

From: [DFI Regional Planning](#)
To: [REDACTED]
Subject: DfIPG 012/25 FW: Detail of third party objectors - [REDACTED]
Date: 20 January 2025 12:24:00
Attachments: [REDACTED]

All,

Acknowledgement attached - Please see below – ref DfIPG 012/25 due 10.02.2025

Please copy Planning Service HQ into your response.

HPRM: IN1-25-564

Thank you

[REDACTED]
[Planning Service HQ Inbox](#)

From: [REDACTED]
Sent: 20 January 2025 11:56
To: PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; DFI Regional Planning <Planning@infrastructure-ni.gov.uk>; DFI Regional Planning <Planning@infrastructure-ni.gov.uk>; PACNI Info <info@pacni.gov.uk>
Cc: [REDACTED]
Subject: Detail of third party objectors

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sir/Madam

Regarding all the information relating to third party supporter's statements of cases and rebuttals regarding the Dalradian planning application, as I'm unable to access this information online due to issues with finding exactly where it is referenced, can your office please provide me with a link to the relevant information requested. Thank you.

Can you confirm receipt of email by return.

Signed

[REDACTED]

From: [DfI PG Secretariat](#)
To: [REDACTED]
Subject: DFIPG 025/25: Environmental Information Regulations request
Date: 29 January 2025 11:43:00

[REDACTED]

Please see query below – DFIPG 025/25 refers
Response due by 19 Feb, please copy PG Sec into response
Stevan has acknowledged

IN1-25-564

Thanks

[REDACTED]
[REDACTED]

From: [REDACTED]
Sent: 29 January 2025 09:00
To: DfI Regional Planning <Planning@infrastructure-ni.gov.uk>
Cc: DfI Information Management Unit <DFIIMU@infrastructure-ni.gov.uk>
Subject: Environmental Information Regulations request

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sirs,

I seek to obtain a copy of all documents which were received and sent to Donegal County Council in the year 2024, which relate to the Public Inquiry which was held in Omagh in January 2025 on the Planning Applications by Dalradian & Others.

I look forward to receipt of same.

Sincerely Yours

[REDACTED]
[REDACTED]
Defending Environmental Wealth

County Donegal

Tel +



Regional Planning Policy & Casework



Department for

Infrastructure

An Roinn

Bonneagair

Department for

Infrastructure

www.infrastructure-ni.gov.uk

DEW
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Via email:
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James House
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2 - 4 Cromac Avenue
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BT7 2JA
Tel: 0300 200 7830
Email: planning@infrastructure-ni.gov.uk

Our ref: DfIPG 025/25
Planning Refs: LA10/2017/1249/F,
LA10/2019/1386/F &
LA11/2019/1000/F

10 March 2024

Dear [REDACTED],

Environmental Information Regulations request – correspondence with Donegal County Council in relation to Dalradian Gold Mine (Planning references LA10/2017/1249/F (planning portal refs LA10/2017/1249 and SPD/2017/1249/F), LA10/2019/1386/F and LA11/2019/1000/F)

I refer to your request received by the Department on 29 January 2025, for a copy of all documents which were received and sent to Donegal County Council in the year 2024, which relate to the Public Local Inquiry which was held in Omagh in January 2025 in relation to the above planning applications.

The information requested is not considered to fall under the aegis of the Environmental Information Regulations 2004, as the requested documents you seek are in the public domain either on the Northern Ireland Planning Portal or on the dedicated Dalradian Curraghinalt Project website. However, to aid you in your request and to provide assistance in locating the information the Department has collated and listed the relevant information within a table of documents which were received and sent to Donegal County Council in the year 2024. The time taken to do this has unfortunately led to a delay in responding in a timely manner. Please see enclosed documents for your information.

Please note that should you be seeking information on these applications going forward you can do so by visiting the planning portal and entering planning portal

references, LA10/2017/1249/F, SPD/2017/1249/F, LA10/2019/1386/F & LA11/2019/1000/F at

[Northern Ireland Public Register](#) and by visiting the dedicated Dalradian Curraghinalt Project website where all documentation will be published.

I hope this is of assistance to you. Please do not hesitate to contact the Department if you require anything further.

Yours sincerely

Regional Planning Policy & Casework

Document	Date Sent
Letter to Donegal with Extracts from NIE (RPS) Statement of case	29 April 2024
Extract from Dalradian SoC – Ecology Chapter TR6 – ECOLOGY	13 Nov 2024
NIE SoC Extract – Appendix A Technical Report 7 Water Quality and Technical Report 15 Transboundary Considerations	13 Nov 2024
Extract from Dalradian Consolidated ES appendices – shadow HRA	22 Nov 2024
Copy of Advertisement	2 Dec 2024

Regional Planning Policy & Casework



Department for

Infrastructure

An Roinn

Bonneagair

www.infrastructure-ni.gov.uk

Mr. [REDACTED]
Senior Executive Planner
Donegal County Council
County house
Lifford
Co. Donegal

James House
Gasworks Site
2-4 Cromac Avenue
Belfast
BT7 2JA

By email: [REDACTED]@donegalcoco.ie

Your reference:
Our references:
LA10/2017/1249/F
LA10/2019/1386/F
LA11/2019/1000/F

Date: 29 April 2024

Dear [REDACTED]

Planning Application No. 1 **Planning Reference: LA10/2017/1249/F**

Proposal: Underground valuable minerals mining and exploration, surface level development including processing plant and other associated development and ancillary works, Greencastle, County Tyrone. Please see application form P1, sheet 1 for full project description.

Location: Lands NW Of Greencastle, E Of Rouskey, N Of Crockanboy Rd, W Of Mullydoo Road, N And S Of Camcosy Rd, Including Lands 165m W Of No. 45 Camcosy Road To The Junction Of Camcosy Rd And Crockanboy Rd, And Lands 47m To The SE Of 73 Crockanboy Rd.

Planning Application No. 2 **Planning Reference: LA10/2019/1386/F**

Proposal: 33kV power line involving both construction of above ground 33kV overhead line supported by wooden poles and underground 33kV cable laid below ground level in ducts, to serve Curraghinalt mine (currently under consideration planning application LA10/2017/1249/F).

33kV connection is c37.9 km in length, comprising of c26.9 km of overhead line supported by single and double wooden pole sets and c11 km of underground cabling.

c 15.1 km of the powerline is within the Fermanagh & Omagh District Council area comprising of c 8.2 km of overhead line supported by single and double wooden pole sets and c 6.9 km of underground cabling.

Location: 737m NW of 56 Mullydoo Road Greencastle, through townlands of Crockanboy, Teebane West, Casorna, Rousky, Drumlea, Garvagh, Meenadoo, Trinamadan and Culvacullion ending at 785m NW of 24 Meenadoo Road Culvacullion Gortin.

Planning Application No. 3

Planning Reference: LA11/2019/1000/F

Proposal: 33kV power line involving both construction of above ground 33kV overhead line supported by wooden poles and underground 33kV cable laid below ground level in ducts, to serve Curraghinalt mine (currently under consideration planning application LA10/2017/1249/F).

