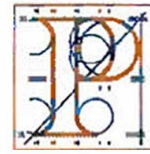


# Validation Checklist

Lodgement Number : **LDG-064201-23**  
Case Number: **ABP-317304-23**  
Customer: **Killross Properties Limited**  
Lodgement Date: **09/06/2023 11:58:00**  
Validation Officer: **Derek Kelly**  
PA Name: **Kildare County Council**  
PA Reg Ref: **221417**  
Case Type: **Normal Planning Appeal PDA2000**  
Lodgement Type: **Appeal**

OH



An  
Bord  
Pleanála

Validation Checklist	Value
Confirm Classification	Confirmed - Correct
Confirm PA Case Link	Confirmed-Correct
Confirm ABP Case Link	Confirmed-Correct
Fee/Payment	Valid – Correct
Name and Address available	Yes
Agent Name and Address available (if engaged)	Not Applicable
Subject Matter available	Yes
Grounds	Yes
Sufficient Fee Received	Yes
Received On time	Yes
3rd Party Acknowledgement	Yes
Eligible to make lodgement	Yes
Completeness Check of Documentation	Yes
Valid Lodgement Channel	Yes

BPO 2 H to 3rd Party  
enclosing receipt  
BPO 5 to 1st Party  
enclosing copy of appeal  
BPO 7 to PA  
enclosing copy of appeal

Run at: 12/06/2023 12:09

Run by: Derek Kelly

# Lodgement Cover Sheet - LDG-064201-23



An  
Bord  
Pleanála



ABP- 317304-23

## Details

Lodgement Date	09/06/2023
Customer	Killross Properties Limited
Lodgement Channel	In Person
Lodgement by Agent	No
Agent Name	
Correspondence Primarily Sent to	
Registered Post Reference	

Lodgement ID	LDG-064201-23
Map ID	
Created By	Aine Loughran
Physical Items included	No
Generate Acknowledgement Letter	
Customer Ref. No.	
PA Reg Ref	

## Categorisation

Lodgement Type	Appeal
Section	<del>STONAPs</del> Processing

PA Name	PA Ref 221413 Kildare County Council
Case Type (3rd Level Category)	

## Fee and Payments

Specified Body	No
Oral Hearing	No
Fee Calculation Method	System
Currency	Euro
Fee Value	0.00
Refund Amount	0.00

Observation/Objection Allowed?	DD 011544
Payment	PMT-049772-23
Related Payment Details Record	PD-049653-23

## Appeal

Date of Decision: 15/05/23 ∴ 12/06/23  
PA Withdrawn

Run at: 09/06/2023 12:02

Run by: Aine Loughran

BPO 2 H to 3<sup>rd</sup> Party  
enclosing receipt

BPO 5 to 3<sup>rd</sup> Party  
enclosing copy of appeal

BPO 7 to PA  
enclosing copy of appeal

PA Case Details Manual	
PA Case Number	
PA Decision	
PA Decision Date	
Lodgement Deadline	
Development Description	
Development Address	

Appeals Type	
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Run at: 09/06/2023 12:02

Run by: Aine Loughran



# Killross Properties Limited

New Road,  
Bawnogues,  
Straffan  
Co. Kildare  
Tel:  
Email:

An Bord Pleanála

64 Marlborough Street,

Dublin 1

D01 V902

9<sup>th</sup> June 2023

AN BORD PLEANÁLA	
LOG-	064201-23
ABP-	
09 JUN 2023	
Fee: €	270
Type:	Card
Time:	
By:	Hand

Re: Planning Appeal of a permission granted by Kildare County Council under Planning Register Reference Number 22/1417 to Intel Ireland Limited for

The alteration and realignment of an approximate 1.1km section of existing double circuit overhead line which supports the existing Maynooth-Ryebrook and Dunfirth-Kinnegad-Rinnawade 110kV overhead line circuits. The proposed development comprises of: (1) Diversion. Diverting a section of the existing 110kV double circuit overhead line to the north of the River Rye, along the eastern side of the Intel site at Collinstown, linking back to the existing overhead line section at the car park of the Lidl supermarket, directly south of the R148. (2) Removal of Existing Double Circuit Towers. The decommissioning and removal of 4 No existing double circuit steel lattice towers and associated electrical conductors to include the removal of the existing towers and associated electrical conductors from site. (3) Double Circuit Towers. The installation of 7 No new double circuit steel lattice towers. Two of these will be replacement towers (Towers T1 & T7). The towers will range in height from approximately 20.75m to approximately 39.75m above ground level and will support six electrical conductors (overhead lines). (4) Site Works. All ancillary site development, preparation and reinstatement works, including access, landscaping and connection to existing services and utilities and miscellaneous site works. This application consists of a variation to a previously permitted development on an activity for which a licence under Part IV of the Environmental Protection Agency Act 1992 (as amended by the Protection of the Environment Act, 2003) is required. An Environmental Impact Assessment Report ("EIAR") and a Natura Impact Statement ("NIS") accompany this application and they will be available for inspection or purchase at the office of the Planning Authority. This is a site to which the Chemicals Act (Control of Major Accident Hazard Involving Dangerous Substances) Regulations 2015 (S.I. 209 of 2015) applies.

Dear Sir/Madam,

Killross Properties Limited hereby appeals the decision made by Kildare County Council ('the Planning Authority') on 15 May 2023 to grant planning permission to Intel Ireland Limited ('the Developer') for the above-described development on lands at or near the Intel industrial estate campus, Collinstown, Co. Kildare, subject to conditions.

This submission is to be read in conjunction with our letter of objection to Kildare County Council dated 21 December 2022 and our submission of 24 April 2023 on further information. We also formally request an Oral Hearing of our appeal. This appeal is accompanied by the fee of €220 plus the Oral Hearing fee of €50 and a copy of the acknowledgment by the planning authority of our original objection.

The following are our grounds of appeal:

**Preliminary Ground - Absence of legible drawings and other necessary details on the online file:**

1. The planning drawings and other documents accompanying the planning application uploaded to the Council's online planning file are insufficiently clear to allow proper public consultation or proper interrogation by statutory consultees. The figures in particular are vague and mostly illegible. This includes important figures and drawings within the Natura Impact Statement, AA Screening Report, Environmental Impact Assessment Report and other significant reports and their appendices, as well as site drawings. Notwithstanding objections made by the National Parks and Wildlife Service and Killross Properties in relation to the illegibility of the material provided, the Planning Authority failed to ensure that the developer's files were of an appropriate quality and or resolution to ensure legibility. This has affected the ability of Killross Properties Ltd to engage as fully as possible in the planning process and in this appeal, and we also believe that the absence of clear drawings and other documentation compromised the NPWS in its analysis of the further information response.
2. The Department of Housing, Local Government and Heritage (otherwise known as the National Parks and Wildlife Service / NPWS) in its initial submission pointed out that some key parts of the EIAR / NIS are illegible in Planning Application files on the Kildare County Council online planning system stating –

*"For example the majority of figures in the Biodiversity Chapter of the EIAR have been reproduced in such a way that the background mapping is nearly totally black. In the case of Figure 6.7 (Vertigo Sampling at Louisa Bridge), which is a key figure necessary to evaluation of impacts to an Annex II species, the label text is illegible. It is noted that one of the habitats on the habitat map (FW2) is depicted in black, which is the background colour of the entire map making this habitat feature very difficult to pick out. Figure 6.12 is another key map as it outlines the location of an internationally important habitats. Again the label text is mostly illegible and the map is mostly black, which makes it impossible to pick out individual features".*

3. Given that no clearer information was uploaded to the Planning Authority's website, we believe that the NPWS would have had particular difficulty placing the further information response in its proper context, or indeed understanding properly the limitations of the mitigation measures proposed by the developer.
4. Furthermore, the photomontages provided are not sufficient to allow the public or the Board to determine the impacts of the development on its setting and do not consider the impacts of the overhead and undergrounding alternatives investigated by the developer and



by Killross. The absence of proper photomontages was also highlighted by the Planning Authority's Architectural Conservation Officer (report of 23 January 2023). The proposed new structures will present an imposing backdrop to sites of heritage significance and three structures protected under the Kildare County Development Plan 2023 to 2029. The Architectural Conservation Officer states that she has "*serious concerns regarding the visual impact of the proposed double circuit towers and overhead lines on the adjacent site to the east containing Leixlip Spa, Hexagonal Pool (Spa Well), and the Rye Water Aqueduct Louisa Bridge of heritage significance, which contains 3no. proposed protected structures (protected structures as of 28th of January under CDP 2023-2029)*". The Architectural Conservation Officer recommended that planning permission for the proposed development be refused. The Architectural Conservation Officer does not appear to have been invited to comment on any photomontages submitted as further information in March 2023. In our opinion nothing further was submitted by the developer that could have alleviated the significant visual impact concerns.

5. Contrary to regulation 22 of the Planning and Development Regulations, 2001, as amended, the planning application as presented on the public file for public consultation does not appear to have been accompanied by a location map of sufficient size and containing details of features in the vicinity such as to permit the identification of the site to which the application relates, to a scale (which shall be identified thereon) of not less than 1:1000 in built up areas and 1:2500 in all other areas, or such other scale as may be agreed with the planning authority prior to the submission of the application, in any particular case and marked so as to identify clearly:
  - (i) the land or structure to which the application relates

and there are no

site or layout plan and drawings and such other particulars, as are necessary to describe the works to which the application relates.
6. Furthermore, it seems that none of the requirements of regulation 23 have been met. The planning application that was uploaded to the public online file is not accompanied by drawings where the site boundary is clearly delineated and buildings, roads, boundaries, septic tanks and percolation areas, bored wells, significant tree stands and other features on, adjoining or in the vicinity of the land or structure to which the application relates are not discernible from the poor quality drawings and maps.
7. While this planning application is not being made by an electricity undertaking, it seems that the *development* will involve construction or erection by an electricity undertaking of overhead transmission or distribution lines for conducting electricity. In this respect, it would appear that the requirements of regulation 25, for the planning application to be accompanied by *drawings necessary to describe any form of structure or apparatus which will support, or form part of, the lines*, has not been complied with. None of the drawings which accompany the planning application uploaded to the online public file could be said to properly *describe* any part of the development. They are too vague, unclear and generally

illegible. Furthermore, there does not appear to have been any input in the process by the relevant electricity undertaking.

8. Further and in the alternative, if the planning application submitted by the planning applicant was accompanied by clear legible documents, figures and drawings, then the public notification process for the planning application is invalid and must be done again properly, because of the failure by the Planning Authority to publish properly or at all the application and all documentation accompanying the application on its internet website, contrary to S.I. 180 of 2020.

