ALTEMAR

Marine & Environmental Consultancy

Bat Fauna Survey for a proposed Large-Scale Residential Development at Groody Road, Kilbane, Castletroy, Co. Limerick

18th of June 2025

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: A & G Thomond Builders Ltd.

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SUMMARY

Structure:	There are no structures onsite. The site consists of greenfield areas, treelines and hedgerows.
Location:	Groody Road, Kilbane, Castletroy, Co. Limerick.
Bat species present:	A Lesser Noctule (*Nyctalus leisleri*) roost (2 bats) was noted in the centre treeline on site, with two Lesser Noctule bats emerging from the roost. Soprano Pipistrelle (*Pipistrellus pygmaeus*) and one Common Pipistrelle bats were noted foraging in the centre of the site.
Proposed work:	Large-Scale Residential Development
Impact on bats:	The proposed development will change the local environment as new lights are to be erected and some of the existing trees to be felled. One confirmed Lesser Noctule (*Nyctalus leisleri*) roost, will be lost due to this development. Bat foraging onsite would only be expected to persist following the implementation of a sensitive lighting strategy. Confirmed and potential bat roosts will lost due to felling of trees. Loss of foraging areas will also be noted in the centre of the site. The residual impact is considered to be moderate adverse/not significant in the long term to minor adverse /not significant in the long term depending on the lighting strategy and landscaping measures included in the design and the inclusion of an arborist impact assessment.
Survey date:	13th September 2024

Receiving Environment

Background

A & G Thomond Builders Limited seeks planning permission for development of a residential scheme on land situated between the Groody Road and Caisleán Na hAbhann, in the townland of Kilbane, Castletroy, Co. Limerick for a period of seven years.
The development consists of:
95 no. apartments, 22 no. houses and a Purpose-Built Student Accommodation (PBSA) scheme comprising 309 no. student bedspaces.
The apartment units are distributed across 4 no. separate blocks of 4.5 storeys in height and comprise:
(a) 12 no. 1 bed units;
(b) 80 no. 2 bed units; and
(c) 3 no. 3 bed units.

The houses comprise 2 storey units including
(a) 8 no. 4 bed units
(b) 14 no. 3 bed units.

The PBSA scheme is distributed across 4 no. separate blocks of 5 storeys in height including provision of
(a) 3 no. 7 bed apartments;
(b) 36 no. 8 bed apartments; and
(c) ancillary building service infrastructure at ground floor level.

The development also includes
(a) provision of a creche facility and
(b) ancillary site development works including
- (i) car and bicycle parking;
- (ii) bicycle stands;
- (iii) 2 no. bicycle sheds;
- (iv) boundary treatments;
- (v) public lighting;
- (vi) water supply; foul and surface water drainage infrastructure;
- (vii) ESB substation;
- (viii) temporary construction access; and
- (ix) landscaping.

Vehicular and pedestrian access to the site will be from the Groody Road and
Caisleán Na hAbhann. Planning permission is also sought for use of the accommodation, outside of student term time, for short-term letting purposes.
The site location, layouts and continues elevations are demonstrated in Figures 1-6.

Landscape

A Landscape Design Report for the proposed development has been prepared by Cunnane Stratton Reynolds to accompany this planning application. This report outlines the following in relation to aims and objectives:

'*The landscape design for the proposed development aims to create connectivity and green corridor networks with the surrounding blue/green infrastructure in response to the Limerick City and environs blue/green infrastructure strategy. To achieve this a hierarchy of attractive and functional linked public and private open green spaces are designed throughout the development, enhancing biodiversity, increasing tree cover and contributing to managing water run-off using various SUDs measures*.

Significant tree planting is introduced throughout the development creating important green corridors which bolster environmental connectivity throughout the area. Low level ornamental planting and appropriate tree and shrub selection will provide good visual permeability around the residential areas while softening the proposed built form.

A circular route has been designed to connect the open spaces within the residential parts of the development. This route also features an outdoor fitness trail and seating/meeting spots throughout.

Central to the student area is a generous shared open space with seating/planter sections, recreational amenity lawn areas and bicycle storage facilities

All child age groups will be catered for with natural and equipped play zones. These areas will feature a natural material palette to compliment the surrounding landscape

Access routes are maintained with pedestrian and vehicle access to the west and southeast respectively. Additional pedestrian access is found at the northwest corner and ramp access at the northeast corner and western boundary.'