33kV connection is c37.9 km in length, comprising of c26.9 km of overhead line supported by single and double wooden pole sets and c11 km of underground cabling.

c 22.8 km of the powerline is within the Derry City & Strabane District Council area comprising of c 18.7km of overhead line supported by single and double wooden pole sets and c 4.1 km of underground cabling.

Location: Adjoining 89 Woodend Road Ballymagorry, through townlands of Ballymagorry, Woodend, Milltown, Ballee, Holly-hill, Kennaghan, Owenreagh, Knockanbrack, Lagvittal, Knocklnarvoer, Craginagapple, Lagavadder, Ballykeery, Craigatuke, Meendamph, Balix Upper, Letterbrat, Glencoppogagh (Main Portion), Aghalane and Lisnacreaght ending at 681m NW of 24 Meenadoo Road Culvacullion Gortin.

The Department has requested that the Planning Appeals Commission convene a public local inquiry into the three applications detailed above. These proposed developments in Northern Ireland are the subject of EIA applications and may have likely significant effects on the environment in the Republic of Ireland (Co. Donegal).

In accordance with Regulation 29 of the Planning (Environmental Impact Assessment) Regulations (NI) 2017 please be advised that:

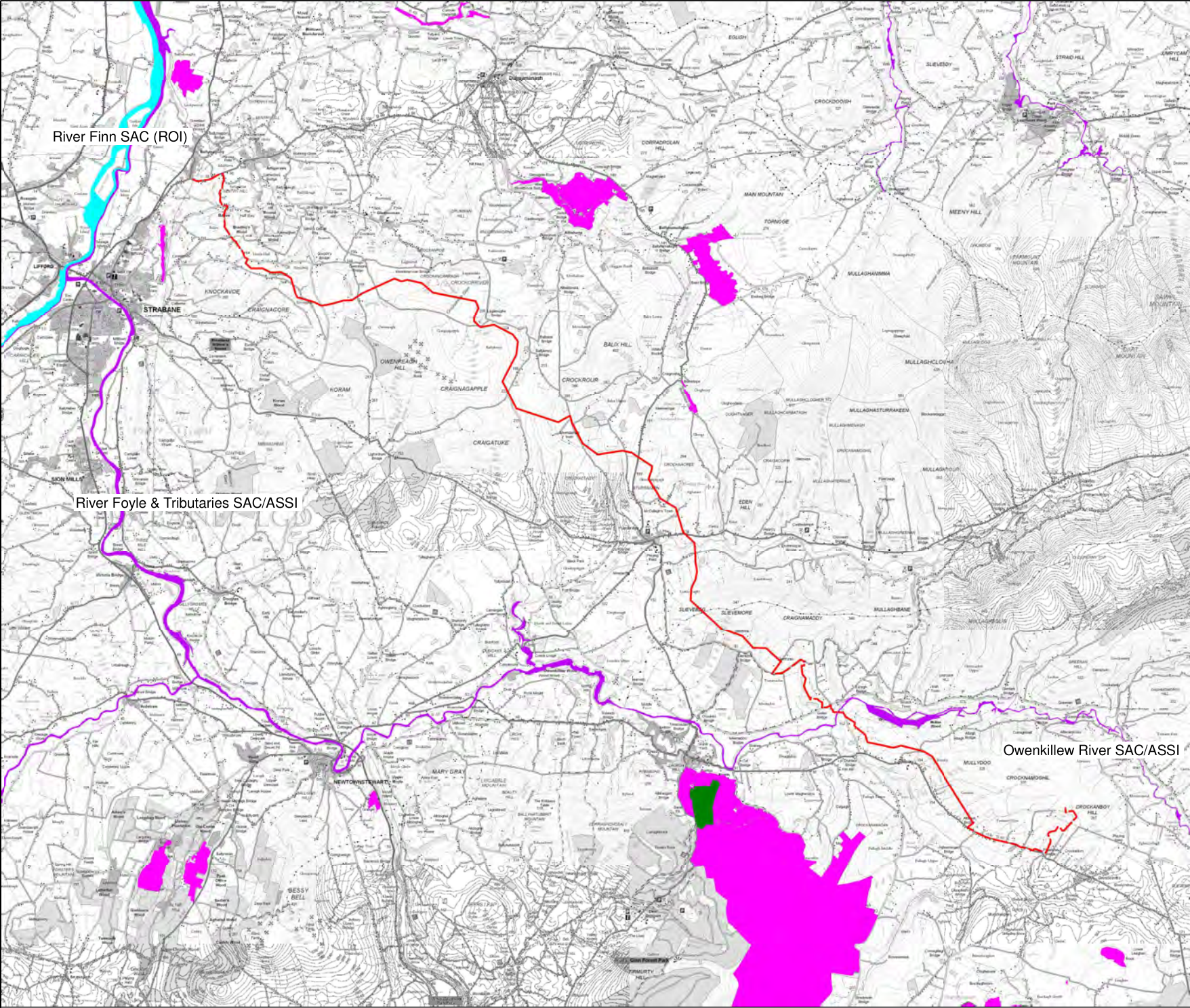
- (a) The descriptions of the proposals are as per the titles above – with fuller details available on the planning portal.
- (b) All information in relation to the applications, including the Environmental Statements and addendums is available to view on the planning portal using the planning reference numbers cited above.
<https://planningregister.planningsystemni.gov.uk/simple-search>
- (c) Following receipt of a report from the Planning Appeals Commission, the applications will be determined by the Department and can either be approved (with conditions) or refused.

I have also attached some relevant figures and chapters from the ES to assist you and would be grateful if you could advise the Department within 30 days of this letter if Donegal County Council wishes to participate in these procedures.

Please do not hesitate to contact the Department should you wish to discuss further.

Yours sincerely

Regional Planning Policy & Casework Team



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Note

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3. This drawing should be read in conjunction with all other relevant drawings and specifications.

Legend

- Proposed Overhead Line
- Proposed Cable
- SAC (NI)
- River Finn SAC (ROI)
- ASSI
- National Nature Reserve

Rev	Description	By	Ckd	Date
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rps

