Bat Mitigation Strategy

Consented Development at Hazelwood Demesne, Co. Sligo

21 March 2025

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1 Introduction

1.1 Overview of this document

Hazelwood House is an 18th century Palladian-style residence located on the Hazelwood peninsula between Lough Gill and the Garavogue River in County Sligo. A large factory was built to the south of the house in the 1960s, which was used for the manufacturing of textiles and cassette tape. The rest of Hazelwood Demesne consists of mature woodland, adjoining a larger area of woodland owned by Coillte.

Planning permission was granted in 2024 (planning Ref. 2460283) for a range of alterations to an existing whiskey production facility, and for the renovation of Hazelwood House for use as a visitor's centre. The proposed works will take place over a ten-year period.

A number of bat species roost within the demesne, including maternity roosts of brown long-eared bats and soprano pipistrelles, and small non-breeding roosts of whiskered bat, Natterer's bat and Leisler's bat. All of the roosts are legally protected under the *European Communities (Birds and Natural Habitats) Regulations* 2011 (as amended). To ensure compliance with this legislation, this mitigation strategy has been developed to ensure that bats and their roosts are protected during the future development. It includes the following:

- Details of bat roosts within the demesne, based on surveys carried out in 2022 and 2023
- An assessment of potential impacts on roosting and foraging bats
- Mitigation measures, including dedicated roosting spaces, emergence / re-entry points and dark corridors for dispersal
- Considerations relating to Regulation 54 of the *EC (Birds and Natural Habitats) Regulations* 2011 (as amended)

A derogation licence for the project was previously issued in 2024 (DER-BAT-2024-93) and submitted as part of the planning application. The licence expired at the end of 2024, so the applicant now wishes to apply for a replacement.

1.2 Statement of authority

Nick Marchant

Nick Marchant is the principal ecologist of NM Ecology Ltd. He has coordinated all ecological assessments at Hazelwood Demesne since 2015, and is currently preparing a Biodiversity Chapter and Natura Impact Statement for the forthcoming planning application.

He has sixteen years of professional experience, including thirteen years as an ecological consultant, one year as a local authority biodiversity officer, and two years managing an NGO overseas. He has an MSc in Ecosystem Conservation and Landscape Management from NUI Galway and a BSc in Environmental Science from Queens University Belfast. He is a member of

the Chartered Institute of Ecology and Environmental Management, and operates in accordance with their code of professional conduct.

He regularly carries out bat surveys and mitigation for development projects. He has completed training courses in *Bat Identification and Survey* (Bat Conservation Ireland, 2008), *Bat mitigation for construction projects* (Bat Conservation Trust, 2014) and *Bat handling, mist netting and harp trapping* (Bat Training UK, 2014). He has held a number of bat derogation licences.

Dr Caroline Shiel

All bat surveys in 2022 and 2023 were carried out by Dr Caroline Shiel, assisted by a team of assistant surveyors. She will act as lead scientific agent for the implementation of this mitigation strategy.

Dr Shiel has over 30 years' experience of bat surveys for academic and commercial purposes. She has a PhD titled *Diet, foraging and activity at the roosts of Leisler's bat*, awarded by NUI Galway. She is a founding member of Bat Conservation Ireland and is currently a director and vice-chair of the organisation. She is also a member of the Heritage Council's panel of bat experts. She regularly carries out bat surveys throughout Ireland, particularly of masonry bridges and heritage buildings. She holds a five-year bat specialist's licence (Sections 22 & 23) from National Parks and Wildlife Service.

2 Details of the Site and Proposed Developments

2.1 Site location and history

Hazelwood Demesne is located approx. 2 km south-east of Sligo town, on a peninsula between Lough Gill (to the south and east) and the Garavogue River (adjacent to its western boundary).

The demesne is centred around Hazelwood House, a three-storey 18th century Palladian-style residence. There is a former stableyard to the east of the house, and a range of other structures (some in ruins) to the west of the house. Most structures were built in the 18th century, but there have been a range of alterations and new constructions in the 19th and 20th centuries.

The house was in residential use until the 1920s, after which it was acquired by the state and used for a range of public services, including offices for the forestry commission, a military barracks, and a psychiatric hospital. In the 1960s the property was purchased by a textiles company, which built a large factory to the south of Hazelwood House. This was initially used for the manufacturing of nylon, and later converted for the manufacturing of cassette tape. All manufacturing ceased in 2006.

Since 2016, the factory has been redeveloped as a whiskey distillery and maturation facility. This involves extensive renovation and retrofitting of the original factory building, as permitted under a number of planning consents (refer to Section 1.2).

