

Bat Surveys and Mitigation

132366/JO/2021 – Condition 9

Land to the South of Wilmslow Old Road and to the West Aviation Viewing
Park, Manchester, WA15 8XQ

September 2024



Executive Summary

1-4 Vicarage Cottages are located within the Clough Bank B development site. To facilitate the development, 1 Vicarage Cottage, a former two storey residential building and 2-4 Vicarage Cottages, adjoined residential two storey building will be demolished. 1-4 Vicarage Cottages are located off Wilmslow Old Road, Altrincham, WA15 8XQ, SJ 811 844.

To inform the planning application for the development, which includes demolition of 1-4 Vicarage Cottages, bat surveys were undertaken by AECOM in 2019. An initial internal and external inspection of both buildings was undertaken on 22nd May 2019. Following this initial assessment, dusk emergence and dawn re-entry surveys were carried out in July, August and September 2019. Roosting bats were recorded in both buildings (1 Vicarage Cottage and 2-4 Vicarage Cottages). In 2019 1 Vicarage Cottage supported a whiskered bat non-breeding day roost. 2-4 Vicarage Cottages supported a soprano pipistrelle non-breeding day roost and a whiskered bat maternity colony. Planning permission was subsequently granted for development involving demolition of the Cottages in 2019 and then revised in 2021, with both permissions containing a planning condition requiring bat mitigation.

Condition 9 of the 2021 planning permission states:

Any trees or buildings to be removed to facilitate the scheme shall be inspected for the possible presence of bats prior to removal work commencing. A methodology for the surveying of Vicarage Cottages, based on the details contained within the AECOM letter stamped as received on 29th May 2019, shall be submitted to and approved by the City Council as local planning authority and thereafter undertaken in accordance with those approved details.

If bats are found to be present then all tree removal and demolition work shall cease and no further work shall proceed until a scheme to mitigate the impact on bats has been submitted to and approved in writing by the Council as local planning authority. Any such scheme shall be implemented in full in accordance with the approved details and a timetable agreed in writing by the Council as local planning authority.

In preparation for discharging this planning condition and a subsequent start of construction, bat surveys were updated in 2023 and 2024 and included an external inspection (October 2023) and three dusk emergence surveys (between May and July 2024). Roosting bats were not recorded in 1 Vicarage Cottages, however as roosting bats have previously been confirmed this remains a whiskered bat non-breeding day roost. 2-4 Vicarage Cottages now support a soprano pipistrelle maternity colony and small numbers of whiskered bats were recorded, however as this was found to support a small whiskered maternity colony in 2019 and no interim surveys have been carried out this status remains unchanged. Both buildings may support low numbers of hibernating bats (low suitability), however this has not been confirmed through survey work.

It will be necessary to provide a replacement roost site, and this will be incorporated into a stand-alone bat mitigation structure, which has already been granted planning permission (MCC Planning Reference 140217/FO/2024). This structure will be in place prior to 1st May 2025. Bat boxes will be installed in the location of the proposed bat mitigation structure prior to demolition of 1-4 Vicarage Cottages.

Demolition of 1-4 Vicarage Cottages will not take place during the core bat hibernation period (November to February inclusive) or during the core bat maternity season (May to August inclusive), therefore demolition of the buildings will occur in September/October or up to 15th November 2024 provided minimum night time temperatures are consistently above 8°C.

Background

Demolition of two buildings (1 Vicarage Cottage and 2-4 Vicarage Cottages) are required to facilitate the development of Clough Bank B, a long-stay airport car park.

Demolition of 1 Vicarage Cottage will result in the permanent loss of a whiskered bat non-breeding day roost. Demolition of 2-4 Vicarage Cottages will result in the permanent loss of a soprano pipistrelle maternity roost and a whiskered bat maternity roost.

Without appropriate mitigation measures these works could also result in killing/injuring of bats and loss of these bat roosts.

With the exception of 1-4 Vicarage Cottages, the Clough Bank B development site does not contain any other habitats which are suitable to support roosting bats.

Survey and Site Assessment

Pre-existing Information

In 2023 existing bat species records within 2 km of 1-4 Vicarage Cottages were requested from the Greater Manchester Ecology Unit. The Greater Manchester Ecology Unit returned records of Brandt's bat, brown long-eared, common pipistrelle, soprano pipistrelle, Daubenton's, noctule, pipistrelle and whiskered bat within 2 km of the central grid reference of 1-4 Vicarage Cottages. This included roost records for the following species; Brandt's, brown long-eared, common pipistrelle, pipistrelle sp., and soprano pipistrelle.

