
Land off New Brighton Road, New Brighton, Flintshire

Updated Preliminary Roost Assessment and Potential Roost Feature Assessment (Bats)

Compiled by Ecology Services Ltd.

on behalf of

Stewart Milne Home North West England Ltd.

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Environmental Consultants

1 Church Row Chambers
Longton
Preston
Lancashire
PR4 5PN

Ref. number: 21043
Written by: SB
Checked: LR/LES
Approved: LR/LES

tel: 01772 614932
fax: 01772 614930
email: info@ecologyservices.co.uk
web: www.ecologyservices.co.uk

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1.0 Introduction

- 1.1 Ecology Services Limited was commissioned by Stewart Milne Homes North West England in March 2021, to carry out an updated Preliminary Roost Assessment (PRA) of trees on approximately 3.4ha of land off New Brighton Road, New Brighton, Flintshire, CH7 6RB, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference; (NGR) 325190, 365560. The site plan and tree locations are shown on Figure 1.

Proposals

- 1.2 The site is proposed for residential development with associated infrastructure and landscaping. See Figure 2 - New Brighton, Mold, Proposed Layout P.1094.18.03C. There have been changes to the design from the previous application including a reduction in the number of units from 92 to 84, a new footpath along the northern boundary of the site, an increase in the size of the Local Equipped Area for Play (LEAP) to the south west of the site and of the Public Open Space (POS) to the north west of the site.

Background and Survey Objectives

- 1.3 The updated PRA and PRF is required following the original PRA (July 2018), Preliminary Roosting Feature PRF survey (August 2018) and activity emergence/ re-entry surveys (August and September 2018) which are now out of date. Please refer to ESL Protected Species Report (Bats) - New Brighton Flintshire - Aug 2020 for the previous survey data, in Appendix 7. The original data is also discussed in the report where it adds context.
- 1.4 The aim of the updated preliminary roost assessment was to:
- Undertake an updated visual inspection of the trees to establish baseline conditions;
 - Complete an assessment to ascertain if potential or evidence of use existed for bat species; and
 - Determine if there are requirements for further and/or more detailed surveys.
- 1.5 Subsequent to the updated findings of the 2021 Preliminary Roost Assessment, a further Potential Roost Feature (PRF) survey was recommended of trees identified as potentially being affected by the proposals. The aim of the PRF survey was to:
- Undertake a further aerial visual inspection of the noted trees with the aid of a tree climber to access the PRF previously identified;
 - Complete an assessment to ascertain if evidence of use existed for bat species or if bats were present; and
 - Determine if the level PRF can be reclassified and if there are requirements for further surveys and/or mitigation.
- 1.6 The purpose of this report is to state the survey methodology present the results of the survey, evaluate the findings, assess the impacts of the proposals and make recommendations concerning the protection of bat species that may be present at this site. Where possible the report will aim to provide sufficient information to allow a local authority to assess fully the potential impacts of the proposed development on roosting bats.

2.0 Planning Policy and Legislation

- 2.1 This section provides a brief overview of planning policy and legislation relevant to bats in the UK. Further information is provided in Appendix 1.

Planning Policy

- 2.2 Planning Policy Wales Edition 11 (February 2021) places a clear responsibility on Local Planning Authorities (LPA) to contribute to conserving and enhancing the natural and local environment. LPAs should support the conservation of biodiversity, safeguard protected and priority species (e.g. Species of Principal importance, Local Biodiversity Action Plan species) and existing biodiversity assets from impacts and secure enhancement of and improvements to ecosystem resilience. Technical Advice Note (TAN) 5: Nature Conservation and Planning (2009) provides detailed planning advice which supplements Planning Policy Wales.
- 2.3 Protected species within the UK, such as bats, are a 'material consideration' in the determination of a planning application. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted to inform a planning application.
- 2.4 The local planning authority (LPA) has a duty to ensure that protected and priority species (e.g. Species of Principal Importance, Biodiversity Action Plan species) are fully considered in a planning decision. Therefore, up to date survey information and, where required, mitigation strategies adequate to assess the impacts of the proposals and to demonstrate that opportunities for species using the site can be maintained, must be provided in support of a planning application.

Legislation

- 2.5 All bats and their roosts receive strict protection under the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats & Species Regulations 2017 (as amended)¹. In brief, this legislation makes it an offence to: kill, injure or capture a bat; to destroy, damage or obstruct access to a bat roost; or to disturb a bat occupying a roost. A Local Authority is a 'competent authority' within the context of Regulation 7 of the Conservation of Habitats & Species Regulations 2017 (as amended) when dealing with planning applications where a European Protected Species (EPS) (all bat species) may be affected. Therefore, planning decisions should only be made when European Protected Species and their habitats are fully taken into account.
- 2.6 Where proposed works are likely to contravene the legislation protecting bats, a Natural Resources Wales licence must be applied for, and approved, before works can proceed.
- 2.7 Section 7 of the Environment (Wales) Act 2016 places a statutory duty on the Welsh Ministers to take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list of living organisms and habitats of principal importance in Wales published under this section, and to encourage others to take such steps. Species of Principal Importance for the conservation of biodiversity in Wales, identified by the Welsh Ministers in consultation with Natural Resources Wales, are listed under Section 7 of the Environment (Wales) Act 2016. The Local Planning Authority and government bodies (e.g. Natural Resources Wales) will expect the overall design of the development to have regard for the conservation of these species. Eight bat species are listed as 'Species of Principal Importance' under Section 7 of the Environment (Wales) Act 2016:
- Barbastelle (*Barbastella barbastellus*)

¹ The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 continue the same provision for European protected species, licensing requirements and protected areas after Brexit.

- Bechstein's (*Myotis bechsteinii*)
- Noctule (*Nyctalus noctula*)
- Common pipistrelle (*Pipistrellus pipistrellus*)
- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Brown long-eared (*Plecotus auritus*)
- Greater horseshoe (*Rhinolophus ferrumequinum*)
- Lesser horseshoe (*Rhinolophus hipposideros*)

3.0 Methodology

Desktop Study

3.1 Ecological data and records searches were undertaken by contacting the sources listed in Table 1.

Table 1: Ecological Desktop Study Sources

Source of information	Information supplied
COFNOD - North Wales Environmental Information Service	To identify locally protected sites or species of interest within 1km of the site.
Environment (Wales) Act 2016	Review of Species of Principal Importance known to occur in the region.

3.2 The data search with COFNOD was undertaken on the 13th November 2021.

Preliminary Roost Assessment Survey

3.3 The preliminary roost assessment for trees followed the below methodology, which is based on the methods set out in the Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (2016). Each tree was categorised according to its level of suitability and any evidence of roosting bats found during the inspection (see Appendix 2).

3.4 A ground level inspection of trees was undertaken to search for any potential roosting features and evidence of roosting bats. Signs surveyed for included droppings, dead bats, feeding remains (beetle, moth and butterfly remains), urine staining and grease marks around crevices and down walls, and any noises such as scratching and audible bat calls. An Explorer Premium 8803AL (9mm) endoscope was used to check accessible features. A Clulite Long Ranger LED Pistol Light (1200 lumens) and close focusing binoculars were used to better assess any features of interest not accessible. High resolution photographs were taken for later review.

3.5 During the survey the surrounding area was assessed in relation to suitable habitat that may be of value to bats.

3.6 The optimum time to investigate trees for bat roosting potential is between November to April, when trees are not in leaf and potential roosting features such as crevices can be more easily seen. Evidence of a bat roost is best determined when bats are active although preliminary roost assessments may be conducted outside of this period and, as with the surveys of buildings/structures, inspections can provide conclusive results where all roosting features are accessible and can be exhaustively searched.