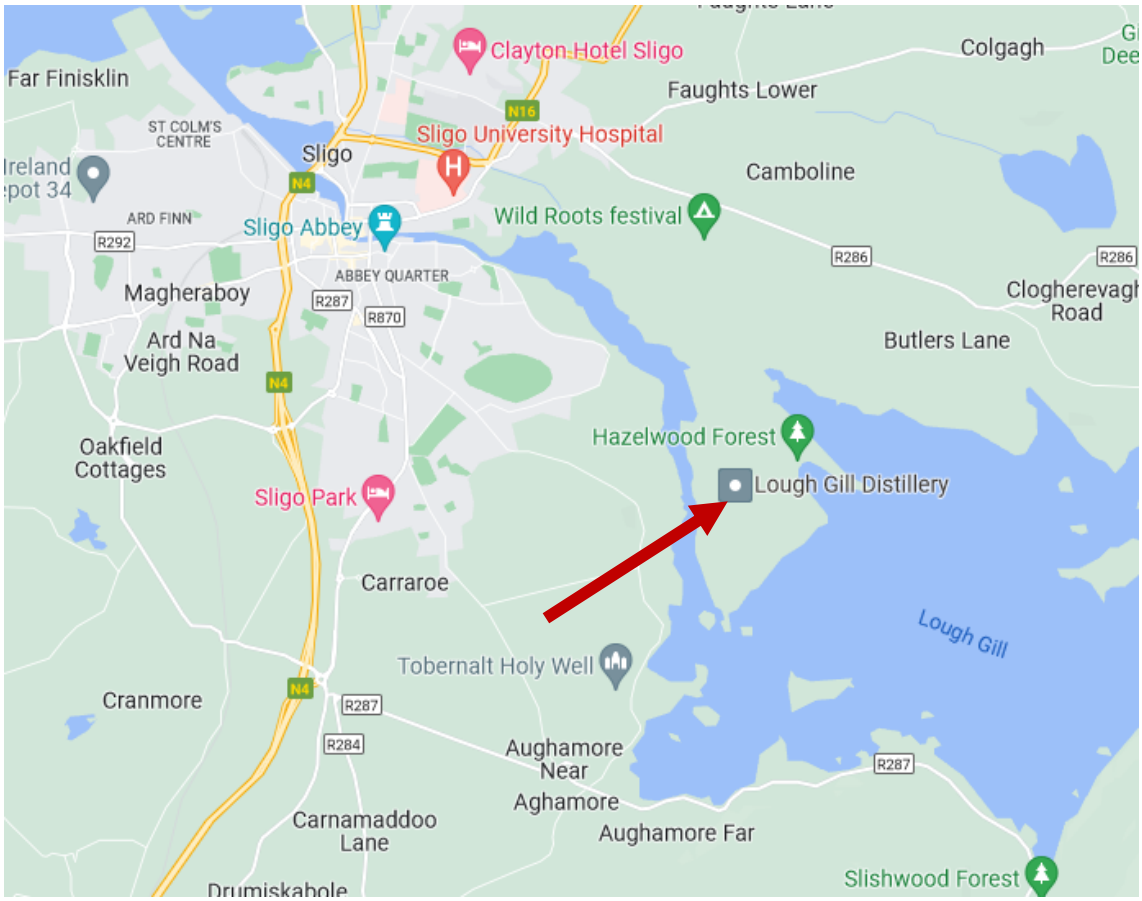

Figure 1. Location of the site (red arrow) relative to Sligo City and Lough Gill.

Figure 2. Location of Hazelwood House and the Whiskey Distillery / Maturation Facility.

2.2 Consented development

Sazerac's proposed development will include the following components:

1) Hazelwood House - Full refurbishment and development of Hazelwood House, a protected structure (RPS No. 293SE), including adjoining wings and extensions for public assembly, retail and office use. Retail to be housed in the ground floor of the east wing, accessed from the stableyard. Insertion of new platform lifts within the house to provide universal access. Demolition of three storey concrete escape stair extension (18.75 m^2) and three storey toilet block extension (4m^2) adjoining Hazelwood House.
2) Stableyard - Full refurbishment and development of the stable buildings east of the house to provide a new café and reception in the south range with a new single storey

extension to the south side of the building (50.5m^2), visitor WCs, storage, tasting rooms and a microdistillery in the north range.

3) Main Visitor Carparking – Provision of new visitor car park with associated landscaping, to replace existing car park providing 133 car spaces (including 11 accessible car-parking spaces) and 8 coach spaces.
4) Additional Carparking and Bicycle Parking – Provision of an additional 44 car parking spaces and bicycle parking within the sawmill yard and footprint of an historic structure.
5) Walled Gardens – Conservation and repair works to the masonry walls and circular structure within the walled garden.
6) Gardener's Workshop and Polytunnel – Refurbishment and development of ruined outbuilding to serve as a gardener's workshop, and provision of a polytunnel within the walled garden.
7) Windmill – Conservation and repair of this masonry structure, a protected structure (RPS No. 292SE) and former pump house and windmill base.
8) Playground – Development of small external play area for visitors to the west of the house.
9) Front Lawn – Area of historic front lawn preserved as part of the setting of the house, with crop planting to the northern end of the lawn.
10) Rear Terraced Garden - Realignment of the terraces to the rear of the house and extension of the terraces towards the distillery building. Installation of an 'eye-catcher' (focal point) within the rear garden.
11) Main Entrance and Site Security – Existing site hut to be retained with new security gates.
12) Refuse Storage and Collection Point – Provision of roofed structure to house bins and waste (50 m^2).
13) Screening to the Distillery Building – Provision of a solution to screen the facade of the distillery building along with external planting to the foreground.
14) Bus Set Down & Arrival Point – Provision of sheltered arrival area and feature pond.
15) By-Product and Wastewater Pretreatment - Provision of 300 m^2 Utilities Building, 2 No. balance tanks, pH neutralisation, screening and cooling for trade effluent; odour control; tanker loading and offloading; byproduct management; foul wastewater collection tank; and combined final pump station for rising main to Uisce Eireann municipal network connection.
16) Process Cooling – provision of 1 No. process cooling tower to be installed to provide additional cooling for distillery expansion.
17) Services Connection - installation of a new combined effluent line(s) from the final pump station to connect with the existing Uisce Éireann municipal network in Ballinode, installation of potable water line for connection to Uisce Eireann municipal potable water network, installation of gas line for potential future connection, installation of

services conduits (fibre, telecoms etc.), including all associated trenching and reinstatement works.

18) Block D (Distillery & Warehousing) - expansion of distillery capacity from 1MLPA to 2 MLPA, provision of new warehousing areas, a tanker unloading area and a process area, elevational treatment and fenestration modifications to the existing building façade.
19) Block C (Administration & Maturation Warehousing) – retro fit of the existing building to provide four new 870 m^2 maturation warehouses and a 1,521 m^2 administration/office block, elevational treatment and fenestration modifications to the existing building façade.
20) Blocks B (Maturation Warehousing) - construction of a 2,019 m^2 whiskey maturation storage building and associated mechanical & electrical rooms.
21) Blocks E (Maturation Warehousing) - construction of a 2,019 m^2 whiskey maturation storage building and associated mechanical & electrical rooms.
22) Blocks F (Maturation Warehousing) construction of a 3,031 m^2 whiskey maturation storage building and associated mechanical & electrical rooms.
23) Blocks G (Maturation Warehousing) construction of a 3,031 m^2 whiskey maturation storage building and associated mechanical & electrical rooms.
24) External Tanker Unloading Area - construction of a bunded tank area and associated tank unloading area,
25) Waste Collection Area - construction of a 37 m^2 covered waste collection area.
26) Distillery Security Hut & Weighbridge - construction of a 23 m^2 security hut and associated truck weighbridge.
27) Workshop - construction of a 210 m^2 general workshop and hot works area.
28) Site Fencing - construction of a perimeter security fence, inc. personnel and vehicular access gates.
29) Staff Parking - provision of 68 No. car parking spaces (including 4 accessible car-parking spaces) and 10 No. bicycle parking spaces.
30) Replanting – Replanting area of approximately 41,974m^2 of native species in the fields to the north of Hazelwood House.
31) Site Demolitions - demolition of a 2,352 m^2 (ground floor area), 28 m high multistorey existing structure that forms part of the existing facility and demolition of a 700 m^2 section of the existing building to create a fire break to form a standalone distillery block (Block D) and whiskey maturation storage building/office block. (Block C).
32) Site Works - all associated site services, site development works and landscaping to facilitate the development.