The closest roost record for each species is provided in the table below.

The common pipistrelle, brown long-eared roost sites within the site relate to Cloughbank Farm. The whiskered and soprano pipistrelle roost sites within the site relate to Vicarage Cottages (recorded by AECOM in 2019).

Species	Date	Approximate distance between closest roost record and Vicarage Cottages	Additional Information
Brown long-eared	August 2018	150 m south-west	8 adults roost
Common pipistrelle	August 2018	150 m south-west	4 adults roost
Brandt's bat	June 2004	1.4 km south	5 adults roost
Pipistrelle sp.	June 2009	1.6 km south-east	adult female roost
Soprano pipistrelle	May 2019	1.6 km south-east	316 adult female roost

Whiskered bat Common pipistrelle, brown long-eared, whiskered bat, soprano pipistrelle	June 2010 2021	1.6 km south-east Within the site	16 adult mixed roost Breeding sites, day roosts
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Description of Structures Surveyed

1 Vicarage Cottage

1 Vicarage Cottage is a two-storey building with rendered/plastered external walls and a pitched slate roof. There are minimal external features present on the roof only comprising of a few slipped tiles and gaps under ridge tiles. There are no obvious gaps or crevices on the external walls and it is well sealed. A loft space is present and was accessed in 2019. No bats or evidence of bats was recorded. It was not safe to access in 2024 due to deterioration of the building.

1 Vicarage Cottage is a confirmed bat roost (2019).

2-4 Vicarage Cottages

2-4 Vicarage Cottages are all adjoined and are constructed of brick with pitched slate roofs. There are multiple external features present on the roof which includes raised lead flashing around the chimney, possible gaps under the eaves, slipped tiles and gaps under tiles. A loft space is present and was accessed, apart from 2 Vicarage Cottage (as access was refused by the occupier) in 2019. No bats or evidence of bats was recorded. It was not safe to access in 2024 due to deterioration of the building.

2-4 Vicarage Cottage is a confirmed bat roost (2019 and 2024).

Field Surveys

The surveys are up-to-date and were conducted within the most recent optimal season, in accordance with the 2023 edition of the BCT Good Practice Guidelines and the 2023 Bat Mitigation Guidelines.

The 2019 surveys were undertaken in the optimal season during July, August and September (which includes the maternity period). A visual inspection was undertaken in May 2019, along with a second inspection undertaken in November 2019 and a third in February 2020.

Update surveys were carried out in October 2023 (external building inspection) and May, June and July 2024 (three dusk emergence surveys and an external building inspection). It was not possible to carry out an internal inspection in 2024 as the building is now unsafe.

There were no deviations from survey best practice guidelines.

Visual Inspection:

Date of Survey Visit	Structure reference/ Location	Equipment used	Weather
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22/05/19	1- Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	Binoculars and a high-powered torch	Dry, warm, 17°C.
26/11/19	1- Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	Binoculars and a high-powered torch	Dry, cold, cloudy, 9°C.
19/02/2020	1- Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	None	Heavy rain, cold, 5°C
17/10/2023	1- Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	Binoculars and a high-powered torch	Dry, cloudy 12°C.
16/07/2024	1- Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	Binoculars and a high-powered torch	Dry, cloudy 17°C.

A detailed internal and external inspection of 1-4 Vicarage Cottages was undertaken on 22nd May 2019 by an AECOM ecologist registered to use the Natural England bat survey class licence (Level 2).

1-4 Vicarage Cottages were assessed by the bat ecologist using binoculars and a high-powered torch in order to determine features with suitability to support bats. All external features that may have suitability to be used by roosting bats, including the roof tiles, cracks and crevices within the stone work and missing mortar, were examined externally during the survey.

The internal inspection involved searching key areas of each building for evidence indicating the presence of bats, this included roof voids, with the exception of 2 Vicarage Cottage, as access to the loft was refused. Evidence searched for included droppings, urine spots, fur oil staining, an absence of cobwebs and the animals themselves.

A site visit was undertaken on 26th November 2019 and 19th February 2020 to re-confirm the baseline conditions.

