

BAT ACTIVITY SURVEY REPORT

MAY 2022

Ormskirk Road

Knowsley

Liverpool

L34 9EY

U R B A N
G R E E N



QUALITY MANAGEMENT

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NON-TECHNICAL EXECUTIVE SUMMARY

Caddick Developments are proposing to develop land at Ormskirk Road, Knowsley (hereafter referred to as 'the site'). The proposals include the development of three industrial units, with their associated hard and soft landscaping, including two potential attenuation ponds.

Urban Green have been appointed to complete Bat Activity Surveys and a Report of the site. A Preliminary Ecological Appraisal (PEA) and a Preliminary Roost Assessment (PRA) was conducted at the site in May 2021. No trees with bat roosting potential were present on site.

In accordance with relevant guidance, three bat activity surveys were completed, and a static bat detector deployed in June, and September 2021. The activity surveys and the static detector recorded four species utilising the site for commuting and foraging purposes. The southern edge of the woodland and southern hedgerow with associated habitats were the most utilised habitats, with few observations of bats utilising the fields. The site is not considered to be of significant importance for commuting and foraging bats.

Woodland and scrub to the north of the site require removal facilitate development, however an area of the woodland is to be retained along with southern hedgerow. Due to the retention of the woodland and southern hedgerow it is anticipated that there will be insignificant impacts to the foraging bats, though the loss of a small area of woodland to the north may impacting on commuting routes.

Compensatory planting should include native species that are most likely to attract invertebrate prey and mitigate the impact to foraging bats. The creations of a drainage/attenuation area within a "Biodiversity area" on site will further provide a permanent aquatic habitat not currently present on site. This should be designed to hold water year-round and be planted with native emergent and aquatic vegetation to provide a further resource for invertebrates on site providing further foraging opportunities for bats. The attenuation area will also provide a suitable drinking resource for the species, which currently does not exist on site.

No external lighting plans have been produced at this stage of the planning application. Lighting mitigation recommendations have been included to protect retained habitats and off-site habitats of value to commuting and foraging bats and should be considered within the proposed external lighting plans.

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1 Introduction

1.1 Background to the Scheme

Caddick Developments are proposing to develop land at Ormskirk Road, Knowsley (hereafter referred to as 'the site'). The proposals include the development of three industrial units, with their associated hard and soft landscaping, including two potential attenuation ponds.

Urban Green have been appointed to undertake further Activity Bat Surveys following recommendations outlined within a Preliminary Ecological Appraisal (PEA), undertaken at the site by Urban Green in June 2021 (see Section 2.1 for further information).

The author of the report is Andrew Bridge BSc (Hons), Assistant Ecologist at Urban Green. Andrew has two years' experience in ecological consulting services for a range of development schemes across the UK, including residential and commercial schemes.

1.2 Site Context

The site is located at National Grid Reference SJ 43756 96752 and comprises a total area of approximately 4ha (see Figure 1).



Figure 1 – Site Extent

The site is located upon the edge of an industrial estate approximately 450m north of Knowsley, and 10km to the north-east of Liverpool. The industrial estate is located within the urban rural fringe, with agricultural fields to the east and south, and industrial units to the west. Shared land use lies to the

north, comprising both industrial and agricultural land. The A580 major road directly borders the site to the north beyond which lies a small area of woodland, whilst Ormskirk Road and the B5202 road directly borders the site to the south and west.

1.3 Purpose of this Report

This report has been produced to demonstrate the results of the bat activity surveys which were completed at the site. The surveys were conducted to confirm species of bats utilising the site and to assess the most valuable habitats for bat foraging and commuting.

Appropriate mitigation is detailed (if required). The report has been produced in support of the proposed planning application.

Relevant UK legislation of the protection of all UK bats are detailed in Appendix 1.

2 Previous Surveys

2.1 Preliminary Ecological Appraisal 2021

A PEA was completed at the site by Urban Green in May 2021 and is detailed within Report UG_45_ECO_PEA_01 (Urban Green, 2021).

Commuting and Foraging Bats

The habitats of highest potential value for commuting and foraging bats include the scrub, woodland, and hedgerows. The central arable field was of limited value due to the intensive management and limited floristic diversity. As such, the site was assessed as having low commuting and foraging value.