**Unacceptable visual impacts of the overground option proposed:**

9. An examination of the document properties of the Report of the Architectural Conservation Officer dated 23 January 2023 (which recommended refusal) indicates that it was not published as a PDF and / or uploaded to the Planning Authority's website in its final form until on or after 16 May 2023. It was not made available to the public at the stage when comments were invited on the developer's further information, and it was not made available to the Development Applications Unit of the Department of Arts Heritage and the Gaeltacht which submitted its final comment on or about 11 May 2023. The consequences of withholding the opinion of the Architectural Conservation Officer (a qualified architect) from the architectural conservation professionals in the DAU, and from the public, is that the Planning Officer (who by his on-line LinkedIn profile seemingly has no conservation or architectural expertise) made an uninformed judgment to overturn the Report of the Architectural Conservation Officer recommending refusal. There seems to be no reason for this other than his view that his opinion (the Planner's) was better than her opinion (the qualified conservation architect). The Architect does not appear to have been invited to reconsider her recommendations in light of the further information request.
10. As stated above, the Architectural Conservation Officer expressed 'serious concerns' regarding *"the visual impact of the proposed double circuit towers and overhead lines on the adjacent site to the east containing Leixlip Spa, Hexagonal Pool (Spa Well), and the Rye Water Aqueduct Louisa Bridge of heritage significance, which contains 3no. proposed protected structures (protected structures as of 28th of January under CDP 2023-2029)"* and in her own words 'objected to the development' for the following reasons:

*"The lands adjoining the subject site to the east form part of the curtilage of 3no. Proposed*

*Protected Structures, Leixlip Spa, RPS Ref. B11-129, Hexagonal Pool (Spa Well), B11-128 and Rye Water Aqueduct, RPS Ref. B11-130. Louisa Bridge, RPS Ref. B11-127 and the Station House RPS Ref. B11-130 are in close proximity to the subject site. The landscape is considered fundamental to the overall composition of the unique structures which are integrated into the stepped terraces towards the Rye Water.*

*The proposed development includes the construction of 7 No. new double circuit steel lattice towers and overhead lines. The application contravenes Kildare County Development Plan 2017-2023, PS 2. Leixlip spa is a 18th century Romanesque bath set into the terraced landscape, **will have a detrimental effect on the unique special character of the adjacent site which is the curtilage of a proposed protected structure.** There are grave concerns regarding the location, height and proximity of towers no. T4 and T5, including overhead lines, to the historic site.*

*The application contravenes Kildare County Development Plan 2017-2023, PS 15 and PS 20. **The visual impact of the proposed development has not adequately been assessed.** No Architectural Heritage Impact Assessment has been submitted with this application The submitted site sections do not adequately demonstrate the relationship between the proposed development and the historic structures. No photomontage or CGI's have been included to demonstrate the visual impact of the proposed development on the adjoining site.*

**Therefore, based on the information provided it is considered that the proposed development will have an injurious effect on the enjoyment and appreciation of the historic site.**

*These structures are included on Kildare County Council's Record of Protected Structures (Appendix 6 of the Kildare County Development Plan 2023-2029) which comes into effect from January 28th 2023."* [underlining and bold added]

11. Killross Properties Limited concurs with the opinion of Kildare County Council's architect and expert on heritage conservation. We believe that the overground option selected is not visually appropriate for its sensitive setting.

**Failure to supply information on the alternatives studied by the developer:**

12. The surprising aspect about this development proposal is that the developer had *underground* options and studied those options at an early stage but elected not to include the outcome of those studies in its EIAR or in its planning application. This included undergrounding options to the west of the current powerline which would have no visual impact on the heritage sites and no environmental impact on the Annex I habitats in the adjacent SAC.
13. The Court of Justice of the European Union found in Case C-461/17 *Holohan v An Bord Pleanála* that the Environmental Impact Assessment Directive must be interpreted as

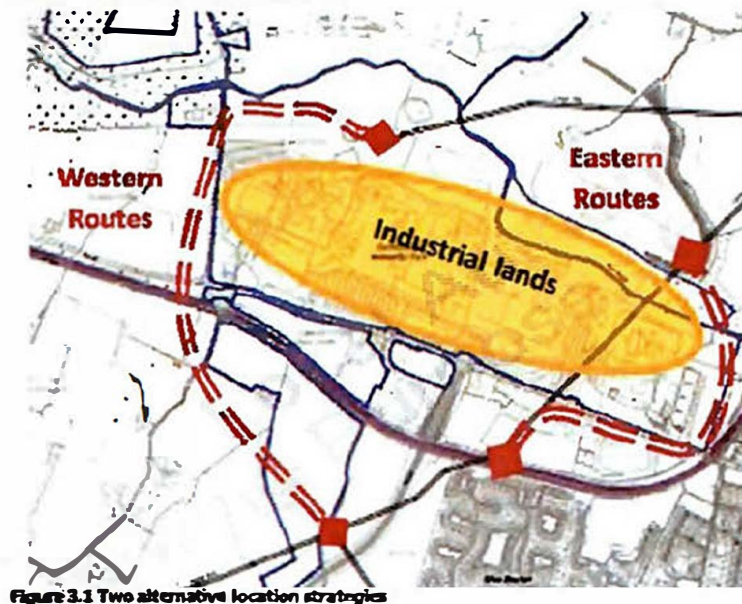


meaning that the developer must supply information in relation to the environmental impact of both the chosen option and of all the main alternatives studied by the developer, together with the reasons for his choice, taking into account at least the environmental effects, even if such an alternative was rejected at an early stage.

14. Fig 3.1 within the EIAR purports to describe “Two alternative location strategies”.

### 3.2 ALTERNATIVE LOCATION

#### 3.2.1 ALTERNATIVE STRATEGIES



15. While the ‘western routes’ alternative location strategy as depicted by red lines in fig 3.1 identifies an indicative route from the existing pylons on lands owned by Killross Properties to the south of the Intel campus, no studies in relation to the impacts of alternative underground routes along the western corridor are presented within the EIAR.

16. The developer at section 3.3.2 of the EIAR has provided some information in relation underground options U2, U3 and U4 to the east of the existing line and U1 through the middle of the Intel Campus, but no underground options related to the western route corridor identified in Fig 3.2.

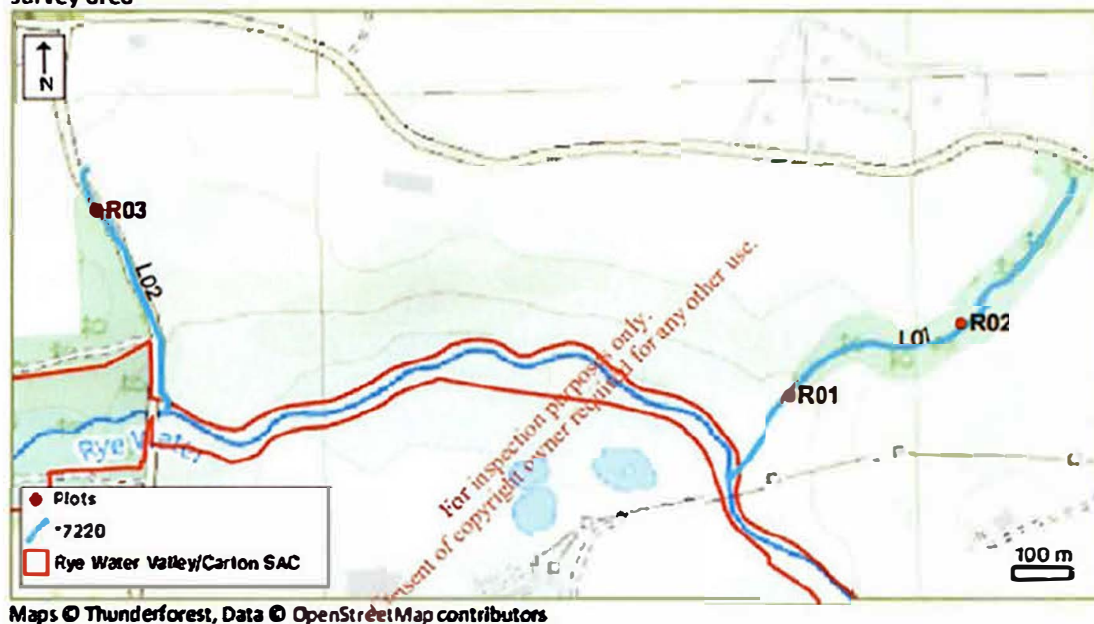
17. Contrary to *Holohan* the rejection of U2, U3 and U4 did not arise from an assessment that took into account *environmental effects* of these undergrounding options. On the contrary, section 3.6.2 of the EIAR confirms that the rejection of these alternatives were because of perceived difficulty with construction:

*“Options U1, U2 and U3 have significant challenges in terms of deliverability. These routes perform better than other options for planning, environmental and social-economic criteria. However these options are constrained by the dense patterns of existing infrastructure installed within the campus. For this reason, these options are unlikely to be feasible from a constructability perspective and even though the options perform well under planning, environmental and social economic criterion, the options are considered high risk in terms of deliverability and are not considered viable options.”*

18. Killross Properties agrees that underground option U4 is not suitable because it is likely to affect the Rye Water Valley/Carton Special Area of Conservation ('SAC'); however, it is also the case that the chosen route, and in particular towers 5 and 6 are likely to affect the species and habitats of the same SAC and no proper mitigation has been proposed, particularly given the challenges of high water table, groundwater pumping and flood risk at the location of tower 6. The risk to qualifying interest species from other European sites, for example the cormorant from the Ireland's Eye Special Protection Area ('SPA') and other large birds including gulls, from collision into the overhead wires has not been assessed at all. The selected overground route involves extensive tree removal, the impacts of which on bats and birds have not been properly assessed.
19. Underground options considered at an early stage by the developer that would avoid the Rye Water Valley/Carton Special Area of Conservation, and which would entirely eliminate the bird and bat collision risk were not included in the planning documentation. Neither has there been any assessment of more environmentally beneficial construction methodologies such as undergrounding of cables using low impact directional drilling, a methodology frequently used by utility companies in areas of similarly developed land.
20. When the planning applicant received planning permission in 2005 as part of planning ref. 05/296 to divert the existing overhead power line, it was on the understanding that it would be undergrounded. That is also the understanding of most members of the public at the time. There is nothing in the public notice as advertised for this development to indicate that the undergrounding option previously approved is not being pursued and that instead a more visually obtrusive arrangement involving 7 tall lattice towers would be constructed. The Board is invited to examine sections 2.4.10 and 2.5.2.1 of the Environmental Impact Statement for the 2005 planning application as part of its examination of the history files for this proposed development.
21. Killross Properties Limited has identified a number of alternative route options including undergrounding options related to the western strategic corridor which would have considerably less environmental impact than the preferred route in the EIAR, and, for which, information ought to be sought from the planning applicant for the purpose of EIA and AA screening. The options identified by Killross are set out in **Appendix I** to this appeal. The Killross options would also be less difficult and less costly to construct than the proposal or any of the alternatives put forward by the planning applicant.

