Planning and Environmental Consultants

Baseline Bat Report

Cois na Féile - Social Residential Development

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1. INTRODUCTION

1.1 Background

MKO was commissioned to complete a comprehensive assessment of the potential effects on bats, as part of an Ecological Impact Assessment (EcIA) for an application for planning permission of twelve social houses, at Abbeyfeale, Co. Limerick. This report provides details of the bat surveys undertaken, including survey design, methods and results, and recommendation to safeguard bats. An impact assessment based on the information contained in this report is carried out within the accompanying EcIA.

The report presents the ecological baseline recorded within the proposed development site in relation to bats. The main objective of the surveys was to assess the site for its suitability for foraging and commuting bats, as well as assess and inspect any structures for potential roosts, including maternity roosts. The bat surveys were designed to establish the nature, scale and locations of potential bat activity within the site.

The bat survey and assessment were informed by a desk study and were scoped with reference to the following guidelines:

- *Bat Survey Guidelines: Traditional Farm Buildings Scheme. The Heritage Council, Áras na hOidhreachta, Church Lane, Kilkenny (Aughney, T., Kelleher, C. & Mullen, D., 2008)).*
- *'Bat Workers' Manual' (3rd edn). JNCC, Peterborough (Mitchell-Jones, A.J. & McLeish, A.P. (eds) 2004).*
- *The Lesser Horseshoe Bat Conservation Handbook, Vincent Wildlife Trust (Schofield, HW., 2008).*
- *Bat Surveys for Professional Ecologists – Good Practice Guidelines (4th edn.) (Collins, 2023)*
- *Bat Roosts in Trees (Andrews, 2018)*
- *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (NRA, 2006a)*
- CIEEM (2013) *Competencies for Species Surveys: Bats.* Chartered Institute of Ecology and Environmental Management, Winchester.
- *Guidelines for the Treatment of Bats during the Construction of National Road Schemes (NRA, 2006b)*
- *British Bat Calls: A Guide to Species Identification (Russ, 2012)*
- *Bat Mitigation Guidelines for Ireland – V2. Irish Wildlife Manuals, No. 134. (Marnell, Kelleher & Mullen 2022)*
- *UK Bat Mitigation Guidelines, (Reason, P. F. and Wray, S. 2023)*
- *Guidance Note 08/23: Bats and Artificial Lighting at Night (ILP, 2023)*
- *Lesser Horseshoe Bat Species Action Plan 2022-2026 (NPWS & VWT, 2022)*

1.2 Statement of Authority

A baseline ecological survey was undertaken on the 11th December 2024 by Nora Szijarto, Bat Ecologist of MKO and Sara Fissolo, Project Ecologist of MKO. The bat surveys were completed with the help of Padraig Desmond and Clare Misfud, Project Ecologists at MKO.

This report has been reviewed by Sara Fissolo. Sara is a Project Ecologist with MKO, she holds a BSc in Ecology and Environmental Biology. Sara has five years ecological consultancy experience.

1.3 Policy and Legislation

All Irish bats are protected under European legislation, namely the Habitats Directive (92/43/EEC). All Irish species are listed under Annex IV of the Directive, requiring strict protection for individuals, their breeding sites and resting places. The Lesser horseshoe bat (*Rhinolophus hipposideros*) is further listed under Annex II of the Directive, requiring the designation of conservation areas for the species. Under this Directive, Ireland is obliged to maintain the favourable conservation status of Annex-listed species. This Directive has been transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011).

In addition, Irish species are further protected by national legislation (Wildlife Acts 1976, as amended). Under this legislation, it is an offence to intentionally disturb, injure or kill a bat or disturb its roost. Any work at a roost site must be carried out with the agreement of the National Parks and Wildlife Service (NPWS) and a derogation licence must be granted before works commence.

The NPWS monitors the conservation status of European protected habitats and species and reports their findings to the European Commission every 6 years in the form of an Article 17 Report. The most recent report for the Republic of Ireland was submitted in 2019. Table 1-1 summarises the current conservation status of Irish bat species and identified threats to Irish bat populations.

Table 1-1 Irish Bat Species Conservation Status and Threats (NPWS, 2019). Pressures and Threats are ranked from medium importance (M) to high importance (H) in the 2019 Article 17 report.

Bat Species	Conservation Status	Principal Pressures/Threats
Common pipistrelle *Pipistrellus pipistrellus*	Favourable	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of anti-helminthic dosing on dung fauna] (M) **B09** Clear--cutting, removal of all trees (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M) **H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving) (M) **L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) **D01** Wind, wave and tidal power, including infrastructure (M)
Soprano pipistrelle *Pipistrellus pygmaeus*	Favourable	
Nathusius' pipistrelle *Pipistrellus nathusii*	Unknown	
Leisler's bat *Nyctalus leisleri*	Favourable	
Daubenton's bat *Myotis daubentoni*	Favourable	
Natterer's bat *Myotis nattereri*	Favourable	
Whiskered bat *Myotis mystacinus*	Favourable	
Brown long-eared bat *Plecotus auritus*	Favourable	
Lesser horseshoe bat *Rhinolophus hipposideros*	Inadequate	

1.4 Bat Roosting Behaviour

Bats use a variety of natural and manmade structures as roosting or resting places. The type of roost and its level of use is determined by its function in the bat life cycle. Table 1-2 provides a summary of different types of bat roosts (Collins, 2023).