Due to the removal of potential foraging and commuting habitats (i.e., hedgerow, scrub, and woodland), bat activity surveys were recommended to assess the potential impacts on the local bat population and inform relevant designs.

In accordance with Collins (2016), sites that are classified as having 'low' suitability for use by commuting and foraging bats require one bat activity transect survey to be undertaken on site once per season (Spring, Summer, and Autumn) from April – October in appropriate weather conditions for bats. The transect surveys would also be supplemented with static detector surveys, whereby one static detector is deployed on the site for a minimum of five consecutive nights (in appropriate weather conditions), once per season from April – October.

3 Methods

3.1 Bat Activity Surveys

Four activity surveys were undertaken following guidance set out in Collins (2016). All surveys were conducted by two suitability qualified ecologists, and under the guidance of Katie Bird, Senior Ecologist at Urban Green who holds a Level 2 Class Licence for bats (2020-48950-CLS-CLS).

The survey effort involved two surveyors walking a pre-determined transect route recording observations of bats such as number of bats, species flight direction, flight height, behaviour (e.g., commuting or foraging) appearance and relative speed surveying using Batbox Duet bat detectors. Figure 3 provides a plan illustrating transect routes, note that the route was reversed each survey to capture changing levels of activity across the site.

The predetermined route ensured coverage of all habitat types on site with attention placed on the hedgerow and scattered trees throughout the site.

Summary of the survey details are provided in Table 2. Surveyor results are located in Appendix 2 and maps are located in Appendix 3.