22. Furthermore, and contrary to the position taken by the developer in its FI response, it is apparent from the developer's report into the petrifying springs habitat ('the Denyer Report'), that undergrounding the cable along the 'western routes corridor' is the ONLY option that would avoid both the Annex I 'petrifying springs with tufa formation' habitat in the Louisa Springs Complex *and* those identified outside of the complex as the locations R01, R02 and R03 in the report of Joanne Denyer. The drawing identifying the location of these habitats to the north and west of the Intel Campus is illegible in the EIAR available to the public online, but the locations can be seen clearly in the copy of the Denyer report on the EPA website submitted by Intel as part of its Industrial Emissions Licence application. For the convenience of the Planning Authority, Fig 3.1 of the Denyer Report is pasted below. The 'western routes corridor' alternative identified by the developer runs to the south of the river and does not intercept any of the identified spring sources of Annex I tufa habitat.

**Figure 3.1. Base-rich, tufa forming springs/ streams and seepages recorded within the western survey area**



23. The developer's response to Item 4 (c) of the request for further information on the western routes corridor is clearly unsatisfactory. The developer contends it is precluded from providing environmental information to the Planning Authority on the 'western routes corridor' because it didn't provide any such information in its EIAR. This is clearly contrary to Article 5(3) (c) of the EIA Directive (as amended in 2014) which states –

*(c) where necessary, the competent authority shall seek from the developer supplementary information, in accordance with Annex IV, which is directly relevant to reaching the reasoned conclusion on the significant effects of the project on the environment.*

24. Intel's refusal to provide the supplementary information sought by the Planning Authority in accordance with Article 5(3) of the EIA Directive places the Board in a difficult position as it cannot now carry out an EIA in accordance with the definition in Article 1 of the Directive (which includes the examination of supplementary information). Furthermore, the 'western routes corridor' was identified in figure 3.1 of the EIAR from the outset as a main alternative (i.e. an alternative corridor) but no environmental information was provided in relation to it. This approach is contrary to the CJEU ruling in *Holohan* referred to above which requires information as to the environmental effects of even those alternatives which were rejected at an early stage. As a result it is submitted that the Board has insufficient information before it to lawfully conduct an EIA.
25. Should the Board decide not to seek further information in relation to the developer's undergrounding options and the overhead and the underground options attached at Appendix 1, the proposed infrastructure should be refused development consent because it does not fall within the meaning of proper planning and sustainable development, and it will have unacceptable environmental impacts.

**No proper Appropriate Assessment Screening informed the NIS:**

26. Section 3.2.6 of the AA Screening Report acknowledges the extensive areas of habitat suitable for wintering birds at the Intel site. Nine conservation interest species for which European sites have been designated were identified on the site in the limited bird surveys undertaken. Most of these birds were screened out from further assessment for arbitrary reasons. For example the cormorant, a large fish eating bird, was identified on the site but was screened out of Appropriate Assessment because the developer stated that the distance to the nearest SPA designated for the species is 29 km while the foraging distance from winter roosts or breeding colonies was identified as 20 to 25 kilometres. The suggestion is that the great cormorant species recorded at the site is not connected to the SPA *because it was 4 kilometres outside an estimated foraging zone*. This is not an application of the precautionary principle.
27. The distances travelled by the great cormorant are considered in some detail in the 'Migration Atlas – Movements of the Birds of Britain and Ireland' published by the British Trust for Ornithology. The median distance moved by birds between the natal colony and wintering areas was recorded there to be 222 kilometres for immature birds and 179 kilometres for adults. For 45 birds ringed as nestlings at Abberton Reservoir in southeast England, and resighted at the breeding season when at least 3 years old, the mean natal dispersal distance was 101 kilometres. Two adult birds fitted with satellite tags in January 1997 stayed within 40 kilometres of their inland tagging sites in central England during the mid-winter period (duration of transmitter function 25 and 47 days). It cannot be implied that a cormorant recorded 29 kilometres from the Ireland's Eye SPA is not connected with that European site and is not a bird protected by the designation afforded to that site.

Neither is it correct to screen out other birds including gulls because of the distance between the development and the nearest European site designated for their conservation.

28. Migration paths of birds have not been properly considered and the collision risk with the overhead cable and towers has not been assessed. The proposed development will span the Rye Water River and is a great risk to waterbirds flying the length of the waterway as it will become an obstacle in their path.
29. This concern was raised in some detail by the NPWS in its initial planning submission. The NPWS expressed concerns about foraging distances for cormorant and herring gull which as provided in Woodward et al. (2019) and other authorities indicate that the proposed project appears to be within the foraging range of a number of SPAs. The NPWS also identifies the absence of any consideration of migratory birds. It is entirely possible that birds from the screened out SPAs could be present on the site to forage or during migration.
30. The response of the developer to the request for further information on this issue was to refuse to apply the foraging distances identified by the NPWS in Woodward et al (2019) and not to provide the requested further information. Furthermore, the developer states “[n]one of the SCI species recorded to be present within, or adjacent to, the proposed development site present more than 1% of the SPA populations they may belong to, and therefore there is no significant risk from the proposed development on any SPA population”, thus implying that even if the birds identified on the site during the short timeframe of the bird study were from the SPA, the death of these bird species on the site by collision with the power wires or their disturbance by removal of foraging area will not adversely impact their conservation within the SPA because there are other birds remaining in the SPA. But the scientific doubt raised by the NPWS does not only relate to the specific birds identified in the bird count on a specific date. It refers also to birds that may be attracted on other dates and in larger flocks to forage or on their migration route. These questions are not addressed by the dismissive answer supplied. This is not a scientific conclusion and cannot be a correct application of the test in Article 6(3) of the Habitats Directive.
31. The FI response that the development ‘does not add to existing obstacles in the landscape as it comprises of a relocation of an existing power line’ is not accurate. The photomontages indicate that the new structures will be larger with provision for additional wires, and they are in a different place, of different height along a different alignment. Furthermore, there is a risk of birds who have learned to avoid the existing structures and wires in their existing location colliding into the new structures and wires in the new locations. The Board is aware from its assessment of hundreds of wind farm developments of the nature of scientific collision risk assessments that can be provided. No such assessment has been done here.
32. The NPWS expressed concern about the position taken in the EIAR (page 63) that it is unlikely that wintering populations of golden plover associated with North Bull Island SPA

would forage as far inland as Leixlip, as there are extensive foraging area in the marine environment surrounding Dublin Bay. The Department advises that golden plover use of the intertidal is largely for 'safe roosting'. With regard to feeding, they may make use of the intertidal but would largely feed in fields. While golden plover has been recorded on the Intel lands, developer dismisses any risk because the bird though on the Intel lands was not on the actual narrow corridor of the proposed development and because of the distance from Natura sites. But this is not a reasonable approach in terms of the obligation under the Habitats Directive to avoid disturbance of birds for which SPAs have been designated, even if that bird has flown outside the boundary of the SPA or in terms of the assessment required under EIA. Impacts on all birds, regardless of their association with European Sites must be assessed in an EIA.

33. Until there has been a proper screening there is no valid Appropriate Assessment and the Planning Authority has no jurisdiction to make a planning decision. See judgment of Ms Justice Finlay Geoghegan in Eamon (Ted) Kelly v An Bord Pleanála [2014] IEHC 400.

**No proper Appropriate Assessment can be conducted:**

34. The planning applicant has identified petrifying springs with tufa formation on the Rye Water riverbank and Hamwood Stream close to the proposed development, a priority habitat in Annex I of the European Union Habitats Directive (92/43/EEC). To justify the excavations and groundwater pumping that will be conducted in close proximity to this rare habitat and its bryophyte species community, the planning applicant has provided reports by ecologist Ms Joanne Denyer and geologist Paul Johnston. On the other hand, the Environmental Protection Agency has recently made available on its website a submission written by a third expert who is both an ecologist and a geologist, Maria Cullen, which raises scientific doubt about the application of conclusions made by Denyer and Johnston, in relation to the Intel site. It does not appear that Denyer, Johnston or Cullen considered the construction of the 7 towers in their reports. I have attached the letter by Ms Cullen as **Appendix II** to this appeal.
35. The planning applicant in assessing the impact on protected molluscs has referred to surveys by mollusc experts but does not appear to have submitted their reports to the Planning Authority. It is not possible for the public or the Board to consider the relevance of these surveys to the planned route and its alternatives when the studies are not on the file.
36. By means of the Further Information Request, the developer was requested to submit "detailed replies" on the question of hydrogeological impacts of dewatering on the petrifying springs with particular attention to height of water table, water flow and target 'maintain appropriate hydrological regimes'. This information was not submitted. Instead, the developer pointed to the existing Chapter 7 of the EIAR which does not contain the specified analysis, and which only attempts to address impacts on the Louisa Springs



Complex and not on the additional petrifying springs with tufa formation that are located along the banks of the river outside of the area known as the Louisa Springs Complex, which were identified in the Denyer Report.

37. It is very clear that both the NIS and EIAR were considered in detail by NPWS scientists when it recommended the extensive hydrogeological analysis which the developer subsequently declined to carry out. It was never possible to address the issues raised by the NPWS by reference to the existing information in the NIS and EIAR when that information had already been found to be deficient by the NPWS scientists. It is not clear from the NPWS response to the further information how the NPWS came to disregard its own requirements for further information or satisfy its own scientific doubt in relation to the conservation of the Annex I petrifying springs habitat after the developer declined to submit further information on this issue. No reasons are given for this, and no new information was provided by the developer. In our view the Board must address this lacuna by inviting further *scientific opinion* from the scientists within the NPWS who initially identified the requirement for supplemental hydrogeological information. The issue of contaminated groundwater and soil beneath the site (see further below) does not appear to have been considered at all at any stage.

38. The developer's response to the further information request does not directly address the issue raised by the NPWS which is that the trees to be cut down are absorbers of Ammonia NH<sub>3</sub> in the air which otherwise is known to be damaging to the bryophytes in the Annex I petrifying springs habitat, for which the SAC is designated. The developer's response seems to be that if the trees are removed the dynamics of the air flow will be different. However, it is not clear from the EIAR where this has been modelled and there are no figures that we can find in the report that demonstrate the assessment sought by the NPWS. The claim that no trees will be removed under the power line as it passes over the SAC adds nothing to the analysis because the river Rye water is under the powerline at that point.