Table 1-2 Bat Roost Types and Definitions

Roost Type	Definition
Day	Where individuals or small groups, rest/shelter in the day but are rarely found by night in summer.
Night	Where bats rest/shelter at night but are rarely found in the day.
Feeding	Where individuals, or a few individials, rest/feed for short periods during the night but are not present by day.
Transitional	Used by a few individuals for short periods of time prior to or following hibernation.
Maternity	Where females give birth and raise their young.
Hibernation	Where bats are found during winter (constant cool temperature and high humidity).
Satellite	An alternative roost found in close proximity to the main nursery colony used throughout the breeding season.
Swarming Site	Where large numbers gather in late summer to autumn. Important mating sites. Roosting may occur alongside swarming.
Mating Site	Where mating takes place in late summer to winter.

The likelihood of detecting active roosts is determined by the timing of the roost survey. In general:

- April surveys may detect transitional roosts used by bats following hibernation and prior to summer roosting.
- May-August surveys may detect maternity colonies and male/non-breeding female summer roosts.
- August surveys are best to determine maximum counts of adult and juvenile bats.
- August – October surveys may detect swarming and mating bats.
- September and October surveys may detect transitional roosts used by bats following the dispersal of maternity colonies and prior to hibernation.
- Day, night, feeding and satellite roosts may be found anytime between April and October.
- November – March surveys may detect hibernacula.

1.4.1 Bat Roost Significance

Whilst there are no clear Irish guidelines on assessing the significance of a roost, significance should be assessed at an appropriate spatial scale, based on species distribution, conservation status, current population trends, functionality of the site and the Zone of Influence (ZoI) of the project in question as it relates to bats (Reason and Wray, 2023). The significance of a bat roost is dependent on the rarity of the species using the roost and its function to the bat's life cycle, as outlined in Table 1-2 above. Table 3.2 of the CIEEM guidelines (adapted in Table 1-3) provides a starting point on the geographical assessment, which will rely on professional judgement and will be based on the baseline data collected and available information gathered during desktop studies.

Table 1-3 Roost importance at various geographic levels, adapted to Ireland from Table 3.2 of CIEEM guidelines (Reason and Wray, 2023)

Conservation status/ distribution	Individual or very small occasional/ transitional/ opportunistic roosts	Non-breeding day roosts (small numbers of species)	Mating sites, small numbers of hibernating bats	Larger transitional roosts	Hibernation sites	Autumn swarming sites	Maternity sites
Widespread all geographies	Site	Site	Site	Site/Local	Local/County [Larger hibernation sites rare in the UK]	Local/County [Very large pipistrelle swarming sites appear uncommon in the Ireland]	Unlikely to exceed Local/County importance unless colonies are atypically large; importance increased for assemblages.

Widespread in many geographies, but not as abundant in all	Site	Site	Site, dependent on local distribution [For *Myotis*, see swarming site column]	Local/County	Local/County importance dependent on size and number of species	County/National importance dependent on size; importance increased for larger sites that serve larger numbers/species	Unlikely to exceed County importance unless colonies are atypically large; importance increased for assemblages.
Rarer or restricted distribution	Site (very well-used night roosts may be of County importance for some species)	Site/Local/County, dependent on local distribution	Site/Local/County dependent on local distribution	Local/County	Local/County importance dependent on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages.
Rarest Annex II species and very rare	Site (very well-used night roosts may be of Local/County importance for some species)	Site/Local/County, dependent on local distribution	Site/ Local/County, dependent on local distribution	Local/County	County/Regional importance on size and local distribution; increased value for assemblages	County/National importance on size and local distribution; increased value for assemblages.	County/National importance on size and local distribution; increased value for assemblages

All the largest roosts of Lesser Horseshoe Bat (LHB) in Ireland are of international importance and it is anticipated that all large Leisler's bat roosts (>100) would also have international significance (NRA, 2006) due to the limited distribution of this species in other European countries. Table 1-4 provides some criteria for determining the significance of different building roosts, as determined by the Bat Expert Panel of the Heritage Council in 2003 (NRA, 2006). Geographic criteria will be applied to these values.

Table 1-4 Level of Importance of Various Roosts in Ireland

Species	Indicator	Significance
Lesser horseshoe bat	Special Area of Conservation	Very significant
	If present	Significant
Whiskered bat	>10	Very significant
	If present	Significant
Natterer's bat	>10	Very significant
	If present	Significant
Daubenton's bat	Maternity roost	Significant
Leisler's bat	Maternity roost	Significant
Common pipistrelle	Maternity roost	Significant
Soprano pipistrelle	Maternity roost	Significant
Brown long-eared bat	Maternity roost	Significant

2. DESCRIPTION OF PROPOSED DEVELOPMENT

2.1 Site Location

The site consists of 12 vacant semi-detached houses located in Abbeyfeale Co.Limerick (grid ref: R 12660 26458). Cois Na Feile estate is accessible via Hillview Dr road from the N21 crossing Abbeyfeale. The site boundary is approximately 0.37 ha in area.

The location of the proposed development is shown in Figure 2-1.

2.2 Proposed development

The application proposes the demolition of the existing unfinished structures (12 no. dwellings) and the erection and development of 12 no. residential units comprising 10 no. two-storey, 3 bed, semi-detached units and 2 no. single-storey, semi-detached pair 1 no. 2 bed and 1 no. 3 bed.

The proposal includes the completion of the residential access road to service the 12 no. new units, all above and below ground services to link to existing and established services, the integration of the supporting landscaped open space areas and all associated proposed landscape works. In addition, new boundary treatments are proposed to incorporate and strengthen existing green infrastructure and enhance biodiversity corridors within and bounding the site.