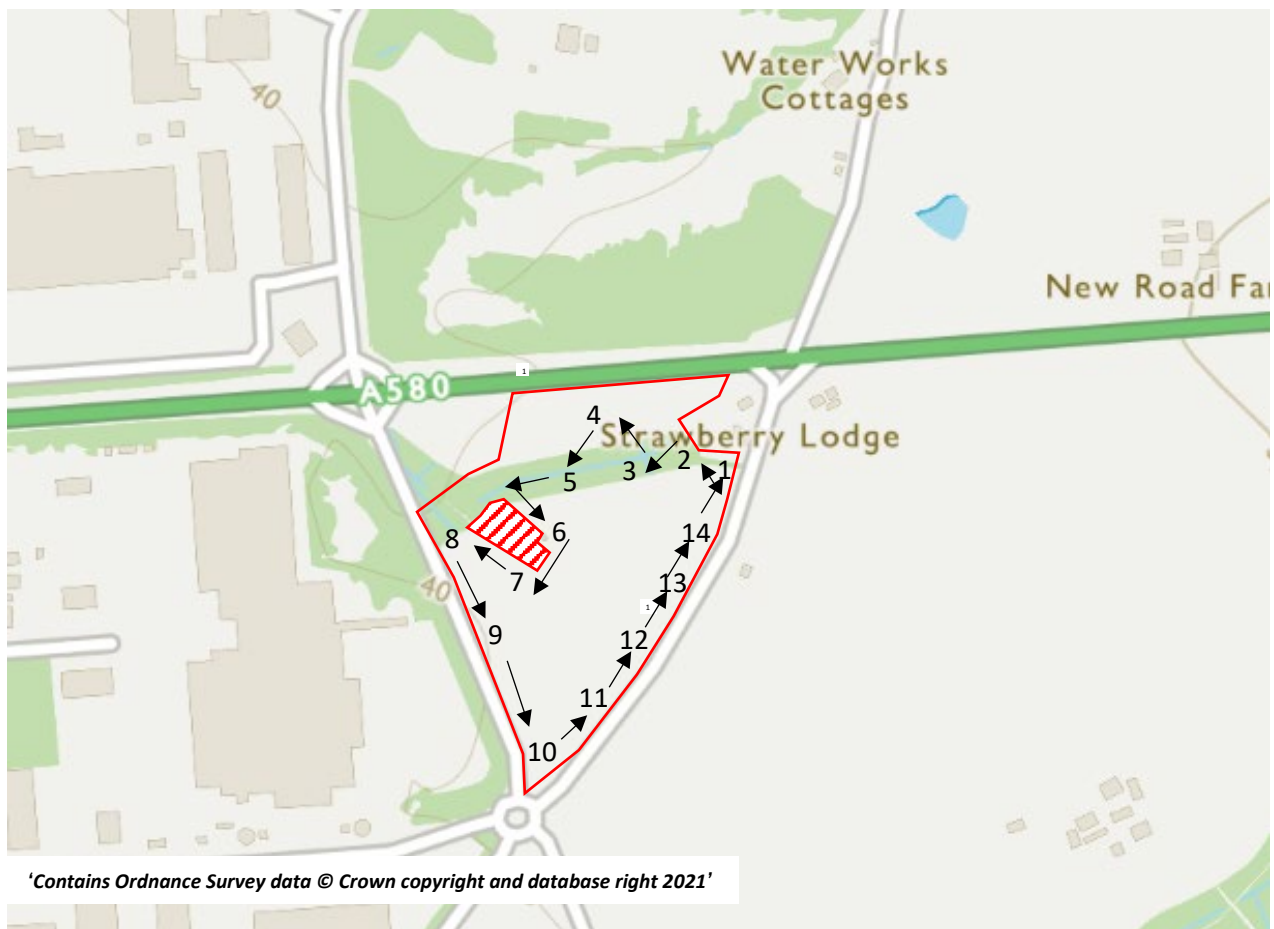


Figure 2 – Transect route

Table 2 – Activity Survey Details

Activity Survey	Date	Sunset time	Survey time	Surveyors	Weather Conditions at sunset
Spring (May)	26/05/2021	21:21	21:10-22:48	Katie Bird Hooman Nesaran	Temp: 17°C Wind: 0 Beaufort Cloud cover: 0 Oktas Precipitation: None
Summer (July)	01/07/2021	21:44	21:43-23:20	Mark Blacker Celise Neale	Temp: 16°C Wind: 1 Beaufort Cloud cover: 8 Oktas Precipitation: None
Summer (July)	20/07/2021	21:27	21:25-23:30	Celise Neale Jake Healy	Temp: 19°C Wind: 1 Beaufort Cloud cover: 2 Oktas Precipitation: None
Summer (August)	26/08/2021	20:15	20:15-21:55	Mark Blacker Bronwyn Dennis	Temp: 15°C Wind: 1 Beaufort Cloud cover: 0 Oktas Precipitation: None
Autumn (September)	13/09/2021	19:30	19:30-21:03	Mark Blacker Aisling Bennett	Temp: 17°C Wind: 0 Beaufort Cloud cover: 8 Oktas Precipitation: None

Katie Bird – Senior ecologist with several years’ bat survey experience

Mark Blacker – Senior ecologist with several years’ bat survey experience.

Celise Neale – an ecologist with four years’ bat survey experience.

Aisling Bennett – a seasonal ecologist with one years’ bat survey experience.

Bronwyn Dennis - a seasonal ecologist with one years’ bat survey experience.

Hooman Nesaran – a seasonal ecologist with one year’s bat survey experience.

A static bat detector (Anabat Express Bat Detector) was deployed at the site for a minimum of one week across two deployment periods, one in July 2021 and one in September 2021. The data collected on the static detector was analysed to provide further evidence of the sites use by foraging and commuting bats, using Analook software. Dates of deployment and associated weather are detailed within with dates of deployment between the following dates (see Table 3). Please refer to Figure 4 for the static location point.

Table 3 – Static Deployment Weather

Static No	Date	Temperature	Precipitation
Static 1	30/06/2021	Above 10°C	No heavy rain
	01/07/2021	Above 10°C	No heavy rain