**No proper Environmental Impact Assessment can be conducted:**

39. Killross Properties Limited does not accept the implied suggestion that the proposed development falls outside the EIA Directive; or that the developer decided to submit an EIAR of its own volition and/or that it should not necessarily be considered in the context of compliance obligations with the Directive. The proposal here is to reconstruct a significant element of national/strategic energy infrastructure at a larger scale and to relocate it closer to sensitive heritage sites in a manner that also introduces risk to European sites. This is a development which by any objective analysis requires EIA and compliance with the EIA Directive.

40. The information provided by the developer in its EIAR is scant. The comparison of underground v overground options presented in the EIAR is not to the standard required by

the CJEU in *Holohan*. The absence of any scientific comparison at all between overground and underground western strategic corridor options is peculiar, particularly when a comparison of sorts between underground and overground options was at least attempted for routes related to the eastern strategic corridor.

41. Chapter 7 of the EIAR shows that the groundwater under the site is contaminated. Elevated chloride detected across 5 of the monitored boreholes is an indicator of pollution from sewage and industrial effluents (see for example EPA publication *Microbiological, Chemical and Indicator Parameters in the 2014 Drinking Water Regulations*). No explanation is given for this and any corresponding BOD5 or COD results have been withheld. Ammonia NH3 exceedances were detected in 3 no. of the boreholes. Heavy metal contamination was also detected. The environmental impacts on habitats and species associated with excavating down through or otherwise puncturing pockets of contaminated groundwater and/or pumping contaminated water during the construction of the foundations for the towers has not been explored.
42. The soil quality results presented in Table 7.5 are illegible. The conclusions presented in the text state that the specimen from borehole BH02 was noted to contain hazardous quantities of Total Organic Carbon [TOC]. Again, the consequences of this for the petrifying springs during excavation and pumping has not been addressed.
43. The collision risk impact for birds and bats has not been assessed. The selected route, which crosses the Rye Water will be an obstacle in existing corridors for wildlife including birds and bats.
44. The extensive tree removal is an unnecessary removal of important habitat and must be considered in comparison to the lesser impacts from better overhead and underground options installed using low impact directional drilling technologies.
45. The likely noise impacts of the use rock breaking equipment should have been considered.
46. The cumulative impacts of the proposed electricity infrastructure and the existing Intel development have not been assessed properly or at all.
47. The cumulative impacts of the proposed electricity infrastructure and the expansion of the Intel campus development on the land made available for development through the proposed diversion have not been adequately assessed or assessed at all.

48. The cumulative impact of the proposed electricity infrastructure development and the solar farm proposal to be developed on lands identified as Folio Kildare 8748 in the letter of landowner consent provided Neoen, a French energy company, has not been assessed by the developer, including the cumulative impacts of the extensive tree felling in the Intel project with the hedgerow, tree and land clearance in advance of the solar farm project.
49. The cumulative impact of the proposed electricity infrastructure development and the Irish Rail Dart+ West project, which is proposed on the rail lines directly adjacent to the development site of the subject application, has not been adequately assessed or assessed at all.

**Contrary to s.28 Guidelines:**

50. The location of pylon 6 in a flood zone is an unnecessary risk when better options are possible and is contrary to the Planning System Flood Risk Guidelines document published by the Government under s.28 of the Planning and Development Act. Essential infrastructure can only be located in a Flood Risk A zone if *it cannot be located elsewhere*. That is clearly not the case here.
51. Even if the developer elects not to provide EIAR information for the overhead and undergrounding route options, including the alternative options proposed by Killross, these alternatives must still be assessed by the planning authority if development in Flood Zone A and B is to be justified.

**Accident risk:**

52. The combined risk of accidents and explosion due to the proximity of this high voltage line to the chemical storage on the Intel facility and the impacts of accidental emissions to the environment on human beings and habitats and species has not been properly assessed by the developer or the Health and Safety Authority and there is no information before the Board to enable it to conduct that assessment itself.

**Conclusion:**

53. Killross Properties Limited respectfully requests that this planning application is refused for the reasons set out in this appeal and in our submissions to Kildare County Council. The size, nature and location of the proposed development is such that it has inherent risks to the environment that could be avoided if an alternative overhead or undergrounded route identified by the developer and/or by Killross (at Appendix 1) had been properly examined and/or interrogated and/or assessed in the accompanying documents.

54. Given the complexity of the proposal, the sensitivity of the receiving environment and the confusion caused to the public and the NPWS by the poor quality of the documents made available on the public file and the absence of proper drawings and photomontages, we also formally request an Oral Hearing.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Lar McKenna', written over a horizontal line.

Lar McKenna

Killross Properties Limited

Enclosed: Acknowledgement of Submission to Planning Authority; Appendix I and Appendix II; Fee for appeal; Fee for Oral Hearing.



Date: 21/12/2022  
Pl. Ref: 22/1417

Killross Properties Limited  
c/o. Lar McKenna  
New Road  
Bawnogues  
Straffan, Co. Kildare.

**This is an important document**

KEEP THIS DOCUMENT SAFELY. YOU WILL BE REQUIRED TO PRODUCE THIS ACKNOWLEDGEMENT TO AN BORD PLEANÁLA IF YOU WISH TO APPEAL THE DECISION OF THE PLANNING AUTHORITY. IT IS THE ONLY FORM OF EVIDENCE WHICH WILL BE ACCEPTED BY AN BORD PLEANÁLA THAT A SUBMISSION OR OBSERVATION HAS BEEN MADE TO THE PLANNING AUTHORITY ON THE PLANNING APPLICATION.

**Re: Planning Reference: 22/1417 - Intel Ireland Ltd for the alteration and realignment of an approximate 1.1km section of existing double circuit overhead line which supports the existing Maynooth-Ryebrook and Dunfirth-Kinnegad-Rinnawade 110kV overhead line circuits. The proposed development comprises of: (1) Diversion. Diverting a section of the existing 110kV double circuit overhead line to the north of the River Rye, along the eastern side of the Intel site at Collinstown, linking back to the existing overhead line section at the car park of the Lidl supermarket, directly south of the R148. (2) Removal of Existing Double Circuit Towers. The decommissioning and removal of 4 No existing double circuit steel lattice towers and associated electrical conductors to include the removal of the existing towers and associated electrical conductors from site. (3) Double Circuit Towers. The installation of 7 No new double circuit steel lattice towers. Two of these will be replacement towers (Towers T1 & T7). The towers will range in height from approximately 20.75m to approximately 39.75m above ground level and will support six electrical conductors (overhead lines). (4) Site Works. All ancillary site development, preparation and reinstatement works, including access, landscaping and connection to existing services and utilities and miscellaneous site works. This application consists of a variation to a previously permitted development on an activity for which a licence under Part IV of the Environmental Protection Agency Act 1992 (as amended by the Protection of the Environment Act, 2003) is required. An Environmental Impact Assessment Report ("EIAR") and a Natura Impact Statement ("NIS") accompany this application and they will be available for inspection or purchase at the office of the Planning Authority. This is a site to which the Chemicals Act (Control of Major Accident Hazard Involving Dangerous Substances) Regulations 2015 (S.I. 209 of 2015) applies. at Intel Leixlip Site Collinstown, Blakestown, Kellystown Collinstown Industrial Park Leixlip, Co Kildare**

Comhairle Contae Chill Dara  
Kildare County Council



A submission in writing, has been received from Killross Properties Limited ON 21/12/2022 in relation to the above planning application.

The submission is in accordance with the appropriate provisions of the Planning & Development Regulations 2001 (as amended), and will be taken into account by the Planning Authority in its determination of the planning application.

Yours faithfully

  
\_\_\_\_\_  
**Senior Executive Officer Planning**  
**Kildare County Council**



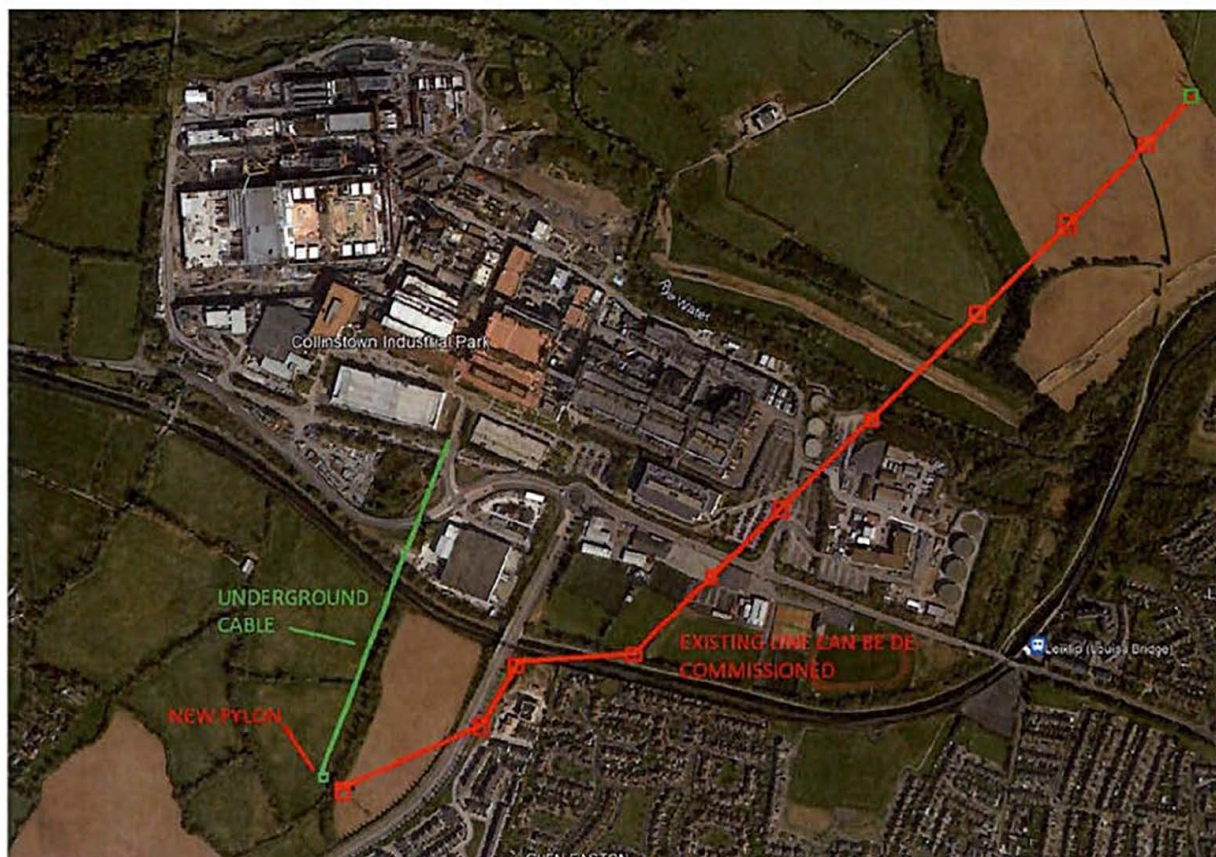
## Appendix I

### Alternative routes for the Western Strategic Corridor

**Alternative Diversion Option 1** is an underground option that can be built using one new (replacement pylon on lands in the ownership of Intel).