An update external inspection was carried out on 17th October 2023 and 16th July 2024 by an AECOM ecologist registered to use the Natural England bat survey class licence (Level 1). 1-4 Vicarage Cottages were assessed by the bat ecologist using binoculars and a high-powered torch in order to determine features with suitability to support bats. All external features that may have suitability to be used by roosting bats, including the roof tiles, cracks and crevices within the stone work and missing mortar, were examined externally during the survey. It was not possible to carry out an internal survey as both buildings had deteriorated and it was unsafe to enter.

Dusk Survey:

Date of Survey Visit	Start and end times and time of sunset	Structure reference / location	Equipment used	Weather
17/07/2019	Start: 21:16 hrs End: 23.01 hrs Sunset: 21.31 hrs	1 Vicarage Cottage and 2-4 Vicarage Cottages	Echo Meter Touch Pro, Anabat Walkabout, BatBox Duet, Edirol, Transcend mp3.	17°C, Rain before survey; dry during survey, breeze (1/7); cloud 8/8.
Comments: 6 surveyors (2 AECOM, 4 Wildbanks Conservation)				
12/08/2019	Start: 20:29 hrs End: 22:18 hrs Sunset: 20:44 hrs	1 Vicarage Cottage and 2-4 Vicarage Cottages	Echo Meter Touch Pro, Anabat Walkabout, BatBox Duet, Edirol	14°C, mild, still (0/7) evening with no cloud (1/8); no rain.
Comments: 4 surveyors (1 AECOM, 3 Wildbanks Conservation)				
20/05/2024	Start: 21:00 End: 23:00 Sunset: 21:12	1 Vicarage Cottage and 2-4 Vicarage Cottages	Infrared cameras x 4 Anabat Scout x 2 Batlogger M Batlogger Anabat Swift x 2 Digital Anemometer	16-10°C, dry, slight breeze, cloud (2/8)
Comments: 2 surveyors (plus four infrared cameras)				
11/06/2024	Start: 21:15 End: 23:15 Sunset: 21:37	1 Vicarage Cottage and 2-4 Vicarage Cottages	Infrared cameras x 4 Anabat Scout x 2 Batlogger M Batlogger Anabat Swift x 2	13-11°C, dry, still, cloud (3/8)

			Digital Anemometer	
Comments: 2 surveyors (plus four infrared cameras)				
16/07/2024	Start: 21:10 End: 23:10 Sunset: 21:27	1 Vicarage Cottage and 2-4 Vicarage Cottages	Infrared cameras x 4 Anabat Scout x 2 Batlogger M Batlogger Anabat Swift x 2 Digital Anemometer	15°C, mild, still (7/7) evening; no rain.
Comments: 2 surveyors (plus four infrared cameras)				

Dawn Survey:

Date of Survey Visit	Start and end times and time of sunset	Structure reference / location	Equipment used	Weather
17/09/2019	Start: 05:15 hrs End: 06:50 hrs Sunrise: 06:45 hrs	1 Vicarage Cottage and 2-4 Vicarage Cottages	Anabat Walkabout, BatBox Duet, Edirol	10°C, cool dry night with rain the previous night; no breeze, (0-1/7); cloud cover at first 7-8/8 and later 0-1/8.
Comments (to include # of surveyors used for each visit): 4 surveyors (1 AECOM, 3 Wildbanks Conservation)				

Internal access to Vicarage Cottages was not possible in 2024 as both buildings were unsafe to access, including the loft spaces.

DNA Analysis

In 2019 no bat droppings were recorded within Vicarage Cottages therefore it was not possible to collect any samples for DNA analysis.

It was not possible to collect any DNA samples as the buildings were unsafe to enter.

Survey Results

Visual Inspection Results

Date	Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimensions of existing roosts
22/05/19	N/A	N/A	1 Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	N/A	N/A	N/A
26/11/19	N/A	N/A	1 Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	N/A	N/A	N/A
19/02/2020	N/A	N/A	1 Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	N/A	N/A	N/A
17/10/2023	N/A	N/A	1 Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	N/A	N/A	N/A
16/07/2024	N/A	N/A	1 Vicarage Cottage and 2-4 Vicarage Cottages (adjoined)	N/A	N/A	N/A

1 Vicarage Cottage is a two-storey building with rendered/plastered external walls and a pitched slate roof. There were minimal external features present on the roof only comprising of a few slipped tiles and gaps under ridge tiles. There were no obvious gaps or crevices on the external walls and it was well sealed. A loft space is present and was accessed. No bats or evidence of bats was recorded. Due to a limited number of features on the roof of the cottage this building was classed as having low bat roost suitability following the initial inspection.