Drawing Title
Site Location

Project Title
Abbeyfeale Residential Development

Drawn By	Checked By
NS	SF
Project No.	Drawing No.
241132	Fig 2-1
Scale	Date
1:25,000	2025-06-06

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3. METHODOLOGY

3.1 Desktop Study

A desktop review of published material was undertaken to inform all subsequent field studies and assessments. The aim of the desktop review was to identify the presence of species of interest within the site and surrounding region.

The following list describes the sources of data consulted:

- *Review of online web-mappers: National Parks and Wildlife Service (NPWS) mapping.*
- *Review of NPWS Article 17 Report.*
- *Review of the publicly available National Biodiversity Data Centre web-mapper.*
- *BCI Database*
- *Review of NPWS Lesser Horseshoe Bat national dataset*

3.1.1 Bat Species' Range

EU member states are obliged to monitor the conservation status of natural habitats and species listed in the Annexes of the Habitats Directive. Under Article 17, they are required to report to the European Commission every six years. In April 2019, Ireland submitted the third assessment of conservation status for Annex-listed habitats and species, including all species of bats (NPWS, 2019).

The 2019 Article 17 Reports were reviewed for information on bat species' range and distribution in relation to the location of the proposed development.

3.1.2 National Bat Database of Ireland

The National Bat Database of Ireland holds records of bat observations received and maintained by Bat Conservation Ireland. These records include results of national monitoring schemes, roost records as well as ad-hoc observations. The database was searched for bat presence and roost records within a 10km radius of the proposed site, as well as general landscape suitability for bats.

3.1.3 Designated Sites

The potential for the proposed works to impact on sites that are designated for nature conservation is considered in separate Ecological Impact Assessment (EcIA) and Appropriate Assessment Screening (AASR) reports. Special Areas of Conservation (SACs) are designated under EU Habitats Directive. The European Sites that are within the Zone of Likely Impact, with bats identified as Qualifying Interests, are listed in Section 4.1 below.

Natural Heritage Areas (NHAs) are designated under the Wildlife (Amendment) Act 2000 and their management and protection is provided for by this legislation and planning policy. Proposed Natural Heritage Areas (pNHAs) were designated on a non-statutory basis in 1995 but have not since been statutorily proposed or designated. Any identified NHAs and pNHAs designated for the protection of bats are presented in Section 4.1 and potential for impacts was fully considered.

3.1.4 Habitat and Landscape

3.1.4.1 Ordnance Survey Mapping

Ordnance survey maps (OSI 1:5,000 and 1: 50,000) and aerial imagery (ortho-based maps) were reviewed to identify any habitats and features likely to be used by bats. Maps and images of the site and general landscape were examined for suitable foraging, commuting or roosting habitats including woodlands and forestry, hedgerows, tree lines and watercourses.

3.1.4.2 Geological Survey Ireland

The Geological Survey Ireland (GSI) online mapping tool and University of Bristol Spelaeological Society (UBSS) Cave Database for the Republic of Ireland were consulted for any indication of natural subterranean bat sites, such as caves, within 10km of the proposed site (BCI, 2012) (last searched on the 5th of June 2025). Furthermore, the archaeological database of national monuments was reviewed for any evidence of manmade underground structures, e.g. souterrains, that may be used by bats (last searched on the 5th of June 2025).

3.1.4.3 National Monuments

The archaeological database of national monuments was reviewed for any evidence of manmade underground structures, e.g. souterrains, that may be used by bats (last searched on the 5th of June 2025).

3.2 Field Surveys

3.2.1 Bat Habitat Appraisal

A walkover survey of the Study Area was carried out during daylight hours on the 11th December 2024. The landscape features on the site were visually assessed for potential use as bat roosting habitats and commuting/foraging habitats using a protocol set out in BCT *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn.) (Collins, 2023). The aim of the survey was to identify suitable bat habitats within the site to guide further survey efforts.

Table 4.1 of the 2023 BCT Guidelines identifies a grading protocol for assessing structures, as well as commuting/foraging habitat for bats, which is summarised in Table 2-1. The protocol is divided into five Suitability Categories: *High, Moderate, Low*, *Negligible and None*. Table 4.2 of the 2023 BCT Guidelines identifies a grading protocol to assess trees, which is divided into three Suitability Categories: No suitability (NONE), Further Assessment Required (FAR), and Potential Roosting Feature present (PRF). This initial tree grading protocol can inform a preliminary roost assessment (PRA) to determine the available tree-roosting resource within the proposed development site, depending on whether a PRF could accommodate a small number of bats (PRF-I) or a larger roost, including maternity roosts (PRF-M). More information on PRAs is provided below.

Table 3-1 BCT protocol for bat habitat appraisals (Collins, 2023)

Assessment	Rationale
High	Structure 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, and surrounding habitat. Continuous, high-quality, well-connected habitats, connected to known roosts.

Moderate	Structure used by bats due to their size, shelter, protection, conditions and surrounding habitat, but are unlikely to support a roost of high conservation status, and suitable, connected habitats.
Low	Structure with one or more potential roost sites that could be used by an individual bat opportunistically, and suitable but isolated habitats that could be used by a small number of bats.
Negligible	No obvious features present, but a level of uncertainty remains.
None	No habitat features likely to be used by roosting, foraging or commuting bats.

