

## **Formal Objection to Planning Application — An Bord Pleanála**

To:  
The Secretary  
  
An Bord Pleanála  
  
64 Marlborough St,  
  
Dublin 1  
  
D01V902  
  
Case Re: 323635

From:  
Frank Kelly  
Creggane Castle, Charleville,  
Co. Limerick

Date: 28/10/2025

***Re: Planning Ref. 323635 — Garrane Green Energy Ltd***

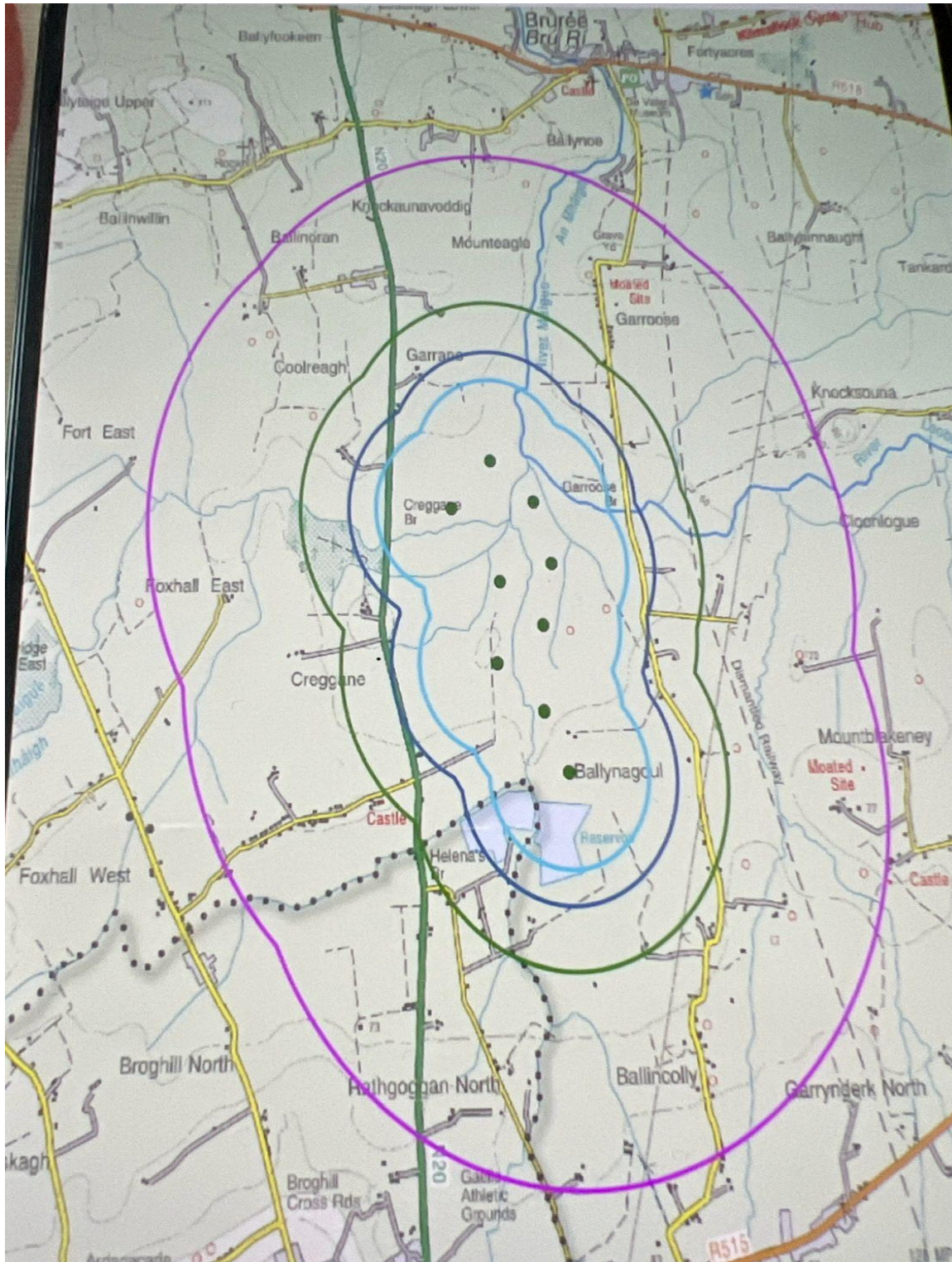
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Proposed development: Installation of wind turbines and associated infrastructure at Creggane, Charleville, Co. Limerick.