The layout of the proposed development is shown in Figure 3.

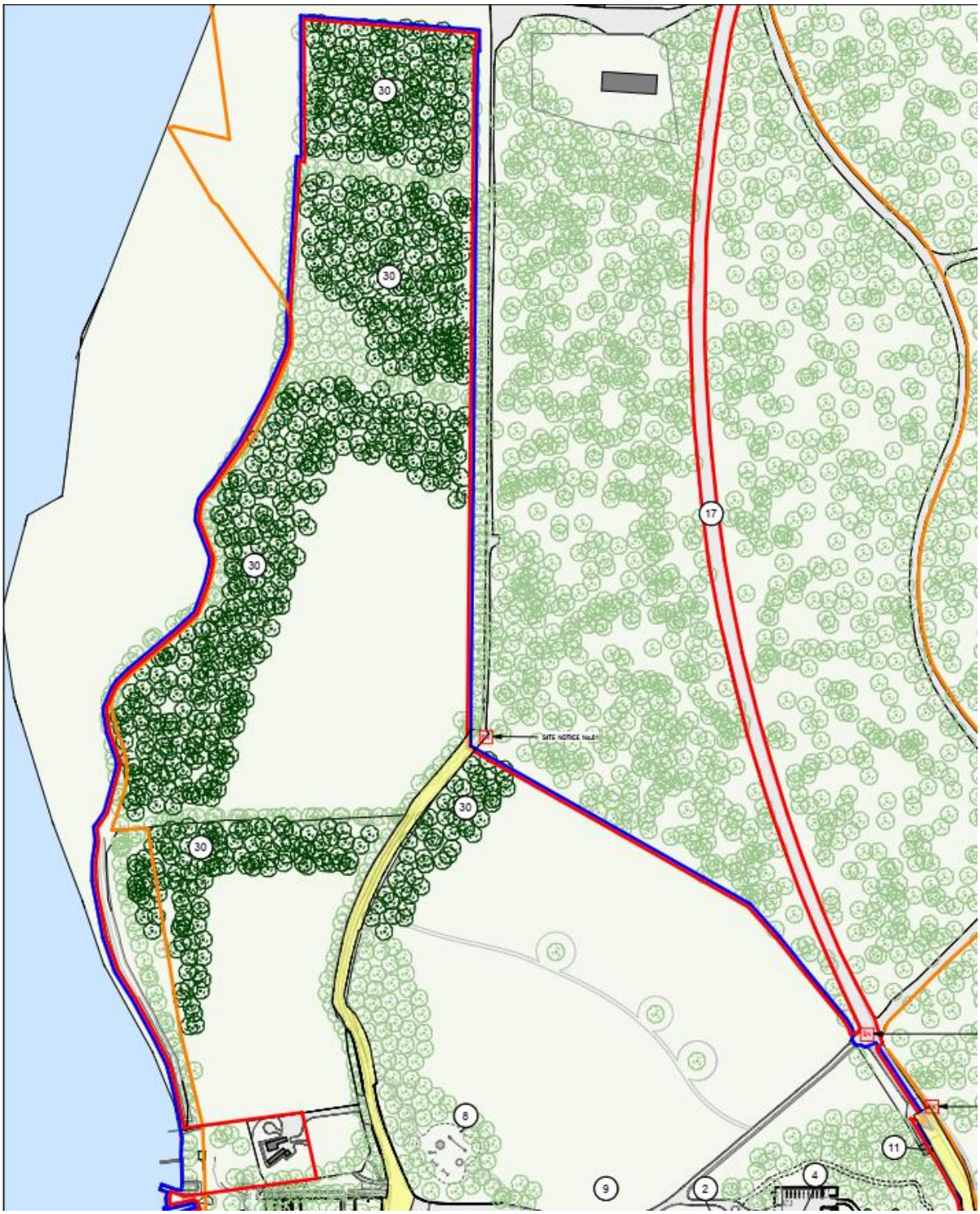

Figure 3a. Layout of the proposed development in the north of the demesne. Numbers refer to the development description described above. The boundary of the planning application is outlined in red, the landholding in blue, and the boundary of the *Lough Gill* SAC in orange.

