, capture or disturbance of a species covered by the legislation or the destruction or damage of their breeding site or resting place was the incidental and unavoidable result of an otherwise lawful act.
- 1.4.4 It is possible to apply for an EPS license in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following tests have been carried out:
- The development is for reasons of over-riding public interest;
 - There is no satisfactory alternative; and
 - The favourable status of the species concerned will be maintained or enhanced.
- 1.4.5 Seven bat species are UK BAP Priority Species. These are as follows:
- Barbastelle *Barbastella barbastellus*
 - Bechstein's *Myotis bechsteinii*
 - Brown long-eared *Plecotus auritus*
 - Greater horseshoe *Rhino ferrumequinum*
 - Lesser horseshoe *Rhinolophus hipposideros*
 - Noctule *Nyctalus noctula*
 - Soprano pipistrelle *Pipistrellus pygmaeus*
- 1.4.6 The lesser horseshoe bat is currently the only species of bat that is covered by a Species Action Plan (SAP) in Wrexham County Borough Council Local Biodiversity Action Plan (LBAP).

2 METHODS

2.1 Tree condition survey

- 2.1.1 Many bats roost in trees. Roosts are most likely to be found in holes or other cavities, left by decaying branches. Bats may also use the cracks between broken branches, crevices behind ivy, woodpecker holes and the gaps behind peeling bark.
- 2.1.2 All of the major trees on the site were inspected for their bat potential. The survey followed the guidelines in the Bat Conservation Trust publication *Bat Surveys: Good Practice Guidelines* (Hundt, 2012). This places trees in four categories (see Table 1). The results of the Tree Condition Survey are shown in Appendix C.

Tree category	Description
Category 1*	A tree with multiple, highly suitable features capable of supporting a larger roost.
Category 1	A tree with definite bat potential, supporting fewer suitable features than a Category 1* tree or for the use of a single bat.
Category 2	A tree with no obvious potential, although the tree is of a size and age that suggests that cracks and crevices may be found, that have limited potential for bats.
Category 3	A tree with no bat potential.

Table 1: Protocol for visual inspection of trees for their bat potential

- 2.1.3 The trees were surveyed from the ground during daylight, using a pair of binoculars and a powerful torch (Cluson Clulite CB2). They were assessing using the features in Table 2 and classified according to the categories in Table 1. Where possible the trees were also photographed.

Feature used as a bat roost	Signs indicating possible use.
A hole. Woodpecker holes. Cracks or split in branches. Loose bark. Hollows or cavities. Dense epicormic growth. Heavy ivy cover.	Scratches around holes. Staining around entry point. Bat dropping near the entrance. Audible squeaking in warm weather. Flies around entry point. Smoothing of surfaces around hole. Distinctive smell.

Table 2: Features indicating potential use as a roost (from Hundt, 2012)

- 2.1.4 The survey followed the numbering system adopted by Tree Solutions Ltd. (2014). This report should be read in conjunction with the Preliminary Tree Constraints Plan, included in that report.

2.2 Bat survey

- 2.2.1 Dr Martin Page MCIEEM and Mr Tim Green carried out the dusk survey of Tree 32 on 16th August 2014. One ecologist viewed the tree from the east and the other from the west. The recording started 30minutes before sunset and continued for a further 90 minutes after sunset. The results are shown in Appendix A.
- 2.2.2 A single bat activity transect was carried out to determine the extent of bat activity around the site. Dr Page carried out the bat activity transect on 30th June 2014. The results are shown in Appendix B.
- 2.2.3 The survey commenced at Pont Adam Crescent, with four recordings being made within the site boundary (Stations 1-4). The next recording was made at the point where the A539 crosses Offa's Dyke (Station 5), with four further recordings being made along the length of the road (Station 6-9) and a single recording near the railway line. The final recording (Station 10) was made a short distance along Offa's Dyke, near the western boundary of 'Tir-y-Fron'. Bat activity was also monitored between the recording stations using a Wildlife Acoustics EM3+ detector. The location of the monitoring points is shown in Drawing CE129-001.
- 2.2.4 All recordings were made using a Batbox Baton detector and a Zoom H2N digital recorder. Bat calls were also recorded on a Wildlife Acoustics EM3+ detector, a Batbox Duet and a Batbox III. The data was analysed using Batscan and Kaleidoscope (Version 2.0.5) software.