- This option allows a direct route into Intel Industrial Park using lands that are entirely within the control of Intel and public roads. An underground connection can be provided from this line to the Intel sub-station connection to Intel can be provided internally within Intel Industrial Park from the overhead line via underground cable.
- Low Impact directional drilling can be used to provide the necessary cable ducting under the canal and rail line. This method has been used to by Eirgrid/ESB to provide ducting for two 220kV transmission circuits (6 cables) under the SAC to the north of Intel in order to connect Intel to the 220kV transission system.
- This option would fulfill the objective of the current application by freeing up all Intel zoned land crossed by the existing 110kV line for development and will remove the significant visual impact of that line and the visual impact of the current ptproposal.
- This option requires only one new pylon and will allow the removal of 10 no. existing pylons and 1.95km of double circuit 110kV line and removes the requirement to build a new line through/over the SAC.

Fig. 1

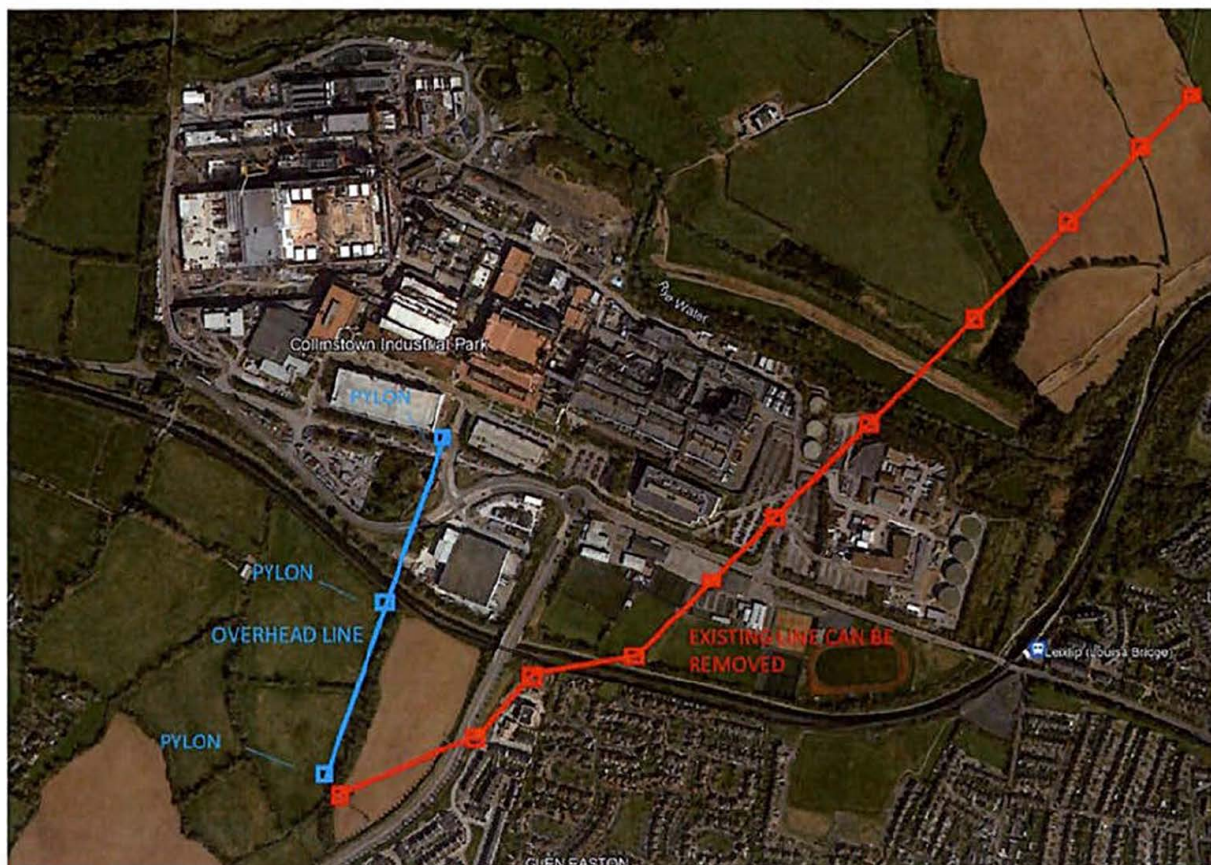




**Alternative Diversion Option 2** is an overhead option that can be built using three new pylons on lands in the ownership of Intel.

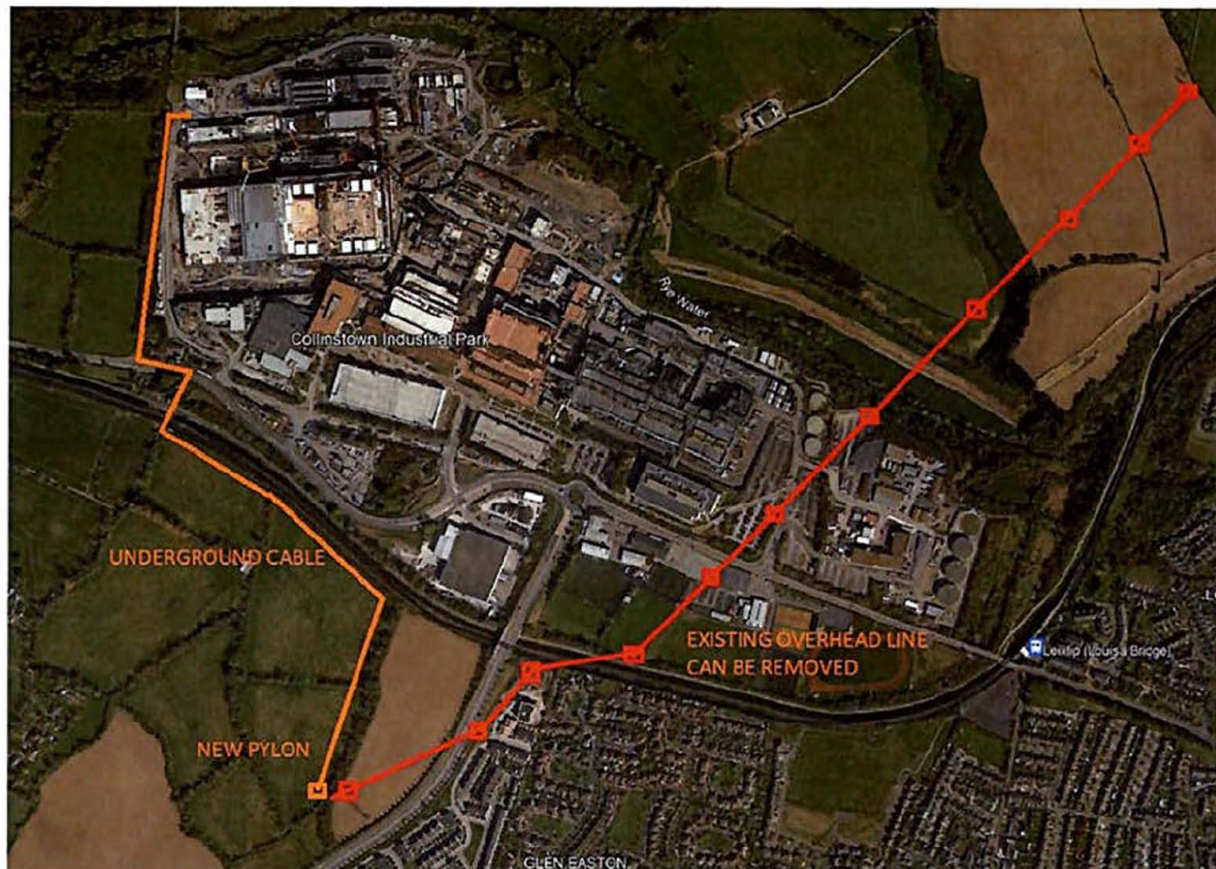
- This overhead option allows a direct route into Intel Industrial Park using lands that are entirely within the control of Intel and crossing over public roads. An underground connection can be provided internally within Intel Industrial Park from the overhead line via underground cable.
- This option would fulfill the objective of the current application by freeing up all Intel land crossed by the existing line and frees up other zoned land crossed by 1.95 km of the existing 110kV line.
- This option requires only three new pylons and will allow the removal of 10 no. existing pylons and 1.95km of double circuit 110kV line and removes the requirement to build a new line through/over the SAC.

Fig. 2



**Alternative Diversion Option 3** can be built using one new pylon on lands in the ownership of Intel to facilitate an underground cable connection through Intel lands and public roads.

Fig. 3



- This option allows a direct route into Intel Industrial Park using lands that are entirely within the control of Intel and public roads.
- This option would fulfill the objective of the current application by freeing up Intel land and other all zoned land crossed by 1.95 Km of the existing 110kV line for development.
- This option requires only one new pylon and will allow the removal of 10 no. existing pylons and 1.95km of double circuit 110kV line and removes the requirement to build a new line through/over the SAC.
- The underground line connects to Intel Industrial Park at the closest point to the existing sub-station
- There is no visual impact caused by this option



**Alternative Diversion Option 4** can be built using three new pylons on lands in the ownership of Intel to facilitate an underground cable connection through Intel lands and public roads.