Elmwood House, 74 Boucher Road,
BELFAST, BT12 6RZ
T: 028 9066 7914

Client: NIE Networks

Project: Curraghinalt 33KV Connection Project

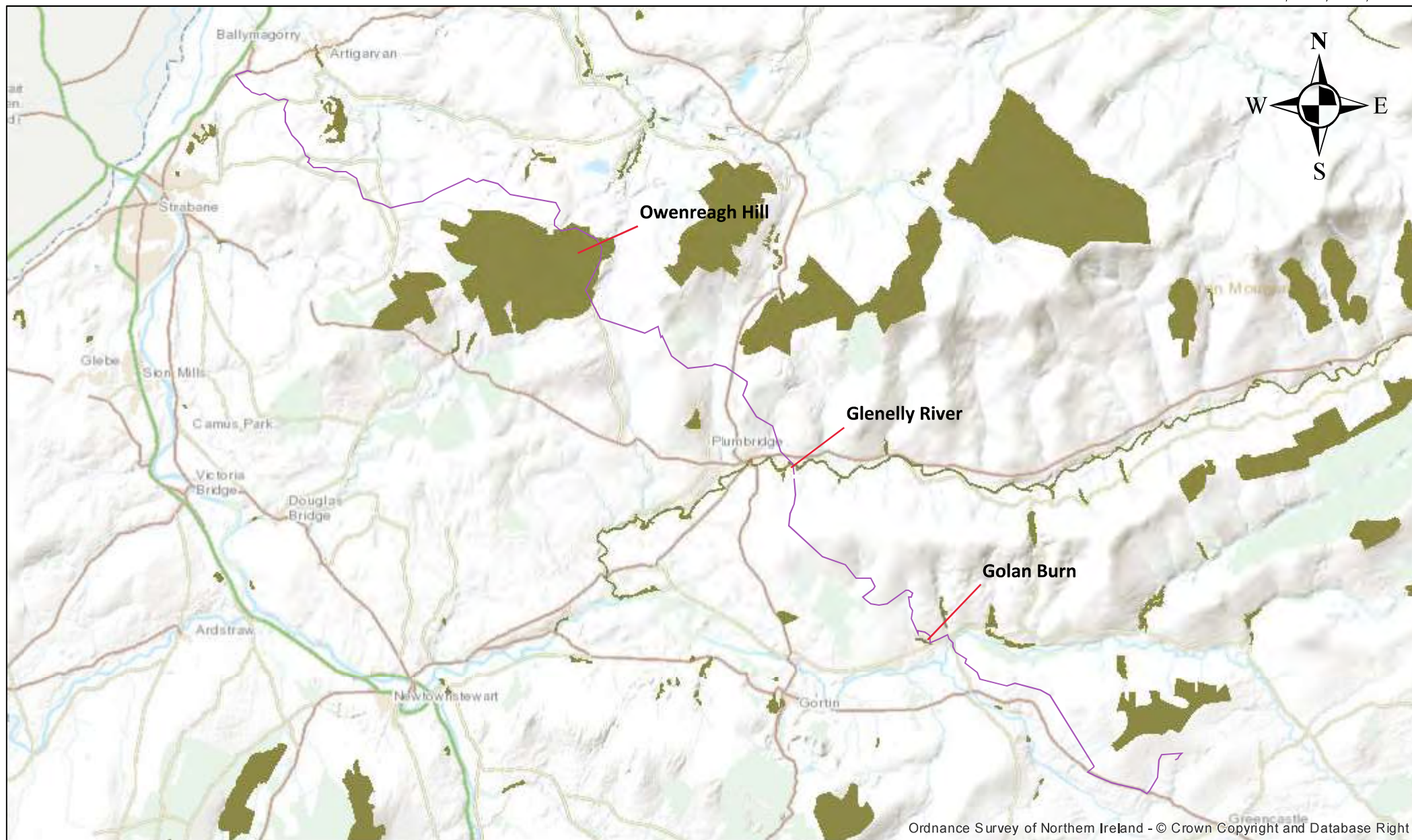
Title: Statutory Designated Sites

Figure Number 7.1

Status: Preliminary Scale @ A3: NTS Date: 19.03.21

RPS Project Number: NI1851 Revision: --

rpsgroup.com



Title: Figure 7.2 Non-Statutory Designated Sites

Scale: 1:120,000

Drawn by: DMC

Date: 19/11/2018

Description:

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9

WATER QUALITY

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9 WATER QUALITY

9.1 Introduction

The purpose of this report is to provide an assessment of the likely significant effects of the proposed project, henceforth referred to as the Proposed Development, a 33kV connection associated with the proposed Curraghinalt mine, currently under consideration under planning application LA10/2017/1249/F on water quality within the study area, particularly in the context of the water bodies affected in the North Western River Basin Management Plan 2015 -2021. This report sets out the baseline water quality as defined through desk based assessment, field surveys and consultation with DfI (Department for Infrastructure) Rivers Agency and DAERA (Department of Agriculture, Environment and Rural Affairs) Northern Ireland Environment Agency (NIEA).

This Report contains the following sub-sections:

- Project Description (section 9.3);
- Legislative and policy context (section 9.4);
- assessment methodology – describes the process used to produce this assessment (section 9.5);
- Baseline Description - a description of the existing environmental conditions of the assessment area (water quality) based on published information and consultations (section 9.6);
- Assessment of Impacts - identifying the ways in which the water quality of the assessment area could be affected (section 9.7);
- Mitigation - a description of measures that will be implemented to mitigate the identified potential effects (section 9.8);
- Residual Impacts - an assessment of the significance of the impacts of the development, after mitigation measures have been implemented (section 9.9);
- Cumulative, Transboundary Effects and interactions (section 9.10); and
- Conclusions (section 9.11).

9.2 Project Description

The Proposed Development seeks to develop a 33kV connection associated with the proposed Curraghinalt mine, currently under consideration under planning application LA10/2017/1249/F. The detailed project description is included in Chapter 2.

The Proposed Development connects the existing NIE Networks Strabane substation to a proposed substation building at the mine site; the substation at the mine site is proposed as part of planning application LA10/2017/1249/F.

The proposed 33kV connection is 37.9 km in length, comprising of 26.9 km of overhead line supported by single and double wooden pole sets and 11 km of underground cabling.

The route of the Proposed Development is shown in **Figure 9-1** below.