### **1. Introduction**

I, Frank Kelly, of Creggane Castle, Charleville, Co. Limerick, wish to lodge a formal objection to Planning Application Ref. 323635 by Garrane Green Energy Ltd. My residence is located in

direct proximity to the proposed development and will be severely impacted by noise, shadow flicker, road safety risks, and visual intrusion.



Map Provided by company

## 2. Mapping and Consultation Boundary Concerns

The map submitted by the applicant, showing a green curved line around the turbine sites, is not drawn to scale and appears to have been manipulated to exclude my property at Creggane Castle. Creggane Castle is marked in red on the map. The line curves irregularly in front of my home, extending further north and south than east to west. This distortion removes my property from the consultation zone and avoids the applicant's obligation to notify me directly. I request that An Bord Pleanála independently verify the mapping accuracy and ensure that all affected landowners are properly included in the consultation process.

## 3. Lack of Community Consultation

No meaningful engagement or information meetings were offered or held by Gurrane Green Energy with local residents before this application was lodged. I wrote to them on their website on 23/08/2025. I received no response email, nor did the company in any way engage with me. This lack of transparency contravenes both the Wind Energy Development Guidelines (2006) and the Draft Revised Guidelines (2019), which require early and open consultation with communities affected by wind energy developments.

## 4. Visual and Landscape Impact

The proposed turbines will be about three times as tall as Charleville Church and will change the Creggane area's rural landscape and heritage character forever. This visual intrusion contradicts the Limerick County Development Plan 2022–2028, which aims to preserve the county's rural and scenic amenities.

## 5. Noise, Sleep and Health Impacts

According to the applicant's mapping, the nearest turbine T3 is shown as being approximately **1,063 metres** from my residence at Creggane Castle. I believe this distance has been **incorrectly represented**, and in reality, the turbines are likely to be closer. Regardless of precise distance, such proximity poses a **significant risk of chronic low-frequency noise exposure**, particularly at night.

Evidence from peer-reviewed research and international health authorities demonstrates that even when operating within current Irish and European noise limits, **wind turbine noise (WTN)** can cause **sleep disturbance, annoyance, and stress-related health effects** in nearby residents.

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### 1. Cumulative Noise Impact on Public Health

Because the proposed wind farm site lies parallel to the **N20**, an existing high-noise corridor, the introduction of additional turbine noise will lead to **cumulative exposure** to both **road traffic noise (RTN)** and **WTN**.

Cumulative exposure increases the likelihood of annoyance, disturbed sleep, and long-term cardiovascular impacts.

#### Supporting Evidence

- **World Health Organization (WHO, 2018)** — *Environmental Noise Guidelines for the European Region* recommend that **daytime RTN should not exceed 55 dB** and advise that countries must “**assess cumulative exposure where multiple noise sources coexist**” (p. 94).
- **Ma et al. (2020)** — *International Journal of Environmental Research and Public Health* — found that exposure to **64 dB RTN increases heart disease risk 4.5 times** compared to 32 dB exposure in Finnish populations.
- **Hongisto et al. (2017)** — *Acoustics Australia* — demonstrated that WTN in the range of **17–40 dB** produces statistically significant annoyance and sleep disruption, with **odds ratios of 2–3 at 35–40 dB**.
- **Smith et al. (2022)** — *Sleep Medicine Reviews* — confirmed that both RTN and WTN cause **transient EEG sleep arousals** (lasting 0–30 seconds), which, when repeated, degrade sleep quality and contribute to chronic fatigue.

#### Concern

Local residents already experience elevated RTN levels from the N20, which are associated with **cardiovascular risk, stress, and disturbed sleep**.

The introduction of WTN, even if technically compliant with planning thresholds, will **compound these effects**, creating a cumulative health burden that has not been adequately assessed by the applicant.

Given the **absence of Irish regulatory standards for combined noise exposure**, the **precautionary principle** should apply in line with WHO (2018) guidance.

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#### 2. Increased Annoyance Due to Non-Acoustic Factors

WTN annoyance is not driven solely by measured decibel levels. **Non-acoustic factors**—such as visual prominence, perceived fairness, and community trust—play a significant role in determining public response.

## Supporting Evidence

- **Schmidt & Klokke (2014)** — *Frontiers in Public Health* — found that “**annoyance from wind turbine noise is strongly influenced by visual impact and community attitude, unlike traffic noise, which is primarily acoustic-driven.**”
- **Hongisto et al. (2017)** — observed that **annoyance increases sharply with turbine visibility** and decreases where residents share in community benefits.
- Populations already affected by RTN show higher baseline stress and annoyance (Odds Ratio 2–4 for >55 dB RTN), further **heightening sensitivity** to additional WTN exposure.