3.2.2 Preliminary Roost Assessment

A search for roosts was undertaken within the boundary of the proposed site by two licenced ecologists to identify any PRFs. The licence (DER-BAT-2024-54), issued by NPWS, is intended for professionals carrying out surveys with the potential to disturb roosting bats. The aim of the survey was to determine the presence of roosting bats, potential access points, roosting locations and the need for further survey work or mitigation.

The site was visited on 11th December 2024 during the multidisciplinary walkover survey by Sara Fissolo and Nora Szijarto.

There are five building blocks numbered from 1 to 12 forming twelve separate houses identified within the site were assessed for their potential to support roosting bats. A systematic search of all accessible interiors, including all attic spaces, was undertaken. The exterior of each building was inspected first from ground level and included all accessible windowsills, walls, eaves, roof ridge and roof slates. Inspections were carried out with the aid of torches, a ladder, an endoscope and binoculars, and searched for evidence of bat use, including live and dead specimens, droppings, feeding remains, urine splashes, fur oil staining and noises, as well as potential access points into the structure.

Trees present within the site were examined from ground level for the presence of rot holes, hazard beams, cracks and splits, partially detached bark, knot holes, gaps between overlapping branches and any other PRFs identified by Andrews (2018).

A second inspection was carried out on the 19th March 2025 on the derelict houses where evidence of roosting bats was discovered. The survey was carried out under updated licences by Sara Fissolo (DER-BAT-2025-118) and Nora Szijarto (DER-BAT-2025-122). Bat droppings were collected in House 10 and 11 and sent for DNA analysis to SureScreen Scientific[1]. Results were received on the 31st of March 2025.

A final re-visit of the derelict houses where evidence of roosting bats was discovered was carried out by Nora Szijarto and Clare Misfud (DER-BAT-2025-152) on the 1st May 2025, prior to the dusk emergence survey, to count any visible roosting bats.

3.2.3 Activity Survey - Dusk Emergence Survey

Following the initial roost assessments, a building comprising three adjoining houses was subject to a roost survey. The aim of the survey was to confirm the results of the inspections and to ascertain no crevice dwelling species which might have been missed during the inspections were present within the roof. The survey also wanted to clarify what were the preferred emerging points for the brown long-

[1] *https://www.surescreenscientifics.com*

eared bats observed roosting within the building's attic space. Four surveyors were located across the building with a focus on potential access point and roosting features identified during the daylight walkover surveys. A thermal camera was focused at the back entrances into the buildings.

Surveyors were equipped with active full spectrum bat detectors, Batlogger M (Elekon AG, Lucerne, Switzerland). Where possible, species identification was made in the field and any other relevant information was also noted, e.g., numbers, behaviour, features used, etc. All bat echolocation was recorded for subsequent analysis to confirm species identifications, as detailed in Section 3.2.4. The survey effort is summarised in Table 3-2. Surveys were carried out in favourable weather conditions (Table 3-2). Roost emergence surveys commenced at least 15 minutes before sunset and concluded approximately 1.5 hours after sunset.

Table 3-2 Manual Survey Effort

Date	Surveyors (initials)	Survey Type	Sunset	Start	End	Weather
01/05/2025	SF, PD, CM, NS	Roost Emergence	21:01	20:34	22:38	13°C, Dry, Calm

3.2.3.1 Night Vision Aids

The use of NVAs is now considered standard best practice for bat activity surveys. MKO employs thermal camera equipment (InfiRay Eye II V2.0). The thermal camera, mounted on a tripod, was used during roost survey to identify potential roosting hotspots and monitor emergence activity. The camera was regularly monitored by a surveyor.

Footage from NVAs was saved and reviewed in office in full, with any instances of emergence marked for future use. The location of the NVAs is presented in Figure 4-1.

3.2.4 Bat Call Analysis

All recordings were later analysed using bat call analysis software Kaleidoscope Pro v.5.6.8 (Wildlife Acoustics, MA, USA). The aim of this was to identify, to a species or genus level, what bats were present at the proposed development site. Bat species were identified using established call parameters, to create site-specific custom classifiers. All identified calls were also manually verified.
Echolocation signal characteristics (including signal shape, peak frequency of maximum energy, signal slope, pulse duration, start frequency, end frequency, pulse bandwidth, inter-pulse interval and power spectra) were compared to published signal characteristics for local bat species (Russ, 1999). *Myotis* species (potentially Daubenton's bat *(M. daubentonii),* whiskered bat *(M. mystacinus),* Natterer's bat *(M. nattereri)*) were considered as a single group, due to the difficulty in distinguishing them based on echolocation parameters alone (Russ, 1999). The echolocation of soprano pipistrelle *(P. pygmaeus)* and common pipistrelle *(P. pipistrellus)* are distinguished by having distinct (peak frequency of maximum energy in search flight) peak frequencies of ~55 kHz and ~46 kHz respectively (Jones & van Parijs, 1993). Some overlapping is possible between these species: where no certainty could be achieved, calls were identified to genus level.

Individual bats of the same species cannot be distinguished by their echolocation alone. Thus, 'bat passes' was used as a measure of activity (Collins, 2023). A bat pass was defined as a recording of an individual species/species group's echolocation containing at least two echolocation pulses and of maximum 15s duration. All bat passes recorded in the course of this study follow these criteria, allowing comparison. Due to the volume of bat activity data recorded, where multiple bat passes were recorded within the same registration, rarer or harder to record species were identified. Underreporting of common species is possible using this method, and is accounted for within the assessment.