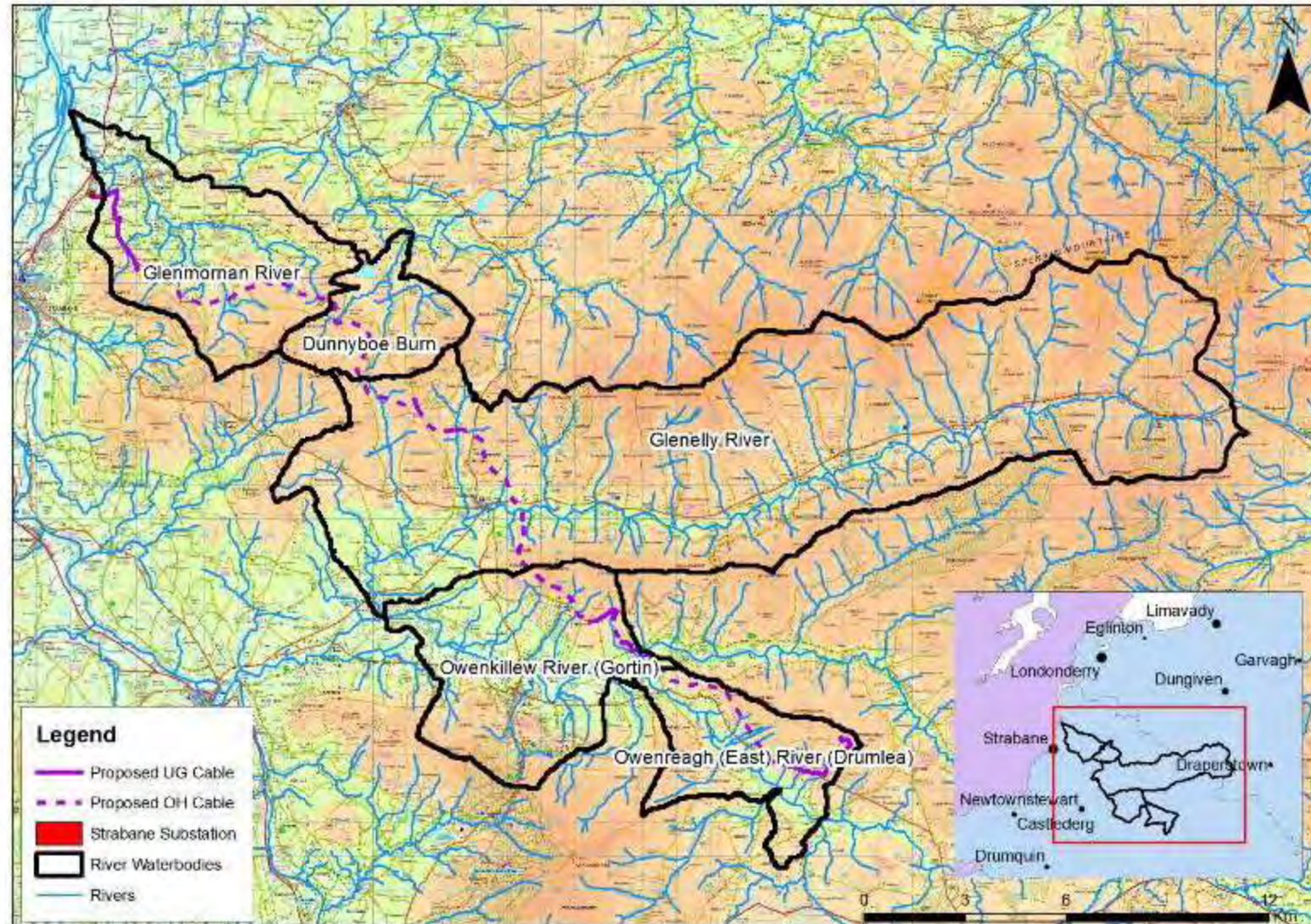


Figure 9-1: Location within the Context of the Water Environment

9.2.1.1 Watercourse Overhead Line crossings

The routing of the overhead line has sought to ensure pole sets are as far set back from water courses and field drains as possible, however in a limited number of locations it has been necessary to site the structures (either single or twin poles) within 10 metres of such features. The location of the pole sets that are in close proximity to water courses or field drains are provided in **Table 9-1**.

Table 9-1 Pole sets on the overhead line within 10 metres of a water course

Structure Reference	Type of Structure	Watercourse	X	Y	Distance from Project (m)	Adjacent Field drain (F) or water course (WB)
Pole 2010	Single Pole	Fowl Glen Burn (a tributary of Glenmornan River)	238674	398208	5.5	F
Pole 2036A	Single Pole	Unnamed tributary of the Owenreagh Burn (a tributary of Glenmornan River)	240584.8	397514.6	7	F
Pole 2037	H Pole	Glenawanda Burn (a tributary of Glenmornan River)	240697.2	397480.7	2	WB
Pole 2075A	Single Pole	Legnavadder Burn (a tributary of Glenmornan River)	243319.7	397536.6	9.5	F
Pole 2156	H Pole	Tributary of the Letterbrat Burn	247582.1	393665.5	8	F
Pole 2183	H Pole	Unnamed	248928.8	392209.6	8	F
Pole 2184	Single Pole	Unnamed (a tributary of Glenelly River)	248962.6	392154.5	8	F
Pole 2197	H Pole	Glenelly River	249437.2	391314.1	10	F
Pole 2239	H Pole	Trinamadan Burn (a tributary of Owenkillew River)	250917.8	388596.2	10	F
Pole 2263	Single Pole	Owenkillew River SAC and ASSI	253012.6	386949.5	5	F
Pole 2308	Single Pole	Unnamed (a tributary of Owenkillew River)	255890	385106.7	6	F
Pole 2314	Single Pole	Unnamed (a tributary of Owenkillew River)	256160.5	384677.8	5	WB
Pole 2086	H Pole	Legolougha Burn	243758.5	396929.2	8	WB
Pole 2125	Single Pole	Glashygalgan Burn	245106.3	394661.5	4	WB
Pole 2128	H Pole	Glashygalgan Burn	245441.7	394550.7	9	WB
Pole 2249	Single Pole	Trimamdan Burn	251126.1	388228.1	2	WB
Pole 2157	H Pole	Golan Burn	247650.1	393644.2	1	WB
Pole 2250	Single Pole	Trimamdan Burn	251081	388192.6	9	WB

9.2.1.2 Watercourse cable crossings

The construction method for the watercourse crossings on the cabled section of the route are listed in **Table 9-2** (the location reference refers to the watercourse crossings shown in **Figure 9-2** to **Figure 9-4**. Where the methodology differs from the standard technique outlined in Section 2.2.3 the detailed methodology can be found in Volume II, Appendix 2.2 OCEMP Appendix D: Alternate Underground Cable Construction Methodologies.

Table 9-2: Location of Specific Underground Cable Construction Methodologies (methodologies listed in the table can be found in Volume III, Appendix 2.2 OCEMP, Appendix D)

Location Reference	Grid Reference	Watercourse	Feature	Methodology of Underground Cable Installation
ST1 (ch550m)	237078 400566	Glenmornan Tributary 1 at Berryhill Road	Culvert (Concrete pipe)	Install as per normal technique above the culvert as per Section 2.5.5 of Chapter 2 Project Description
ST2 (ch2790m)	237689 398985	Glenmornan Tributary 2 at Hollyhill Road	Culvert (Concrete pipe)	Excavation and Installation around and below a structure (Methodology A) or; Directional drilling (Methodology B)
ST3 (ch3370m)	238013 398528	Glenmornan Tributary 3 at Hollyhill Road	Culvert (Mixture of concrete and masonry)	Dam watercourse and install open trench through watercourse (Methodology C)
ST4 (ch50m)	251087 388156	Owenkillev Tributary 1 at Meenadoo Road	Large masonry culvert	Install as per normal technique above the structure as per Section 2.2.3
ST5 (ch450m)	251441 387959	Owenkillev Tributary 2 at Meenadoo Road	Masonry culvert (suspected to have collapsed and in poor condition)	Directional drilling (Methodology B)
ST6 (ch695m)	251689 388006	Owenkillev Tributary 3 at Meenadoo Road	Masonry culvert	Directional drilling (Methodology B)
ST7 (ch895m)	251841 388113	Owenkillev Tributary 4 at Meenadoo Road	Culvert (Concrete pipe)	Install as per normal technique above the structure subject to condition of the road, or Directional drilling (Methodology B)
ST8 (ch980m)	251910 388153	Owenkillev Tributary 5 at Meenadoo Road	Culvert (Concrete pipe)	Install as per normal technique above the structure subject to condition of the road, or Directional drilling (Methodology B)
ST9 (ch1100m)	252013 388241	Owenkillev Tributary 6 at Meenadoo Road	Culvert (Concrete pipe)	Install as per normal technique above the structure subject to condition of the road, or Directional drilling (Methodology B)
ST10 (ch1230m)	252096 388304	Golan Burn at Meenadoo Road	Culvert (Concrete pipe)	Install as per normal technique above the structure subject to condition of the road, or Directional drilling (Methodology B)
ST10b (ch1450m)	252207 388164	Tributary of the Golan Burn	Open Water Course	Alternate Methodology C: Dam watercourse and install open trench through watercourse or; Alternate Methodology B: Directional drilling.
ST 11	252949 386970	Owenkillev Tributary 7 at Gortacashill Road	Culvert (Mixture of concrete and masonry)	Dam watercourse and install open trench through watercourse (Methodology C), or Directional drilling (Methodology B)
ST12 (ch500m)	256758 383849	Owenreagh Tributary 1 at Crocknaboy Road	Culvert (Concrete pipe)	Install as per normal technique above the structure as per Section 2.2.3
ST13 (ch1500m)	257700 383556	Owenreagh Tributary 2 at Crocknaboy Road	Masonry Arch	Install as per normal technique above the structure as per Section 2.2.3