2-4 Vicarage Cottages are all adjoined and are constructed of brick with pitched slate roofs. There are multiple external features present on the roof which includes raised lead flashing around the chimney, possible gaps under the eaves, slipped tiles and gaps under tiles. A loft space is present and was accessed, apart from cottage no. 2. No bats or evidence of bats was recorded but due to number of external features these buildings are classed as having high bat roost suitability.

No bats or evidence of bats was recorded during the two survey periods in 2019 (May and November) and in October 2023, July 2024. The condition of 2-4 Vicarage Cottages had deteriorated since 2019 as the buildings are no longer occupied there are multiple access/exit points throughout the building including open windows and doors not recorded in 2019. The condition of 1 Vicarage Cottages remained the same as recorded in 2019.

Dusk Survey Results

Date	Start and end times	Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimension of existing roosts
17/07/2019	Start: 21:16 hrs End: 23.01 hrs	One soprano pipistrelle	Non-breeding day roost	2-4 Vicarage Cottages	Under the bargeboard of 4 Vicarage Cottages	Under the barge board	See Annex H3
17/07/2019	Start: 21:16 hrs End: 23.01 hrs	Two whiskered bats	Non-breeding day roost	1 Vicarage Cottage	Under the roofing tile	Roof	See Annex H3
Notes/observations: During the dusk emergence survey on 17 th July 2019, the following activity was recorded: - A soprano pipistrelle bat was observed emerging from under the bargeboard of 2-4 Vicarage Cottages at 21.35 hrs. - Two whiskered bats were observed emerging from the roof of 1 Vicarage Cottage at 21:38 hrs and 22.00 hrs.							

12/08/2019	Start: 20:29 hrs End: 22:18 hrs	One Soprano pipistrelle	Non- breeding day roost	2-4 Vicarage Cottages	Eastern gable elevation	Eastern gable elevation	See Annex H3
12/08/2019	Start: 20:29 hrs End: 22:18 hrs	Six whiskered bats	Maternity colony	2-4 Vicarage Cottages	Eastern gable elevation	Eastern gable elevation	See Annex H3
Notes/observations: During the dusk emergence survey on 12 th August 2019, the following activity was recorded: - A soprano pipistrelle bat was observed emerging from the eastern gable elevation of 2-4 Vicarage Cottages at 20.57 hrs. - Six whiskered bats emerged from the eastern gable end of 2-4 Vicarage Cottage at 21:05 hrs, 21:10 hrs, 21:11 hrs, 21:14 hrs, 21:15 hrs, and 21:16 hrs.							
20/05/2024	Start: 21:00 End: 23:00	Five soprano pipistrelle bats	Possible maternity colony	2-4 Vicarage Cottages	Western gable end, left of drainpipe, west of chimney, ridge, under eave	5 separate emergence points	See Figure 6a and Annex H2
Notes/observations:							
11/06/2024	Start: 21:15 End: 23:15	Fifteen soprano pipistrelle bats	Maternity colony	2-4 Vicarage Cottages	Western gable end, chimney, stone wall, ridge, northern gable end, above window,	7 separate emergence points	See Figure 6b and Annex H2

					under eave.		
Notes/observations:							
16/07/2024	Start: 21:10 End: 23:00	Twenty-two soprano pipistrelle and two whiskered bats	Maternity colony – soprano Non-breeding day roost – whiskered	2-4 Vicarage Cottages	Ridge, western gable, chimney, above window, roof tile, above extension, ajar door.	7 separate emergence points	See Figure 6c and Annex H2

Dawn Survey Results

Date	Start and end times	Species and numbers	Roost type	Structure reference	Roost location	Access points	Dimensions of existing roosts
17/09/19	Start: 05:15 hrs End: 06:50 hrs	N/A	N/A	N/A	N/A	N/A	N/A
Notes/observations:							
During the dawn re-entry survey on 17 th September 2019 no bats were observed re-entering 1-4 Vicarage Cottages.							