The proposed landscape masterplan is demonstrated in Figure 7.

Arborist

No Arboricultural Report has been prepared to accompany this planning application. One, including tree survey, constraints and protection plans, should be prepared to assess whether or not an NPWS derogation license is required for the removal of the roost.

Lighting

No Lighting Report/Impact Assessment has been prepared to accompany this planning application. It is advised that one should be prepared to assess light spill, and to ensure that lighting onsite is bat friendly. Lighting should be set to a maximum of 2700-3000K in compliance with bat lighting guidelines. Back spill protection must be on all lights that back on to open space areas.

Figure 1. *Proposed site outline*

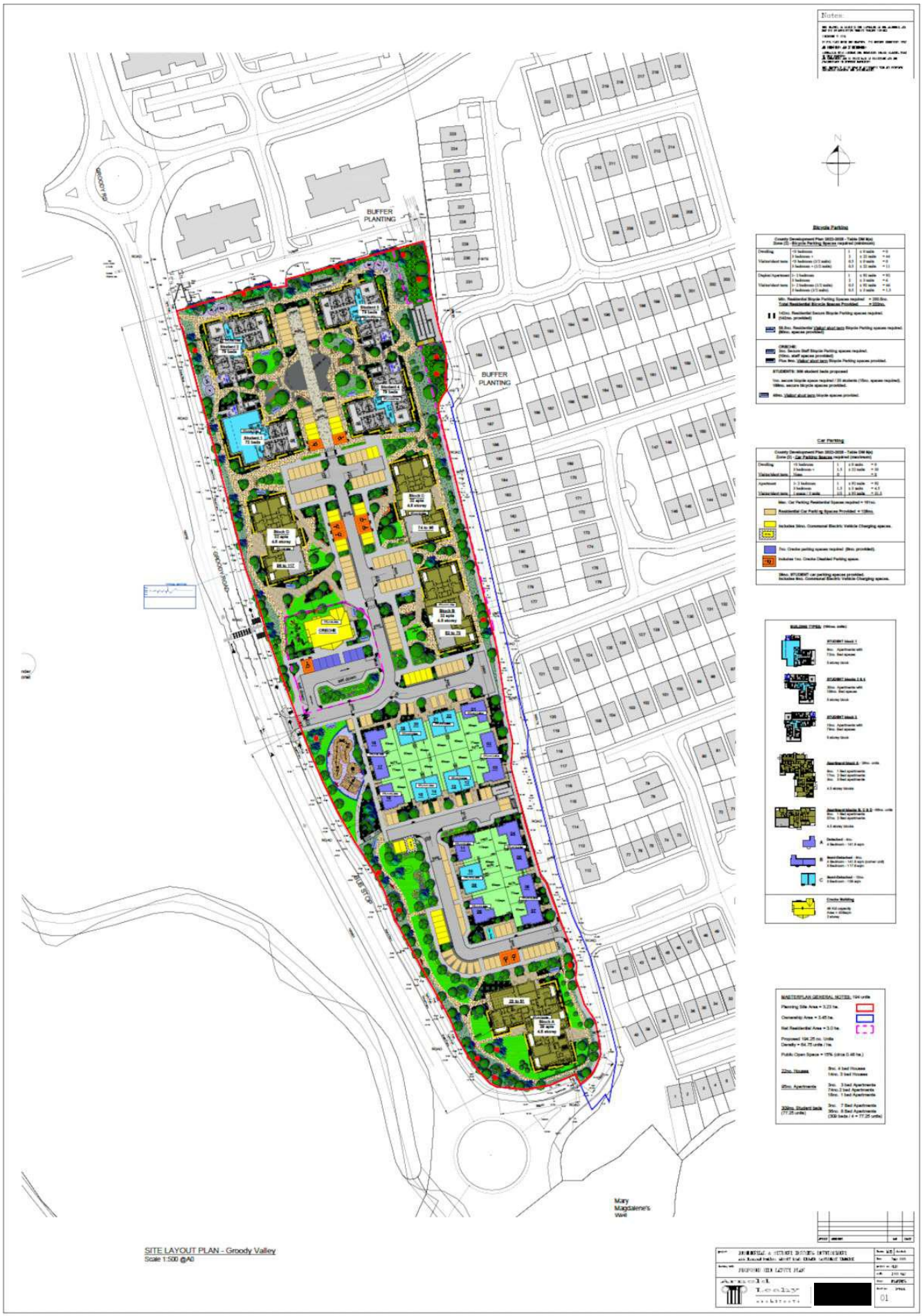

Figure 2. *Proposed site layout plan*

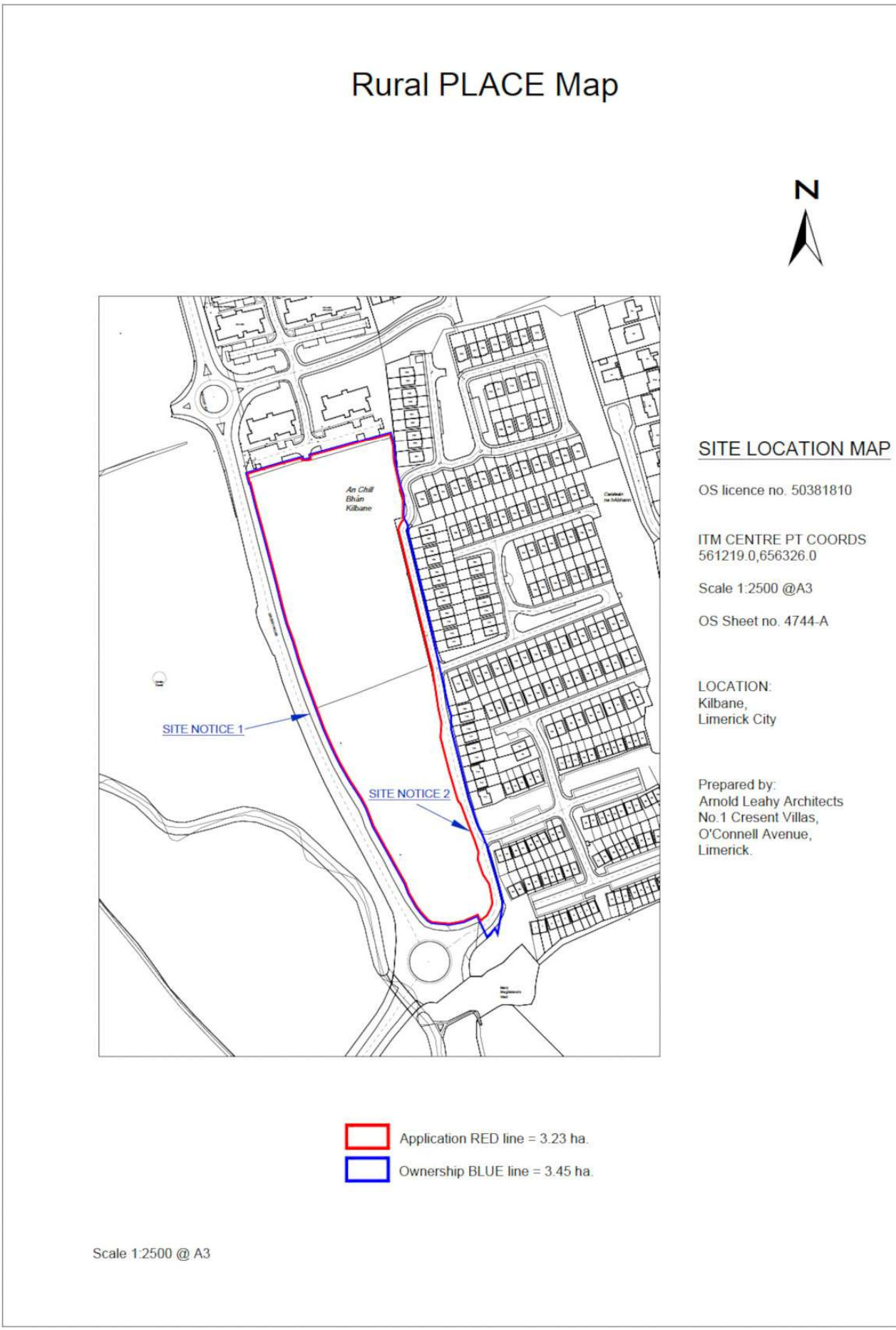

Figure 3. *Proposed site location plan*

Figure 4. *Site Elevations (Block A)*

Figure 5. *Site Elevations (Block B & C)*

Figure 6. *Site Elevations (Block D)*

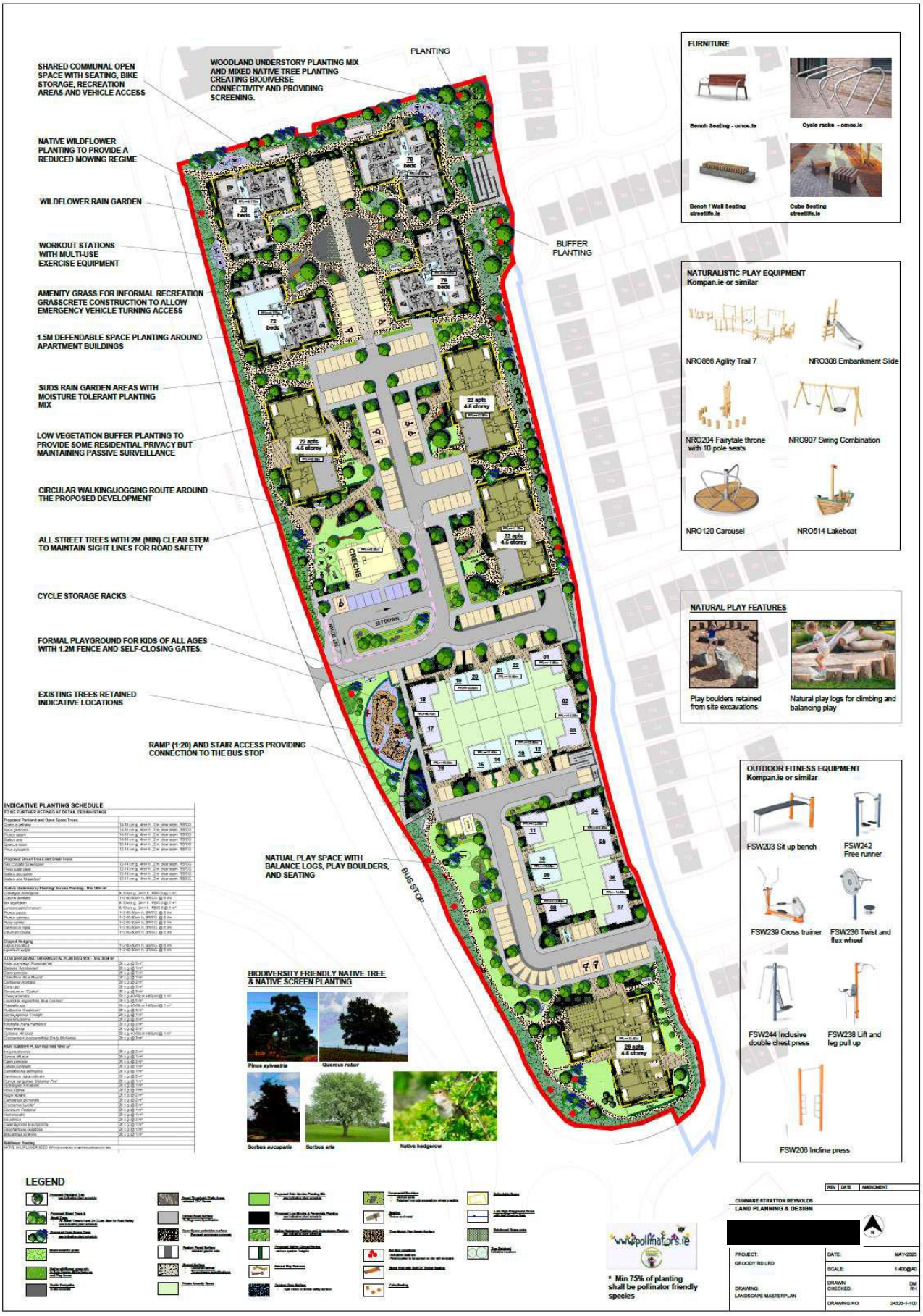

Figure 7. *Proposed landscape masterplan*

Competency of Assessor

This report has been prepared by Bryan Deegan MSc, BSc (MCIEEM). Bryan has over 31 years of experience providing ecological consultancy services in Ireland. He has extensive experience in carrying out a wide range of bat surveys including dusk emergence, dawn re-entry and static detector surveys. He also has extensive experience reducing the potential impact of projects that involve external lighting on Bats. Bryan trained with Conor Kelleher author of the Bat Mitigation Guidelines for Ireland (Kelleher and Marnell (2022)) and Bryan is currently providing bat ecology (impact assessment and enhancement) services to Dun Laoghaire Rathdown County Council primarily on the Shanganagh Park Masterplan. The desk and field surveys were carried out having regard to the guidance: Bat Surveys for Professional Ecologists – Good Practice Guidelines 3rd Edition (Collins, J. (Ed.) 2016) and Marnell, Kelleher and Mullen (2022), Bat Mitigation Guidelines for Ireland V2 (which update and replace the Bat Mitigation Guidelines for Ireland published in 2006).