2.3 Limitations

- 2.3.1 The survey was carried out in the middle of the summer and there were no limitations.

3 RESULTS

3.1 Tree condition survey

- 3.1.1 The Preliminary Ecological Appraisal (Enzygo, 2014) suggested that the large sessile oak (T32 in Tree Solutions report) had high potential for a bat roost. Enzygo Ltd. rated this tree as being Category 1*, according to the Bat Conservation Trust's *Best Practice Guidelines* (Hundt, 2012). A Category 1* tree is described as having "multiple, highly suitable features capable of supporting larger roosts". The current tree condition survey (see Appendix C) has confirmed that the oak tree has several features that could be used by bats and is a Category 1* tree.

3.2 Bat activity survey

- 3.2.1 There was remarkably little bat activity within the site boundary, considering that there were several trees that appeared to have good roosting potential. No bats were recorded at any of the stations within the site boundary (Monitoring Stations 1-4) and all of the activity seemed to be concentrated along the Llangollen Road (Stations 5-9).
- 3.2.2 The bats appeared to be attracted to the large number of moths that were flying around the streetlights along the Llangollen Road. Analysis of the data from the EM3+ detector showed that the great majority of the calls were from common pipistrelles, with a small number from soprano pipistrelles. No other bat species were identified.
- 3.2.3 The large sessile oak (T32) was monitored for two hours, by two experienced ecologists. The isolated location of the tree meant that it was possible to see it silhouetted against the sky, which greatly increased the chances of seeing bats if they were present. A soprano pipistrelle *Pipistrellus pygmaeus* was heard calling on two occasions and a common pipistrelle *P. pipistrellus* on a single occasion. All of these calls were very brief and the bats were not seen. A noctule *Nyctalus noctula* was heard briefly on two occasions to the west of the site. These were probably commuting across the site. On no occasion were bats seen leaving or returning the tree.

4 CONCLUSIONS

4.1 Assessment of trees

- 4.1.1 The proposed development is unlikely to have any significant impact upon the majority of the trees. With the exception of the large sessile oak, most of them are located around the periphery of the site and those with bat potential are situated on an adjacent property (Tir-y-Fron). With the exception of the damaged Norway maple the remaining trees are probably too young to have any bat potential.
- 4.1.2 The sycamore trees along the southern boundary do not appear to have any obvious holes or broken branches. Several of them are covered by ivy and could be used as a temporary roost by bats during daytime. There was a lot of bat activity along the line of trees, which could indicate that one of them was being used as a roost, but there are several other trees in the immediate vicinity that are far more suitable as a roost.
- 4.1.3 The silver birch trees along the western boundary were too small to have much bat potential. However there were two beech trees (T10 and T16) that had reasonably large cavities and could be used by bats. These were assessed as being Category 2 trees. A mature sweet chestnut (T11) was located approximately five metres from the hedgerow. This has the gnarled bark that is so characteristic of sweet chestnut trees. No holes could be seen from the site, but the tree was classed as being Category 2 as a precaution. None of these trees will be felled as a result of the proposed development, but it could potentially have an impact upon any bats that were roosting in the tree cavities.

4.2 Bat activity

- 4.2.1 It is usually difficult to draw any firm conclusions from a small number of activity surveys. However it was clear that most of the bat activity was along the Llangollen Road and that the site appeared to be relatively unattractive to bats.
- 4.2.2 We cannot exclude the possibility that bats use the large sessile oak tree (T32) on occasion. The tree has five large holes that could be used for roosting, but there were no other signs that bats could be present, such as flies around the entrance to the holes, staining, or scratches.
- 4.2.3 Based upon the finding of these two surveys we do not consider that bats will be a constraint to the development of this site.