Echolocation calls by brown long-eared bats (*Plecotus auritus*) are intrinsically quiet and hard to record by static equipment. All data collected, including Noise files and Auto ID files are checked to ensure all

calls for this species have been captured. However, a level of underrepresentation is expected for this species and is accounted for in the assessment of activity levels.

Echolocation by lesser horseshoe bats (*Rhinolophus hipposideros*) is directional and can be missed by detectors, particularly manual detectors. MKO employs omni-directional microphones to limit under-recording for the species.

3.3 Limitations

The surveys undertaken provided the information necessary to allow a complete, comprehensive and robust assessment of the potential impacts of the Proposed Development on bats receptors. Roost assessment surveys can be undertaken at any time of the year and May is considered within the optimal survey season for activity surveys. The dusk emergence survey carried out followed an unseasonal period of good weather and high temperatures in Ireland, with bats likely to have been moving into their summer roosting locations early. Based on the evidence already collected during the inspections, no further activity surveys were considered necessary to aid the assessment, as the presence of a small roost has been confirmed and has been fully considered in the project design.

4. RESULTS

4.1 Desktop Study

4.1.1 Bat Species' Range

According to Article 17, the site is within the range of the common, soprano and Nathusius' pipistrelles, the Daubenton's bat, the Leisler's bat and the brown long-eared bat. The site is outside the known range for lesser horseshoe bat, whiskered bat and natterer's bat.

4.1.2 National Bat Database of Ireland

The National Biodiversity Data centre database was accessed on the 14th of January 2025 to search for previous records of bat species within the hectad which the proposed development is located (10km squares: R12). The previous recordings included:

- Common pipistrelle (*Pipistrellus pipistrellus*)
- Lesser noctule (*Nyctalus leisleri*)
- Soprano pipistrelle (*Pipistrellus pygmaeus*)

4.1.3 Designated Sites

Within Ireland, the lesser horseshoe bat is the only bat species requiring the designation of Special Areas of Conservation (SACs). The site is situated outside the current known range for this species and there are no SACs designated for its protection within 10km of the proposed works site.

No Natural Heritage Areas (NHAs), or proposed NHAs, designated for the protection of bats were identified within 10km of the proposed works.

4.1.4 Habitat and Landscape

A review of mapping and photographs provided insight into the habitats and landscape features present at the proposed development site. In summary, the primary land use within the proposed site is residential settlement, while the surroundings of the site support agriculture.

A review of the GSI online mapper did not indicate the possible presence of any subterranean sites within the site and a search of the National Monuments Database did not reveal the presence of any manmade subterranean sites within the site.

A search of the UBSS Cave Database for the Republic of Ireland found no caves within the proposed site or within 10 km of the study area.

No national monuments are reported within the site.

4.2 Field Study

4.2.1 Bat Habitat Appraisal

The site boundary contains the twelve derelict houses and associated gardens. The back gardens are delimited by a hedgerow (Plate 4-1) providing connectivity to the wider landscape and some *Moderate* suitability for foraging and commuting bats. No maintenance in the back gardens has taken place since the partial construction of the houses, as such the vegetations is overgrown with some immature willow trees dominating this habitat. These have no suitability for roosting bats. The houses' front yard is less overgrown than the back gardens and is exposed to streetlights at night, which give that area a *Low* suitability for foraging and commuting bats (Plate 4-2). The derelict houses have different suitability for roosting. Further details are given below.

Plate 4-1 North hedgerow of the back gardens – Darks at night, suitable for foraging and commuting

Plate 4-2 Front gardens – Exposed to streetlight at night

4.2.2 Preliminary Roost Assessment

Habitats within the proposed development were identified as having the potential to support foraging, commuting and roosting bats. No mature trees had the potential to support roosting bats, but all houses had some potential to some extents.

All houses have a similar architecture; they are built with concrete bricks, have one storey, French windows doors at the back, windows (some sealed or broken) and a completed chimney.

Houses 1 to 7 are in a poor condition. They have no roof cover. Their interior is not completed; there are no separated walled rooms but timber frames skeleton of where walls were supposed be. The ground floor provides a relatively dark and wet environment (Plate 4-3) while the first floor is completely open to light and the elements (Plate 4-4). On the ground floor, the external walls are not finished, there is a first internal layer after the bricks made of timber cladding, but no other internal layers for insulation. There is an approximately 2 cm space between the bricks and the timber cladding which might be used by bats as a roosting place (Plate 4-5). These spaces were checked with an endoscope and no evidence of bats was noted. No evidence roosting bats were discovered in any of Houses 1 to 7. In the absence of a shelter, properly closed windows and doors, the wooden materials are wet and fall apart. It is thus, unlikely that these houses provide the necessary conditions to support roosting bats. Houses 1 to 7 were assessed with a *Negligible* potential.

Houses 8 to 12 have a roof cover and are in better general condition. These consists of two separate buildings, with the building including houses 10-12 being the closest to completion. The interior is dryer and less exposed to the elements than the first seven houses. The internal walls are partially completed with insulation plaster cladding (Plate 4-6). The plaster cladding was not always intact, providing potential access for roosting bats. These spaces were checked with an endoscope and no evidence of bats was noted. All windows are sealed and closed except from the French back entrance doors, which have been left open. The ground floor and first floor are much darker than in Houses 1 to 7. The attic spaces of houses 8 and 9 was accessible via a hatch in the ceiling in House 9. The attic space of houses 10, 11 and 12 were accessible also via hatches in house 10 and 11. An unfinished front gable also provided access into the attic directly from the exterior. All attics were constructed with wooden frames with underfelt lining.