Evaluation of Survey Results

Structure reference	Species	Count/estimate of number of individuals	Roost location	Site status assessment	Conservation significance of roost
1 Vicarage Cottage	Whiskered bat	2 (2019)	Roosting within roof likely between	Non-breeding day roost	Site

			roofing tile and felt.		
2-4 Vicarage Cottage	Soprano pipistrelle	22 (2024)	Roosting within roof likely between roofing tile and felt.	Maternity	County
2-4 Vicarage Cottage	Whiskered bat	6 (2019)	Roosting within roof likely between roofing tile and felt.	Maternity	District

Hibernation roost potential – low

The presence of hibernating bats (likely to be in small numbers as a worst case scenario) cannot be ruled out therefore demolition in winter is not planned.

Impact Assessment

In the absence of any mitigation the demolition works have the potential to result in the disturbance or injury/death of soprano pipistrelle and whiskered bats. The demolition works will also result in the loss of roosting sites for these species.

This is assessed as being a negative impact at a county level for soprano pipistrelle bats.

This is assessed as being a negative impact at a district level for whiskered bats.

Roost Loss

Demolition of 1 Vicarage Cottage will lead to the permanent loss of a non-breeding day roost used by two whiskered bats of Site value.

Demolition of 2-4 Vicarage Cottages will lead to the permanent loss of a maternity roost used by a soprano pipistrelle bats at a County level.

Demolition of 2-4 Vicarage Cottages will lead to the permanent loss of a maternity roost used by whiskered bats at a District level.

Fragmentation and Isolation

The demolition of 1-4 Vicarage Cottages will not result in the loss of habitats of value to foraging and commuting bats.

Post-development impacts

The Clough Bank B development has the potential to increase levels of noise, lighting and disturbance without mitigation measures in place. This is thought to be negative at a county level for soprano pipistrelle bats and a negative impact at a district level for whiskered bats.

Scale of Impact on Species Status

Species	Roost type	Predicated scale of impact			Notes
		Site	County	Regional	
Whiskered bat	Non-breeding day roost	x			Demolition of 1 Vicarage Cottage will lead to the loss of a non-breeding day roost.
Whiskered bat	Maternity colony		X (District)		Demolition of 2-4 Vicarage Cottages will lead to the loss of a maternity roost.
Soprano pipistrelle	Maternity colony		x		Demolition of 2-4 Vicarage Cottages will lead to the loss of maternity colony.

Mitigation and Compensation

The main objectives of the mitigation strategy are:

- to provide a replacement roost site, that will maintain or increase the current bat population status; and
- to undertake the demolition works to 1-4 Vicarage Cottages in such a manner and at a time of year when bats are very unlikely to be present in their roost sites to avoid killing/injuring bats.

As 1 Vicarage Cottage supports a non-breeding day roost for whiskered bats there are no specific time constraints on the demolition works. However, as the presence of hibernating bats cannot be ruled out then November to February inclusive will be avoided. As 2-4 Vicarage Cottages are located in close proximity to 1 Vicarage Cottage then the demolition works have been co-ordinated to reduce disturbance by demolishing these two buildings at the same time (please see paragraph below for timing constraints). Therefore, demolition works will be undertaken in September/October and up to mid-November 2024 and will not be undertaken when night time temperatures are consistently below 8°C.

As 2-4 Vicarage Cottages supports both soprano pipistrelle and a whiskered bat maternity colonies the demolition works will take place between September/October and up to 15th November 2024 provided night time temperatures are consistently above 8°C. The presence of hibernating bats has not been confirmed, however their presence cannot be completely ruled out. Demolition works will not be undertaken when night time temperatures are consistently below 8°C.

As it is not feasible to maintain these roosts in situ, prior to demolition, two bat boxes will be installed in the location of the proposed bat mitigation structure (which already has planning permission – MCC reference 140217/FO/2024) as a temporary measure if bats are captured during demolition of 1-4 Vicarage Cottages. A bat mitigation structure will be installed as soon as possible but will be in place prior to 1st May 2025. The design and location of this structure is provided in Figure E3a and E3b. The location of the bat mitigation structure has been carefully sited, to ensure that the structure is protected from any disturbance from construction and operational impacts of Clough Bank B and is located in an area that is protected from future development. The named ecologist will oversee all elements of the construction of the bat mitigation structure and installation of the bat boxes.