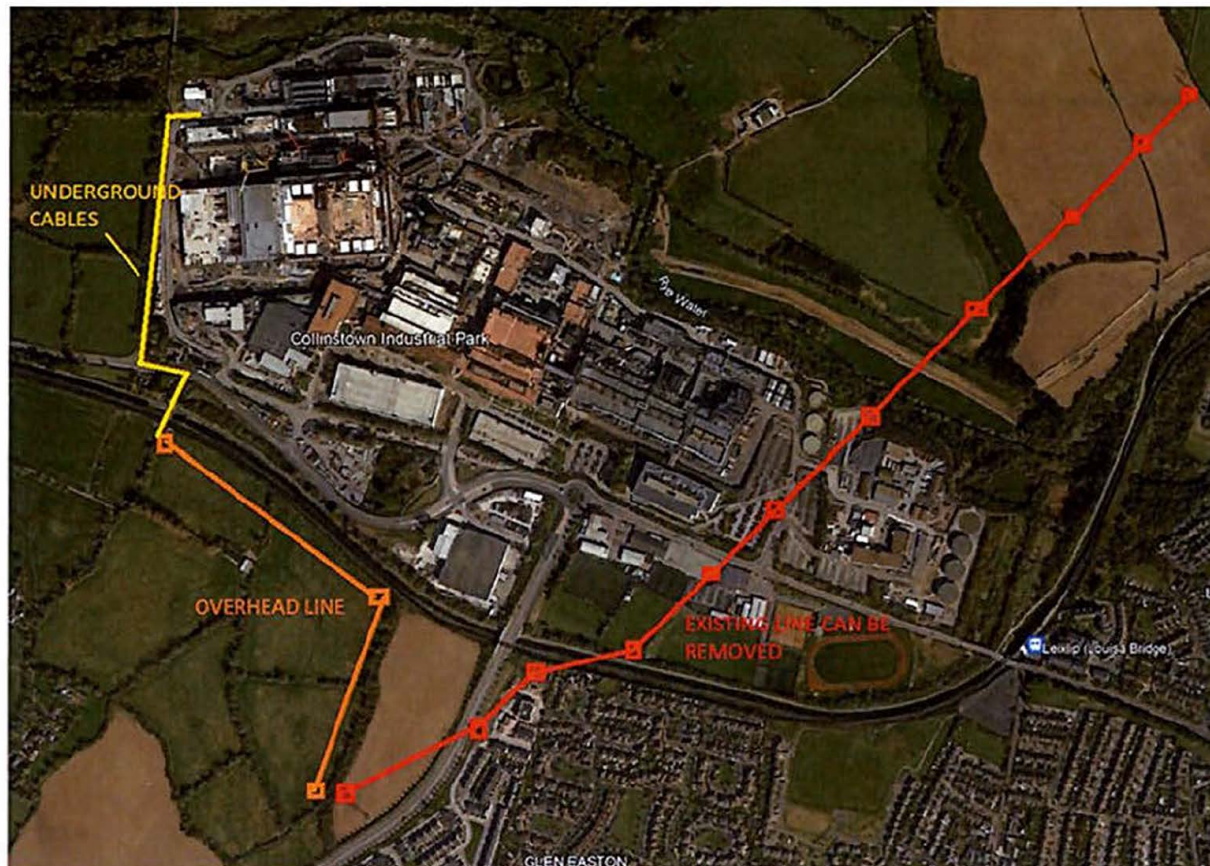


Fig. 4

- This option allows a direct route into Intel Industrial Park using lands that are entirely within the control of Intel and public roads.
- This option would fulfill the objective of the current application by freeing up Intel land and all other all zoned land crossed by the existing 110kV line for development.
- This option requires only two additional pylons and will allow the removal of 10 no. existing pylons and 1.95km of double circuit 110kV line and removes the requirement to build a new line through/over the SAC.
- This option allows a direct route into Intel Industrial Park using lands that are entirely within the control of Intel and public roads.

**HARRINGTON & CO.**  
**SOLICITORS**  
**Newtown, Bantry, Co. Cork, P75 EA03**

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EPA Headquarters  
POBox 3000  
Johnstown Castle Estate Co.  
Wexford

Date: **13 July 2022**

Our Ref :22/56/BH  
Your Ref : P0207-05

**Re:** Regulation 28 of the EPA (Industrial Emissions) (Licensing) Regulations in respect of a licence review from Intel Ireland Limited for an installation located at Collinstown Industrial Park, Leixlip, County Kildare.

**Licence #.** P0207-05.

**Our Client:** Thomas Reid

To whom it concerns,

We refer to your notification of 16 June 2022 in the above matter wherein our client was afforded the opportunity to make a submission on or before 13 July in response to the submission made by Intel Ireland to your Regulation 28 request.

Accordingly, we enclose herewith submission of Maria Cullen, with attachments, by way of a response to Intel's submission.

We note that the Agency is continuing its deliberations on Intel's review application and we trust that the Agency will review the attached submission in the light of and in addition to the previous submissions made on behalf of Mr Reid to the review process.

Yours Sincerely

*Harrington & Company*

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**Harrington and Co**  
**Solicitors**

End: Submission of Maria Cullen with attachments dated 13 July 2022.

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**Principal: Brian Harrington, LLB, Solicitor**

\*\*\*\*\*  
**Colette Herlihy, BA, MSc, Solicitor**

# APPENDIX 2

Maria Cullen,  
Ballyanne,  
New Ross,  
Co. Wexford

13 July 2022

Brian Harrington  
Harrington and Company Solicitors  
Newtown  
Bantry  
Co. Cork

**Re: IPC Licence application P0207-05 Intel Ireland Limited**

Dear Brian,

As per your instructions I have examined the correspondence from Intel to the Environmental Protection Agency ('the Agency') dated 28 March 2022 and its various enclosures including:

- Denyer Ecology, *Intel Petrifying Spring Survey* (March 2022) by Dr Joanne Denyer
- *Hydrogeology of the tufa habitats in Rye Water, County Kildare* (February 2022) by Professor Paul Johnston
- Ammonia Modelling Assessment (March 2022) by Dr Edward Porter

The following are my observations and opinions in relation to this matter:

1. The area in question includes the Rye Water Valley/ Carton SAC which currently lists three *Qualifying Interests*:
  - Petrifying springs with tufa formation (Cratoneurion) [7220]
  - *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014]
  - *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016]
2. These qualifying interests are subject to *Conservation Objectives* established by the NPWS. These are to *restore* the favourable conservation condition of the petrifying springs with tufa formation (Cratoneurion) [7220] and Narrow-mouthed Whorl Snail (*Vertigo angustior*) and to *maintain* the favourable conservation condition of the Desmoulin's Whorl Snail (*Vertigo moulinsiana*). Site specific and targets have been published for each species. The Vertigo snails are known to be associated with the petrifying springs habitat.
3. A critical value of 1 µg/m<sup>3</sup> of ambient Ammonia is the threshold for Bryophyte health in this area, particularly for the Cratoneurion community associated with Petrifying springs with tufa formation (Cratoneurion) [7220]. Tufa deposits are present in several areas between



Sandfords Bridge and the Aquaduct Tunnel north of Louisa Bridge. All species are considered vulnerable to air pollution, dust and water pollution. The NPWS in its Conservation Objectives document states that it is important to note that unsurveyed areas of the petrifying springs with tufa habitat may be present within the SAC.

4. A critical value of  $1 \mu\text{g}/\text{m}^3$  of ambient Ammonia is the threshold also for lichen health in this area, particularly for certain *Cladonia* species. Epiphytic lichen community data from the Rye Water Valley between Sandfords Bridge and the Aquaduct Tunnel reflect the eutrophicated nature of this site because several species of Nitrogen-tolerant lichens and green algae such as *Desmococcus olivaceus* are present. Highly sensitive species of lichen are now entirely absent from this area. There are old records made by Matilda Knowles and Annie Lorraine Smith almost a century ago at nearby Carton Estate that demonstrated the lichen richness of the Rye Water area at that time. There is no sense of this diversity for lichens at this nearby site now. The 3 ha fen/terraces area by Leixlip Spa and some riparian trees at Louisa Bridge as well as the mycorrhizal fungi diversity at nearby Carton reflect some of the spirit of that more widespread cryptogamic biodiversity to this day.
5. Air relevant to the Bryophyte communities in the petrifying springs with tufa formation habitat includes river valley mist and fog, emissions from the Intel campus and associated traffic, as well as regional pollution load from Irish agriculture and Leixlip area traffic. Ammonia is lighter than air but in high relative humidity environments, such as is prevalent in Ireland, Ammonia binds with water in the air and sinks in valleys and low points in the landscape. Reference:  
[www.health.ny.gov/environmental/emergency/chemical\\_terrorism/docs/Ammonia\\_tech.pdf](http://www.health.ny.gov/environmental/emergency/chemical_terrorism/docs/Ammonia_tech.pdf)  
f These are all aspects that have yet to be addressed by Intel's experts.
6. The Rye Water valley is a relatively steep valley on the southern bank in some of this area, so the dispersion model offered by Intel may not adequately allow for the strong variation in topography across the site – this cannot be checked from the limited data supplied to the Agency by Intel. The initial parameters of the air pollution model have not been shared and so it is impossible to test this model for validity and circumstances such as air inversion in the Rye Water valley.
7. Breaches of the Ammonia  $1 \mu\text{g}/\text{m}^3$  threshold are considered less serious by the authors of the Intel documents, however a small number of serious breaches each year may cause complete or partial local extinction of the tufa *Cratoneurion* community.
8. Reactions of Ammonia with other air emissions from the Intel Campus have not been fully elaborated upon or assessed in the documentation.
9. Increased traffic and parking in the immediate vicinity of projected expansion of Intel campus, apart from the general increase in air pollution emissions, would also add to the local Ammonia level at this site. It is unclear that this has been fully considered as part of the overall impact. Even an increase in the number of humans on site in this area would contribute to increased Ammonia emissions.
10. No data has been provided by Intel or EPA on measurements for current levels of ambient Ammonia in this area, so projections of background levels are unreliable. Ammonia needs to be monitored, particularly along the Rye Water valley base, prior to the granting of any fur-

ther licence. Estimates of background Ammonia in the area provided by Intel for the model are considered too low based on measured data at a number of Irish sites and should be measured in advance of any new additional load of Ammonia. The responsible and Competent Authority for this is the EPA. A model with annual background level of  $0.8 \mu\text{g}/\text{m}^3$  is not acceptable when measurements in similar settings (e.g. Oakpark, Co. Carlow) elsewhere in Ireland are considerably higher  $>2 \mu\text{g}/\text{m}^3$