No evidence of roosting bats was found in houses 8 and 9. Evidence of nesting birds, including blackbird and house martin, was found throughout the building, and within the attics. These were assessed as having *Moderate* potential as they provide space and conditions suitable for roosting, however any presence of bats at the time of surveying was considered unlikely.

Evidence of roosting bats were discovered in Houses 10 and 11.

In house 10, feeding remains i.e. butterfly wings were observed on the first floor. Small accumulations of bat droppings were discovered on the attic's floor (Plate 4-7), above which there was some grease marks on the roof's underfelt (Plate 4-8). The underfelt also looked scratched indicating potential roosting locations along the apex.

In house 11, bat droppings accumulation were found on the first floor (Plate 4-9) and on a sealed window (4-10). Droppings were found under the attic's apex in January (Plate 4-11). Two brown long-eared bats were then observed roosting in this location in March, and one was again observed in May 2025.

Houses 10, 11 and 12 were assessed with a *High* potential for roosting bats, however no evidence of a large roost using the building was found.

DNA Analysis

The bat droppings were collected in the attic of House 10 and on the first floor of House 11. Sample were sent to SureScreen lab on the 19th of March 2025. Results were received on the 31st of March 2024 confirming the presence of brown long-eared bats at both sampled locations.

Plate 4-3 Example of the ground floor in houses 1 to 7

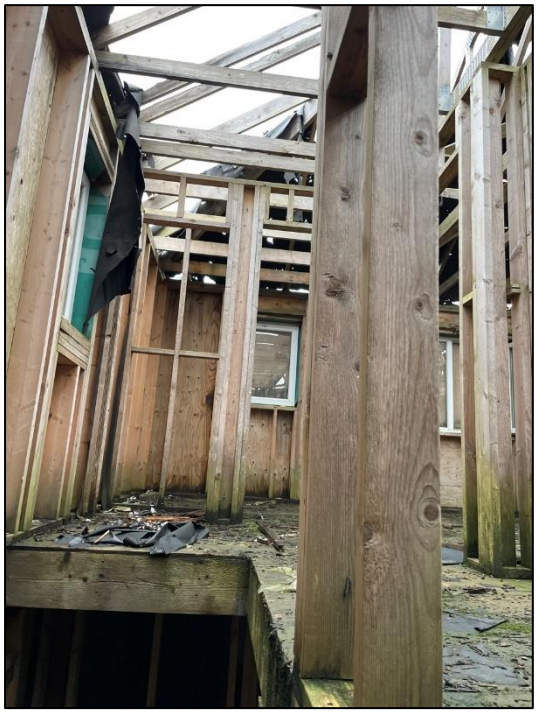

Plate 4-4 Example of the first floor in houses 1 to 7

Plate 4-5 Two centimetres gap between timber cladding and exterior brick wall in houses 1 to 7

Plate 4-6 Example of interior wall cladding on Houses 8 to 12

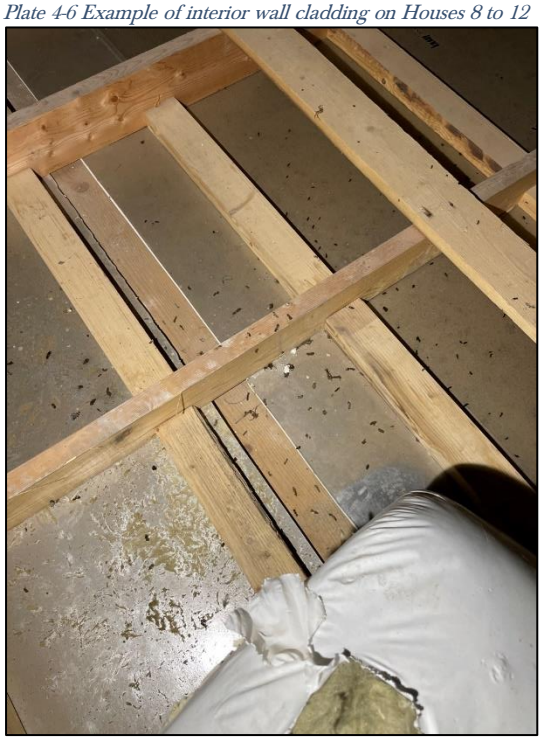

Plate 4-7 Bat droppings accumulation found on House 10 attic

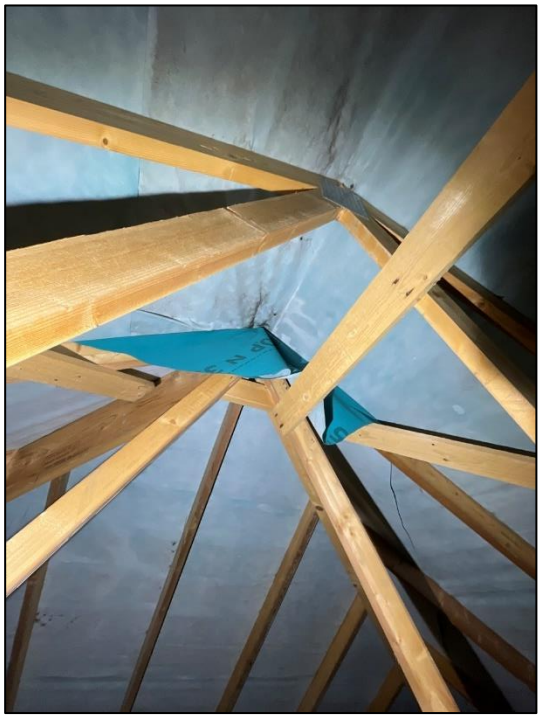

Plate 4-8 Potential grease marks on the underfelt of House 10

Plate 4-9 Bat droppings accumulation found on House 11 first floor

Plate 4-10 Bat droppings accumulation found on House 11 first floor sealed window

Plate 4-11 Apex of House 11 where roosting bats where found in March and May 2025.