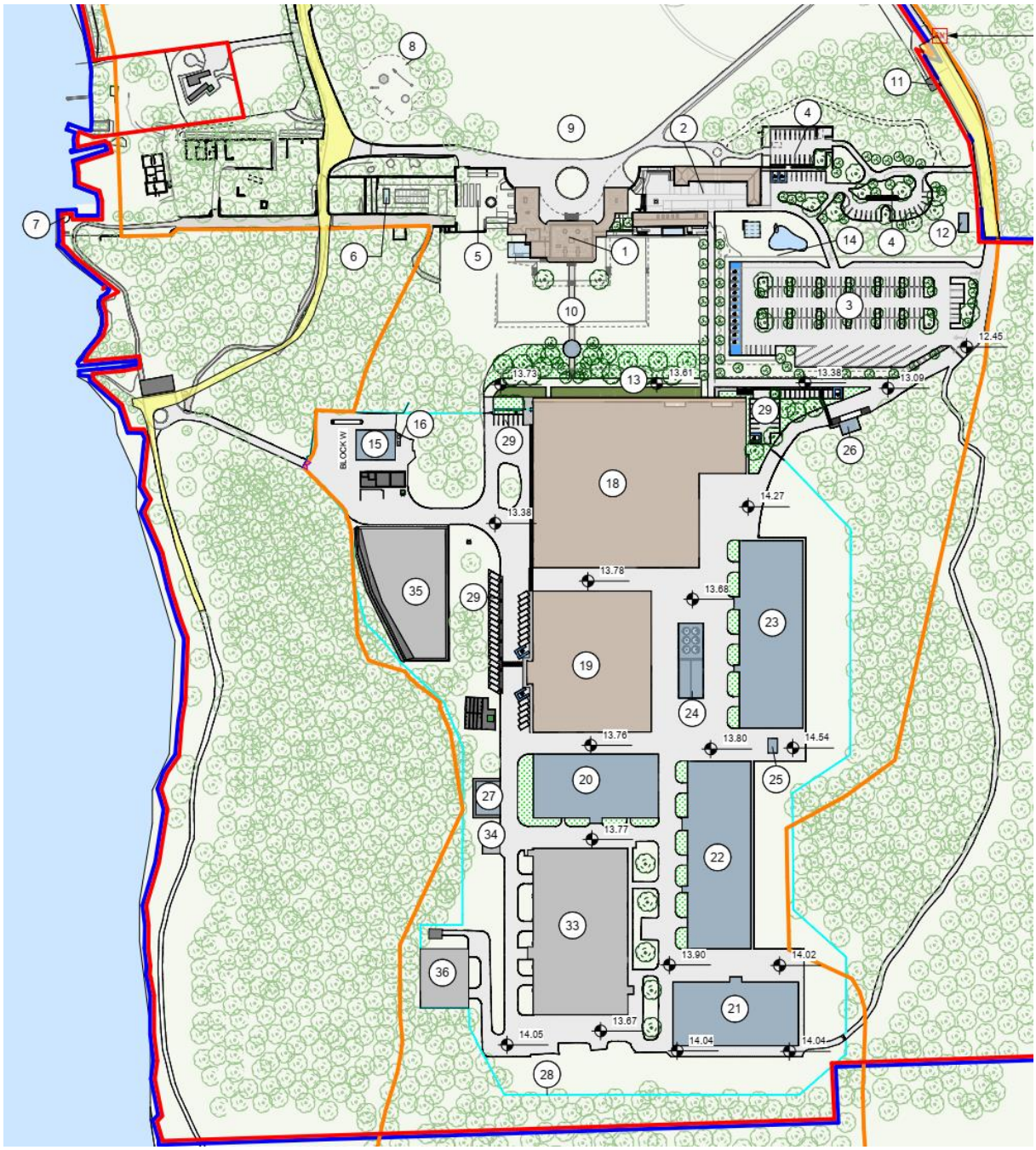

Figure 3b. Layout of the proposed development in the south of the demesne.

2.3 Other active planning consents and ongoing work

A number of other developments at the site have received planning permission in recent years, predominantly associated with the whiskey distillery and maturation facility. A summary of these consents is provided below:

- **Planning reference 2360108: alterations to existing whiskey maturation storage building**. Permission granted in 2023 for alterations to the whiskey maturation building, construction of a forklift charging station, sprinkler water tank / pump house, deepening of the sprinkler water / spillage run off retention pond (see planning reference 20180 below), and installation of two boreholes. The application included a Natura Impact Statement prepared by NM Ecology Ltd. The construction of this development has commenced.
- **Planning reference 20180: Sprinkler-water / spillage run off retention pond**. Permission granted in 2020 for the construction of a "sprinkler water and spillage run off retention pond" to the west of the whiskey distillery. The application included a Natura Impact Statement prepared by NM Ecology Ltd. The construction of this development has commenced.
- **Planning reference 20127: Replacement of derelict dwelling**. Permission granted in 2021 for the demolition of a derelict dwelling to the west of Hazelwood House and the construction of a replacement dwelling. The application included a Natura Impact Statement prepared by NM Ecology Ltd. The construction of this development has not yet commenced.
- **Planning reference 18412: Wastewater treatment plant**. Permission granted in 2020 for the construction of a small on-site wastewater treatment plant and polishing filter / soakaway. The application included a Natura Impact Statement prepared by NM Ecology Ltd. The construction of this development has not yet commenced.

3 Bat Roosts

3.1 Baseline surveys 2015

A series of bat surveys were undertaken by Dr Tina Aughney of Bat Eco Services in 2015 to support the 2016 planning application (refer to Section 2.2). Six bat species were recorded within the site: Leisler's bat *Nyctalus leisleri*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bats *Plecotus auritus*, Natterer's bat *Myotis nattererii* and Daubenton's bat *Myotis daubentonii*.

Roosts were recorded in the following buildings:

- Hazelwood House: common pipistrelles, brown long-eared bats
- Stableyard: soprano pipistrelles
- Ruins / masonry walls (west of Hazelwood House): Natterer's bat, Daubenton's bat
- New pump house: Daubenton's bats
- Old pump house: potential / unconfirmed roost of soprano pipistrelles
- Factory: potential / unconfirmed roosts of brown long-eared bats and soprano pipistrelles

3.2 2022 surveys

Sazerac of Ireland ULC (the 'Applicant') commissioned a series of bat surveys by Dr Caroline Shiel (and associated surveyors) in August and September 2022 to update the survey information.

Survey methods (2022)

All surveys were undertaken in accordance with best-practice guidance, notably the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition* (Collins et al. 2016). Survey methods can be summarised as follows:

- All buildings and other structures suitable for bats were inspected during daylight hours to search for evidence of roosting bats (e.g. droppings), and to assess the suitability of the buildings for bats on a four-point scale (negligible – low – moderate – high)
- Survey effort for bat roost surveys was then determined, with 0, 1, 2 or 3 surveys based on the four suitability categories identified above
- The required number of surveys were undertaken. Depending on the size of the structure, between 2 and 4 surveyors were present.