The demolition works will be overseen at all times by the named ecologist to ensure that any bats unexpectedly encountered during the works are protected and moved to a suitable safe place (i.e. the bat boxes or the bat mitigation structure, if this is constructed prior to demolition).

The majority of the habitats within the Clough Bank B development are of low to negligible value to foraging and commuting bats. The woodland habitats surrounding Clough Bank B will be retained with no lighting to maintain suitable habitat for foraging and commuting bats. The bat mitigation structure and bat boxes will be located within the area.

With mitigation measures in place the proposed demolition work has been assessed to result in a negligible impact to soprano pipistrelle and whiskered bats, as a suitable alternative roost site will be constructed.

New Roost Creation

Species & Roost type for which new roost creation will be provided Select 'yes' for those species impacted or 'N/A' if not applicable to this application	New roost creation		
	Compensation should be in line with the <i>Bat Mitigation Guidelines</i> . Where compensation is being provided, there should be at least one compensation feature, suitable for the species concerned, per roost and per species to be impacted , OR If a proposal impacts more than one bat species and / or roost type then cumulative impacts must be considered when designing the compensation; this should always be in line with the species and / or roost type which will be subject to the greatest impact and ensure that the requirements of all species impacted are met.		
	Compensation Feature	Quantity	Location of Compensation Feature (as shown on Figure E3)
Common pipistrelle ☐ Yes ☒ N/A <i>Day roost</i> <i>Night roost</i> <i>Feeding</i> <i>Transitional/Occasional</i>	☐ Bat box ☐ Integrated bat box/ bat brick/ bat tube ☐ Bat tile (including ridge tile) ☐ Other (specify): ☐ None		☐ In same building ☐ In other existing building on site ☐ In new building ☐ Other (specify):
Soprano pipistrelle ☒ Yes ☐ N/A <i>Day roost</i> <i>Night roost</i> <i>Feeding</i> <i>Transitional/Occasional</i>	☒ Bat box ☐ Integrated bat box/ bat brick/ bat tube ☐ Bat tile (including ridge tile) ☒ Other (specify): Bat mitigation structure ☐ None	2 x bat boxes (1 maternity and 1 hibernation) 1	☐ In same building ☐ In other existing building on site ☒ In new building ☒ Other (specify): Bat boxes next to bat mitigation structure
Whiskered ☒ Yes ☐ N/A <i>Day roost</i> <i>Night roost</i> <i>Feeding</i> <i>Transitional/Occasional</i>	☒ Bat box ☐ Integrated bat box/ bat brick/ bat tube ☐ Bat tile (including ridge tile) ☒ Other (specify): Bat mitigation structure ☐ None	2 x bat boxes (1 maternity and 1 hibernation) 1	☐ In same building ☐ In other existing building on site ☒ In new building ☒ Other (specify): Bat boxes next to bat mitigation structure
Brandt's ☐ Yes ☒ N/A <i>Day roost</i> <i>Night roost</i> <i>Feeding</i> <i>Transitional/Occasional</i>	☐ Bat box ☐ Integrated bat box/ bat brick/ bat tube ☐ Bat tile (including ridge tile) ☐ Other (specify): ☐ None		☐ In same building ☐ In other existing building on site ☐ In new building ☐ Other (specify):
Daubenton's ☐ Yes ☒ N/A <i>Day roost</i> <i>Night roost</i> <i>Feeding</i> <i>Transitional/Occasional</i>	☐ Bat box ☐ Integrated bat box/ bat brick/ bat tube ☐ Bat tile (including ridge tile) ☐ Other (specify): ☐ None		☐ In same building ☐ In other existing building on site ☐ In new building ☐ Other (specify):