Legislative Context

Wildlife Act 1976 (as amended by, inter alia, the Wildlife (Amendment) Act 2000).

Bats in Ireland are protected by the Wildlife (Amendment) Act 2000. Based on this legislation it is an offence to wilfully interfere with or destroy the breeding or resting place of any species of bat. Under this legislation it is an offence to "*Intentionally kill, injure or take a bat, possess or control any live or dead specimen or anything derived from a bat, wilfully interfere with any structure or place used for breeding or resting by a bat, wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose. "*

Habitats Directive- Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora has been transposed into Irish Law, including, via, *inter alia*, the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). See Art.73 of the 2011 Regulations which revokes the 1997 Regulations.

Annex II of the Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) lists animal and plant species of Community interest, the conservation of which requires the designation of Special Areas of Conservation (SACs); Annex IV lists animal and plant species of Community interest in need of strict protection. All bat species in Ireland are listed on Annex IV of the Directive, while the Lesser Horseshoe Bat (*Rhinolophus hipposideros*) is protected under Annex II which related to the designation of Special Areas of Conservation for a species.

Under the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), all bat species are listed under the First Schedule and, pursuant to, *inter alia*, Part 6 and Regulation 51, it is an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb a bat particularly during the period of breeding, hibernating or migrating;
- Damage or destroy a breeding site or resting place of a bat;
- Keep, sell, transport, exchange, offer for sale or offer for exchange any bat taken in the wild.

Bat survey

This report presents the results of a site visit on the 13th September 2024. A bat emergent and detector survey was carried out. Trees on site were examined for bat roosting potential.

Survey methodology

As outlined in Marnell et al. 2022 '*The presence of a large maternity roost can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others. However, most roosts are less obvious. A visit during the summer or autumn has the advantage that bats may be seen or heard. Buildings (which for this definition exclude cellars and other underground structures) are rarely used for hibernation alone, so droppings deposited by active bats provide the best clues. Roosts of species which habitually enter roof voids are probably the easiest to detect as the droppings will normally be readily visible. Roosts of crevice-dwelling species may*

require careful searching and, in some situations, the opening up of otherwise inaccessible areas. If this is not possible, best judgement might have to be used and a precautionary approach adopted. Roosts used by a small number of bats, as opposed to large maternity sites, can be particularly difficult to detect and may require extensive searching backed up by bat detector surveys (including static detectors) or emergence counts.' In relation to the factors influencing survey results the guidelines outlines the following *'During the winter, bats will move around to find sites that present the optimum environmental conditions for their age, sex and bodyweight and some species will only be found in underground sites when the weather is particularly cold. During the summer, bats may be reluctant to leave their roost during heavy rain or when the temperature is unseasonably low, so exit counts should record the conditions under which they were made. Similarly, there may be times when females with young do not emerge at all or emerge only briefly and return while other bats are still emerging thus confusing the count. Within roosts, bats will move around according to the temperature and may or may not be visible on any particular visit. Bats also react to disturbance, so a survey the day after a disturbance event, may give a misleading picture of roost usage.'*

The survey involved the methodologies outlined in Collins (2016) which included the roost inspection methodologies i.e. external methodology outlined in section 5.2.4.1 and the internal survey outlines in section 5.2.4.2 of the guidelines. In addition, the methodologies for Presence absence surveys (Section 7) was carried out for dust emergent surveys.'

As outlined in Collins (2016) 'The bat active period is generally considered to be between April and October inclusive (although the season is likely to be shorter in northern latitudes). However, because bats wake up during mild conditions, bat activity can also be recorded during winter months.'

Survey Results

Trees as potential bat roosts

A ground level roost assessment was carried and used to examine the trees on site for features that could form bat roosts. Potential roosting features include heavy ivy growth, broken limbs, areas of decay, vertical or horizontal cracks, cracks in bark etc. All trees on site were assessed for bat roosting potential. A Lesser Noctule (*Nyctalus leisleri*) roost was noted in the centre treeline on site, with two Lesser Noctule bats emerging from the roost. A derogation license is therefore required for the removal of trees on site.