Survey results (2022)

Hazelwood House: A number of small roosts were recorded within the structure (Figure 3). Suspected maternity roosts of 8 soprano pipistrelles and 5 brown long-eared bats were recorded in the western and eastern wings of Hazelwood House, respectively. The western wing also had single whiskered bats and brown long-eared bats, and the main house had 1 – 2 brown long-eared bats, whiskered bats and Leisler's bats.

Stableyard: A maternity roost of approx. 18 brown long-eared bats was recorded in the loft space over the offices in the northern range of the courtyard. These bats enter and exit the roost via a gap at the top of the gable wall adjacent to the western side of main arch. Brown long-eared bats are likely to move between Hazelwood House and the stableyard.

Ruins / walls west of Hazelwood House: A single Natterer's bat was recorded entering the westernmost ruin at dawn. Previous surveys recorded a roost of soprano pipistrelles, but this species is no longer present.

Whiskey maturation building: A likely transition roost of 5 soprano pipistrelles and a day roost of 2 brown long-eared bats were recorded at the southern end of the whiskey maturation building. Please note that a separate derogation licence (DER/BAT/2022/127) was obtained for construction works in the vicinity of these roosts, but that it expired at the end of 2024. The development is now complete.

3.3 2023 surveys

Hazelwood House and the associated stableyard were re-surveyed in 2023 to assess any changes since the previous year. The results are summarised as follows:

- 2 brown long-eared bats were observed roosting in the eastern wing of Hazelwood House. One dead individual was found inside the building.
- 2 whiskered bats were observed roosting in the western wing of Hazelwood House.
- 5 soprano pipistrelles were observed returning to a roost in the western wing at dawn, and a dead individual was found inside the building.
- A total of 18 brown long-eared bats were recorded emerging from the archway in the stableyard. During the day these bats roosted in two locations: the loft space above the offices, and a second location at the south-eastern end of the northern stable building.
- 2 whiskered bats also emerged from the stable building. The exact roosting site could not be confirmed.

Detailed results of the bat surveys in 2022 and 2023 are presented in a bat report by Dr Caroline Shiel, which is provided in Appendix 1 of this document. A list of all known bat roosts is provided in Table 1.

Location	Species	Count (approx.)	Roost Type	Roost site and emergence route	Notes
Stableyard (northern building)	Brown long-eared	18	Maternity roost	Roosting in a large open attic space at the western end of the building above office space Bats initially emerge eastward into the archway to fly within the enclosed space, and then crawl through a gap above the door. Bats fly north and north-east towards the woodland	This roost may formerly have been in the attic of Hazelwood House in 2015. The roost was briefly disturbed by light within the roost space in 2023, and bats moved to the south-eastern end of the stables building
	Whiskered	2	Day roost (single males?)	Roost site unknown	Soprano pipistrelles and Natterer's bat were previously recorded in the buildings in 2015, but no longer appear to be present
Hazelwood House: Main building	Brown long-eared	1	Day roost	Single individual observed roosting in attic in 2022. No longer present at this location in 2023	A small maternity roost of brown long-eared bats was previously recorded in the attic in 2015, but no longer appears to be present
	Soprano pipistrelle	1	Unknown, likely day roost	Single dead bat found in second storey in 2022	
	Leislers	1	Day roost	Single individual observed emerging from void between stonework at the south-eastern corner of the roof	
Hazelwood House: West wing	Soprano pipistrelle	5 - 8	Possible maternity roost	Roosting in roof space. Emergence from level of wall plate on northern elevation and from roof on south-eastern side. Bats then fly west towards the woodland	Emergence point may be illuminated in the future, so alternative emergence and dispersal route required

	Whiskered	2	Day roost	Roosting in roof space. Emergence from level of wall plate on eastern and northern elevations. Bats then fly west towards the woodland	Emergence point may be illuminated in the future, so alternative emergence and dispersal route required
Hazelwood House: East wing	Brown long-eared	2	Day roost	Roosting in attic. Emergence from a point on roof, dispersal direction unknown. Some bats also recorded flying in basement of Hazelwood House and emerging through an open doorway	A dead individual was also recorded in the building at this location Brown long-eared bats were recorded flying within the building
Ruins west of Hazelwood House	Natterer's	1	Day roost	Single bat recorded emerging from southern elevation of ruin closest to river. Exact roosting point not established	Soprano pipistrelles and Daubenton's were previously recorded roosting in ruins, but no longer appear to be present
Old Pump House	N.A.				Pipistrelle droppings were recorded on the floor in 2015, suggesting possible use as a night roost (temporary shelter / resting place)
New Pump House	Whiskered	1	Day roost	Roost site unknown. Emergence point likely in gap above door	11 Daubenton's bats were previously recorded in this building in 2008, but they no longer appear to be present
Former factory, now whiskey distillery	Brown long-eared	2	Day roost	Former chimney flue	It was necessary to remove these roosts in 2023 and 2024 under derogation licence DER/BAT 2022 – 127 (refer to Section 3.5), with bat boxes provided in nearby woodland as compensation
	Soprano pipistrelle	5	Transitional	Flashing on southern end of factory	As above

3.4 Conclusion: descriptions of all bat roosts within the buildings

The largest roost within the site is of brown long-eared bats, with a peak count of 18 individuals in the stableyard in August 2023 (Figure 4). Additional bats were recorded at times in Hazelwood House, particularly the eastern wing. It is possible that bats are moving between these locations in different years, or that small numbers of male bats roost separately from the females in the maternity roost.

A possible maternity roost of 5 – 8 soprano pipistrelles was recorded in the western wing of Hazelwood House (Figure 6). Several small roosts (1 – 2 bats) of whiskered bat, Leisler's bat and brown long-eared bat were recorded elsewhere in Hazelwood House; these are considered highly unlikely to be maternity roosts. Almost all of the bats are roosting in the roof structure, but the Leisler's bat appeared to be using a void between stones at the south-east corner of the roof. Single bats were also recorded roosting in ruins to the west of Hazelwood House and in the new pump house.