Natterer's ☐ Yes ☒ N/A <i>Day roost</i> <i>Night roost</i> <i>Feeding</i> <i>Transitional/Occasional</i>	☐ Bat box ☐ Integrated bat box/ bat brick/ bat tube ☐ Bat tile (including ridge tile) ☐ Other (specify): ☐ None		☐ In same building ☐ In other existing building on site ☐ In new building ☐ Other (specify):
Brown long-eared ☐ Yes ☒ N/A <i>Day roost</i> <i>Night roost</i> <i>Feeding</i> <i>Transitional/Occasional</i>	Note: boxes for this species will only be acceptable in certain circumstances, where this is justified on an ecological basis ☐ Bat box, justification ☐ Other (specify): ☐ None		☐ In same building ☐ In other existing building on site ☐ In new building ☐ Other (specify):
Serotine ☐ Yes ☒ N/A <i>Day roost</i> <i>Night roost</i> <i>Feeding</i> <i>Transitional/Occasional</i>	Note: bat boxes are not suitable for this species. Compensation should replicate, as closely as possible, the existing roost: ☐ Bat tile ☐ Bat brick ☐ Other (specify):		☐ In same building ☐ In other existing building on site ☐ In new building ☐ Other (specify):
Lesser Horseshoe ☐ Yes ☒ N/A <i>Day roost</i> <i>Transitional/Occasional</i>	A proportionate number of bat features suitable for the species. The provision of one feature, suitable for the species concerned (eg void) per roost to be impacted will be considered appropriate: Specify:		☐ In same building ☐ In other existing building on site ☐ In new building ☐ Other (specify):

New roost dimension details or features:

One maternity bat box (Schwegler 1FS or similar) and one hibernation bat box (Schwegler 1FW or similar) will be installed in the woodland adjacent to the bat mitigation structure to be used until the bat mitigation structure is created (prior to 1st May 2025). The named ecologist will ensure that the bat boxes are installed correctly and in a suitable location adjacent to the bat structure (when built) and within the retained woodland.

A stand-alone bat mitigation structure will be created to compensate for the loss of the whiskered and soprano maternity colonies, this structure will also provide compensation for the loss of the whiskered non-breeding day roost.

The dimensions of the structure are shown on Figure E3a. The width and height of the bat mitigation structure replicates the dimensions of the loft space of 2-4 Vicarage Cottages.

One Schwegler 1WQ, and one Schwegler 1FF will be installed within the loft space of the bat mitigation structure.

Two additional small dormers/gables will be added to the south and north aspects of the bat mitigation structure as shown on Figure E3a.

The top slate/tile batten will be placed 20mm from the ridge board and roof felt will have 30 x 100mm slots cut out beside the ridge boards to allow bats access to the ridge tiles (where most loft dwelling bats prefer to roost).

Roofing felt and any bat droppings (if present) from 1-4 Vicarage Cottages will be recovered and kept and then placed within the loft space of the bat mitigation structure.

The construction of the bat mitigation structure will be monitored by the named ecologist and communication between the construction team and the named ecologist will be maintained throughout to ensure that the bat features are installed and fit for purpose. Following construction of the bat mitigation structure it will be signed off as suitable by the named ecologist.

Access points and size of access points:

- Four access points under ridge tiles (15-20mm high by 20-55mm wide).
- Four bat access tile (slate), (41.8 x 37.5 x 8 cm, gaps for bat access 15-20mm high by 20-55mm wide).
- Access under eaves to allow access to loft space, as shown within the Bat Mitigation Guidelines (Page 61, Figure 9.4.1).
- At least four timber boards lifted on western gable end and on both dormers using wedges to allow access to loft space (gaps will be 15-20mm high by 20-55mm wide).

Location details:

The bat mitigation structure will be located at SJ 8096 8435 shown on E4b.

Aspect:

The bat mitigation structure will be orientated in the same position as the 2-4 Vicarage Cottages.

A steeply pitched roof will be used (around 40.4°) with slate roof tiles. The loft space will be insulated (fibreglass insulation installed under loft floor) with bitumen felt to replicate the conditions in the previous loft void.

Details of materials:

- Non-treated timber
- Bitumen roofing felt
- Fibreglass insulation
- Non treated wooden boarding
- Slate roofing tiles
- Roofing felt and bat droppings recovered from 2-4 Vicarage Cottages

Mitigation for any impacts of lighting:

No impacts from lighting are anticipated. The bat mitigation structure and bat boxes are located within a dark area.

Structures for access for monitoring/ maintenance:

A secured loft hatch will be installed to allow monitoring.

Other Habitat Reinstatement or Creation

Habitat replacement:

The wider Clough Bank B development will result in habitat loss, largely restricted to hedgerows. A new habitat corridor will be created through the Clough Bank B development site, in addition a habitat buffer will be created along the western boundary along with creation of species rich grassland, woodland planting, tree planting and swale, as shown on Figure E4a.