Personnel

- 3.7 The PRA inspection survey was undertaken by Mr. S. Booth who holds a Natural Resources Wales bat survey licence no. 79728:OTH:CSAB:2018.

Timing

- 3.8 The PRA inspection survey was conducted on the 29th of March 2021.
- 3.9 The daytime survey was conducted at a time when limited bat activity is beginning to occur as the nights become warmer and prey becomes available. In times of bad weather bats may still revert to a state of torpor (hibernation). Presence of bats may be identified and evidence of bat occupation such as droppings and urine stains may be limited. However, depending upon species and roost location, it is possible to locate evidence of previous bat occupation even if the roost is only used seasonally.

Weather Conditions

- 3.10 Weather conditions during the survey were good, with no rain or wind affecting survey.

Potential Roost Feature (PRF) Survey

- 3.11 Trees assessed as having moderate or high potential to support roosting bats during the PRA, and which were identified as to be potentially affected by the proposals, were subject to further more detailed potential roost feature (PRF) surveys. Fully trained arborists climbed the trees noted with bat roosting potential (Trees 1, 3, 4, 5, 6, 8, 9, 11, 12 and 13) to search for bats and/or evidence of bat activity such as droppings, feeding remains (e.g. beetle, moth and butterfly remains), urine staining and grease marks around potential roosting features. A Clulite Long Ranger LED Pistol Light (1200 lumens), ladders, safety harnesses and tree climbing ropes and an Explorer Premium 8803AL (9mm) endoscope, which is able to record images, were used to aid access to and further assess potential roosting features.

Personnel

- 3.12 The PRF survey was undertaken by qualified arborist Mr. N. Murray, who is a fully qualified tree surgeon, under the supervision of Mr. S. Booth under the aforementioned Natural Resources Wales bat survey licence no. 79728:OTH:CSAB:2018

Timing

- 3.13 The PRF survey was conducted on the 27th of April 2021 when the trees were climbed and their features examined further to see if their potential could be re-classified.
- 3.14 The daytime survey was conducted at a time when bats will be active having recently come out of hibernation. Feeding will occur on most nights and roost sites, in particular suitable maternity roosts for females, are being sought. Evidence of bat occupation is likely to be detected, should they be present at the site.

Weather Conditions

- 3.15 Weather conditions during the survey were good, with no rain or wind affecting survey.

Roost Status

- 3.16 If evidence of a bat roost is recorded during the surveys, the status of the roost is evaluated based on its function. This requires sufficient survey effort to determine the species and numbers of roosting bats present, the time of year that the roost is used and characteristics of the roost itself. The Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' details types of bat roosts which may be defined in several ways, as below:

- Day roost – where individual bats or small groups of males, rest or shelter in the day.
- Night roost – where bats rest or shelter in the night but are rarely found during the day.
- Feeding roost – where individual or few bat/s rest or feed during the night.
- Transitional/occasional roost – used for short periods of time by few or occasionally small groups of bats on waking or prior to the hibernation period.
- Swarming site – large numbers of males and females gather during late summer to autumn.
- Mating sites – where mating takes place from late summer and through winter.
- Maternity roost – where females give birth and raise their young.
- Hibernation roost - where bats may be found during winter. To have a constant cool temperature with high humidity.
- Satellite roost – an alternative roost used by individual to small numbers of breeding females over the breeding season. Usually close to main nursery colony.

3.17 Roost selection is often closely correlated with presence of suitable foraging habitat within a reasonable commuting distance from the roost. Different roost sites are used throughout the active season which is most dependent upon roost microclimate and abundance of invertebrate prey nearby. Weather conditions can also affect the ability of bats to successfully forage. All British bats are insectivorous.

Limitations

3.18 There are no known constraints that would have adversely affected either the PRA or PRF survey.

4.0 Results and Evaluation

Desktop Study

Species of Principal Importance

4.1 Section 7 of The Environment (Wales) Act 2016 lists several bat species of Principal Importance for the purpose of maintaining and enhancing biodiversity in relation to Wales, as follows:

- Barbastelle (*Barbastella barbastellus*)
- Bechstein's (*Myotis bechsteinii*)
- Noctule (*Nyctalus noctula*)
- Common pipistrelle (*Pipistrellus pipistrellus*)
- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Brown long-eared (*Plecotus auritus*)
- Greater horseshoe (*Rhinolophus ferrumequinum*)
- Lesser horseshoe (*Rhinolophus hipposideros*)

National Status

4.2 There are 18 species of bat that are native to the United Kingdom. 12 of which are known to breed in Wales. Little is known about the status of most species although the available evidence suggests a general decline in populations nationally (Harris, S. et al. 1995). The commonest species of bats are the pipistrelle family (*Pipistrellus* sp), although these are also estimated to have declined in numbers by 70% between 1978 and 1993.

Local Status

- 4.3 The vice-county of Clwyd includes the counties of Conwy, Denbighshire, Flintshire and Wrexham. It is a region that supports varied habitats and geology and provides an ideal environment to support sizeable and diverse bat populations. The area is considered to be a strong hold for the nationally scarce lesser horseshoe bat.

Data Search Results

- 4.4 The 2020 data search identified 17 records of bats within 1km of the site including records of common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) natterer's (*Myotis nattereri*), Myotis species bats (*Myotis sp.*) and unspecified bat species.
- 4.5 The closest record is of common pipistrelle pertaining to the site itself, which dates from 1987. No further details were provided for this record. A 2020 record for a common pipistrelle roost with 50 plus bats is located 103m to the south of the site within the New Brighton village. A further record for common pipistrelle is located 128m to the south east. The majority of other records pertain to Sychdyn between 700m and 1km north of the site and to Mynydd Isa approximately 1km south of the site.
- 4.6 The data search also identified records of an additional five species within 2km of the site; Daubenton's (*Myotis daubentonii*), natterer's, noctule (*Nyctalus noctula*), soprano pipistrelle and lesser horseshoe (*Rhinolophus hipposideros*), as well as undetermined pipistrelle and Myotis species bats.

Preliminary Roost Assessment

Habitat Assessment

- 4.7 The site is located in a rural area on the northern outskirts of the village of New Brighton in Flintshire, North Wales. In general terms, the site comprises a grassland field bordered by hedgerows with occasional mature trees and an historic defunct hedgerow/ treeline with mature trees and scattered shrubs running north-south through the central western area of the site. In the east of the field is a damp area of grassland supporting abundant rushes and along the westernmost site boundary is a dry ditch which is expected to be dry for the majority of the year.
- 4.8 Land surrounding the site includes residential development to the south-west, south and south-east, forming the small village of New Brighton. Bordering to the north-east is New Brighton Road with a small number of detached residential properties located along it with land beyond comprising a mosaic of agricultural grassland, hedgerows, scattered trees and small areas of woodland. A large lake surrounded by a belt of woodland lies approximately 70m north of the site. Areas to the north-west of the site and the wider area surrounding New Brighton are dominated by agricultural grassland with hedgerows, treelines and occasional scattered trees and small blocks of woodland.
- 4.9 Overall, habitats within the immediate and wider surrounds of the surveyed buildings are considered of moderate value for foraging and commuting bats. Where suitable habitats are present in close proximity to trees then there is generally an increased use of these for roost sites due to a higher abundance of food and better access to food sources.
- 4.10 A description of the trees subject to PRA can be found in Table 2 below. A brief overview of the 2018 survey result is also provided within the table. Photos of the trees with annotations showing locations of potential roosting features are provided in Appendix 5. Trees which were found to have negligible potential to support roosting bats are not included within table below.

Table 2: Description of Trees.