Static No	Date	Temperature	Precipitation
	02/07/2021	Above 10°C	No heavy rain
	03/07/2021	Above 10°C	No heavy rain
	04/07/2021	Above 10°C	No heavy rain
	05/07/2021	Above 10°C	No heavy rain
	06/07/2021	Above 10°C	No heavy rain
	07/07/2021	Above 10°C	No heavy rain
	08/07/2021	Above 10°C	No heavy rain
Static 2	16/08/2021	Above 10°C	No heavy rain
	17/08/2021	Above 10°C	No heavy rain
	18/08/2021	Above 10°C	No heavy rain
	19/08/2021	Above 10°C	No heavy rain
	20/08/2021	Above 10°C	No heavy rain
	21/08/2021	Above 10°C	No heavy rain
	22/08/2021	Above 10°C	No heavy rain
	23/08/2021	Above 10°C	No heavy rain
Static 3	08/09/2021	Above 10°C	No heavy rain
	09/09/2021	Above 10°C	No heavy rain
	10/09/2021	Above 10°C	No heavy rain
	11/09/2021	Above 10°C	No heavy rain
	12/09/2021	Above 10°C	No heavy rain
	13/09/2021	Above 10°C	No heavy rain
	14/09/2021	Above 10°C	No heavy rain



Figure 4 – Static Location Point – along woodland edge

3.2 Constraints to the Survey

The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.

The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited within this document.

Static bat detectors (Anabat Express Bat Detector) cannot represent bat abundance in the area, due to the equipment recording auditory observations within the area and not visual (i.e., how many times a bat passes). This has been taken into account within the report.

Due to equipment failure no data was recorded during the summer period (August). This is not anticipated to provide a significant limitation as data collected during the other survey seasons showed a high level of consistency with regard to species diversity and abundance. Full survey data is available for other survey periods, and an additional summer activity transect was also completed in August to provide a higher level of confidence in the assessment provided. Therefore, this is not deemed to be a significant constraint on the assessment provided within this report.

3.3 Lifespan of Reports

In accordance with the BCT guidance (Collins, 2016), the details of this report will remain valid for a period of **24 months** from the date of the first survey (i.e., until 26th May 2023). After this date, this assessment should be reviewed to determine whether any update surveys are required.

4 Results

4.1 Nocturnal Bat Activity Surveys

Common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), noctule (*Nyctalus noctula*) and brown-long eared bats (*Plecotus auritus*) were the bat species identified utilising the site. Please refer to Table 6 for a summary of number of passes detected.

4.1.1 May 2021

May's survey had minimal activity, with only one Soprano pipistrelle being recorded displaying commuting behaviour from south to north along the southern boundary hedge. The other species found to be utilising the site was Noctule, which was heard and not seen by a surveyor.

4.1.2 July 2021

This survey had minimal activity with only noctule, and common pipistrelle recorded during the survey. Activity was mainly limited to the southern edge of the woodland with no activity recorded utilising the central agricultural fields. Common pipistrelle was recorded most frequently throughout the survey.

4.1.3 July 2021

Bat activity was recorded exclusively along the edge of the woodland and southern hedgerow, commuting along them and between northern/southern boundary habitats. Common pipistrelle was observed most frequently throughout the survey with minimal passes from noctule and Soprano pipistrelle. Minimal bat activity was recorded utilising the central agricultural fields.

4.1.4 August 2021

In August activity remained consistent with findings of the July survey. Activity was more frequent along the southern edge of the woodland and southern hedgerow with minimal activity being recorded using the central agricultural fields. The most common species recorded was common pipistrelle with fewer passes from Soprano pipistrelle.

4.1.5 September 2021

September was also consistent with previous surveys, the species of bats found on survey were common and soprano pipistrelle, with common pipistrelles contributing to the majority of activity. The southern edge of the woodland and southern boundary habitats were frequently used for commuting and foraging behaviour; however, some foraging behaviour was noted within the central field.

Table 6 – Detailed results from Activity Surveys

Activity Survey	Date	First	Last	Number of Passes per Bat Species			Total
				Common pipistrelle (P45)	Soprano Pipistrelle (P55)	Noctule	
May	26/05/2021	22:21	22:30	0	1	1	2
July	01/07/2021	22:11	23:20	14	6	0	20
July	20/07/2021	21:45	22:55	28	8	0	28
August	26/08/2021	20:42	21:50	32	4	0	36

Activity Survey	Date	First	Last	Number of Passes per Bat Species			Total
				Common pipistrelle (P45)	Soprano Pipistrelle (P55)	Noctule	
September	13/09/21	19:50	21:03	19	2	0	21

4.1.6 Static Surveys

Overall, the same species detected during the activity surveys were recorded on the static detectors, along with brown long eared bat as detailed in Table 7.