## Concern

Erecting turbines within both the **visual and acoustic envelope** of homes near a main road such as the N20 will exacerbate annoyance, community tension, and mental health impacts. This would **undermine the social sustainability** and acceptability of the development.

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## 3. Environmental and Road-Safety Considerations

WTN near transport corridors increases both **environmental and road-safety risks**.

## Supporting Evidence

- **Erickson et al. (2014)** — *Wildlife Society Bulletin* — found that turbines within 1.4 km of roads increase **bird and bat mortality** due to cumulative collision and habitat-fragmentation effects.
- **Australian Transport Safety Bureau (ATSB, 2019)** — reported that “**visual distractions near roadways may contribute to driver inattention and collisions,**” identifying shadow flicker and moving turbine blades as potential hazards.

## Concern

The project’s proximity to the N20 poses **dual risks**:

- Ecological degradation through habitat loss and collision mortality; and

- Driver distraction during **morning and evening commuting hours** caused by **shadow flicker** and rotating blades.

A **comprehensive Environmental Impact and Road Safety Assessment** should therefore be required prior to determination.

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#### 4. Regulatory and Compliance Challenges

Current Irish and Finnish regulations limit WTN to **≤40 dB (night-time)**, assuming **low background noise** conditions. However, in areas already exceeding WHO's 55 dB daytime RTN threshold, cumulative exposures may breach health-based guidelines even where individual sources are compliant.

##### Supporting Evidence

- **Ma et al. (2020)** notes that “**assessing cumulative noise impacts remains a regulatory challenge**,” as few frameworks account for multiple concurrent noise sources.
- Existing Irish wind-energy guidance fails to include **joint RTN + WTN modelling**, creating uncertainty in compliance and enforcement.

##### Concern

Noise enforcement near main roads will be **technically complex and legally contentious**, potentially resulting in **disputes or judicial reviews** if post-construction monitoring reveals cumulative exceedances.

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#### 5. Peer-Reviewed Medical and Scientific Research

Additional scientific research strongly supports the conclusion that WTN within 1–1.5 km can produce adverse health outcomes, particularly regarding sleep disturbance and mental well-being.

##### Key Studies



- **Hanning, C. (2012)** — *Wind Turbine Noise, Sleep and Health* — concluded that WTN is “**uniquely intrusive due to low-frequency and amplitude-modulated characteristics.**”
  - Sleep disturbance occurs **below current planning thresholds**;
  - Chronic exposure causes **fatigue, hypertension, and reduced well-being**;
  - Recommended a **minimum setback of 1.5 km** for turbines >2 MW.
  - URL: [Hanning Report 2012](#)
- **WINDFARM perception Study (2008)** — n = 725 — 20% reported sleep disturbance at **30–35 dB(A)**; WTN was found **more annoying than road traffic noise**.
- **Pedersen et al. (2009)** — dose–response models show annoyance and stress onset **below 35 dB(A)**.
- **Shepherd et al. (2011)** — n = 39 within 1.4 km — documented **poorer sleep and energy levels** compared to residents 8 km away.
- **Nissenbaum et al. (2011)** — < 1.4 km proximity associated with **higher Pittsburgh Sleep Quality Index (PSQI) and Epworth Sleepiness Scale (ESS) scores**.
- **Critique of ETSU-R-97 (UK)** — current 43 dB LA90 night-limit **fails to account for modern turbine size and low-frequency modulation**. A suppressed 2006 DTI draft suggested lowering to **38 dB LA90**; expert consensus recommends **setbacks between 1–3.2 km** (mean ≈ 2.08 km).

## Conclusion from Research

Across all reviewed studies:

- **Wind turbine noise causes significant sleep disturbance and health effects** at distances currently permitted by Irish and UK guidelines.
- No robust evidence supports safety within **1.5 km** of large turbines.
- Impacts are **amplified when turbines are near roads**, due to cumulative acoustic load and visual intrusion.

- **WHO (2018)** confirms that average WTN exposure should not exceed **45 dB Lden** ( $\approx 40$  dB(A) at night) to avoid adverse health outcomes.
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## 6. Summary and Planning Implications

The cumulative interaction between **road traffic noise** and **wind turbine emissions** near Creggane Castle represents a **serious and foreseeable health risk** that contravenes the principles of proper planning and sustainable development as required under **Section 34(2)(a)** of the *Planning and Development Act 2000*.

No mitigation measures proposed by the developer adequately address:

- Combined acoustic load;
- Night-time sleep disturbance;
- Long-term health outcomes; or
- Community annoyance and social well-being.