Tree 1
Description:
Mature pedunculate oak (<i>Quercus robur</i>) tree around 15m tall located in the south-western corner of the site along the boundary abutting the A5119.
Roost potential signs:
A cavity was identified in 2018 on a decaying limb which is still present at approximately 4m overhanging the verge of the A5119,. The 2021 PRA survey identified an additional small rot hole on a pruning wound on the east side of the tree at 8m, also over the road verge. The features are considered to hold moderate suitability for roosting bats following the PRA.
PRF survey results
The features were both checked and were found not to recede to any useable depth. The tree has been reassessed as having negligible potential for roosting bats.
Tree 2
Description:
Mature pedunculate oak tree around 15m tall located on the south-western boundary of the site adjacent to Argoed Road, north of Tree 1.
Roost potential signs:
The 2018 PRA found the tree to be in generally good condition with no obvious features suitable for roosting bats. However, the tree has a cover of dense, mature ivy which may provide suitable roosting features or could be concealing roost features within the tree. The 2021 PRA found no changes to the condition of the tree and has retained low potential for roosting bats.
PRF survey results
The 2018 PRA survey assessed the tree as having low potential for roosting bats and was considered unsuitable for a climbing inspection. The 2021 PRA survey confirms no change.
Tree 3
Description:
Mature pedunculate oak tree around 15m tall located on the south-western boundary of the site adjacent to Argoed Road.
Roost potential signs:
The 2018 survey identified a split limb with a possible cavity at around 9m on the north-western side of the tree which is still present. The 2021 survey has identified a new feature in the form of a lateral split, which faces east at 10m on the eastern side of the tree. There is some noticeable staining at the bottom of the split, which could be rainwater. The tree formally supported a cover of dense mature ivy which has since died allowing a more thorough inspection of the tree. The tree is considered to hold moderate potential for roosting bats following the PRA.
PRF survey results
The two split limbs identified were both checked and both features were found not to recede to any useable depth. The staining at the bottom of the split was rainwater. The tree has been reassessed as having low potential for roosting bats.
Tree 4
Description:
Mature pedunculate oak tree around 18m tall located close to the south-western site boundary along the central defunct treeline within the site.
Roost potential signs:

<p>The 2018 PRA survey identified a bird box located on the southern side of the trunk which could provide good opportunities for roosting bats and is still present.</p> <p>The 2021 survey identified a further new feature at the junction of two south facing limbs at 8m. The tree was considered to hold moderate potential for roosting bats following the PRA.</p>
<p>PRF survey results</p>
<p>The tree was climbed and the bird box checked for evidence of roosting bats but nothing was found. The new identified feature was found to recede to a depth of approximately 10cm and was dry internally, although no evidence of bats was found. The tree remains as having moderate potential for roosting bats.</p>
<p>Tree 5</p>
<p>Description:</p>
<p>Mature pedunculate oak tree around 15m tall located along the central defunct treeline within the site.</p>
<p>Roost potential signs:</p>
<p>The 2018 PRA survey found a small amount of deadwood in the canopy with decaying limbs providing potential roosting features including a small number of splits and a cavity along an old wound. Cavities were seen in association with these features but most were considered likely to have limited potential to support roosting bats and unlikely to support large bat roosts. A southward protruding limb identified during the 2018 PRF survey was found to have a long cavity accessible from the top which was not recorded during the ground level inspection</p> <p>The 2021 PRA concurs with the previous findings and no new features were noted. The tree is considered to hold moderate potential for roosting bats following the PRA.</p>
<p>PRF survey results</p>
<p>The survey concluded no changes to the condition of the tree. The potential cavities previously identified associated with the canopy were checked and were found to be shallow and offer only limited shelter and considered to have low potential for roosting bats. The long cavity identified during the 2018 PRF survey was checked again using an endoscope and no bats were found in the areas that the endoscope could reliably reach. However, the limb could not be exhaustively searched and as such remains as having moderate potential for roosting bats.</p>
<p>Tree 6</p>
<p>Description:</p>
<p>Twin-stemmed mature ash (<i>Fraxinus excelsior</i>) tree around 12m tall located along the central defunct treeline within the site.</p>
<p>Roost potential signs:</p>
<p>The 2018 PRA found the tree to be heavily decayed with both stems being hollow and one having a missing top. Both stems contained multiple woodpecker holes, branch tears and other cavities resulting from disease or past damage.</p> <p>The 2021 PRA concurs with the previous findings and no new features were noted. The tree is considered to hold high potential for roosting bats following the PRA.</p>
<p>PRF survey results</p>
<p>The tree was only partially climbed on the grounds of health and safety as it was considered unsafe. No evidence of bats was found in the areas checked. Due to the presence of high-quality features for bats and that the tree was only partially checked, the tree remains as having high potential for roosting bats. A blue tit was observed bringing food to young within one of the woodpecker holes at the time of the survey. The tree is proposed to be removed.</p>
<p>Tree 7</p>
<p>Description:</p>
<p>Twin-stemmed mature sycamore (<i>Acer pseudoplatanus</i>) tree around 14m tall located along the central defunct treeline within the site.</p>

<p>Roost potential signs:</p> <p>The 2018 PRA found the southern stem near the base of the tree to be hollow with openings to a cavity at an old decaying limb stub. The cavity and opening is large and quite exposed inside but could be used by individual/ low numbers of bats on a transitional basis. The cavity was subject to an inspection using a torch and endoscope and no evidence of bats was found. The tree was considered to hold moderate potential for roosting bats following the PRA.</p> <p>The 2021 PRA included an investigation by endoscope and concurs with the previous findings with no new features noted.</p>
<p>PRF survey results</p> <p>The tree features are accessible from the ground and as such, the tree was not climbed but was checked again by endoscope and torchlight, but no evidence of bats was recorded. Invertebrates, namely woodlice are present within the cavity and the cavity is becoming damp through water ingress. The survey has reassessed the tree as having low potential to support roosting bats. The tree is proposed to be removed.</p>
<p>Tree 8</p>
<p>Description:</p> <p>Mature pedunculate oak tree around 15m tall located along the central defunct treeline within the site.</p>
<p>Roost potential signs:</p> <p>The 2018 PRA found the tree to have a small number of dying limbs and epicormic growth surrounding areas of past damage. Three limb splits were identified along with other areas of past damage within areas of dense foliage which could provide features suitable for use by roosting bats. The dense foliage could conceal suitable features but may also reduce the potential of any features present by hindering access to bats. The tree was considered to hold low potential for roosting bats following the PRA.</p> <p>The 2021 PRA found the tree to be in a similar condition with the addition of a new lateral fracture on the underside of a limb on the western side of the tree at 12m. The tree has been reassessed as having moderate potential for roosting bats.</p>
<p>PRF survey results</p> <p>The tree was climbed and fully checked for features providing suitable roosting habitat for bats. Possible features identified during the PRA including possible cavities at limb splits were found to provide insufficient shelter for roosting bats. The new identified lateral fracture was found not to recede to any useable depth. The tree has been reassessed as having negligible potential for roosting bats.</p>
<p>Tree 9</p>
<p>Description:</p> <p>A mature ash tree around 18m tall located along the central defunct treeline within the site.</p>
<p>Roost potential signs:</p> <p>The 2018 PRA found the tree to be in good health. However, there was a little decay evident in the crown including small dying limbs and areas of uneven bark possibly caused by canker rot. Up to three areas of canker rot could provide good features for roosting bats below the bark which are located between 8-10m on the stem and limbs on the south-eastern aspect of the tree. Other areas of damage including a limb tear, are considered unlikely to provide other features suitable for roosting. The tree was considered to hold moderate potential for roosting bats following the PRA.</p> <p>The 2021 PRA concurs with the previous findings and no new features were noted. The tree is considered to hold moderate potential for roosting bats following the PRA.</p>
<p>PRF survey results</p> <p>The tree was climbed and fully checked for features providing suitable roosting habitat for bats. The features identified during the 2018 and the 2021 PRA had not altered and were found to provide insufficient shelter for roosting bats as they did not recede far enough into the tree. No other features suitable for roosting bats were identified. The tree was reassessed as having negligible potential for roosting bats.</p>