Common pipistrelle was recorded most on site within the static, followed by soprano pipistrelle. Both of these species are considered to be common and widespread in the local area, and across England (Collins, 2016).

Table 7 – Detailed results from static deployment

Static Location	Dates	Number of Recordings per Bat Species				Total
		Common pipistrelle (P45)	Soprano pipistrelle (P55)	Noctule (Nc)	Brown long-eared bat (BLE)	
Static 1	30/06/2021	52	16	25	1	94
	01/07/2021	173	6	-	-	179
	02/07/2021	29	5	3	-	37
	03/07/2021	24	10	63	-	97
	04/07/2021	8	1	-	-	9
	05/07/2021	12	4	1	-	17
	06/07/2021	56	12	6	-	74
	07/07/2021	46	8	30	2	86
	08/07/2021	56	6	17	-	79
Static 3	08/09/2021	48	18	12	1	79
	09/09/2021	106	18	1	13	138
	10/09/2021	91	1	3	11	114
	11/09/2021	209	13	8	9	239
	12/09/2021	38	3	5	-	46
	13/09/2021	36	3	2	-	41
	14/09/2021	66	17	2	2	87

4.2 Assessment

4.2.1 Nocturnal Bat Activity and Static Surveys

Bat activity recorded throughout the surveys and static deployment identified four bat species utilising the site for commuting and foraging: common pipistrelle, noctule, soprano pipistrelle, and brown long-eared bat. The most recorded species utilising the site was common pipistrelle, which was considered

to be relatively common species, and the next most common species recorded was soprano pipistrelle which were also considered to be relatively common.

Survey results indicate that species such as brown long-eared bat and noctule also utilise the site however in lower numbers than common pipistrelle and with a peak count of 11 observations of brown long eared bat and 30 noctule. The activity surveys and static detectors confirmed the most valuable habitats on site to be the southern edge of the woodland and southern hedgerow and adjacent habitats. The central arable field was recorded as being less utilised by bat species.

Based on the number of species utilising the site and the low number of passes during both the activity surveys and the static deployment overall, the habitats onsite are considered to be of “low quality”.

5 Mitigation and Recommendations

5.1 Impact Assessment

During surveys bat activity was recorded, with only common and widespread species identified. Foraging and commuting was recorded mainly in association with the northern woodland and scrub habitats and southern hedgerows and associated boundary habitats.

The activity surveys and static detectors confirmed the most valuable habitats on site to be the southern hedgerows and woodland and scrub to the north of the site. These habitats require partial removal facilitate development; however, an area of the woodland is to be retained along with southern hedgerow. Due to the retention of the woodland and southern hedgerow it is anticipated that there will be insignificant impacts to the foraging bats, though the loss of a small area of woodland to the north may impacting on commuting routes.

5.2 Mitigation

Due to the loss of foraging and commuting habitats, the proposed site plan (Fletcher Rae, 2021) includes compensatory planting of trees and scrub. Plant species should favour native species that are most likely to attract invertebrate prey and mitigate the impact to foraging bats. The creations of a drainage/attenuation area within a “Biodiversity area” on site will further provide a permanent aquatic habitat not currently present on site. This should be designed to hold water year-round and be planted with native emergent and aquatic vegetation to provide a further resource for invertebrates on site proving further foraging opportunities for bats. The attenuation area will also provide a suitable drinking resource for the species, which currently does not exist on site.

5.2.1 Lighting Mitigation

All bats have some degree of sensitivity to artificial, night-time lighting. Introducing artificial lighting to areas that are not currently illuminated may sever important bat flight lines and discourage bats from using roost provisions.

The construction lighting may impact bats which are sensitive to light. Directional lighting will be achieved by angle and orientation of beam, use of a cowl, louvre or other light shield, or a combination of these.

There is no external lighting plans at this stage, however lighting mitigation should follow the guidance outlined in the Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and BCT’s “Bats and Artificial Lighting in the UK” (2018). The recommendations are as follows:

- Keep site lighting to minimum levels.
- Luminaries should lack UV elements and preferably LED lighting with a warm white light should be used over cool white light (ideally <2700Kelvin).
- Lighting should feature peak wavelengths greater than 550nm.
- Internal lighting should be positioned away from windows to minimise light spill.
- Light placement should be downward facing to prevent excess horizontal or vertical light spill.