5 RECOMMENDATIONS

- 5.1.1 The activity transect suggests that the great majority of bat activity is along the Llangollen Road, with foraging occurring along the line of trees. Most of these trees are rather unattractive self-sown sycamores, but there is also a beech tree with some bat potential (T19). We recommend that these trees are left undisturbed. Enzygo Ltd. classed these trees as having medium bat potential, but there did not appear to be any holes that could be used by bats. The trees had a small amount of ivy cover, but other trees in the vicinity had greater potential.
- 5.1.2 Enzygo Ltd. classified the old sessile oak tree (T32) as a Category 1* tree, with potential to support a larger bat roost. We agree with this assessment, but there was no evidence that bats were using the tree when the dawn activity survey was carried out. The tree has considerable amenity value and should be retained. A large, rotten branch is currently suspended above another branch. This should be removed for health and safety reasons and lowered to the ground for inspection by a suitably qualified ecologist (SQE) before it is discarded.
- 5.1.3 Bright lights are known to deter bats from roosting in trees, even if they have high potential as roosts. Street lighting and domestic security lights may also disturb bats that are already roosting. Street lighting should therefore be directed away from the tree and, to prevent any damage to the roots, no excavation should take place within at least 10m of the trunk.
- 5.1.4 While there was no evidence that bats were roosting in the oak tree during the dusk survey, we cannot discount that they may use it in the future. The tree has high potential for bats and we were surprised that they were absent. The tree survey indicated that T32 had a crown that extended for approximately 7m from the centre of the trunk (Tree Solution Ltd., 2014). The Bat Conservation Trust recommend that trees with high bat potential should be surrounded by a buffer zone of 1.5 times the diameter of the tree canopy (Gunnell *et al*, 2012).
- 5.1.5 The dead, multi-stemmed ash tree (T34) appears to have low bat potential bat potential and can be safely removed.
- 5.1.6 Tree 25, a badly damaged Norway maple, is located near the Pont Adam Crescent. The base of the trunk shows evidence of having been damaged by a fire and the upper part of the trunk is rotting. The tree was provisionally rated as category 1, due to the large cavity and its potential for use by bats. However the cavity is pointing upwards and probably fills with water in the winter. The cavity should be inspected by a SQE with an endoscope before the tree is felled.
- 5.1.7 There are a large number of young trees along the northern boundary to the site. The mature Leyland cypresses (T23 and T24) have limited bat potential and can be safely felled. The young pedunculate oak trees (T27, T28, T30 and T31) on the other hand have wildlife value and should be retained.

- 5.1.8 A number of beech trees (T10 and T16), along the western boundary have cavities with bat potential. They are unlikely to be affected by the proposed development and no bat activity was detected in this area. However, further surveys may be necessary if any of these trees will be affected by the proposed development.
- 5.1.9 Bats depend upon features in the landscape, such as hedgerows, rivers and woodland to help them navigate. It is therefore important to ensure that there is good connectivity after construction has been completed. If trees or hedges have to be removed because of design requirements and safety concerns they should be replaced with young trees to ensure that habitat connectivity is retained.
- 5.1.10 We would recommend installing bat boxes on a number of the proposed properties. The bat boxes can be incorporated in the construction of the property or hung on the exterior.
- 5.1.11 Further information regarding landscape design in relation to bats can be found in the Bat Conservation Trust's publication *Landscape and urban design for bats and biodiversity* (Gunnell *et al*, 2012).

6 REFERENCES

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APPENDIX A: DUSK SURVEY OF TREE 32

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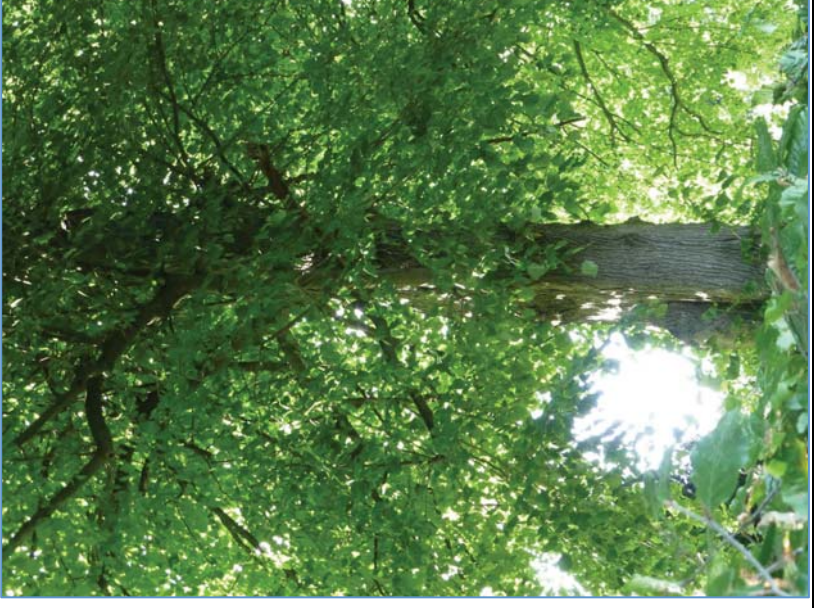
APPENDIX B: ACTIVITY TRANSECT