Tree 10
Description:
Mature alder (<i>Alnus glutinosa</i>) tree around 15m tall located at the northern end of the south-western boundary of the site adjacent to Argoed Road.
Roost potential signs:
The 2018 PRA found the tree to be in good condition with no obvious features suitable for roosting bats. However, the tree has a cover of dense mature ivy which may provide suitable roosting features or could be concealing roost features within the tree. The 2021 PRA concurs with the 2018 findings. The tree is considered to hold low potential for roosting bats.
PRF survey results
The tree is considered unsuitable for climbing. The PRA survey confirms no change and low potential for roosting bats.
Tree 11
Description:
Mature pollarded black poplar (<i>Populus nigra</i>) 4m tall with re-growth on its southern side, located on the western side of the site on the northern boundary. There is an apparent large hole located near to the top of the stump at 3m, slightly obscured by ivy.
Roost potential signs:
The tree was not identified as having roost potential during the 2018 PRA. The 2021 PRA survey considers the tree to hold moderate potential to support roosting bats.
PRF survey results
The tree was climbed and the rot hole fully checked by endoscope. The hole was large internally with an opening of approximately 15cm diameter which is partially obscured by ivy. The hole has a depth of approximately 40cm with debris from decaying heartwood inside. The interior of the cavity is likely to be draughty and no evidence of bats was recorded. However, the tree is assessed as having moderate potential for roosting bats.
Tree 12
Description:
A young to semi-mature aspen (<i>Populus tremula</i>), approximately 10m tall located on the western side of the site on the northern boundary. The tree is located within a group of other aspens of a similar age.
Roost potential signs:
The tree was not identified as having roost potential during the 2018 PRA. The 2021 PRA found the tree to have three main limbs growing from a junction at 2m. One limb splits into three stems at 4m. The east facing stem is damaged where it has become contorted and there is an open cavity. The tree is considered to hold moderate potential for roosting bats.
PRF survey results
The cavity identified during the 2021 PRA was fully checked by endoscope. There is an upward dry cavity extending approximately 15cm and a downward cavity extending 20cm. The tree is considered to hold moderate potential for roosting bats.
Tree 13
Description:
A semi-mature ash located along the western boundary of the site adjacent to Argoed View.
Roost potential signs:
The tree was not identified as having roost potential during the 2018 PRA. The 2021 PRA found the tree to be in a good overall condition, although a small hole was noted that has developed from an old pruning wound on its western side, visible from the road. The angle of

the opening potentially exposes the cavity to wind and rain and is therefore assessed as having **low** potential to support roosting bats.

PRF survey results

The tree was climbed and the feature fully checked and was found not to recede. The tree has been reassessed as having **negligible** potential for roosting bats.

Summary and Evaluation

- 4.11 Following the PRF survey, Tree 6 was found to contain **high** bat roost potential. Trees 4, 5, 11 and 12 were found to contain **moderate** bat roost potential and further bat presence/ absence surveys are recommended.
- 4.12 Trees 2, 3, 7 and 10 were found to hold **low** potential to support roosting bats and further presence/ absence survey are not required although a precautionary approach to any tree works/ felling may be appropriate, which is further discussed in Section 5.
- 4.13 All other trees within the site had no features suitable potential roosting features and therefore **negligible** potential to support roosting bats.
- 4.14 It must be noted that during the 2018 surveys, which included a PRF survey of Trees 1 and 3 - 9 and presence/ absence surveys of Trees 5 and 6, at no time were bats discovered using any of the trees. However, the guidelines do state that: *Survey work on individual trees may confirm presence but is unlikely to conclusively confirm absence.*

5.0 Impacts and Recommendations

- 5.1 The results of the PRA and PRF survey on land off New Brighton Road, New Brighton, Flintshire found the trees to contain varying levels of potential to support roosting bats. Tree 6 was found to contain high bat roost potential. Trees 4, 5, 11 and 12 were found to contain moderate bat roost potential and further bat presence/ absence surveys are recommended.
- 5.2 Trees 2, 3, 7 and 10 were found to hold low potential to support roosting bats and further presence/ absence surveys are not required. All other trees within the site had no features suitable potential roosting features and therefore negligible potential to support roosting bats.
- 5.3 Precautionary measures should be adopted during felling or pruning works for trees with low bat roost potential. This should take the form of either a pre-development aerial inspection or felling of potential roosting features using soft-felling section techniques under the supervision of a suitably qualified ecologist. If at any time a bat or evidence of bats is found or suspected, all works must cease immediately and advice should be sought from either Natural Resources Wales or the acting Consultant. If a bat roost is found then the works would be delayed until such a time adequate survey data is obtained that is sufficient to support a Natural Resources Wales licence that will derogate from legal protection afforded to roosting bats.

Further Survey Requirements

- 5.4 The Bat Surveys for Professional Ecologists: Good Practice Guidelines produced by the Bat Conservation Trust (2016), recommends timings and a minimum number of visits for presence/ absence surveys to give confidence in a negative result for structures (and trees although unlikely to give confidence in a negative result). These are determined by the level of suitability assigned to each tree as set out below (see Appendix 4 for the full table):

- For trees with high roost suitability; three separate survey visits are required to determine the presence or absence of bats. One dusk emergence and one separate dawn re-entry survey will be required with the third survey comprising of either a dusk emergence or a dawn re-entry survey. Surveys should be undertaken between May to September, with at least two surveys to be undertaken between May and August. Surveys should be spaced at least two weeks apart, preferably more.
 - For trees with moderate roost suitability; two separate survey visits are required to determine the presence or absence of bats. One dusk emergence and one separate dawn re-entry survey will be required. Surveys should be undertaken between May to September, with at least one survey to be undertaken between May and August. Surveys should be spaced at least two weeks apart, preferably more.
- 5.5 Surveys should be an iterative process with each previous survey informing the subsequent one. The number of survey visits could therefore be adjusted (up or down), if necessary, depending upon site-specific circumstances.
- 5.6 Presence/ absence surveys are required to gather specific information over the active bat season. Several visits are required as bats, particularly pipistrelle, often have more than one roost and do not necessarily occupy a single roost over the entire active season. The survey visits will need to be spaced out over the active season.
- 5.7 If the works require planning approval, the Local Planning Authority will require the results of the presence/ absence surveys in support of any Planning Application, in line with current Planning Policy for both a presence or absent result.
- 5.8 As bats are mobile creatures and can form new roosts at any time if works are not started within one year of this report then it may be necessary to repeat certain surveys.
- 5.9 In line with the Planning Policy Wales and Local Development Plans, developments should minimise impact within areas identified as important for the ability of the species to adapt and/or move to more suitable habitats; and conserve and enhance habitats that support species of international, national and local importance.
- 5.10 The Proposed Planning Layout, Figure 2: P.1094.18.03C Landscape Proposal show the loss of two trees within the site, Tree 6 and Tree 7, which have been assessed as having high and low bat roost potential respectively. Other trees with bat roost potential could be indirectly affected through the addition of noise and vibration during construction and from post development impacts through lighting. Where required and once the further recommended surveys have been completed, appropriate mitigation and/or compensation shall be recommended and implemented to ensure that there are no adverse effects from the proposed development.
- 5.11 Bat activity surveys of trees with moderate or high potential haven been commissioned and are scheduled to be undertaken during the 2021 survey period.
- Other: Breeding Birds**
- 5.12 The trees also provide suitable breeding bird habitat and a blue tit was found to have dependant young in Tree 6.
- 5.13 The Wildlife and Countryside Act (WCA) 1981 (as amended) states that all wild birds are protected at all times against killing or injury. Under the WCA, it is an offence to kill, injure or

take any wild bird, to take damage or destroy the nest of any wild bird, or to take or destroy the egg of any wild bird. It is good practice to carry out any works outside of the breeding bird season that might affect nests and result in an offence being committed. The breeding bird season is generally considered to be between March to August inclusive.