9.3 Legislative Context

The European Water Framework Directive (2000/60/EC) has been transposed into Northern Ireland regulations through The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017. The Water (Amendment) (Northern Ireland) (EU Exit) Regulations 2019 ensures that the Water Framework Directive (as transposed) and the various supporting pieces of water legislation continue to operate here after 1 January 2021 and are the main mechanism for integrated catchment management and the protection of our water resource. These supporting regulations are listed at Schedule 2 of The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017. The Water Framework Directive (2000/60/EC), as amended by Directives 2008/105/EC, 2013/39/EU and 2014/101/EU, established a new integrated approach to the protection of the water environment. The Directive was transposed in Northern Ireland through the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017.

The Northern Ireland Environment Agency (NIEA) is the competent authority tasked with implementation of the WFD in Northern Ireland. A key requirement of the WFD is that surface water bodies attain at least good surface water status, requiring both ecological status and chemical status to be at least good, and that there should be no deterioration in existing status.

For groundwater the objective is to achieve good groundwater status, requiring both quantitative status and chemical status to be at least good. Therefore an assessment must be carried out to ensure that the Proposed Development does not compromise these fundamental requirements of the WFD. The aim of this assessment is to determine if specific components or activities related to the planned development will compromise the attainment of an environmental objective as per Article 4 of the WFD or result in the deterioration in the overall status of any water body. This will determine whether it is possible to proceed with the project or whether amendments or mitigation measures are necessary.

To facilitate implementation of the WFD, Northern Ireland was divided into four River Basin Districts (RBDs). Three of the four RBDs are cross-border river basin districts and as such are designated as International River Basin Districts (IRBDs). Each RBD contains several water bodies which must be assessed and managed to meet WFD objectives. The WFD requires the preparation of a Programme of Measures (POMs) outlining the steps that will be taken to meet WFD objectives as applicable to each water body. This Programme is contained within an overarching River Basin Management Plan (RBMP). One RBMP is prepared for each RBD and also contains information on water body status, objectives and timescales. In the case of IRBDs, a separate RBMP has been published by each jurisdiction (Ireland and Northern Ireland) but with harmonised status, objectives, and programmes of measures for cross border water bodies. The final RBMPs for the second river basin management cycle for the portion of the IRBDs within Northern Ireland were published in December 2015 and, along with the associated programme of measures, are the main mechanism for catchment management and an integrated approach to the improvement of our water bodies. The NIEA are currently preparing the third River Basin Management Plan and the draft plan is currently published for public consultation. The third river basin management plan will run from December 2021 to 2027.

RBMPs are being implemented through Local Management Area (LMA) Action Plans during the current planning cycle 2015 to 2021. These LMA Action Plans detail the status, objectives and measures required to manage a specific group of water bodies within each RBD. The LMAs are kept 'live' during the planning cycle and will be updated as more measures are developed and implemented.

The environmental baseline is set out within this Report along with an assessment of how the existing environment may be affected by the proposal. Where impacts are expected suitable mitigation measures are detailed.

For the purposes of this assessment and to be consistent with the NIEA Water Management Unit 'EIA Scoping Guidance for Developments likely to Impact upon the Water Environment (NIEA, 2012)' potential impacts on specific waterways are identified. The definition of a waterway is as defined in the Water (Northern Ireland) Order 1999:

“waterway includes any river, stream, watercourse, inland water (whether natural or artificial) or tidal waters and any channel or passage of whatever kind (whether natural or artificial) through which water flows...”

9.4 Assessment Methodology

A qualitative (desk-based) assessment of potential impacts on local surface water quality and groundwater quality has been undertaken. The potential impacts of soil contaminants and drainage on local watercourses are considered in the assessment.

The following tasks were implemented to complete the desk based assessment:

- Existing Environment (Section 9.7)
 - Identification of location of watercourses along proposed route and in the vicinity of the substation;
 - Initial consultation with NIEA Water Management Unit (WMU) to obtain any relevant information; and
 - Assessment of baseline conditions and areas protected under the WFD.
- Impact Assessment (Section 9.8)
 - Identify potential impacts (including cumulative impacts) from the Proposed Development (and other relevant developments) on the achievement of WFD objectives;
 - Assessment of the significance of potential impacts using a method adopted from the Design Manual for Roads and Bridges (2011); and
 - assessment to determine whether specific components or activities related to the Proposed Development will compromise the attainment of WFD objectives or result in the deterioration in the ecological status of any water body.
- Mitigation (Section 9.9)
- Residual Impacts (Section 9.10)
- Cumulative impacts and transboundary issues (Section 9.11)
- Conclusions (Section 9.12)

9.4.1 Assessment of Significance of Potential Impact

The significance of impact on surface water runoff and water quality likely to occur during the construction and operation phases of the development are determined using the predominantly qualitative process described below. It is a combination of the magnitude of the impact and the potential sensitivity of the receptor.

The definitions of potential significance are as listed in **Table 9-3** (adapted from the generic methodology for environmental sensitivity outlined in the Design Manual for Roads and Bridges (DMRB) (2011)). Impacts can be described as either adverse or beneficial.

The magnitude of the impact has also been adapted from the generic methodology for environmental assessment outlined in the DMRB (**Table 9-4**) Impacts may be adverse or beneficial and their magnitude has been assessed.

Table 9-3: Sensitivity Indication (DMRB, 2011)

Value (Sensitivity)	Typical Descriptors
Very High	Very high importance and rarity, international scale and very limited potential for substitution. Examples: Water body protected area interests are of international importance and have been designated under the Habitats, Birds, Shellfish, Bathing Water or Freshwater Fish, Drinking Water or Nitrate Directives. High Status Water bodies.
High	High importance and rarity, national scale, and limited potential for substitution. Examples: Water body where the current status is good or better and no deterioration is permitted. National designation e.g. Area of Special Scientific Interest (ASSI).
Medium	High or medium importance and rarity, regional scale, limited potential for substitution. Examples: Moderate Status with an objective of good status by 2021, regionally important resource in terms of ecology or fisheries interest.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Table 9-4: Magnitude of Impact Indicating Type and Scale of Impact (DMRB, 2011)

Magnitude	Type and scale of impact
Major	Major alteration to water body status causing deterioration in either the ecological status including supporting elements, i.e., physico-chemical, specific pollutants and hydromorphology, chemical status or protected area status, including downstream protected area interests within the same water body. Severe damage to key water body characteristics, features or elements (Adverse). Large scale or major improvement to water body status, extensive restoration or enhancement of Water body (Beneficial).
Moderate	Water quality impact but not adversely affecting the integrity or status of the water body, partial loss or damage of certain characteristics or water body attributes (Adverse). Benefit to or addition of key characteristics or features of the water body, improvement in water status (Beneficial).
Minor	Some measureable change in water quality attributes, minor loss or alteration to one (maybe more) key characteristics (Adverse). Minor benefit to one or more key characteristics, features or elements of the water body (Beneficial).
Negligible	Very minor loss to water body characteristics, features or elements (Adverse). Very minor benefit to or positive addition of one or more water body characteristics, features or elements (Beneficial).
No change	No loss or alteration to water quality or water body status.