11. The developer comments in the covering letter of 28 March 2022 as follows: *No ambient monitoring for Ammonia has been undertaken by Intel in the vicinity of the installation as it is not required by the existing IE Licence.* This is not a reasonable situation. The request for further information under Regulation 28 of the EPA (Industrial Emissions) (Licensing) Regulations was made on 08 November 2021. Intel had ample time to measure for background Ammonia levels and monitoring. Intel has chosen not to do so. EPA is the Competent Authority for Air Quality in Ireland. As such, it is responsible for measurements and breaches of Ammonia concentrations for Ireland. In the past 9 years, 8 have been in breach of Ireland's commitments under the National Emissions Ceiling Directive for Ammonia. Reduction in Ammonia is key to meeting our Irish legal limits for human and for plant health.
12. In the absence of *measured* ambient Ammonia, the only scientifically justifiable authority to rely on is the Agency's own document *Ambient Atmospheric Ammonia in Ireland 2013–2014* (Doyle, Cummins et al.). Ammonium measurement data for Oak Park in Carlow and other mid-eastern Irish sites demonstrates the relatively high background Ammonia plus alarmingly high breaches of Ammonium at times during each year. From this and later studies, background annual averaged data for similar sites range between  $2.29$  and  $2.7 \mu\text{g}/\text{m}^3$
13. Wet fallout and dry fallout of Ammonia and Ammonium should be considered, as well as related PM<sub>2.5</sub> and projections presented for these in any air pollution model for impact of Ammonia and related pollutants, locally and regionally in Ireland.
14. There are issues relating to short-term high exposures of Bryophyte species in general, and more specifically for the *Cratoneurion* community, to Ammonia and long-term chronic levels of Ammonia that are not dealt with properly in the Intel reports. Readings from other mid-eastern sites where Ammonium data is available show peaks of up to  $8 \mu\text{g}/\text{m}^3$
15. It is not safe to say (as maintained in Professor Johnston's report) that surface waters on the south side of the Rye Water valley in this area are somehow less in number. Spring lines in the Carboniferous Lucan Formation, of interbedded Limestones and Shale layers, are cut across by the steeper ground on the southern side of the valley in this stretch of the Rye Water, so that groundwater, rich in lime, comes to the surface as petrifying streams and terraces creating areas of tufa with associated flora and fauna.
16. The presence of calcified springs on the south side of the river is consistent with the findings of JBA Consulting in their April 2021 Natura Impact Statement for the Office of Public Works in the Rye Water Arterial Drainage Scheme.
17. Maps of the area from the 1830s onward demonstrate that both sides of this valley had numerous streams and drains flowing into Rye Water between Sandfords Bridge in the west and the Aquaduct Tunnel in the east of the area. The 1911 Ordnance Survey of Ireland map shows a field boundary and drain/streamlet consistent with the "tufa terrace" area KCCR418

([www.geohive.ie](http://www.geohive.ie)). Ordnance Survey of Ireland photographs from the 1990s are also revealing.

18. The theory offered by Prof. Johnston is that the water feeding the tufa formation at KCCR418 is a surface water drain and not groundwater and therefore the petrifying spring with tufa at this location is not consistent with priority habitat, even though it supports bryophytes including some *Cratoneurion* community species. Streams, such as the one in question can contain a combination of runoff waters and groundwater; indeed, the tufa deposition at KCCR418 is evidence of groundwater, as CaCO<sub>3</sub> in suspension from lime-rich groundwaters come to the surface and precipitates as tufa onto nearby stable surfaces.
19. There is a significant issue with pollution of the calcified tufa terrace stream at the gabions area and its associated tufa deposit at KCCR418. This pollution is severe and the source should be found and remedied as a matter of urgency. Resultant harm to the Rye Water quality from this location should cease immediately. There is not enough information to dismiss the possibility that the source of the pollution is the Intel facility. The most recent groundwater testing reported by the licensee and published on the Agency's website demonstrates elevated chlorides and conductivity, consistent with organic pollution in the groundwater under the site. The measured orthophosphate concentrations in groundwater under the site exceed the targets within the Conservation Objectives for the Petrifying Springs with Tufa formation (*Cratoneurion*) [7220]. This is a culverted or open stream from what can be observed.
20. A recent, serious, fish kill resulting in hundreds of dead fish (estimated at 500 Brown Trout) constituted a "huge setback" on Rye Water (8<sup>th</sup> June 2022) and has implications for the Salmonid River Liffey Catchment area. It is understood and believed that it was worst c. 100m west of the Aquaduct Tunnel. Pollution causing this fish kill could correspond with the stream into the river from the 'tufa terrace' gabion area, west and upstream of the fish kill area, or with other local streams further east but still west and upstream of the Aquaduct Tunnel. It is noted that there have been extensive recent construction activities to the west in the Intel Campus and on the north side of Rye Water near this fish kill. A fish kill itself generates its own hazardous pollution during the process of taphonomy leading to a reduction of available oxygen in the contaminated waters.
21. The presence of Annex species Kingfisher and Brook Lamprey, *Lampetra planeri* in the area makes any pollution event a cause for concern. Kingfisher is an Annex I protected species under the EU Birds Directive 2009/147/EC. All three Irish lamprey species are listed under Annex II of the European Union Habitats Directive (92/43/EEC). Because of local recording and general awareness, it would be fitting to add *Alcedo atthis*, Kingfisher (Annex I), *Lampetra planeri* Brook Lamprey (Annex II). Local Angling club members have recorded *Alcedo atthis* (Kingfisher) and *Lampetra planeri* (Brook Lamprey) in this area of the Rye Water in recent times.  
Otter, *Lutra lutra* is also noted from an area that includes trees (now removed), high riparian vegetation and a tufa stream at the north bank of Rye Water just east of Sandfords Bridge. Otter is an Annex II species.

*Sphagnum* species and *Cladonia portentosa* are protected under the Annex V, Habitats Directive. According to NBDC records, Greater Spotted Woodpecker has been confirmed in the next 10km square to the west so it is possible that at least this species visits this area also.

22. Filamentous green algal growth in areas of tufa deposition throughout the site indicate that air pollution levels are already above the threshold for habitat integrity in the case of tufa and associated protected bryophytes. Any addition to this load is unacceptable.
23. Dr. Joanne Denyer has been working as a bryologist in Ireland for some years and has worked in association with Scott Cawley; however, Dr Denyer has conducted no detailed research into the sensitivity of cryptogams, bryophytes or *Cratoneurion* to Ammonia or air pollution. The comment "There is no evidence of pollution from dry or wet ammonia deposition on the stream" - referring to the Tufa terrace with gabions area at KCCR418, is not upheld. Significant water pollution at this point does not discount contributions of pollution from the air here also.
24. While the general study by Dr. Denyer is adequate in terms of taxonomy and recording, the conclusions by Scott Cawley are overstated compared with the biological evidence provided when projections are taken into account. The use of 4m<sup>2</sup> relevé data is suited to long-term monitoring of species change and health whereas transect data is used where knowledge of the species composition of a locality is the first priority. The exact location of a relevé and adequate demarcation is required for repeated study to be carried out. The lists of species presented by Cullen based on surveys in 2020 and 2021 are inclusive, but not exhaustive, of the range of species at each tufa-forming stream and tufa deposit in this Rye Water area.
25. *Cratoneurion* communities of varying species diversity were found by Cullen close to Sandfords Bridge, at the terrace area, the waterfalls, the 3ha of tufa fen/terraces between Leixlip Spa pool, Rye Water & the Aquaduct Tunnel and the stream that flows to the waterfall which then splits into at least three sub-streams on the north side of the Rye Water. The river itself was accessed by a route mapped by the local fishing club.
26. As per the detail contained within the PhD thesis of Melinda Lyons (TCD) on Tufa Deposits in Ireland, not all elements of the *Cratoneurion* community of Mosses are present at any site at any one time. That is why the *Cratoneurion* community is described as such, to allow for the natural variation relating to water chemistry, active surfaces of tufa/stage of tufa development, extent of tufa, shape of tufa deposit, longevity, stability and species range expectation in that geographic area. In her thesis, Lyons demonstrates the ranges of species that occur in different types of *Cratoneurion* community and the different ranges of bryophytes and associated plant and Charophyte species that constitute and typify the *Cratoneurion* Community across Ireland and in this area.
27. The issue of accidental air emissions needs to be addressed and planned for by Intel and responsible authorities, both in terms of individual emissions and cumulatively.

Accordingly, my professional view is that the submission by Intel is deficient and there is not yet sufficient information before the Agency to allay the reasonable scientific doubt that exists in relation to the conservation of the Annex I habitat Petrifying springs with Tufa formation (Cratoneurion) [7220]. I am also of the opinion that there needs to be a comprehensive survey of the river banks for the presence of the conservation interest snail species *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014] and *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016] and their presence needs to be considered in terms of emissions from the site.

Yours sincerely,

A handwritten signature in cursive script that reads "Maria Cullen". The ink is dark and the signature is fluid.

Maria Cullen B.A. Mod. (Natural Sciences II, Hons. Geology), MSc. Mycology

Consultant Geologist and Mycologist



LDG- \_\_\_\_\_  
ABP- 317304-23  
09 JUN 2023  
Fee: € \_\_\_\_\_ Type: \_\_\_\_\_  
Time: \_\_\_\_\_ By: \_\_\_\_\_