- The use of integrated fittings such as cowls, shields, louvres, and hoods, that effectively contain light spill from unintended areas.
- Avoid illuminating any retained and proposed habitats (i.e., SUDs, trees, and hedgerows).
- Use of timed security lights should be set on motion-sensors and using short, 1-minute timers, to minimise light use.
- Column heights of lighting can be considered to minimise light spill.

Construction lighting should not be directed towards retained and surrounding habitats including the area of retained woodland, the hedgerow along the southern boundaries, and the waterbody to be constructed as part of the proposed scheme to ensure that commuting routes are maintained post-construction.

6 Summary

Overall, the report objectives have been met through providing information on:

- Results of the bat activity survey and the static bat detector deployments completed so far have been detailed in Section 4.1.
- The habitats with the most value for commuting and foraging bats have been identified in Section 4.2.
- Appropriate mitigation methods have been detailed in Section 5.

7 References

Bat Conservation Trust (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (Third Edition). The Bat Conservation Trust, London.

CIEEM (2019). Advice Note on the Lifespan of Ecological Reports and Surveys. CIEEM.

Collins (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (Third Edition). The Bat Conservation Trust, London.

English Nature (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Institute of Lighting Engineers (2005). Guidance Notes for the Reduction of Obtrusive Light.

Joint Nature Conservation Committee (2004). Bat Workers Manual. JNCC, Peterborough.

Mitchell-Jones (2004). Bat Mitigation Guidelines: Working Today for Natural Tomorrow. English Nature.

TBA (2021). *Land south of East-West Link Road, Landscape Proposals*. Ref: 6633.05.

Urban Green (2021). Preliminary Ecological Assessment. Ref: UG_45_ECO_PEA_01.

TBA (2021). *Land south of East-West Link Road, Tree survey and Root Protection Area*. Ref: 6633.02.

Appendix 1 – Relevant Legislation

Legislation relating to European Protected Species (e.g., bats)

European Protected Species and their resting places (e.g., bat roosts) are protected under the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CROW) Act 2000, and the Conservation of Habitats and Species Regulations 2017.

All species of bat are listed on Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and Schedule 2 of *The Conservation of Habitats and Species Regulations 2017*, making them *European Protected Species*. They are afforded full protection under Section 9(4) of the Act and Regulation 41 of the Regulations. These make it an offence to:

- deliberately capture, injure, or kill any such animal;
- deliberately disturb any such animal, including in particular any disturbance which is likely to:
 - impair its ability to survive, breed, or rear or nurture their young;
 - impair its ability to hibernate or migrate.
 - affect significantly the local distribution or abundance of that species; or
- damage or destroy a breeding site or resting place of any such animal; or
- intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

The Conservation of Habitats and Species Regulations 2017 transpose the European Union's 'Habitats Directive' (Council Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora (EC Habitats Directive) into UK law. The Regulations provide for the designation and protection of 'European Sites', the protection of 'European Protected Species' (EPS), and the adaptation of planning and other controls for the protection of European Sites. EPS are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017.

Appendix 2 – Survey Sheets

First Survey – Activity/Transect survey –26th May 2021

Surveyor(s)	Stop	Time	Species	Activity
S1 (KB) S2 (HN)	1	21:10	No bats recorded	
	2	21:16	No bats recorded	
	3	21:20	No bats recorded	
	4	21:34	No bats recorded	
	5	21:41	No bats recorded	
	6	21:46	No bats recorded	
	7	21:51	No bats recorded	
	8	21:57	No bats recorded	
	9	22:03	No bats recorded	
	10	22:14	No bats recorded	
	11	22:21	P55	Commuting South to North.
	12	22:30	Noctule	Heard not seen
	13	22:40	No bats recorded	
	14	22:48	No bats recorded	
S1 (MB) S2 (CN)	14	21:43 – 21:48	No bats recorded	
	13	21:49 – 21:54	No bats recorded	
	12	21:55 – 22:00	No bats recorded	
	11	22:02 – 22:06	No bats recorded	
	10	22:11 – 22:16	P45	Two bats, foraging
	9	22:19 – 22:24	No bats recorded	
	8	22:27 – 22:32	P45	Commuting (four passes)
	7	22:35 – 22:40	P55	Commuting (one pass)
	6	22:40 – 22:45	No bats recorded	