4.2.3 Activity Survey – Dusk Emergence

During the dusk emergence survey, an unidentified bat was observed in flight by two surveyors in the back garden approximately 40 minutes after sunset, and was suspected emerging from the house back doors. The individual is likely to be the brown long-eared bat observed roosting within the building prior to the survey. The species is known to not always echolocate when emerging, limiting the possibility of identification, but this emergence time is consistent with this species' known behaviour.

The bat used the existing hedgerow to commute away from site. No other emerging bats were recorded, and the building was confirmed to only serve one species.

Two other bat species were recorded during the survey, including 361 bat passes of common pipistrelles and two bat passes of Leisler's bat. These were first recorded onsite at 21:28, with one common pipistrelle commuting above the site and foraging in the front yard. This was not suspected to have emerged from other buildings onsite. All other bats arrived onsite approx. 40 minutes after sunset, well outside the known emergence time for these species. They are not suspected to be roosting onsite but commuting from elsewhere to the west of the estate.

Foraging activity was observed on both sides of the building, however the majority of passes were recorded on the front side, which is illuminated by streetlights from the nearby estate. These species are considered well adapted to urbanised conditions. Commuting activity along the existing site boundaries was also recorded by all surveyors, with most activity heading north and east along adjacent field boundaries.

4.2.4 Summary of the Findings

Evidence of roosting bats were discovered in two out of the twelve inspected houses. The inspection survey, the DNA analysis of the bat droppings and the emergence survey revealed the presence of a small brown long-eared bat roost. This is considered to be a small maternity roost, or a satellite to a maternity roost, due to the timing of surveys and evidence of regular roosting by a small number of bats. Brown long-eared bats are known to roost in small colonies, with the majority of roosts containing five bats or less.

The below Table 4-1 summarizes the findings of the bat surveys.

Table 4-1 Summary of the survey findings

House Number	Suitability	Evidence of bats	Roost status
House 1	Low	None	n/a
House 2	Low	None	n/a
House 3	Low	None	n/a
House 4	Low	None	n/a
House 5	Low	None	n/a
House 6	Low	None	n/a
House 7	Low	None	n/a
House 8	Low	None	n/a
House 9	High	None	n/a
House 10	High	Droppings – Attic	Suspected maternity - Brown long-eared bats
House 11	High	Droppings, individuals observed roosting – Attic and first floor	Suspected Maternity - Brown long-eared bats
House 12	Low	No	n/a

Map Legend

Emergence Survey
- 01.05.2025

Surveyor

Thermal Camera

Inspection results

Roost found

No evidence of bats

N

Drawing Title

Survey Results

Project Title: Abbeyfeale Residential Development	
Drawn By: NS	Checked By: SF
Project No.: 241132	Drawing No.: Fig 4-1
Scale: 1:500	Date: 2025-06-06

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5. CONCLUSION & RECOMMENDATIONS

The following points set out the main conclusions following the completion of the surveys described above:

- Three bat species were recorded throughout the survey carried out in March and May 2025, including the common pipistrelle (*Pipistrellus pipistrellus*), the Leisler's bat (*Nyctalus leisleri*) and the brown long-eared bats (*Plecotus auritus*).
- The existing landscape occurring within northwestern boundaries of Cois na Feile provides connectivity to the wider landscape and some suitability for commuting and foraging bats. However, the rest of the proposed development site including the houses and front gardens provides low quality habitat for foraging and commuting bats.
- The buildings surveyed have the potential to support bat roosts to some extent. Evidence of roosting bats was discovered in two houses during the inspections and emergence surveys.
- The roosts discovered is suspected to be a small maternity roost of brown long-eared bats. No evidence of a large roost was found. No evidence of other species roosting was found.

A full assessment of the potential impacts on bats as a result of the proposed development is presented in the EcIA which will accompany the planning application. The following measures have been discussed with the development's team and have been included in the design:

- A derogation licence from the NPWS will be required in order to demolish buildings where evidence of bats was identified.
- Due to the presence of bats within the buildings confirmed since March, and the inability to confidently block all access into the buildings, demolition works of building 10, 11, 12 will be carried out in the winter (November-February). All demolitions are recommended to be undertaken within this timeframe.
- The demolitions will follow a pre-commencement survey by a qualified ecologist to ensure no bat are still present within the attic.
- Alternative new roosting locations will be provided as part of the proposed works. A Pole Mounted Bat Box (Plate 5-1) with two maternity bat boxes or equivalent will be installed along the hedgerow in the back garden (Plate 5-2) prior to demolition.