# AN BORD PLEANÁLA

LDG-

ABP- 317304.23

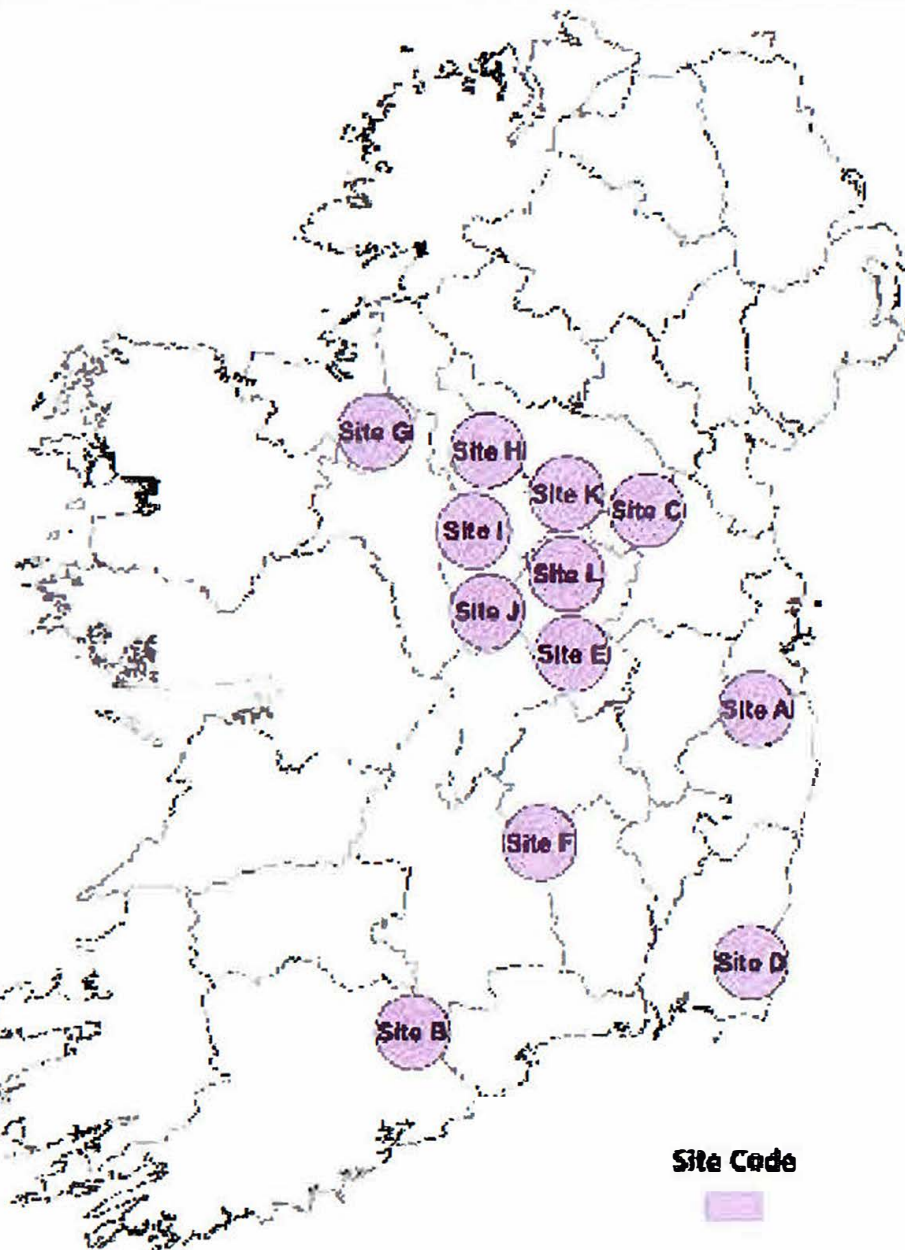
09 JUN 2023

Fee: €

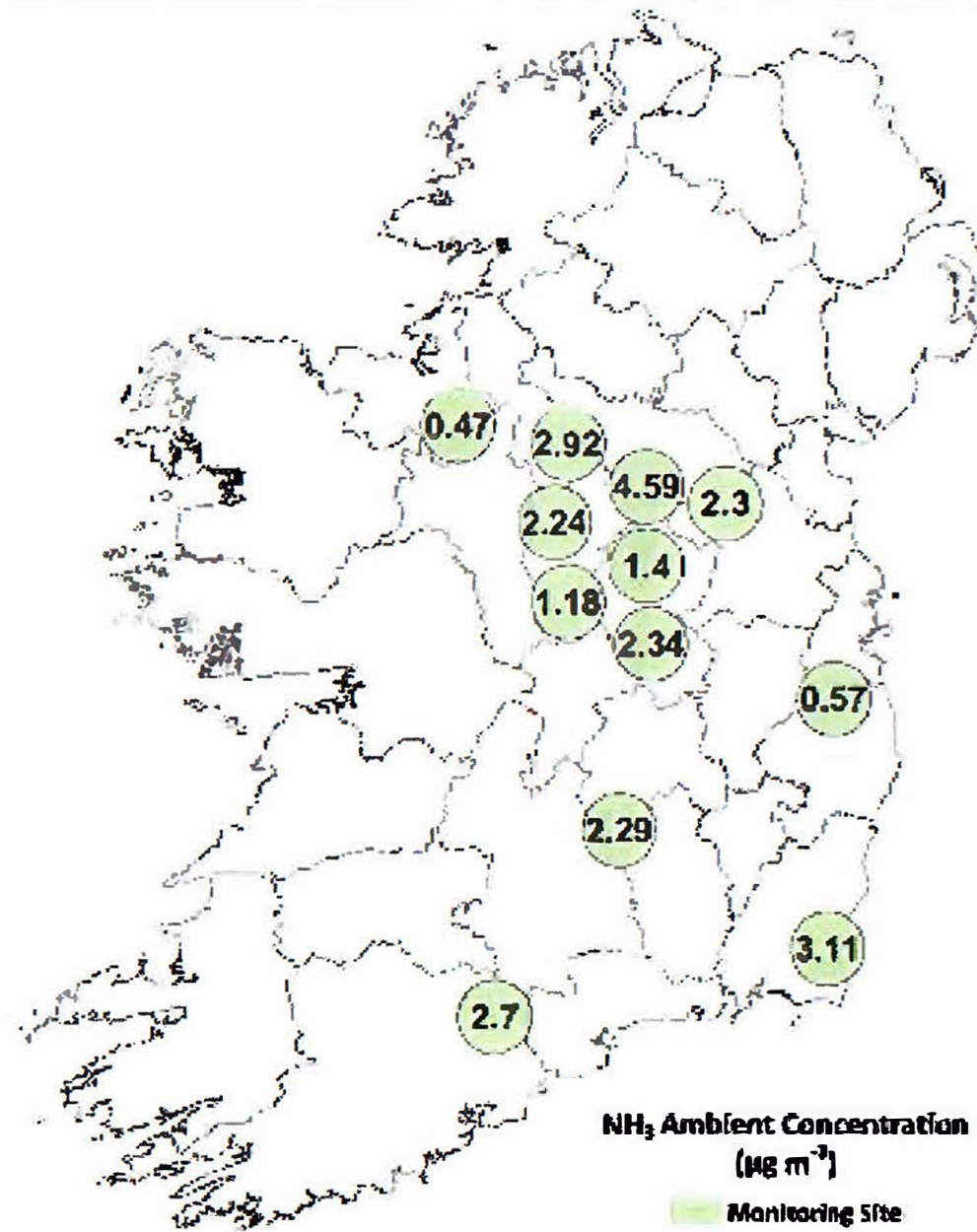
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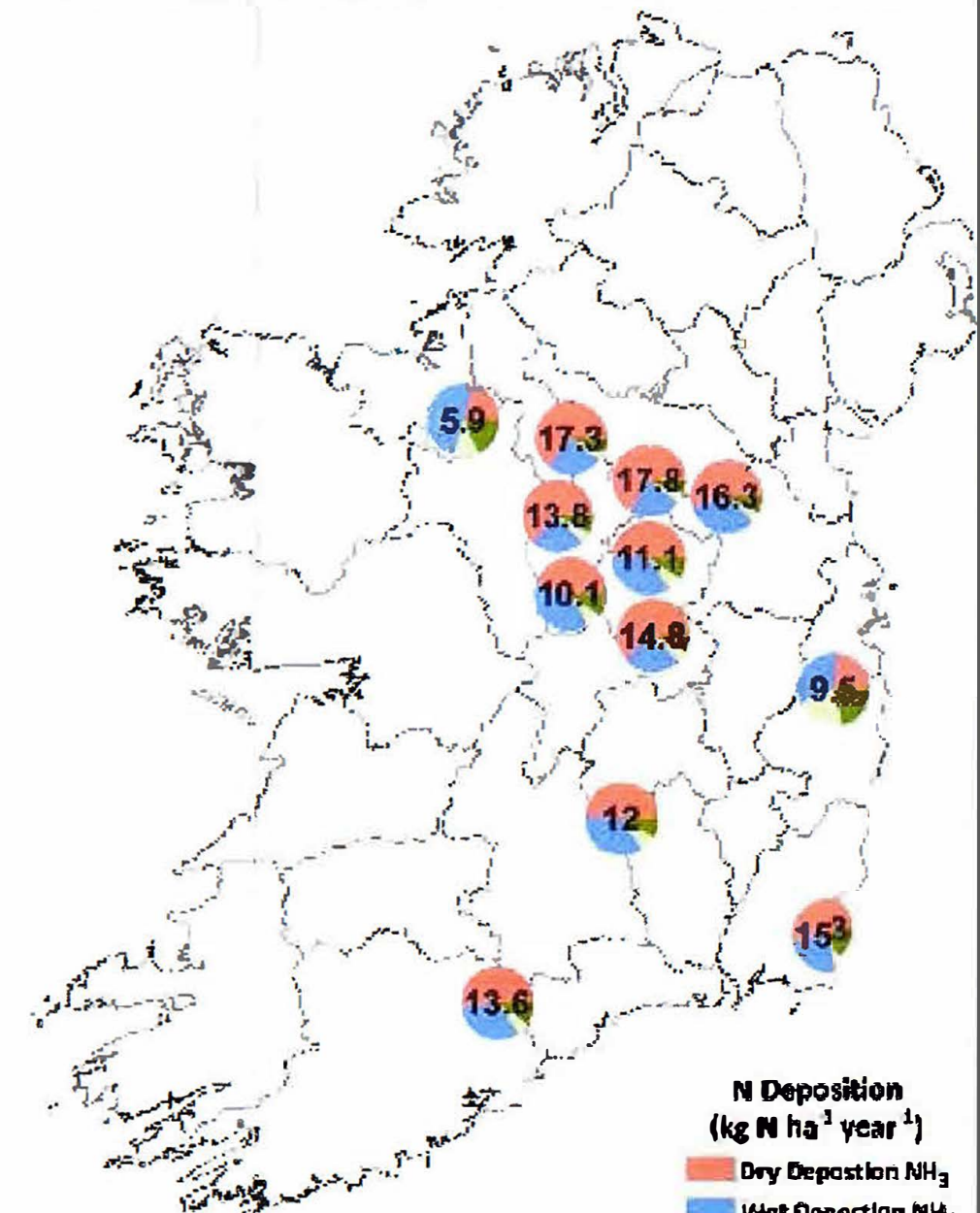
Site Code



$\text{NH}_3$  Ambient Concentration  
( $\mu\text{g m}^{-3}$ )

Monitoring Site

0.47 - 4.59 Monitored Annual Average



N Deposition  
( $\text{kg N ha}^{-1} \text{ year}^{-1}$ )

Dry Deposition  $\text{NH}_3$

Wet Deposition  $\text{NH}_3$

Dry Deposition  $\text{NO}_x$

Wet Deposition  $\text{NO}_x$

5.9 - 17.8 Total Deposition

**AN BORD PLEANÁLA**  
LDG- \_\_\_\_\_  
ABP- 317304-23  
09 JUN 2023  
Fee: € \_\_\_\_\_ Type: \_\_\_\_\_  
Time: \_\_\_\_\_ By: \_\_\_\_\_

Ireland - Oak Park (IE0005R) - high\_vol\_sampler - ammonium - aerosol [2015.01.02-2021.01.01]