Creation of flight lines/ routes of connectivity:

See above, the bat mitigation structure will be located adjacent to the woodland belt, west of the Clough Bank B and will not be isolated or fragmented. Habitat connectivity will be maintained.

Mitigation for any impacts of lighting:

Lighting will be installed within the Clough Bank B development, however the woodland belt located along the western boundary of the development will be maintained as a dark habitat buffer where the bat mitigation structure and bat boxes will be located.

Habitat/ Site Management and Maintenance

The habitats within Clough Bank B will be maintained, as shown on Figure E4a for a commitment of at least ten years.

The bat mitigation structure will be maintained for a commitment of at least ten years and the structure will be checked in years 1, 3, 5 and 10 to ensure it is fit for purpose, if repairs are required these will be carried out in a timely manner and overseen by the named ecologist.

This will ensure the roost compensation provided is fit for purpose (including airflow, temperature, light, humidity). Remedial action will be undertaken should monitoring and / or management / maintenance indicate that this is necessary to secure its use for breeding.

The bat mitigation structure and boxes will be subject to bat monitoring surveys in 2026 and 2028, should any maintenance works be required this will be reported to Manchester Airports Group by the named ecologist. The bat mitigation structure will be maintained for at least 10 years post construction.

The habitats within Clough Bank B will be managed and maintained, as shown Figure E4a.

Population Monitoring

Species	Roost type	Post-development monitoring requirement
Common pipistrelle Soprano pipistrelle Whiskered Brandts Daubenton's Natterer's Brown long-eared	Day roost Night roost Feeding Transitional/Occasional	☒ None. There is no post-development requirement for proposals affecting bat roosts supporting up to any 3 species indicated, of the roost types listed, where they are used by low numbers of each species. ☐ A single presence / absence survey at an appropriate time of year is to be undertaken. This should not take place in the first year following completion of development. Timing (year): ☐ Other (specify):
Serotine	Day roost	☐ A single presence / absence survey at an appropriate
	Night roost Feeding Transitional/Occasional	time of year is to be undertaken. This should not take place in the first year following completion of development. Timing (year): ☐ Other (specify):
Lesser Horseshoe	Day roost Transitional/Occasional	☐ A single presence or absence survey at an appropriate time of year to be undertaken in year 2 post development plus a check of the condition and suitability of the roost. ☐ Other (specify):

As 2-4 Vicarage Cottages supports a whiskered and soprano bat maternity colony it will be necessary to undertake post development monitoring of the bat mitigation structure. Monitoring surveys will comprise a single dusk emergence of the bat mitigation structure between June and August in years 2026 and 2028. In addition, an internal inspection of the bat mitigation structure and bat boxes will be undertaken in 2026 and 2028.

A minimum of one inspection of the bat mitigation structure occurring immediately post-development to ensure the compensation is completed in accordance with the authorised mitigation licence.

Type of monitoring:

This will comprise a dusk emergence survey to be undertaken between June and August 2026 and 2028 during the latter part of the maternity period by an appropriate number of surveyors so that all aspects of the bat mitigation structure are covered, surveyors will use bat detectors and recording devices during the dusk surveys and the surveys will be overseen by the named ecologist or accredited agent.

In addition to the above, the bat mitigation structure and bat boxes will be subject to an internal inspection on a separate visit in August or September 2026 and 2028 and will be undertaken by the named ecologist or accredited agent. No bats will be taken however they may be disturbed during the internal inspection, the internal inspection will be undertaken towards the end of the bat maternity season to avoid disturbing bats at a highly sensitive time. Up to 10 bats may be disturbed at this time.

Compensation / mitigation measures:

The bat mitigation structure, is shown on Figure E3a, E3b and E3c

The bat mitigation structure will be located within land owned by the applicant and will be monitored for bat usage up to 2028. It will be the responsibility of Manchester Airports Group to ensure that the bat mitigation structure is maintained for at least 10 years post construction.

The monitoring surveys of the bat mitigation structure will be stated as part of this licence and are included within the work schedule.

There is a planning condition included in the planning permission for the Clough Bank B development in relation to the landscape proposals. The hard and soft landscaping scheme must be implemented no later than 12 months from the date of the commencement of works, to ensure that the landscape scheme is carried out.