Figure 4. Location of the Brown Long-eared maternity roost in the stableyard building

Figure 5. Northern façade of Hazelwood House

Figure 6. Western wing of Hazelwood House, and location of the Soprano Pipistrelle roost

3.5 Previous bat derogation licences

The Applicant previously held two derogation licences, both of which have now expired:

- DER/BAT 2022 – 127 (granted in 2022, extended until 31 December 2024). This licence permitted the exclusion of bats from the former factory and provision of alternative roost spaces in bat boxes. All works in the vicinity of bat roosts were supervised by Dr Caroline Shiel, and were subject to a bat mitigation strategy. Works are now complete.
- DER/BAT 2024 – 28 (valid until 31 December 2024). It was necessary to maintain the roof of Hazelwood House until formal renovation works commenced, and the licence permitted disturbance of bats during this process. All works were supervised by Dr Caroline Shiel, and were subject to a bat mitigation strategy. Works are now complete.

4 Impact assessment

In this section we consider potential impacts of the proposed development (refer to Section 2.3) on roosting and foraging bats.

4.1 Impacts on roosting bats

A number of bat roosts have been recorded throughout Hazelwood House, the stableyard, and ruins / walls to the west of the house. Bats roosting in these buildings could inadvertently be injured or disturbed during the proposed works, particularly in the stableyard and western wing of Hazelwood House, and to a lesser extent in the eastern wing and main attic of Hazelwood House. A review of potential impacts is presented in Table 2.

Under the *European Communities (Birds and Natural Habitats) Regulations* 2011 (as amended) it is an offence to disturb a breeding / resting place for bats. Therefore, if works proceeded without mitigation measures, they could result in an offence.

Table 2. Review of potential impacts on bat roosts in each building

Location	Species	Works proposed	Potential impacts
Stableyard (northern building)	Brown long-eared (maternity), whiskered (day roost)	Conversion of northern building to visitor WCs, storage rooms, tasting rooms and microdistillery.	Loss or disturbance of roosting site in the loft space. Obstruction of emergence route in the archway. Displacement of bats due to lighting.
Hazelwood House: Main building and wings	Soprano pipistrelle (likely maternity), brown long-eared, whiskered, soprano pipistrelle, Leisler's bat (all day roosts)	Full refurbishment and use for public assembly, retail and office space. This includes works in the vicinity of bat roosts: • Reinstatement of ceilings in upper storeys • Repairing external roofing, guttering and render • Introduction of lighting, including illumination of building exterior	Loss or disturbance of roosting sites. Obstructing internal flyways and emergence / re-entry points of brown long-eared bats through open doors and windows. Displacement of bats due to lighting around the building.
Ruins west of Hazelwood House	Natterer's (day roost)	Conservation and repair works to the masonry walls and circular structure within the walled garden. Refurbishment and development of ruined outbuilding to serve as a gardener's workshop.	Loss or disturbance of roosting site.
Old Pump House	Pipistrelles (night roost)	Conservation and repair of this masonry structure, a protected structure.	Loss of night roost site would not be significant. The new pump house nearby provides an alternative night roost.
New Pump House	Whiskered (day roost)	No works proposed.	No impact.

4.2 Disturbance of foraging / commuting areas

Separate from potential impacts on roosting bats, this section considers potential impact on bat foraging habitat caused by habitat change and artificial lighting.

The mature woodland is one of the key foraging habitats in the surrounding area. The proposed development will involve the clearance of some existing woodland and scrub (2.1 ha) to the east of the existing maturation buildings to accommodate fire breaks for new maturation warehouses. This will be compensated by planting 4.2 ha of native woodland in the north-west of the landholding, which will increase the quantity and quality (replacing non-native trees with native species), and improve connectivity with woodland to the north-west of the peninsula. Overall, this is considered to have a slight positive effect on the extent and quality of bat foraging habitat in the surrounding area.

Artificial lighting will be required around buildings for access and security reasons. This will be of greatest need during winter months when day lengths are shortest, but bats typically hibernate during these months so they are unlikely to be affected. In spring, summer and autumn months the facility will be open to the public during daylight hours, so lighting will only be necessary for small numbers of staff remaining in the facility during hours of darkness.

Buildings and artificial surfaces are low quality bat foraging habitats, so lighting in these areas will not have an impact. However, the woodland and river are high quality foraging habitats, so extensive lighting in these areas could have a negative impact on foraging bats. This can be addressed using best practice mitigation, which is outlined in Section 5.6.

5 Proposed mitigation measures

5.1 Retention of scientific agents

The implementation of the following mitigation strategy will be overseen by Dr Caroline Shiel as lead scientific agent. Nick Marchant will provide a coordinating role (e.g. reviewing contractor's method statements) and substitute for Dr Shiel if unavailable. Both scientific agents will be retained for the duration of works.

5.2 Retention / provision of dedicated roost spaces and access routes

Several dedicated roost spaces for bats have been incorporated into the architectural design of the buildings, as outlined below.

<u>Stableyard</u>

The brown long-eared maternity roost is located in a large void above site offices in the northern building of the stableyard. A ceiling will be constructed in the lower part of this room to create a store room, but the loft space will be set aside for bats. The full floor length (from west to east) will be 12.2 m and the width (north to south) will be 6.2m. The internal height from floor

to apex will be 2.8 m. This exceeds the minimum dimensions for brown long-eared roosts of 5 m length and width and 2.8 m apex height recommended in *Bat Mitigation Guidelines for Ireland* (Marnell et al. 2022)[1]. A design for the roost space is provided in Figure 7.

Bats from this roost currently emerge from the eastern side of the room into an open archway for a brief period of post-emergence flight (light sampling) and then pass through a gap above the wooden doors, before flying north and north-east towards the woodland. The existing emergence route will be retained in its current state. An alternative emergence point will be created by removing wooden panelling from an existing circular opening on the northern side of the archway. A hood or louvre will be fitted to the opening to prevent rainwater ingress, but the remainder of the space will be left open, allowing a larger emergence point than the narrow gap above the door. Bat access slates will also be fitted to the northern side of the roof to provide an additional emergence / re-entry point.