Buildings as potential bat roosts

No buildings of bat roosting potential are located within the site outline. A derogation license is therefore not required for the demolition of buildings.

Emergent/detector surveys

An emergent/detector survey was carried out on the 13th of September 2024. The detector surveys were undertaken within the active bat season and the transects covered the entire site multiple times during the night. Weather conditions were good with mild temperatures greater than 10°C, after sunset. Winds were light and there was no rainfall. Insects were observed in flight during the survey.

As outlined in Collins (2016) in relation to weather conditions '*The aim should be to carry out surveys in conditions that are close to optimal (sunset temperature 10°C or above, no rain or strong wind.), particularly when only one survey is planned.... Where surveys are carried out when the temperature at sunset is below 10°C should be justified by the ecologist and the effect on bat behaviour considered.*' There were no constraints in relation to the surveys carried out. All areas of the site were accessible and weather conditions were optimal for bat assessments.

At dusk, bat detector surveys were carried out onsite using a*n Echo meter touch 2 Pro* detector to determine bat activity. Bats were identified by their ultrasonic calls coupled with behavioural and flight observations.

Survey Results

A Lesser Noctule (*Nyctalus leisleri*) roost was noted in the centre treeline on site, with two Lesser Noctule bats emerging from the roost. A Soprano Pipistrelle (*Pipistrellus pygmaeus*) and one Common Pipistrelle were noted foraging in the centre of the site. Figure 11 highlights the bat activity, both foraging and roosting, on site. It should be noted that the site's perimeter is lit from streetlights and the housing developments to the north and east of the site.

Bat assessment findings

Review of local bat records

The review of existing bat records (sourced from National Biodiversity Ireland Records Database) within a 2 km^2 grid, reference number R65D, encompassing the study area reveals that four of the nine known Irish species have been observed locally (Table 1). The National Biodiversity Data Centre's online viewer was consulted in order to determine whether there have been recorded bat sightings in the wider area. This is visually represented in Figures 8-10. The following species were noted in the wider area: Daubenton's Bat (*Myotis daubentonii*), Lesser Noctule (*Nyctalus leisleri*), Common Pipistrelle *(Pipistrellus pipistrellus sensu stricto), Nathusius's Pipistrelle (Pipistrellus nathusii),* Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Brown Long-eared Bat (*Plecotus auritus*) (Figures 8-10).

Table 1: *Status of bat species within a 2km^2 grid encompassing the subject site (Reference no. R65D)*

Species name	Date of last record	Title of dataset	Designation
Common Pipistrelle (Pipistrellus pipistrellus sensu stricto)	23/05/2012	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Daubenton's Bat (Myotis daubentonii)	23/05/2012	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Leisler's Bat (Nyctalus leisleri)	10/05/2019	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Soprano Pipistrelle (Pipistrellus pygmaeus)	23/05/2012	National Bat Database of Ireland	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

Figure 8. Daubenton's Bat *(Myotis daubentonii)* (purple), *Lesser Noctule (Nyctalus leisleri)* (yellow), and both Daubenton's Bat and *Lesser Noctule* (orange) (Source NBDC) (Site location – red circle).

Figure 9. Common Pipistrelle *(Pipistrellus pipistrellus sensu stricto)* (yellow) and both Common Pipistrelle and Nathusius's Pipistrelle (*Pipistrellus nathusii)* (orange), (Source NBDC) (Site location – red circle).

Figure 10. Soprano Pipistrelle (*Pipistrellus pygmaeus*) (purple), Brown Long-eared Bat (*Plecotus auritus*), and both **.** Soprano Pipistrelle and Brown Long-eared Bat (orange), (Source NBDC) (Site location – red circle).

Evaluation of Results

The bat surveys comply with bat survey guidance documentation including Marnell et al (2022) and Collins (2016). A Lesser Noctule (*Nyctalus leisleri*) roost was noted in the centre treeline on site, with two Lesser Noctule bats emerging from the roost. Bat activity found within the site is as follows; A Soprano Pipistrelle (*Pipistrellus pygmaeus*) and one Common Pipistrelle were noted foraging in the centre of the site.