On this basis, the precautionary approach mandated by WHO and EU environmental law should be applied, and the Board should **refuse permission** unless robust cumulative-noise analysis, monitoring commitments, and minimum setbacks are imposed.

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## 6. Shadow Flicker and Light Intrusion

The Wind Energy Development Guidelines (2006) state that shadow flicker should not exceed 30 hours per year or 30 minutes on any given day at any dwelling. The turbine layout and orientation put in place mean that my property and the adjoining public road will be directly exposed to shadow flickers during the morning hours. No independent modelling has been provided to demonstrate compliance with these statutory limits, and no mitigation plan, such as automatic turbine shutdown controls, has been outlined.



The developers have not provided the required independent sun-path geometry and turbine coordinates to demonstrate compliance with the guidelines for my home.

## **7. Road Safety and Flicker Risk**

The same orientation that causes shadow flicker at my residence will also create driver distraction on the nearby public road. Under Section 34(4)(g) of the Planning and Development Act 2000 and Sections 5.12–5.13 of the Wind Energy Development Guidelines (2006), the developer must show that the proposal “does not endanger public safety by reason of traffic hazard or obstruction of road users.”

No Road Safety Audit or flicker risk assessment appears in the documentation. I therefore request that the Council require the applicant to provide:

- A full independent Road Safety Audit, including flicker and visual-distraction analysis;
- Details of automatic turbine shut-down systems during high-risk periods;
- Commitments to curtail turbine operation at sunrise and sunset when shadow flicker affects the public road network.

I therefore request that Am Bord Pleanala refuse permission until an independent Road Safety Audit is completed and adequate mitigation measures — including automatic turbine shut-down during flicker periods—are guaranteed.

No independent model has been provided to demonstrate that these statutory limits will be met. I therefore request that the An Bord Pleanala require full shadow-flicker analysis before determination and, if permission is granted, impose a condition mandating automated turbine shutdown when flicker exceeds permissible levels.

## **8. Property Devaluation and Community Well-Being**

Research by the University of Galway (2023) and other sources shows that proximity to large-scale wind turbines can result in property devaluation and long-term stress for affected homeowners. This proposal threatens both the financial security and mental well-being of local residents, contrary to Section 34 of the Planning and Development Act 2000, which requires planning authorities to safeguard residential amenity.

Property Value Impacts.

Peer-reviewed evidence shows nearby wind turbines can depress house prices, especially at close range and with tall machines. In Ireland, the University of Galway (2023) finds an average of -14.7% within 1 km, rising to -22.9% for >125 m turbines, with effects diminishing over time. UK evidence (LSE 2015) shows ~5–6% reductions for visible turbines within 2 km and <2% by 2–4 km. Dutch studies report -1.4% within 2 km on average, larger for taller turbines. A recent U.S. study finds ~11% declines within 1 mile after announcement. Taken together, these results indicate a material risk of devaluation for dwellings at ~1 km from large turbines such as those proposed here.

## 9. Social and Cumulative Impact

The project risks dividing and unsettling the local community through lack of consultation and disproportionate scale. It contradicts balanced or sustainable rural development, as envisaged by the Limerick County Development Plan.

### Land Sterilisation and Family Housing Impact

The proposed development's mapping places my property within a zone that excludes wind turbines, rendering it unsuitable for new housing due to proximity to turbines, access roads, and associated flicker and noise impacts.

This has the following consequences:

- Prevents the submission of a rural local needs housing application for my children;
- Diminishes the residential and agricultural potential of the land;
- Creates a long-term sterilisation effect with no compensation or mitigation;
- This situation contradicts the stated national and local policy objectives, which support sustainable rural settlement and family continuity on ancestral lands.
- Contravention of Section 34(2)(a) of the Planning and Development Act 2000  
The planning authority must consider "the proper planning and sustainable development of the area," including the effect of a development on adjoining lands. By enclosing private lands and preventing residential use, the proposal undermines this statutory obligation.
- Acknowledged Precedent – Land Sterilisation  
In PL20.244346 (Roscommon), the Board's Inspector explicitly accepted that a proposed wind farm "would sterilise lands in the vicinity" and that "the guidelines require that account be taken of the development potential of an adjoining site."

### National Planning Framework (NPF 2018)

- National Policy Objective 15 seeks to support the "sustainable development of rural areas" and the "revitalisation of small towns and rural settlements."
- National Policy Objective 19 supports "provision of housing in rural areas for persons with demonstrable local need," including family members seeking to build near their home place.  
The inclusion of my lands within a wind farm boundary directly undermines these national policy objectives by removing the possibility of such local, family-based development.