There is a pathway immediately to the north of the building that will be used by staff moving between the north-eastern car park and Hazelwood House. Some lighting will be required to ensure that the pathway is safe for pedestrians, but it will be of low-level (bollard or handrail design), low intensity, and fitted with a motion sensor to provide lighting only when pedestrians are present. With this exception, there will be no other lighting on the northern side of the building. It will be reserved as a 'dark corridor' by which bats can disperse between their roost in the stableyard and the woodland to the north-east of the Site. An additional dark corridor will be provided across the main access road to the Site, as shown in Figure 8.

Hazelwood House

Attic spaces in Hazelwood House and the western wing will be reserved for bats. The species using these locations are crevice-dwelling species (soprano pipistrelle, whiskered bat, etc), so the roost spaces do not need to be as large as for brown long-eared bats. The locations of these roosting spaces are shown in Figure 8.

Uplighting of the northern and southern facades of Hazelwood House are proposed, which could potentially disturb roosting bats. However, a dark corridor has been developed between the western side of the building to the walled garden and woodland to the west of the Site (Figure 8). The only lighting permitted in this area will be of low-level (bollard or handrail designs), low intensity, and fitted with timers / motion sensors.

Bats will be encouraged to access attic spaces from the western side of the building by providing bat access slates and open spaces at the eaves. Access features will not be provided on other sides of the buildings.

[1] Marnell, F., Kelleher, C. & Mullen, E. (2022). *Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134*. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland

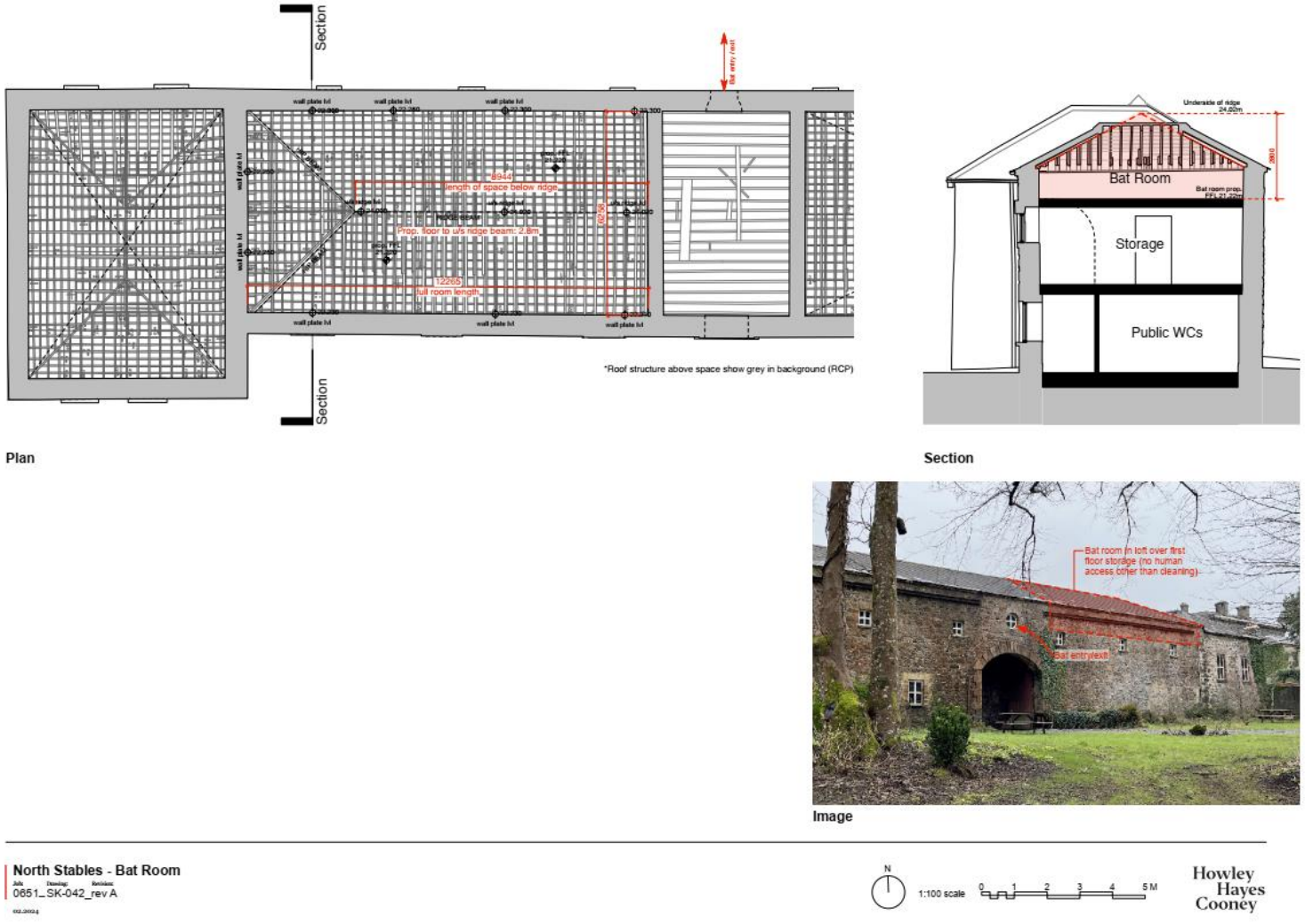

Figure 7. Architect's drawing of the dedicated roost for brown long-eared bats in the northern stableyard building

Figure 8. Map of dedicated roost spaces (orange shading) in Hazelwood House and the stableyard. Dark corridors for dispersal from roosts are shaded in black

A single Leisler's bat was recorded roosting in a void between stonework at the south-eastern corner of Hazelwood House. The stonework will need to be repaired at this location, which will prevent the bat from accessing its former roost site. It is expected that the bat may move its roost to the attics of the buildings (as outlined above) or to bat boxes in the walled garden (see below).

Ruins west of Hazelwood House

Repairs to the ruins may prevent bats from re-using these structures. This is unavoidable, as the ruins are at risk of further deterioration and would present a safety hazard for visitors. Bat boxes will be installed on trees within the walled garden to provide alternative roost space for bats displaced from the ruins.

Old Pump House

This structure appears to be used only as a night roost (a temporary perching point used for feeding, resting or during poor weather), so bats will not be affected by renovation works carried out during daylight hours. The New Pump House (see below) provides an alternative night roosting site for any bats displaced from the Old Pump House.