Location	Pont Adam, Ruabon, Wrexham			
Survey	Activity transect	Date	30.6.2104	
Sunrise		Sunset	21.35hrs	
Surveyor	Martin Page			
Weather	Calm, cloudy intervals, dry.			
Location	Recording	Time	Species	Activity
1	1.wav	21.05	-	None. Entrance to site.
2	2.wav	21.15	-	None. Near railway line.
3	3.wav	21.24	-	None. Near trees beside Llangollen Road.
4	4.wav	21.36	-	None. Mature oak tree.
5	5.wav	21.57	CP	Foraging. At end of Offa's Dyke.
6	6.wav	22.05	SP	Foraging along treeline by road.
		22.08	SP	Foraging around the streetlights on the Llangollen Road. There was no sign that they were crossing onto the site.
7	7.wav	22.15-22.17	CP	Continuous foraging along trees. Probably two bats.
		22.18	CP	
		22.19-22.20	CP	Continuous foraging along railway line.
8	8.wav	22.25	-	None
9	9.wav	22.45	-	None
10	10.wav	23.10	-	None
		23.15		Survey finished.
Notes:				
All recordings are approximately 5 minutes long.				
Baton with Zoom H2n Digital recorder				
Wildlife Acoustics EM3+				

APPENDIX C
TREE CONDITION SURVEY

	Species	Description	Category	Photograph
T1	<i>Fagus sylvatica</i>	Mature beech tree on adjacent property. No bat potential.	3	
T2	<i>Fagus sylvatica</i>	Beech tree with two diverging trunks at 2m above ground. No obvious bat potential. Lower branches have been removed and cut flush to trunk. Small amount of ivy cover.	3	
T3	<i>Fagus sylvatica</i>	Young beech tree. No bat potential.	3	
T4	<i>Fagus sylvatica</i>	Pollarded beech tree with single trunk and several upward facing branches. The lower part of the trunk has some ivy cover.	3	
T5	<i>Quercus ilex</i>	Holly tree with two obvious trunks. It was difficult to see the trunks, due to the pendant branches and foliage. There did not appear to be any holes, broken branches or cavities.	3	

T6	<i>Fagus sylvatica</i>	A young beech tree without any ivy cover. The lower branches have been removed and cut off flush with trunk.	3	
T7	<i>Acer pseudoplatanus</i>	A mature sycamore tree, with two co-dominant trunks. Several lower branches have been removed and one upper branch is rotten, revealing a hole at the base. The hole appears to be blind. The tree has no ivy cover. Category 2 because other holes may be present, which cannot be seen from this vantage point.	2	

T8	<i>Fagus sylvatica</i>	Mature, standard beech tree, with the lower branches removed and cut off flush with the trunk. No obvious holes.	3	
T9	<i>Tilia x europaea</i>	Mature lime tree, without any epicormic growth. Standard habit, without any broken branches or obvious holes. Located on adjacent property.	3	

T10

Fagus sylvatica

A mature beech tree growing in the middle of the beech hedge. Located on property boundary. A hole measuring approximately 8x12cm can be seen on the opposite side of the trunk, facing the other property. The tree has no ivy cover. Some lower branches have been removed and a major limb has been removed @ 3m above ground level. It was difficult to see how deep the hole was due to the orientation of the tree. The tree may have to be checked to determine whether bats are using the obvious hole.

2, possibly 1.