Plate 5-1 Proposed alternative roost – Pole Mounted Maternity Bat Boxes

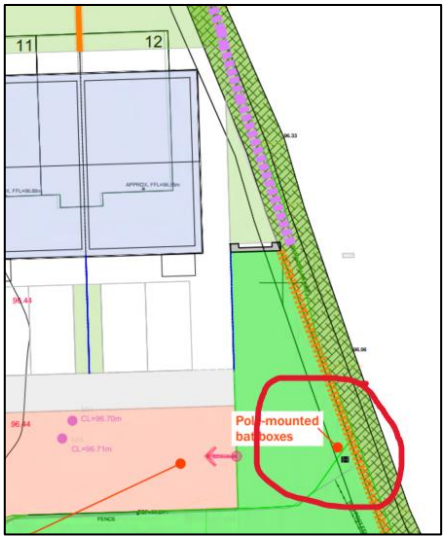

Plate 5-2 Proposed location for the alternative roost

- Additionally, at the end of construction, a set of bat boxes (at least two, Schwegler 1FF and 1FTH) for crevices dwelling species will be installed under the gables of the newly built house corresponding to the lost roost building.
- The lighting plan for the operational phase of the proposed works, has been designed with consideration of the following guidelines: Bat Conservation Ireland guidelines; Bat Conservation Ireland (Bats and Lighting: Guidance Notes for Planners, Engineers, Architects and Developers, BCI, 2010) and the Bat Conservation Trust (Guidance Note 08/23 Bats and Artificial Lighting at Night (BCT, 2023), to minimise light spillage, thus reducing any potential disturbance to bats. The proposed location for streetlight can be found in Appendix 1. Streetlights in proximity to the proposed bat pole will be equipped with directional accessories to eliminate spill on the replacement roost and adjacent commuting features.

Following the implementation of the above measures, no significant effects on the local bat population are anticipated.

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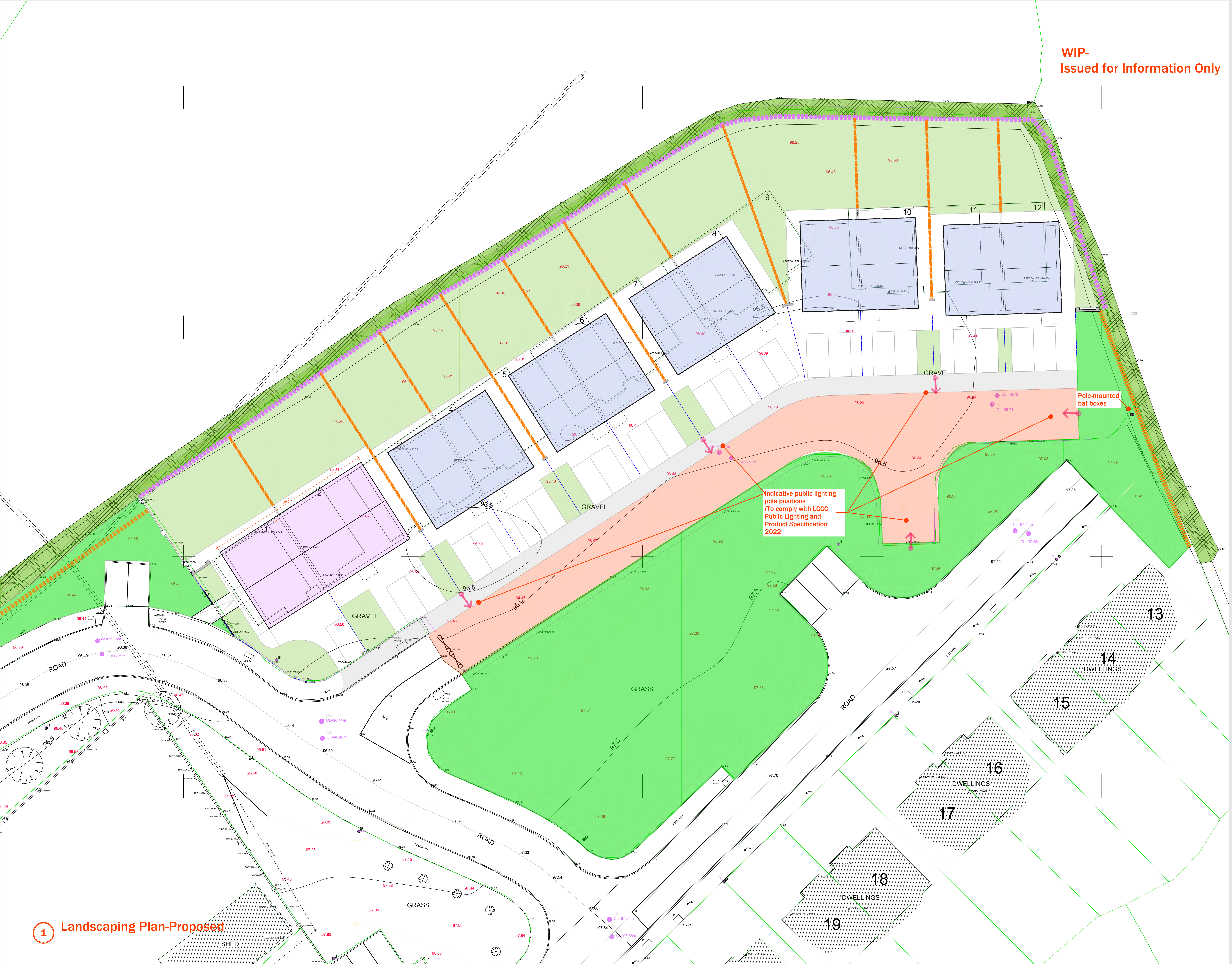
APPENDIX 1

DRAFT SITE PLAN

WIP-
Issued for Information Only



Cois na Feile, Abbeyfeale
Residential Development

Project No. B08

04/06/2025

Revisions

Notes
1. Your note number one.
2. Your note number two.
3.

Project North

Scale 1:250

STAGE 2a- PLANNING
Landscaping Plan

PA.30

Sheet No.