Surveyor(s)	Stop	Time	Species	Activity
	5	22:48 - 22:53	No bats recorded	
	4	22:55 - 23:00	No bats recorded	
	3	23:01 - 23:06	No bats recorded	
	2	23:07 - 23:12	P55/P45	Foraging/Commuting to North (three P55, one p45)
	1	23:15 - 23:20	P45	Commuting (four passes)
S1 (CN) S2 (JH)	1	21:25- 21:30	No bats recorded	
	2	21:33- 21:39	No bats recorded	
	3	21:44 - 21:49	No bats recorded	
	4	21:53 - 21:57	No bats recorded	
	5	22:00 - 22:05	Noctule	Commuting along woodland edge west (six passes)
	6	22:09- 22:14	P45	Commuting along woodland edge west (four passes)
	7	22:18- 22:23	No bats recorded	
	8	22:29 - 22:34	No bats recorded	
	9	22:39 - 22:44	Noctule	Foraging east along hedgerow (two passes)
	10	22:49- 22:53	P45	Foraging west along hedgerow (three passes)
	11	22:58- 23:05	P45	Foraging west along hedgerow (two passes)
	12	23:08- 23:13	No bats recorded	
	13	22:18- 22:24	No bats recorded	
	14	22:30- 22:35	No bats recorded	
S1 (MB) S2 (BD)	14	20:15 - 20:20	No bats recorded	
	13	20:21 - 20:26	No bats recorded	
	12	20:27 - 20:32	No bats recorded	
	11	20:34 - 20:39	No bats recorded	
	10	20:42 - 20:47	P45	Two bats forging in corner. Two bats song flighting up and down hedgerow
	9	20:50 - 20:55	P45	Commuting

Surveyor(s)	Stop	Time	Species	Activity
	8	20:59 – 21:04	P45	Commuting
	7	21:06 – 21:11	P45	Commuting
	6	21:12 – 21:17	P45	Commuting
	5	21:18 – 21:23	P45	Commuting
	4	21:25 – 21:30	No bats recorded	
	3	21:32 – 21:37	No bats recorded	
	2	21:39 – 21:44	P45	Foraging (two bats, passing seven times)
	1	21:45 – 21:50	P45	Foraging (two bats)
S1 (MB) S2 (AB)	1	19:30 – 19:35	No bats recorded	
	2	19:37 – 19:42	No bats recorded	
	3	19:44 – 19:49	P45	Commuting
	4	19:52 – 19:57	P45	Commuting
	5	19:58 – 20:03	P45	Commuting
	6	20:06 – 20:11	P45	Foraging
	7	20:12 – 20:17	No bats recorded	
	8	20:19 – 20:24	P45	Commuting North and South along hedge.
	9	20:25 – 20:30	P45	Foraging within field
	10	20:31 – 20:36	No bats recorded	
	11	20:38 – 20:43	P45	Commuting
	12	20:44 – 20:49	No bats recorded	
	13	20:52 – 20:57	No bats recorded	
	14	20:58 – 21:03	P45	Commuting North and south

Appendix 3 - Habitats with Highest Bat Activity



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Red Line Boundary

Habitats of value for bats

Static Detector

Intact species-poor hedgerow

Coniferous trees

Running water

Bracken

semi-improved grassland

Bare Ground

Semi-natural broadleaved woodland

Dense Scrub

N

0

12.5

25

50 Meters

U R B A N
G R E E N

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Client:

Caddick Developments

Project:

Ormskirk Road, Knowsley

Title:

Habitats of Value for Bats

Issue:

Planning

Drawn:
MC

Checked:
MM

Approved:
MM

Project:
UG45

Scale @ A3:
1:1500

Date:
21/10/2021

Dwg No:
UG_45_ECO_HM_01

Revision:
02

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