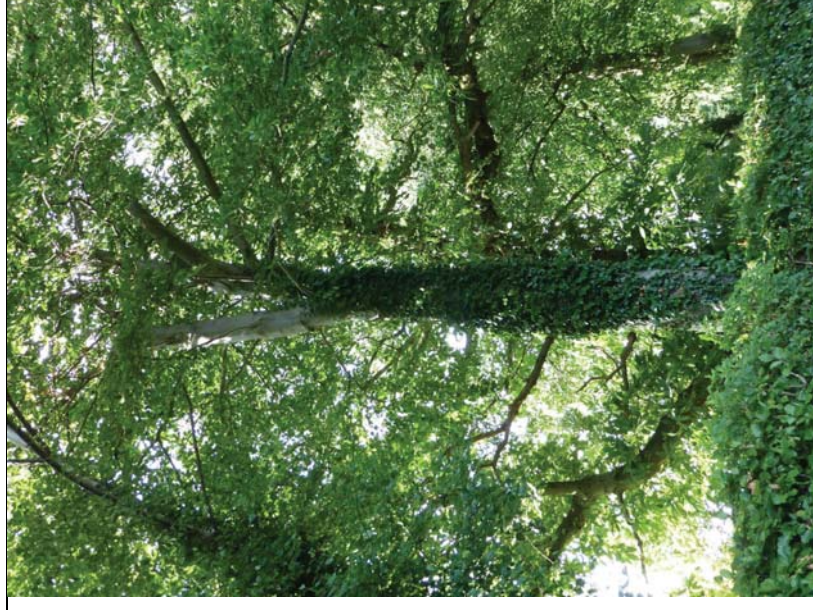
T11	<i>Castanea sativa</i>	Sweet chestnut with gnarled bark. No ivy cover, but some epicormic growth, which partly obscures the trunk. Some of the branches are rotting at the tips, with peeling bark. One upper branch appears to be missing. Precautionary category 2, but the tree is located on the adjacent property and will not be affected by the proposed development. No holes were apparent from the site.	2	
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T12

Fagus sylvatica

Young beech tree with ivy covering the lower part of the trunk. No obvious broken branches or holes. Probably unsuitable for bats, due to small size.

2/3



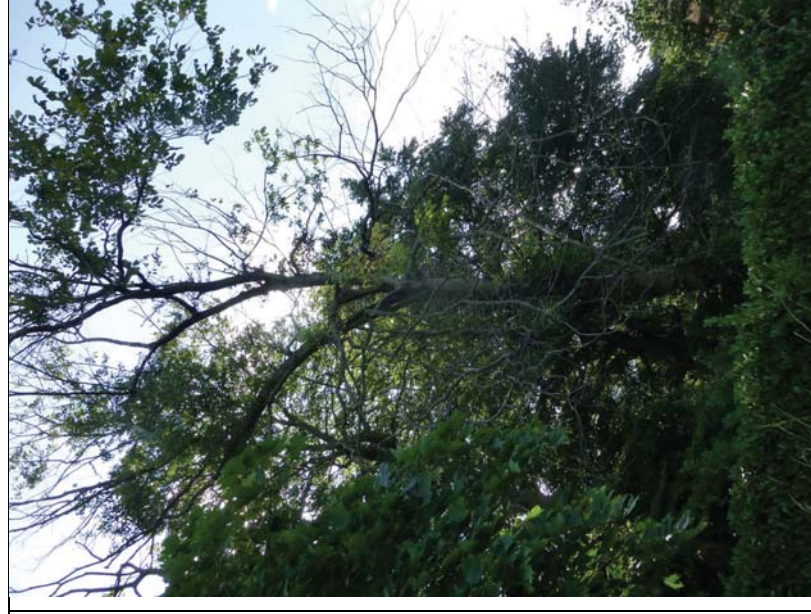
T13	<i>Betula pubescens</i>	A mature silver birch tree, located on the adjacent property. The tree has a large rambling rose hanging from it, which rather obscures the trunk. The tree has some ivy cover, but has no apparent holes or broken branches.	3	
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T14

Ulmus procera

Dying elm tree. No obvious holes or broken branches, but most of the foliage has been lost and only a few of the smaller branches appear to be alive. No peeling bark.

3



T15

Acer pseudoplatanus

Sycamore tree with no bat potential.