The greater the environmental sensitivity or value of the receptor or resource, and the greater the magnitude of impact, the more significant the impact. The consequences of a highly valued environmental resource suffering a major detrimental impact would have a very significant adverse effect. The typical impact significance categories used in this assessment are presented in **Table 9-5**.

Table 9-5: Estimating the Significance of Potential Impacts (DMRB, 2011)

Sensitivity Attribute	of	Magnitude of Impact			
		Negligible	Minor	Moderate	Major
Very High		Negligible/Neutral	Moderate/Large	Large/Very Large	Very Large
High		Negligible/Neutral	Slight/Moderate	Moderate/Large	Large/Very Large
Medium		Negligible/Neutral	Slight	Moderate	Large
Low		Negligible/Neutral	Negligible/Neutral	Slight	Slight/Moderate

9.5 Consultation Responses

A comprehensive consultation response was received from a number of agencies both in terms of the EIA determination and the scope of the Environmental Impact Assessment. The associated correspondence, including the DfI's screening opinion, is provided in Volume III, Appendix 1.2. The associated correspondence, provided by consultees, in respect of DfI's screening exercise, are provided in Volume III, Appendix 1.3.

The key issues raised in relation to water quality are summarised below. These have been considered in the preparation of this assessment, where relevant, or in related assessments e.g. Fisheries and Aquatic Ecology, and also in the development of the OCEMP (Volume II, Appendix 2.2).

9.5.1 Marine and Fisheries Division:

Section 47 of the Fisheries Act (Northern Ireland) 1966 covers the Applicant's responsibilities relating to penalties for pollution and the consequences of causing or permitting the release of any deleterious material into waters.

The Applicant was advised to consult the following:

- Planning in the Coastal Area
- Standing advice for development that may have an effect on the water environment (including groundwater and fisheries)
- Marine Map Viewer

9.5.2 Drainage and Water

The Water Management Unit are of the opinion that, based on the information presented, the impacts on the surface water environment generated by this proposal are unlikely to be significant subject to best practice and appropriate mitigation being applied during the construction, operation and decommissioning phases. The WMU comments are subject to:

- The Applicant complying with all the environmental authorisations granted.
- The proposal necessitates the crossing of a waterway and the Applicant will be required to liaise with Water Management Unit Pollution Prevention Team to agree a method of works.
- The Applicant noting and acting on the advice contained in this response under further guidance.
- The following standing advice for the aquatic environment was also referred to:
 - DAERA Standing Advice Pollution Prevention Guidance
 - DAERA Standing Advice Discharges to the Water Environment
 - DAERA Standing Advice Abstractions and Impoundments
 - DAERA Standing Advice Sustainable Drainage Systems
- Final CEMP to be agreed with NIEA in advance of construction
- River crossing methods both overhead and underground needs to be fully detailed including method statements for both HDD and the use of open cut employing coffer dams.
- Stockpiles – best practice management must be applied and stockpiles should be at least 10 Metres from any watercourse. (Any mitigation methods used to prevent pollution from suspended solids from surface water runoff must be maintained after drilling until times as there is no longer a threat to the aquatic environment (e.g. re-vegetation has taken place)
- Vegetative buffer zones mentioned as a measure for pollution of prevention of the watercourses on site need to be a minimum of 10Metres. The Applicant will need to take into account conditions on the ground including typography and ensure that any buffer zone is suitable for the task in hand;

9.5.3 Drinking Water Inspectorate

A development must not impact on either the quality or sufficiency of a private water supply, and mitigation measures must be put in place, where required, in the protection of such drinking water supplies. If any private water supplies have the potential to be impacted by the development appropriate mitigations must be in place. The Applicant must consider the use of individual private supplies in the area that have not been registered by DWI, therefore a scoping exercise should be undertaken along the length of the proposed development to ensure no private water supplies will be adversely affected.

Public water supplies: All necessary steps must be taken to ensure that the works do not impact on the water bodies within Drinking Water Protected Areas.

9.5.4 Loughs Agency

- Any crossing must be the subject of an application under Article 46 of the Foyle Fisheries Act (Northern Ireland) 1952 as amended, which allows for disturbance of the bed a watercourse under specified conditions
- In relation to works in sensitive rivers, the Loughs Agency would prefer to see no coffer dams on the river working, similarly to river crossings if these are not avoidable then applications above must be submitted
- If any in river works are required in designated rivers it is likely that these would be strictly time limited to take into account the life cycle of the various fish species and this may be prohibitive due to the volume of species of high conservation value i.e. Salmon, Brook/River/Sea Lamprey, FPM, Sea and brown trout and eel
- The agency would also expect to see a site-specific construction method statement and a site specific invasive species management plan.
- Preference for directional drilling under streams
- Fish passage should not be impaired even by temporary obstruction except where absolutely necessary

9.6 Existing Environment

As shown in **Figure 9-1** this Proposed Development traverses watercourses within five river water bodies and two groundwater bodies, namely:

- Glenmornan River (UKGBNI1NW010101075)
- Dunnyboe Burn (UKGBNI1NW010101072)
- Glenelly River (UKGBNI1NW010104040)
- Owenkillew River (Gortin) (UKGBNI1NW010102027)
- Owenreagh (East) River (Drumlea) (UKGBNI1NW010104041)
- Claudy Groundwater (UKGBNI4NW003)
- Gortin Groundwater (UKGBNI4NW004)

The Glenmornan River and Dunnyboe River water bodies are within the Burn Dennet and Foyle LMA. While the Glenelly River, Owenkillew River (Gortin) and Owenreagh (East) River (Drumlea) water bodies are within the Owenkillew LMA, both of which are part of the North Western RBD.

The Glenmornan River lies within the Claudy Groundwater body, while the remaining water bodies are within the Gortin Groundwater body. Consultations were therefore undertaken with NIEA Water Management Unit in July 2019 and again in July 2020 with respect to the Proposed Development within the context of the WFD Programme of Measures for the water body, the overarching RBMP and general water quality assessment. A desk study was undertaken to determine the current water quality status of each of the aforementioned water bodies in the context of WFD via a request for available information from NIEA Water Management Unit and a review of data available on the NIEA website.