New Pump House

No works are proposed for this structure at this time, so it will remain in its current condition. It is an ideal structure for roosting bats.

5.3 Provision of bat boxes

With the exception of the buildings within the Hazelwood Demesne, there is a lack of bat roosting opportunities elsewhere in the demesne. Therefore, 20 bat boxes will be installed in other parts of the demesne, particularly the woodland in the north-west, west and east, on mature trees near the Garavogue River, and around the walled garden / ruins to the west of Hazelwood House. This will increase the number and extent of potential roost sites throughout the landholding.

Bat boxes will be of woodcrete construction and will incorporate a range of designs suitable for crevice-roosting bats (notably *Myotis* sp, pipistrelles and Leisler's bat). They will be installed at a height of at least 3 m on the trunks of existing trees, with variation in orientation and exposure to sun to provide a diversity of conditions throughout the year.

A number of bat boxes were installed in 2022 as part of Derogation Licence DER/BAT 2022 – 127. When inspected in 2023, one of the boxes was found to be occupied by bats.

5.4 Timing of works

Maternity roosts are highly vulnerable to disturbance between May and August, as these are the months in which bats usually give birth and raise their young. There are two suspected maternity roosts within the site: brown long-eared bats in the stableyard and soprano pipistrelles in the western wing of Hazelwood House. There will be no construction work in the vicinity of these roosts during the maternity season, i.e. works in these areas will only be permitted from September to April, inclusive. Minor maintenance works may be considered at these locations during the maternity period (e.g. replacing individual slipped slates), but no major or invasive works will be permitted.

While bats are also vulnerable to disturbance during the hibernation period (typically from November to March), considering the scale of works at these locations, it is not reasonable to avoid works during both the breeding and hibernation seasons, as there would not be sufficient time to carry out the necessary construction works. Allowing works to proceed during the hibernation period poses less risk of disturbance than during the breeding period, as bats are mobile and able to move away from areas that are temporarily unavailable. Bats will be excluded from the buildings in September / October (prior to the start of the hibernation season), to provide time for them to find an alternative hibernation site. Bat boxes will also be installed in an undisturbed area nearby.

5.5 Supervision of works

The scientific agent(s) will review all works to structures containing bats, and will supervise any work that could potentially cause disturbance. Depending on the proposals at each location, some or all of the following measures will be implemented:

- Review of the contractor's method statement and proposal of changes to ensure the protection of bats
- Inspection / survey of relevant areas approx. 2 – 3 weeks prior to works to assess any changes in the numbers of bats present and / or their roosting location
- Exclusion of bats prior to works, e.g. fitting exclusion tubes to crevices
- Toolbox talk to construction personnel immediately prior to works, advising them of the likely locations of bats and the procedures to be followed if bats are observed
- Supervision of works, manual removal of bats and transfer to bat boxes
- Post-construction monitoring

5.6 Bat-sensitive lighting

As noted in Section 4.2, artificial lighting will be required around buildings for access and security reasons. Guidance on bat-sensitive lighting has been developed by the Institution of

Lighting Professionals and Bat Conservation Trust[2]. To minimise impacts on high-quality bat foraging habitats around woodland and the river, the following measures will be incorporated into the lighting plan for the Site:

- Where lighting is required around buildings and roads, it will be directed downwards on to the required area. There will be no light spill above the horizontal, nor any lighting of woodland or the river.
- LEDs will have a warm white light source (2700 Kelvin or lower) to reduce blue light component, and wavelengths higher than 550nm to avoid the component of lighting most disturbing to bats.
- Lighting should be provided only when required and avoided when not necessary; this can be achieved using motion sensors and timers.

6 Details of proposed licence

6.1 Dates and persons responsible

It is intended that the licence would commence immediately, and be valid for the maximum possible duration. It will be extended annually until work is complete. Bat surveys will be undertaken at 2 – 3 year intervals to update baseline information as the project progresses.

The Applicant is Sazerac of Ireland ULC. Two bat specialists are proposed as scientific agents:

- Dr Caroline Shiel, Edenville, Kinlough, Co. Leitrim
- Nick Marchant, 38 Maywood Avenue, Raheny, Dublin 5

Dr Shiel will be the primary scientific agent for all works. However, if two agents are required, or if Dr Shiel is unavailable, Nick Marchant may act as a substitute under Dr Shiel's direction.

6.2 Considerations relating to Regulation 54

Under Regulation 54 of the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended), a licence can only be granted for certain reasons, where there is no satisfactory alternative, and where the actions will not be detrimental to the conservation status of bats. The key considerations under this regulation are discussed below.

Regarding Regulation 54(2), the purpose of the licence would be under item (c), "*in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment*". The proposed development is of public interest, as it will include a public visitor's centre and will provide local employment and revenue streams. It will

[2] Institution of Lighting Professionals and Bat Conservation Trust, 2023. Guidance Note 08/23 Bats and artificial lighting at night. Available online at https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/

also provide necessary refurbishment and upkeep of Hazelwood House, a protected structure of heritage importance.

This is considered to be the only option available and there is no satisfactory alternative. Under a do-nothing scenario the development would not proceed and the Hazelwood Demesne structures would continue to gradually degrade over time, which could ultimately have a greater impact on roosting bats.

Finally, the actions outlined in this licence would not be detrimental to the maintenance of the populations of the species at a favourable conservation status. This mitigation strategy will prevent death or injury to any bats, and ensure that displaced bats have alternative roosting opportunities. Even if bats were harmed, it would not have a negative effect on their conservation status, because all Irish bat species are considered to be of good conservation status *Red List of Terrestrial Mammals* (Marnell et al. 2019). Therefore, even if the bat roosts at the site were harmed (in a worst case scenario), it would not have a significant negative effect on the conservation status of any species.

7 Conclusion

The mitigation strategy outlined in this document will avoid or minimise impacts on any bats during construction works. As a result, there will be no significant impact on roosting bats, and no offence under the *European Communities (Birds and Natural Habitats) Regulations 2011*.