3

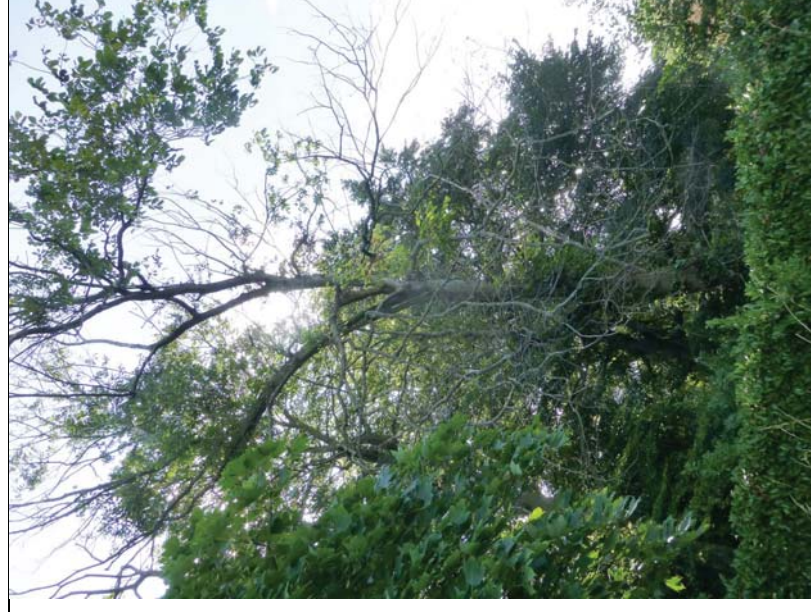


T16

Fagus sylvatica

Multi stemmed beech tree with missing branches and at least one hole. Difficult to inspect because it is located on the adjacent property. A small hole can be seen at a height of approximately 4m. The hole was obscured by a branch and could not be fully assessed.

2



T17	<i>Acer pseudoplatanus</i>	Two conjoined sycamore trees, or two co-dominant stems of the same tree. Located at the top of a steep bank. The roots are exposed as a result of people climbing up the bank to take a short cut to Pont Adam Crescent. A few lower branches are missing, but there are no obvious holes in the tree. The base of one missing branch is pointing upwards and probably holds water in the winter. May need to be inspected if the tree is felled.	3	
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T18

Acer pseudoplatanus

Young sycamore tree with ivy on the trunk. No broken branches or holes were apparent.

3



T19	<i>Fagus sylvatica</i>	Young beech tree, without any obvious bat potential. There are no broken limbs and no holes in the trunk. Ivy has just started to colonise the tree, but only extends for 3-4m up the trunk.	3	
T20	<i>Acer pseudoplatanus</i>	Coppiced sycamore tree, without any bat potential.	3	

T21

Acer pseudoplatanus

Coppiced sycamore tree with seven stems. No bat potential. These are healthy, although one upper branch has died. This may have left a cavity, but it is upward facing and probably fills with water in the winter. The tree is growing on railway property.

3



T22	<i>Fraxinus excelsior</i>	Coppiced ash tree, with no bat potential.	3	
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T23

X *Cuprocyparis
leylandii*

Unattractive Leyland cypress with
evidence of storm damage in upper
canopy.

3



T24	X <i>Cuprocyparis leylandii</i>	Multi-stemmed Leyland cypress. One of the lower branches has been broken off by recent storms, leaving a major gap in the treeline. No obvious holes, although bats could potentially find shelter in the gaps between conjoined stems.	3	
T25	<i>Acer palmatum</i>	Norway maple with rotting trunk and missing lower branch. Probably the result of a garden fire being set too close to the tree. An upper branch is also missing and there is a hole at approximately 4m above ground level. Precautionary Category 1. Check with a ladder.	1	

T26	<i>Fraxinus excelsior</i>	A young ash tree, which is branched at a height of approximately 1m above the ground. There are no missing branches or holes in the tree. No bat potential.	3	
T27	<i>Quercus robur</i>	Young oak tree with no broken branches or holes. Tree should be retained.	3	