- 5.14 If suitable breeding bird habitat is affected during the breeding bird season, then an assessment by an Ecologist for breeding birds should be undertaken prior to works. If breeding birds are found, it is likely that works will have to be delayed until breeding has ceased.
- 5.15 It is good practice to remove all affected breeding bird habitat during the winter months prior to works starting to prevent delays.

6.0 Conclusion

- 6.1 To conclude, this report details the findings of the updated PRA and PRF survey that has been undertaken at this site.
- 6.2 The surveys were been undertaken by a suitably experienced surveyor at the appropriate time of year and in line with current guidance.
- 6.3 The surveys found the trees to have varying levels of potential of which mostly remained in the same condition as they were in 2018. However, some trees were found to have new features. Three trees that were found to have negligible potential to roosting bats during the 2018 surveys were also added to the survey owing to new roosting features being identified.
- 6.4 Further surveys for trees with high or moderate bat roosting potential have been recommended in the form of updated presence/ absence surveys.
- 6.5 For trees with low bat roosting potential, precautionary measures should be adopted during felling or pruning works.

7.0 References

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Figure 1:
Site Plan Showing Tree Locations


Figure 1: Site Plan Showing Tree Locations


Map ref. (NGR): 325190, 365560
Map scale: 1:1000 @ A3


Key

 Site boundary

PRA/ PRF Tree Survey Findings*

 'High' bat roost suitability

 'Moderate' bat roost suitability

 'Low' bat roost suitability

*All other trees within and bordering the site were assessed as having negligible suitability for roosting bats.



Figure 2a to c:
New Brighton, Mold, Proposed Layout P.1094.18.03C



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- Landscape planning key:**
- Site Boundary.
 - Existing group of trees retained and protected during the works.
 - Proposed ornamental planting on 400mm depth of topsoil with 75mm bark mulch.
 - Proposed Large Feathered Tree planting, tree pit and double timber stake and cross bar and secured with a rubber tree tie as detailed in the specification.
 - Ornamental Heavy Standard Tree to be planted with a single timber stake and rubber tree tie.
 - Native Bulb Planting for naturalising in grass, scattered randomly, at .4m centres on regraded mound.
 - Proposed Hedgerow planted in a double staggered row at 0.4m centres. Bare root transplants with 60cm rabbit guards.
 - Proposed Native Hedgerow planted in a double staggered row at 0.4m centres. Bare root transplants with 60cm rabbit guards.
 - Proposed Lavender Hedgerow planted in a triple staggered row at 0.2m centres. Bare root transplants with 60cm rabbit guards.
 - Front gardens to be turfed on 150mm topsoil.
 - Rear gardens to be sown with Germinall A19 mix 40g/m2 on 150mm topsoil.
 - Native shrub planting woodland mix to be planted as 60-80cm whip planting at 2 per sq.m for additional wildlife habitat.
 - Wildflower seeding, WFG Hedgerows and Shaded Areas, along native hedgerows to public open space to be sown at 5g/m2.
 - Wildflower seeding, WFG Wetland and Pond Areas, along native hedgerows to public open space to be sown at 5g/m2.
 - SUDs to have safe gentle slopes with a riparian dry-level bench, a wet shallow safety bench and a deeper water zone to provide a physically and ecologically diverse landscape. All to Civic Engineers' design.
 - Marginal planting to naturalised to be planted in shallow water bench.

C	Landscape revised in line with layout V23	19/04/21
B	Landscape revised in line with layout rev Q	18/08/20
A	Landscape revised in line with new layout	01/05/19
REV	DESCRIPTION	DATE

Ascorta
 Landscape | Trees | Ecology
 t: 0845 463 4404
 e: info@landscapetreecology.com
 www.landscapetreecology.com

CLIENT: Stewart Mine Homes
 PROJECT: New Brighton Road, Mold
 DRAWING TITLE: Planting Plan
 Sheet 1 of 4
 SCALE: 1:200 @ A0
 DRAWING No: REV
 DRAWN BY: CHD BY: DATE: 13/12/2018 P.1094.18.03 C



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 Landscape | Trees | Ecology
 t: 0845 463 4404
 e: info@landscapetreecology.com
 www.landscapetreecology.com

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 SCALE: 1:200 @ A0
 DRAWING No: CO
 CP
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 P.1094.18.03
 REV: C



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 Landscape | Trees | Ecology
 t: 0845 463 4404
 e: info@landscapetreecology.com
 www.landscapetreecology.com

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 Sheet 3 of 4
 SCALE: 1:200 @ A0
 DRAWING No: REV
 DRAWN BY: CO
 CHD BY: CP
 DATE: 13/12/2018
 P.1094.18.03
 C



LANDSCAPE AND MAINTENANCE SPECIFICATION

All operations to comply with appropriate British Standards unless otherwise stated on drawings or in the specification.

GENERAL TREATMENT OF PLANTING AREAS

Ensure that planting areas are protected from consolidation by heavy construction plant.

For work near a retained tree: Refer to BS 5837 *Trees in relation to design, demolition & construction - Recommendations*- Section 9 (Appendix C).

Damage to Plants to be Retained: If a plant to be retained is damaged, the plant is to be repaired or replaced by the contractor at their own expense. "Damaged" means: The destruction of a plant The breaking of branches or roots The debarking of trunks or limbs The contamination of root zone soil or plants from drift sprays, dust or contaminated storm water The damage by the placement of fill or building materials within the canopy perimeter or otherwise.

1) GROUND PREPARATION AND SOIL SPECIFICATION

Topsoil (To Comply with British Standard 3882 - Specification for Topsoil):
Imported topsoil shall be Multipurpose Grade as described in BS 3882:2015. Stockpiling of soil shall be avoided whenever possible to minimise loss of physical quality, diffusion of oxygen and biological activity. Any stockpiling shall not exceed 1.5 metres high and shall be sited so as to avoid risk of muddy water run-off into a watercourse, not exceeding 1.5 metres high. The site of the stockpile will be prepared in advance by grading, removing rubbish and ensuring no fuel or chemicals were previously stored in area. Topsoil shall be lightly consolidated in layers not exceeding 150mm using track laying machinery.

Soil shall not be handled in inappropriate conditions of weather and soil moisture i.e. During or shortly after heavy precipitation
When soil is in a waterlogged condition
When the ground is frozen or covered by snow

When there are pools of water on the grounds surface.
Topsoil shall be laid to the following minimum depths:

- 150mm below new grass areas
- 400mm beneath new shrub areas.
- Finished levels, after settlement, shall be as follows:
25mm above adjacent paving from new grassed areas and non-mulched shrub beds
- 75mm below adjacent paving and grass for mulched planting beds.
- 150mm below damp proof courses.

Subsoil:
Before receiving topsoil, subsoil shall be loosened using appropriate equipment; this shall be done when the subsoil is dry so as to encourage soil shattering. All stones and other objects larger than 50mm shall be removed from the prepared surface. The loosened subsoil shall be roughly levelled so that an even depth of topsoil can be achieved.

2) GROUND CONDITIONING

40 litres of compost to be incorporated into the top 200mm of each square metre of topsoil for all ornamental shrub beds.