Potential Impact of the development on Bats

One confirmed bat roost will be lost. The proposed development will change the local environment as trees are to be felled and hedgerows lost. All hedgerows and treelines, except those to the east of the site, along the main road, are to felled. New trees are to be planted throughout the site. The development is likely to displace bats from foraging at the site during construction and operation due to increased lighting on site. The lighting plan will effectively decide if bats are to continue to use the site and no lighting plan has been prepared. A strict lighting plan is required on site in order to ensure that bats are seen to continue to forage on site. This must comply with bat lighting guidelines and sure that there are sufficient dark spaces on site with areas to forage. In addition these dark areas should include pollinator friendly plants to attract insects. A derogation licence and mitigation measures are required.

Based on the small number of common species found using the site, and the implementation of a sensitive lighting lighting strategy, prepared in consultation with an ecologist, the displacement of bats during construction from this site will not have any significant effect on the foraging of local bat populations in the long term. The potential for collision risk and impact on flight paths in relation to bats is considered is considered low due to the limited level of bat activity on site and the buildings would be deemed to be clearly visible to bats. Bat foraging would be expected to continue on site albeit at a lower

level until landscaping matures. An NPWS derogation is required for the removal of onsite trees containing bat roosts, namely those in the centre of the site in which there is a confirmed Lesser Noctule (*Nyctalus leisleri*) roost, and a potential Common Pipistrelle (*Pipistrellus pipistrellus sensu lato*) roost.

Mitigation Measures

As outlined in Marnell et al. (2022) "*Mitigation should be proportionate. The level of mitigation required depends on the size and type of impact, and the importance of the population affected*." In addition as outlined in Marnell et. al (2022) '*Mitigation for bats normally comprises the following elements:*

- *Avoidance of deliberate, killing, injury or disturbance – taking all reasonable steps to ensure works do not harm individuals by altering working methods or timing to avoid bats. The seasonal occupation of most roosts provides good opportunities for this*
- *Roost creation, restoration or enhancement – to provide appropriate replacements for roosts to be lost or damaged*
- *Long-term habitat management and maintenance – to ensure the population will persist*
- *Post-development population monitoring – to assess the success of the scheme and to inform management or remedial operations.*'

Bats were noted roosting on site. The level of activity on site is low with common bat species foraging in the site. As a result, the following mitigation will be implemented:

- An arborocultural impact assessment, including tree survey, constraints and protection plans, to determine extent of tree loss.
- A lighting design report should also be prepared to accompany this planning application to assess light spill, and to ensure that lighting onsite is bat friendly. This must be prepared in consultation with a project ecologist.
- Lighting at all construction stages should be done sensitively on site with no direct lighting of hedgerows and treelines.
- A post construction bat survey and light spill assessment will be carried out to ensure compliance with the lighting plan.
- A derogation license will be applied for from NPWS. All works will be carried out in compliance with NPWS conditions seeing as bat roosts were found during inspections.
- The bat roost on site will be removed, subject to licence approval, using the methodology outlined below:
- Felling of the bat roost tree will take place from November to February when bats are in hibernation.
- A pre felling inspection of the trees will be carried out by a bat specialist. If no bats are present during the inspection the tree will be felled in sections and lowered to the ground, where the sections will remain for 24 hours. If a bat is, or bats are, found a specialist, licenced in manual handling of bats. will oversee the removal of the bat from the tree and the safe relocation of the bat to a suitable site within the site outline. This may include the placing or the bat in a cardboard box for release at night or placing the bat in a safe suitable temporary roosting location, depending on weather conditions.
- Any tree felling will be undertaken at an appropriate time of year, as deemed by the project ecologist.
- A number of bat boxes will be installed in a suitable location on site overseen by the project ecologist.

Predicted Residual Impact of Planned Development on Bats

The proposed development will change the local environment as new lights are to be erected and some of the existing trees to be felled. One confirmed Lesser Noctule (*Nyctalus leisleri*) roost, will be lost due to this development. Bat foraging onsite would only be expected to persist following the implementation of a sensitive lighting strategy. Confirmed and potential bat roosts will lost due to felling of trees. Loss of foraging areas will also be noted in the centre of the site.

The residual impact is considered to be moderate adverse/not significant in the long term to minor adverse /not significant in the long term depending on the lighting strategy and landscaping measures included in the design and the inclusion of an arborist impact assessment.

Figure 11. Bat foraging and roosts on site (roost yellow circle. Yellow- Leislers bats, Green- Soprano pipistrelle and orange- Common pipistrelle.)

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