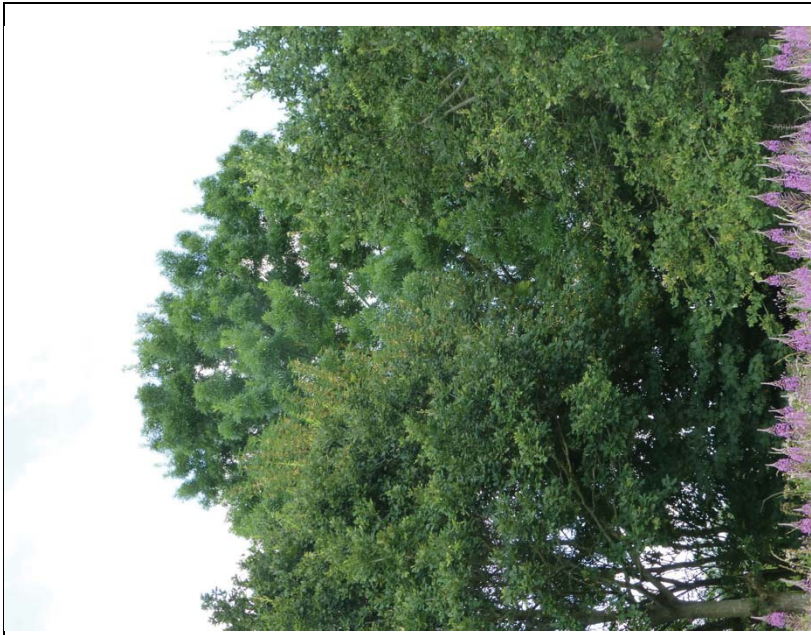
T28

Quercus robur

Young oak tree, with no broken branches or holes. Tree should be retained.

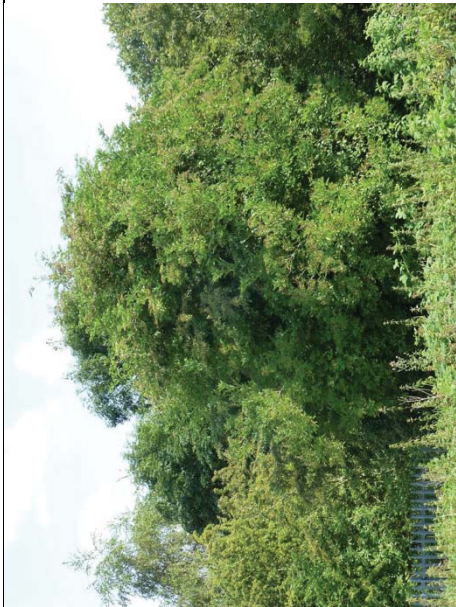
3



T29	<i>Fraxinus excelsior</i>	Healthy standard ash tree. No obvious holes and no missing branches.	3	
T30	<i>Quercus</i> species	Young standard oak with bird box attached. No bat potential.	3	

T31	Quercus species	Coppiced oak tree with two main stems. No bat potential. Has a bird box attached.	3	
T32	Quercus petraea	Large, mature, sessile oak tree. The tree is generally in good condition, although it has a few missing or rotten branches. There are five significant holes and several other cavities that could have bat potential. It has high bat potential.	1*	



T33	<i>Sambucus nigra</i>	Elder tree. No bat potential. New tree and not marked on tree survey map.	3	
T34	<i>Fraxinus excelsior</i>	Dead tree, next to T21. Timber has split and the bark is peeling off the trunk. It could have bat potential, but there are better trees available nearby. No holes. New tree and not marked on tree survey map.	2	

G1	<i>Betula pubescens</i>	A group of nine birch trees originally planted as a screen against the hedge line. Two of the trees have dense ivy cover, but they are probably too small to be of any value to bats. The trees should be divided into two groups. One has four and the other five trees.	2/3	
G2	<i>Acer pseudoplatanus</i>	A group of self-sown, young sycamore trees at the top of a steep bank, forming part of the linear wooded feature. The trunks are covered by a small amount of ivy. No broken branches or holes apparent.	2/3	

G3	<i>Acer pseudoplatanus</i>	A group of five young sycamore trees with a light covering of ivy on the trunks, forming part of the linear wooded feature. There was no obvious sign of holes or broken limbs. Category 2, due to ivy cover.	2	
G4	<i>Crataegus monogyna</i> and <i>Sambucus nigra</i>	Group of hawthorn and elder trees growing on railway property, adjacent to the site. None of the trees has bat potential.	3	

G5	<i>Crataegus monogyna</i>	Two groups of hedgerow hawthorn trees, with no obvious bat potential.	3	
G6	X <i>Cuprocyparis leylandii</i>	Line of six small Leyland cypresses at eastern end of site. No bat potential.	3	
G7	<i>Aesculus hippocastanum</i> and <i>Crataegus monogyna</i>	Group of three young horse chestnuts and four hawthorn trees. No bat potential.	3	
G8	<i>Salix caprea</i> , <i>Acer pseudoplatanus</i> and <i>Quercus</i> species.	Single goat willow, a sycamore and oak tree. No bat potential.	3	

Key

Site boundary

Monitoring point

Do not scale from this drawing

Client

Castlemead Group Ltd

Project name

Pont Adam Crescent, Ruabon

Drawing

Bat Activity Survey

Drawing No

CE129-001

Scale

NTS

Date

25/7/2014

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