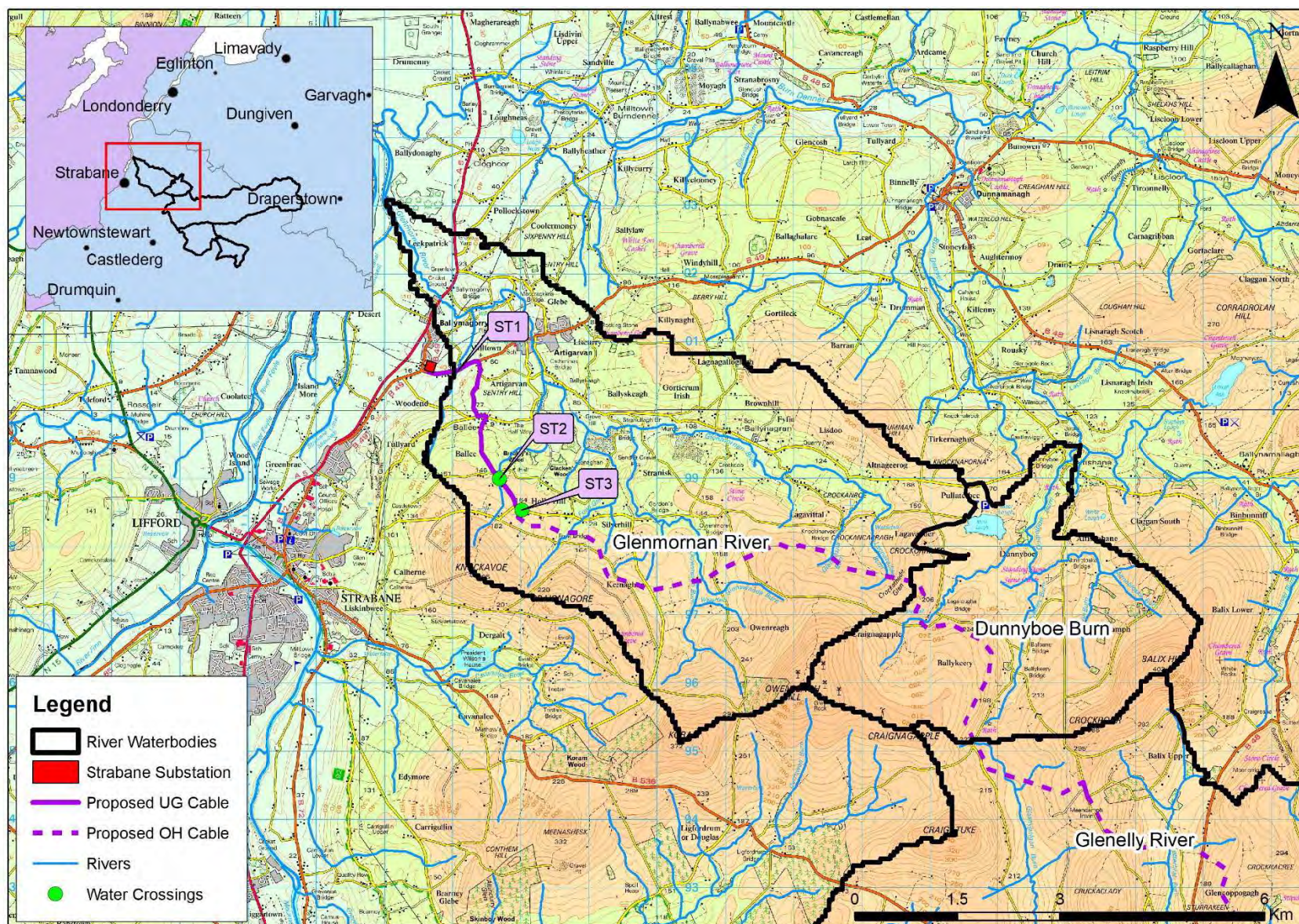


Figure 9-2: Location within the Context of the Water Environment and included water crossings, Section A

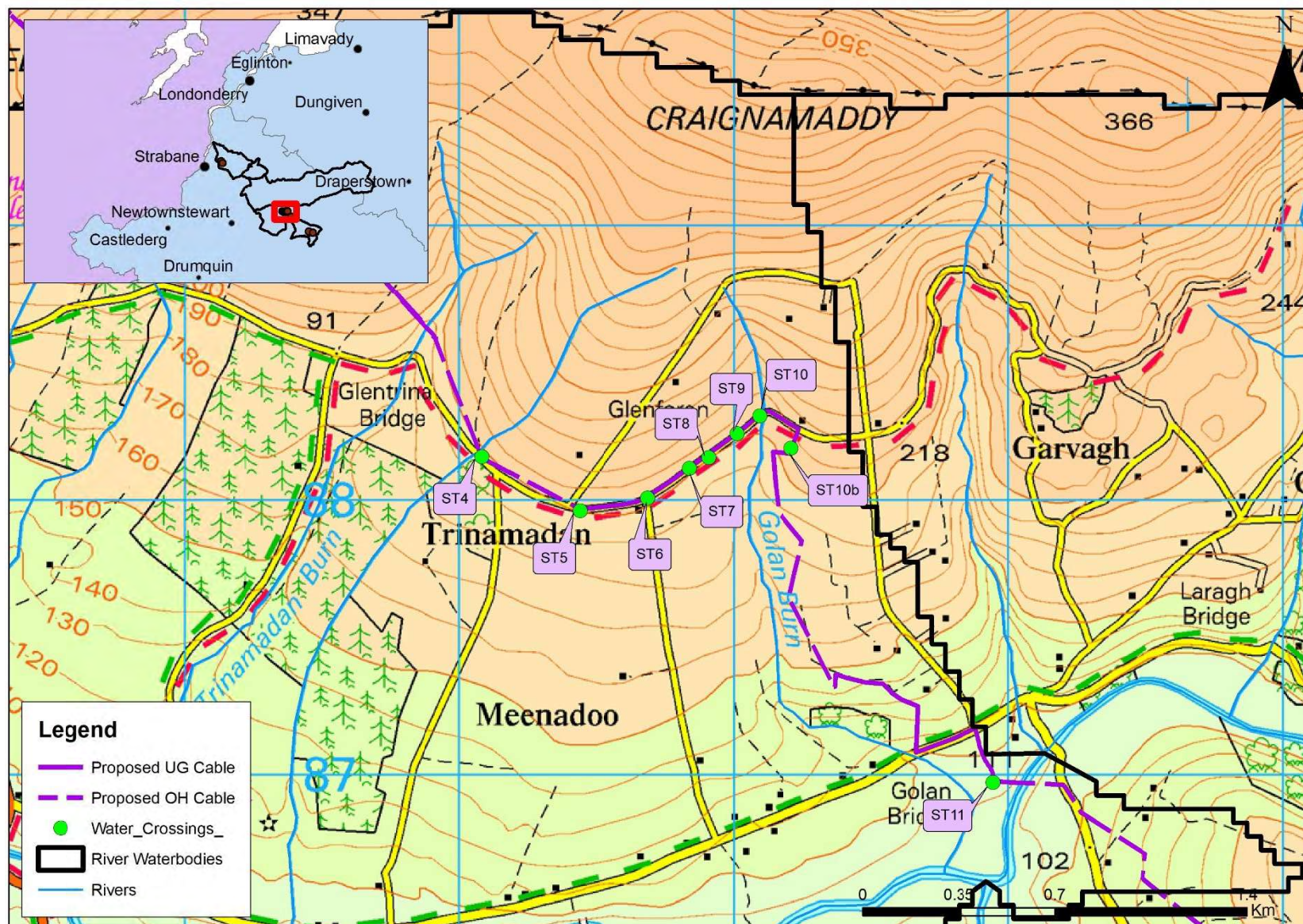


Figure 9-3: Location within the Context of the Water Environment and included water crossings, Section B.