### Sustainable Rural Housing Guidelines (2005)

These guidelines, still operative, promote family-based rural housing to sustain rural communities.

They underscore the importance of not displacing or preventing rural families with genuine local ties from constructing on their own lands.

The turbine zoning effectively sterilises my property and contradicts this national guidance.

#### Wind Energy Development Guidelines (2006, Draft 2020)

The guidelines require that developers demonstrate that turbine siting minimises impacts on residential amenities and that setback distances are sufficient to avoid negative effects on existing and potential residential developments.

By including private lands within a red-line buffer where residential development is thereby precluded, the application fails to comply with both the 2006 and 2020 draft guidance principles.

### 10. Conclusion and Request

I respectfully request that An Bord Pleanála REFUSE Planning Permission Ref 323635 for all the reasons outlined above, which include mapping irregularities, inadequate consultation, noise and flicker impacts, and road-safety risks.

Should An Bord Pleanála nonetheless consider granting permission, I request that strict conditions be attached to require:

**Strict conditions** are attached to ensure the protection of public health, community welfare, and rural sustainability, including:

- Full **independent verification** of all noise and shadow-flicker modelling;
- A minimum 1.5 km setback from occupied dwellings.
- **Continuous real-time environmental monitoring** with public access to results;
- A **minimum 1.5 km setback** from all occupied dwellings and sensitive sites;

- Establishment of a **community benefit fund** and a **comprehensive decommissioning bond** to guarantee long-term mitigation and restoration;
- Provision for **adequate compensation** to affected residents and landowners for demonstrable loss of amenity, property value, and the **negative impact on rural and social development** in the area;
- A binding condition that the **developer and its successors shall not oppose or restrict future rural or social development** (including family housing and community facilities) within the affected locality.
- Given the growing body of peer-reviewed evidence demonstrating health and quality-of-life impacts from proximity to wind turbines (e.g., Nissenbaum et al., 2011; Shepherd et al., 2011; Hanning, 2012; WHO, 2018), I submit that failure to properly assess these effects now may expose the developer and associated directors to future liability under EU and national law, should adverse effects on residents subsequently be established.
- The developer and its successors **shall bear full responsibility for the costs of any future This includes litigation, claims, or proceedings that arise**Perfect — here's the tailored version of that section, fully formatted for inclusion in your formal objection submission to An Bord Pleanála regarding Garrane (Gurrane) Green Energy, Planning Ref: 323635. from mapping irregularities, land sterilisation, amenity loss, or other adverse impacts associated with this development.
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## **Undue Influence and Lack of Transparency in Developer Engagement**

**It has come to my attention that representatives of Gurrane Green Energy, the applicant in relation to Planning Ref. 323635, have reportedly offered payments, vouchers, and material goods to certain residents within the vicinity of the proposed wind energy development, on the apparent condition that they do not submit objections or make public representations regarding the application.**

**If substantiated, this practice raises serious ethical and procedural concerns. It represents an attempt to influence or restrict genuine community participation in the statutory planning process, contrary to the principles of transparency and fairness required under the Planning and Development Act 2000 (as amended) and the Aarhus Convention**

**(UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters), which guarantees the public's right to participate freely and without coercion in environmental decision-making.**

**The Department of the Environment, Climate and Communications' "Good Practice Principles for Community Benefit Funds" (2021) explicitly state that any community benefit linked to renewable energy projects must:**

- **be transparently administered and entirely separate from the planning process;**
- **support collective community initiatives rather than individual inducements; and**
- **be made available irrespective of residents' views on the proposed development.**

**Any arrangement that conditions private payments, goods, or services on residents' silence or non-objection is incompatible with these national policy principles. It constitutes a form of undue influence and undermines the integrity of the planning process by suppressing legitimate public comment and depriving decision-makers of a full and balanced understanding of community concerns.**

**It is further noted that residents who have accepted or been offered such inducements may not have been made fully aware of the implications or of the significant long-term impacts this development could have on their property, amenity, or health. The monetary values reported bear no reasonable relationship to the losses potentially incurred and function effectively as gagging payments that curtail free participation.**

**In light of these concerns, I respectfully request that An Bord Pleanála investigate whether any such inducements or offers have taken place in relation to Gurrane Green Energy and whether these practices have compromised the fairness and transparency of public consultation. Should these reports be verified, the Board is urged to consider this a material factor when assessing whether the proposal accords with the principles of proper planning and sustainable development of the area.**

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Thank you for your consideration.

Signed

A handwritten signature in black ink, appearing to read 'Frank Kelly', with a long horizontal flourish extending to the right.

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Frank Kelly  
Creggane Castle  
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28/10/2025