3) PLANT AND PLANTING SPECIFICATION

All plant stock, plant handling and planting to be undertaken in accordance with the following British Standard Specifications and Code of Practice:

- BS 3936: 1992 Part 1 Nursery Stock. Specification for Trees and Shrubs.
- BS 3936: 1981 Part 10 Nursery Stock. Ground Cover Plants.
- BS 4428: 1989 Recommendations for general landscaping operations.
- BS 4043: 1989 Recommendations for transplanting root-balled trees.
- The Code of Practice for Plant Handling 1985. (Horticultural Trades Association).

Plant Stock:

Plant stock to be supplied in accordance with the size and description specified ion the plant schedule and position indicated on the most current revision of the planting plan.

Plant stock shall be healthy, vigorous, free from pests and diseases and suitably hardened off for the proposed situation of planting, and lifted at a time in accordance with good nursery practice. Stock shall have a well formed fibrous root system and be free from perennial weeds. The form of trees shall be in accordance with BS 3936: Part 1:1992, Section 7, *Form of Trees*.

Plant Handling:

All plant materials shall be lifted, bundled, labelled, packaged, transported, temporarily stored and planted in accordance with the procedures and methods illustrated in the publication, "*Plant Handling*" (Horticultural Trades Association) and relevant sections of BS 4043: 1989 *Transplanting Root-Balled Trees*.

Tree Planting:

Trees to be pit planted. Minimum pit size: Heavy Standard tree 900 x 900x 750mm. Pits to be prepared to base and sides of pit to be further scarified. Standard trees to be double staked using two stakes (75mm dia.), driven into ground 300mm below bottom of pit. Base of pit to be filled with 200mm of 3:1 mix of approved topsoil / compost. Trees to be centrally located and stem placed in an upright position. Pit to be back-filled with a 3:1 mix of an approved topsoil / compost. Backfill firmly to 50mm above previous ground level to allow for settlement. Saw stakes to leave 600mm above soil level. Fix adjustable tree ties to each stake, to include rubber spacer. Water in Same day with 52 litres per tree.

Staking:

Stake all trees with double short stakes, feathered trees with low single stake. Stakes to be first grade pressure impregnated round timber with chamfered tops. Position stake close to tree on windward side and drive vertically at least 400mm into bottom of pit before planting. Backfilling: consolidate material around stake. Height of stakes: cut to approximately one third of the tree height above ground level, taking care not to damage the bark. Ties: Hessian. Tying: secure tree firmly but not rigidly to stake with at least 2 ties within 25mm of top of stake.

Shrub Planting:

All bare root stock shall be planted between November and March/April. If planting is to be carried out at any other time of the year, container grown stock shall be used. Plants shall be delivered to site in quantities that which can be planted the same day. No plant roots shall be allowed to dry out.

Turfed Areas:

To be specified and laid in accordance with BS. 3936:1990 Recommendations for turf for general purposes. Turf to be Lindum Festival Turf (or similar approved). Hardwearing with a dense sward containing a mixture of 25% perennial ryegrass, 55% fescues and 20% smooth stalked meadow grass. This mix is easy to maintain and will recover well from general wear. Turf to be laid in suitable weather conditions on a prepared bed with no weeds and a suitable slow release fertiliser applied to bed prior to laying. Turf to be watered regularly until it is well established.

Grass Seeding:

Seed mix shall be Germinal Grade A19 mix, or similar approved. Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Levels to be graded to form finished levels as indicated in section, "Topsoil". Roll, fertilise at 50gms/sq m, 10-14 days prior to seeding, sow at rate of 25-35g/m2 and lightly rake. First cut to be undertaken when grass reaches 50mm.

Bulbs Planting:

Scatter the bulbs as plan, to an average density to create naturalistic planting. With a bulb planter or trowel plant the bulbs in an upright position, where they fall, to a depth of 3 times the size of the bulb. Cover with soil and firm gently.

Floating planting to naturalised:

Basket to be watered before placing in the pond and submerged at 15-25cm or depth enough to cover the crown.

Marginal planting:

To be planted directly into the soil at the margin of the pond on a marginal shelf in shallow water.

Weeding:

A plant that roots directly from its base and has shallow roots is to be removed by hand, by removing the main root system. A weed that grows from a clumped, fibrous root system is to be removed using the crowning method, by cutting the roots from the crown of the weed. A large weed infestation is to be removed by spraying an approved chemical directly onto the target infestation. A plant being a tree or a vine is to be removed using the cut and paint method, by cutting the base of the stem close to the ground and immediately applying herbicide to the cut.

4) MAINTENANCE AND MANAGEMENT

Plant stock and soft landscaped areas shall be maintained for a period of five years via the developers' agent or appointed Management Company during which time the following operations shall be carried out:

Regular visits:

Monthly maintenance visits to include the following operations:

- Hand weed planting beds
- Remove litter
- Sweep mulch spillage
- Re-firm plant stock as necessary
- Adjust stakes and ties as necessary
- Prune plant stock as required to encourage good form
- Check all plant stock and report signs of pests, disease, death and damage

Watering:

Plant stock to receive the following quantities of water:
Semi-mature trees: 75 litres each month between April and September
Heavy Standard trees: 35 litres each month between April and September
Shrubs and transplants: 5 litres/plant on three occasions throughout growing season.
Watering to be undertaken during the first 24 months as needed to maintain plant health.

Grass cutting:

Grass shall be cut throughout the growing season to maintain a sward of approximately 40mm. Shall be edged, watered as necessary and clippings removed. Areas with bulb planting to be left uncut 6 weeks after final flowering. Following this period cut as grass and remove all arisings.

Wildflower and informal grass areas cutting:

Wildflower and informal grass areas shall be cut 2 times a year during the late spring and after the flower season (September / October) to maintain a sward of approximately 40-50mm. The clippings shall be left in situ for 3 days to allow seed drop, then removed to prevent nutrient build up.

Plant replacements:

All dead, dying and vandalised plant stock shall be replaced, at the landscape contractor's expense, at the end of each growing season throughout the maintenance period.

PLANT SCHEDULE

Ornamental Heavy Standard Tree Planting

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	Ctr m	Qty
ACE CAM	Acer campestre	Common Maple	12-14	350-425	RB	3x; HS; clear stem min. 200cm; 5 brks			8
AME BAL	Amelanchier 'Ballerina'	Snowy Mespilus 'Ballerina'	10-12	300-350	RB	2x; SS; clear stem 175-200cm; 4 brks			2
BET JAC	Betula utilis jacquemontii	White-barked Himalayan Birch	12-14	350-425	RB	3x; HS; clear stem 175-200cm; 5 brks			18
CAR FON	Carpinus betulus 'Frans Fontaine'	Hombeam 'Frans Fontaine'	12-14	350-425	RB	3x; HS; clear stem 175-200cm; 5 brks			2
PRU SAR	Prunus sargentii	Sargent Cherry	12-14	350-425	RB	3x; HS; clear stem 175-200cm; 5 brks			20

Native Feathered Tree Planting

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	Ctr m	Qty
ALN GLU	Alnus glutinosa	Common Alder	12-14	350-425	RB	3x; Large Feathered; 7 brks			4
QUE ROB	Quercus robur	Common Oak	12-14	350-425	RB	3x; Large Feathered; 7 brks			16

Native Bulb Planting scattered randomly, at .4m centres on regraded mound.

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	Ctr m	Qty
ANE NEM	Anemone nemorosa	Wood Anemone			50cc min.	Plug; established root 2-3 months min.; Sept to April planting, British native-origin	20.00	0.40	60
COL AUT	Colchicum autumnale	Autumn Crocus				Grade 18/20	20.00	0.40	60
HYA SCR	Hyacinthoides non-scripta	English Bluebell			50cc min.	Plug; established root 2-3 months min.; Sept to April planting, British native-origin	20.00	0.40	60
NAR OBV	Narcissus obvallaris	Tenby Daffodil				Grade 8/10	20.00	0.40	60
NAR PSE	Narcissus pseudonarcissus	Wild Daffodil				Grade 5/6	20.00	0.40	60

Proposed ornamental planting

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	No./m²	Qty
CHO PEA	Choisya 'Aztec Pearl'	Mexican Orange Blossom 'Aztec Pearl'		20-30	2L	Bushy; 5 brks		3	20
COR ELE	Cornus alba 'Elegantissima'	Silver Dogwood		40-60	2L	Branched; 3 brks		3	23
EJO GAI	Euonymus fortunei 'Emerald Gaiety'	Spindle 'Emerald Gaiety'	15-20D	20-30	2L	Bushy; 5 brks		4	32
HEB GLO	Hebe 'Autumn Glory'	Shrubby Veronica 'Autumn Glory'		20-30	2L	Bushy; 3 brks		4	28
HEB GEM	Hebe 'White Gem'	Shrubby Veronica 'White Gem'		20-30	2L	Bushy; 3 brks		3	28
POT ELI	Potentilla fruticosa 'Elizabeth'	Shrubby Cinquefoil 'Elizabeth'	15-20D		2L	Bushy; 3 brks		4	5
SAN CHA	Santolina chamaecyparissus	Cotton Lavender		20-30	2L	Bushy; 5 brks		4	26
SKI RUB	Skimmia japonica 'Rubella'	Skimmia 'Rubella'		20-30	2L	Bushy; 3 brks		4	5

Proposed Lavender Hedgerow planted in a triple staggered row at 0.40m centres

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	Ctr m	Qty
LAV HID	Lavandula angustifolia 'Hidcote'	Lavender 'Hidcote'		10-15	1.5L	Bushy; 5 brks		0.4	328

Proposed Mix Native Hedgerow Double Staggered at 0.40m centres

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	Ctr m	Qty
ACE CAM	Acer campestre	Common Maple		60-80	B	1+1; Transplant - seed raised	10.00	0.40	30
COR AVE	Corylus avellana	Common Hazel		60-80	B	1+2; Transplant - seed raised; branched; 3 brks	10.00	0.40	30
CRA MON	Crataegus monogyna	Common Hawthorn		60-80	B	1+1; Transplant - seed raised	50.00	0.20	147
ILE AQU	Ilex aquifolium	Common Holly	RC5	20-40	150cc min.	1+0; Seedling; cell grown	10.00	0.40	30
PRU AM	Prunus avium	Wild Cherry		60-80	B	1+1; Transplant - seed raised	10.00	0.40	30
ROS CAN	Rosa canina	Dog Rose		60-80	B	1+1; Transplant - seed raised; branched; 3 brks	10.00	0.40	30

Proposed Formal Hedging Double Staggered at 0.30m centres

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	Ctr m x2	Qty
PRU ROT	Prunus laurocerasus 'Rotundifolia'	Cherry Laurel 'Rotundifolia'		40-60	B	0/2; Cutting; bushy; 2 brks		0.30	2000

Native shrub planting woodland mix at 2 per sq.m

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	No./m²	Qty
COR SAN	Cornus sanguinea	Common Dogwood		60-80	B	1+1; Transplant - seed raised; branched; 3 brks	20.00	2	42
COR AVE	Corylus avellana	Common Hazel		60-80	B	1+2; Transplant - seed raised; branched; 3 brks	26.67	2	17
ILE AQU	Ilex aquifolium	Common Holly		60-80	3L	Leader with laterals	13.33	2	17
ROS CAN	Rosa canina	Dog Rose		60-80	B	1+1; Transplant - seed raised; branched; 3 brks	6.67	2	26
SAM NIG	Sambucus nigra	Common Elder		60-80	B	1+1; Transplant - seed raised; branched; 3 brks	13.33	2	26
VB OPU	Viburnum opulus	Guelder Rose		60-80	B	1+2; Transplant - seed raised; branched; 3 brks	20.00	2	42

Marginal planting to naturalised mix

Abbrev.	Botanical Name	Common Name	Girth/ Dia. cm	Height cm	Root Zone	Specification	Mix %	No./m²	Qty
BUT UMB	Butomus umbellatus	Flowering Rush			0.5L	Full pot; June to Sept planting; British native-origin	5.26	3	20
CAL PAL	Callitha palustris	Marsh Marigold			0.5L	Full pot	5.26	3	20
CAR RIP	Carex riparia	Greater Pond Sedge			0.5L	Full pot; Sept to April planting; British native-origin	5.26	3	20
FIL ULM	Filipendula ulmaria	Meadowsweet			0.5L	Full pot; Sept to April planting; British native-origin	5.26	3	20
IRI PSE	Iris pseudacorus	Yellow Flag Iris			0.5L	Full pot	31.58	3	115
LYS WJL	Lysimachia vulgaris	Yellow Loosestrife			0.5L	Full pot; Sept to April planting; British native-origin	10.53	3	40
LYT SAL	Lythrum salicaria	Purple Loosestrife			0.5L	Full pot; Sept to April planting; British native-origin	10.53	3	40
MYO SCO	Myosotis scorpioides	Water Forget-me-not			0.5L	Full pot; Sept to April planting; British native-origin	5.26	3	20
SIL CUC	Silene flos-cuculi	Ragged Robin			0.5L	Full pot; Sept to April planting; British native-origin	10.53	3	40
STA PAL	Stachys palustris	Marsh Woundwort			0.5L	Full pot; Sept to April planting; British native-origin	10.53	3	40

DO NOT SCALE

ALL COORDINATES RELATED TO LOCAL GRID LOCATED TO OS NO 8 BY BEST FIT TO BEST AVAILABLE DATA.

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C	Landscape revised in line with layout V23	23/04/21
B	Landscape revised in line with layout rev Q	18/08/20
A	Landscape revised in line with new layout	01/05/19
REV	DESCRIPTION	DATE

Ascerta
Landscape | Trees | Ecology
t: 0845 463 4404
e: info@landscapetreeseecology.com
www.landscapetreeseecology.com

CLIENT:
Stewart Milne Homes
PROJECT:
New Brighton Road, Mold

DRAWING TITLE: Planting Plan Sheet 4 of 4			
SCALE: @A1	DRAWN BY: CO	DRAWING No:	REV:
DATE: 13/12/2018	CHKD BY: CP	P. 1094.18.03	C

Appendix 1: Planning Policy and Legislation

Disclaimer: Appendix 1 is a guide to legislation and procedure relating to biodiversity in England. It is general guidance and it does not give specific advice in relation to any site, species or project. It represents Ecology Services Ltd interpretation of legislation and procedure as at April 2021. Readers should note that legislation and procedure changes continually and is interpreted on a case-specific basis. Nothing in Appendix 1 should be construed as an offer of advice or legal opinion.

Planning Context

Planning Policy Wales Edition 11 (February 2021) places a clear responsibility on Local Planning Authorities (LPA) to contribute to conserving and enhancing the natural and local environment. LPAs should support the conservation of biodiversity, safeguard protected and priority species (e.g. Species of Principal importance, Local Biodiversity Action Plan species) and existing biodiversity assets from impacts and secure enhancement of and improvements to ecosystem resilience. Technical Advice Note (TAN) 5: Nature Conservation and Planning (2009) provides detailed planning advice which supplements Planning Policy Wales.

A Local Planning Authority (LPA) has a duty to ensure that protected species and habitats within the UK are a 'material consideration' in the determination of a planning application. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted in support of a planning application.

Statutory Protection Afforded UK Bats

The Conservation of Habitats & Species Regulations 2017 (as amended), also known as the Habitats Regulations, lists all UK bat species on Schedule 2 which places an obligation to implement strict protection for these species. This legislation makes it an offence to:

- deliberately kill, injure or capture a wild bat;
- deliberately disturb* a bat;
- damage or destroy a breeding site or resting place of a bat.

*Disturbance, as defined by the Conservation of Habitats & Species Regulations 2017 (as amended), is that which is likely to:

- impair their ability –
 - to survive, to breed or reproduce, or to rear or nurture their young; or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate.
- affect significantly the local distribution or abundance of the species to which they belong.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 continue the same provision for European protected species, licensing requirements and protected areas after Brexit.

All UK bats and their roosts are afforded further protection through their inclusion on Schedule 5 of the Wildlife & Countryside Act 1981 (as amended), which makes it an offence to:

- intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection;
- intentionally or recklessly obstruct access to a structure or place which a bat uses for shelter or protection.

Regulation 12 the Conservation of Habitats and Species Regulations 2017 (as amended) requires the appropriate authority in England and Wales to designate as Special Areas of Conservation such sites as the authority considers to be of national importance which contribute significantly to the maintenance, or restoration at favourable conservation status in the natural range of the species listed in Annex II of the EC Habitats Directive. Four bat species (greater horseshoe, lesser horseshoe, Bechstein's and barbastelle) are listed under Annex II.

When dealing with planning applications where a European Protected Species (EPS) (all UK bats) may be affected, a Local Authority is a 'competent authority' within the meaning of regulation 7 of the Conservation of Habitats & Species Regulations 2017 (as amended). The local authority must therefore exercise their functions under the provisions made within the 2017 Regulations (as amended), and planning decisions should only be made when European Protected Species and their habitats are fully taken into account.

Licensing of Works Affecting Roosting Bats

Where a bat roost is likely to be affected by development then a licence to derogate from the legal protection would be required. Licence applications are processed and issued by Natural Resources Wales and can only be applied for once planning permission (if required) has been granted.

Natural Resources Wales may grant a licence for the purposes specified in paragraph 55 of the Regulations. The purposes are:

- 55(2)(e) preserving public health or safety or other imperative reason of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment.
- 55(2)(f) preventing the spread of disease.

Natural Resources Wales must not grant a licence under paragraph 55 unless it is satisfied that:

- 55(9)(a) there is no satisfactory alternative; and
- 55(9)(b) the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable status in their natural range.

Environment (Wales) Act 2016

Section 7 of the Environment (Wales) Act 2016 places a statutory duty on the Welsh Ministers to take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list of living organisms and habitats of principal importance in Wales published under this section, and to encourage others to take such steps. Species of Principal Importance for the conservation of biodiversity in Wales, identified by the Welsh Ministers in consultation with Natural Resources Wales, are listed under Section 7 of the Environment (Wales) Act 2016. The Local Planning Authority and government bodies (e.g. Natural Resources Wales) will expect the overall design of the development to have regard for the conservation of these species. Section 7 of the Environment (Wales) Act 2016 lists great crested newt and common toad (*Bufo bufo*) as Species of Principal Importance.

Appendix 2: Guidelines for Assessing Habitat Suitability for Bats

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats based on the presence of habitat features within the landscape, to be applied using professional judgement (Taken from the Bat Conservation Trust Bat Surveys for Professional Ecologists: Good Practice Guidelines, 2016).

Suitability	Description	
	Roosting habitats	Commuting & foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions¹ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation²).</p> <p>A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential³.</p>	<p>Habitat that could be used by small numbers of commuting bats such as gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitats.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) of a patch of scrub.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ¹ and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back to gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland and water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ¹ and surrounding habitat.	<p>Continuous, high quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broad-leaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

¹For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
²Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types un urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.
³This system of categorisation aligns with BS8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Appendix 3:

Recommended Timings and Survey Effort for Presence/Absence Surveys

Tables 7.1 & 7.3. Recommended timings and minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
<p><u>Structures</u> One survey visit - one dusk emergence or dawn re-entry survey¹. Timing - May to August.</p> <p><u>Trees</u> No further surveys required. Precautionary approach to felling.</p>	<p><u>Structures & Trees</u> Two separate survey visits - one dusk emergence and a separate dawn re-entry survey². Timing - May to September³ with at least one of surveys between May and August².</p>	<p><u>Structures & Trees</u> Three separate survey visits - at least one dusk emergence and a separate dawn re-entry survey. The third visit could be either a dusk or dawn². Timing - May to September with at least two of surveys between May to August².</p>
<p>¹Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis. If there is a possibility that quiet calling, late-emerging species may be present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.</p> <p>²Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on the 31st August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime. A dawn survey immediately after a dusk one is considered only one visit.</p> <p>³September surveys are both weather and location dependant. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.</p>		

Appendix 4: Population Statuses of Bat Species

National Status

There are 18 species of bat that are native to the United Kingdom. 12 of which are known to breed in Wales. Little is known about the status of most species although the available evidence suggests a general decline in populations nationally (Harris, S. et al. 1995). The commonest species of bats are the pipistrelle family (*Pipistrellus* sp), although these are also estimated to have declined in numbers by 70% between 1978 and 1993.

The latest Review of the Conservation Status of British Mammals (2018) has shown that where change could be assessed with reasonable confidence there have been increases in the geographical range and population status of two species of UK bat (greater and lesser horseshoe bat) and decrease in the geographical range of one species (grey long-eared bat). Increases in population were also identified in the following species: Bechstein's, Daubenton's, Natterers, Serotine and brown long-eared although it is noted that the reliability of the results is poor. Population data was not available for; Alcahloe, whiskered, Brandts, Leisler's, noctule, Barbastelle and *Nathusius pipistrelle*.

Population estimates were given for common and soprano pipistrelle however they could not be reliably compared to the results from Harris et al. (1995) as the two species had not been identified as separate species at the time of that survey. *Pipistrellus* spp. remain the commonest species of bat in the UK despite their decline.

The State of Bats 2017 report produced by the Bat Conservation Trust used results from multiple survey types (hibernation, roost, waterway and field) of the National Bat Monitoring Programme (NBMP) to compile population trends between 1999, 2001 or 2002 to 2016. The report identified statistically significant (95% accuracy) population increase in Great Britain in the following species; greater horseshoe (hibernation and roost surveys), lesser horseshoe (hibernation and roost surveys), Daubenton's (hibernation surveys), Natterers (hibernation surveys), common pipistrelle (field surveys), soprano pipistrelle (field surveys). Significant decreases in population in Great Britain were identified in common pipistrelle (roost surveys), soprano pipistrelle (roost surveys) and brown long-eared (roost surveys).

These trends reflect relatively recent changes to bat populations since the 1990s. It is generally considered that prior to this there were significant historical declines in bat populations dating back to at least the start of the 20th century, although evidence is fragmented and few data were collected in a systematic way.

Bechstein's bat is endangered, Serotine, barbastelle and *Nathusius'* pipistrelle are considered vulnerable, Leisler's and greater horseshoe bat are near threatened in Wales in the Red List for Britain's Terrestrial Mammals (Matthews F and Harrower C, 2020).

Appendix 5:
Site Photographs



Tree 1



Tree 2



Tree 3



Tree 4



Tree 5



Tree 6



Tree 7



Tree 8



Tree 9



Tree 10



Tree 11



Tree 12



Tree 13

Appendix 6:
ESL Protected Species Report (Bats) - New Brighton Flintshire - Aug 2020