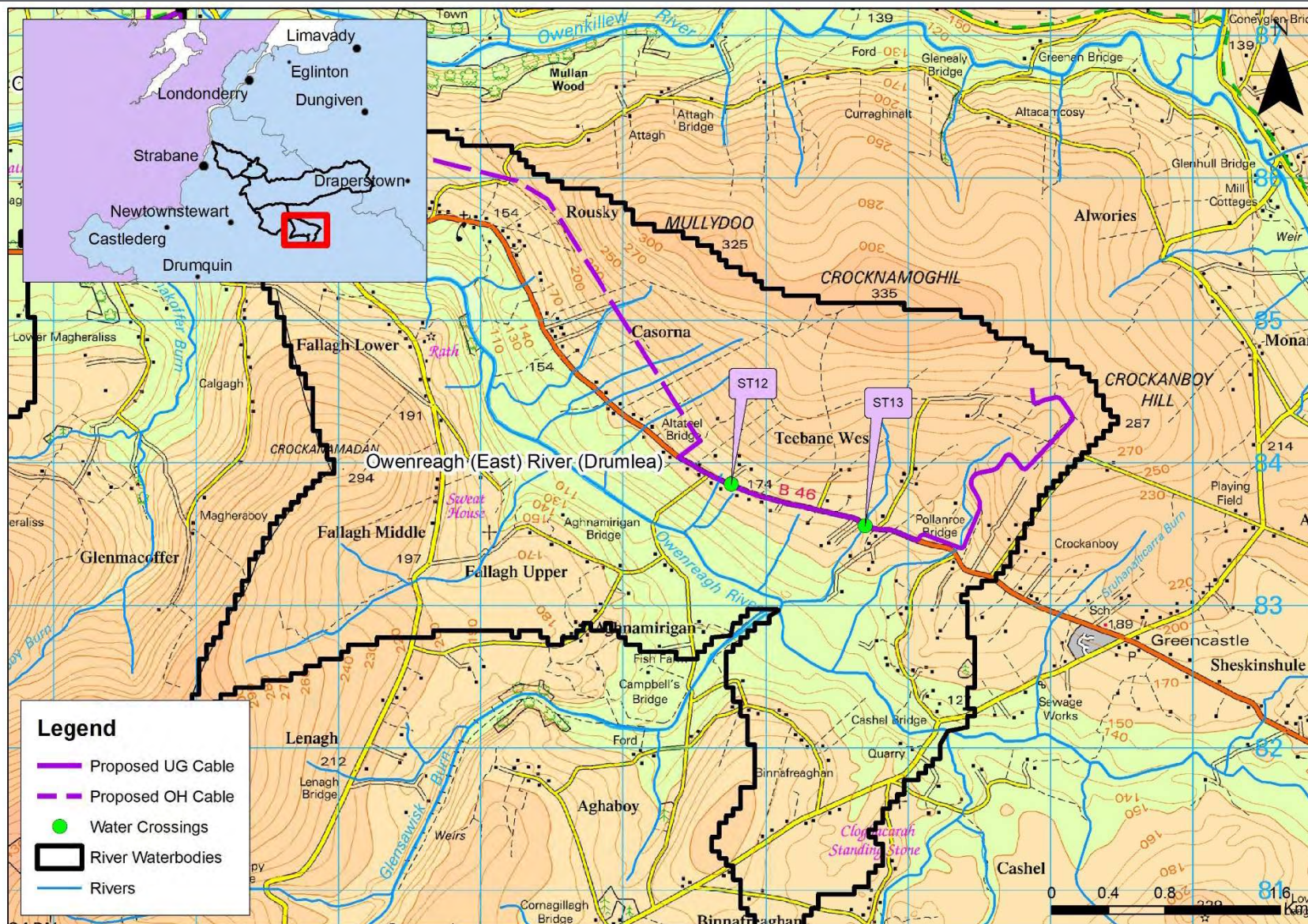


Figure 9-4: Location within the Context of the Water Environment and included water crossings, Section C.

9.6.1 Surface Water Status

Consultation with the NIEA Water Management Unit provided details of surface water status, groundwater status, pollution incidents and industrial consents within the study area of the Proposed Development. The surface water status information provided includes the status attained during the most up-to-date WFD monitoring assessment, which was undertaken in 2018. Detailed information in relation to the components contributing to the status is available from the NIEA website. The most up to date information has been included in **Table 9-6 – Table 9-10** to ascertain the individual quality elements contributing to overall status.

Table 9-6: Glenmornan River (UKGBNI1NW010101075) WFD Status Classification

Water body name:	Glenmornan River
Water body identification code:	UKGBNI1NW010101075
River Basin District:	North Western
Local management area:	Burn Dennet and Foyle
2018 Status:	Moderate
2021 Objective:	Good Status
2027 Objective:	Good Status
Confidence in overall status:	-
Biological elements	
Benthic invertebrates	Good
Macrophytes	High
Phytobenthos	Good
Fish	Moderate
Physicochemical elements	
Biochemical Oxygen Demand	-
Dissolved Oxygen	High
pH	High
Soluble Reactive Phosphorus	Good
Specific pollutants	
Ammonia	High
Other Specific Pollutants	High
Hydromorphological elements	
Hydrological regime	High
Morphological conditions	Moderate
Priority substances	
Benzene	High
Brominated diphenylether	High
Cadmium (dissolved)	High
Lead (dissolved)	High
Mercury (dissolved)	High
Nickel (dissolved)	High

Table 9-7: Dunnyboe Burn (UKGBNI1NW010101072) WFD Status Classification

Water body name:	Dunnyboe Burn
Water body identification code:	UKGBNI1NW010101072
River Basin District:	North Western
Local management area:	Burn Dennet and Foyle
2018 Status:	Good
2021 Objective:	Good Status
2027 Objective:	Good Status
Confidence in overall status:	-
Biological elements	
Benthic invertebrates	Good
Macrophytes	High
Phytobenthos	High
Fish	High
Physicochemical elements	
Biochemical Oxygen Demand	-
Temperature	-
Dissolved Oxygen	High
pH	High
Soluble Reactive Phosphorus	High
Specific pollutants	
Ammonia	High
Other Specific Pollutants	High
Hydromorphological elements	
Hydrological regime	High
Morphological conditions	Good
Priority substances	
Atrazine	High
Cadmium (dissolved)	High
Chlorpyrifos	High
Diuron	High
Isoproturon	High
Lead (dissolved)	High
Mercury (dissolved)	High
Nickel (dissolved)	High
Simazine	High

Table 9-8: Glenelly River (UKGBNI1NW010104040) WFD Status Classification

Water body name:	Glenelly River
Water body identification code:	UKGBNI1NW010104040
River Basin District:	North Western
Local management area:	Owenkillew
2018 Status:	Moderate
2021 Objective:	Good Status
2027 Objective:	Good Status
Confidence in overall status:	-
Biological elements	
Benthic invertebrates	Moderate
Macrophytes	High
Phytobenthos	High
Fish	Moderate
Physicochemical elements	
Biochemical Oxygen Demand	-
Temperature	-
Dissolved Oxygen	High
pH	High
Soluble Reactive Phosphorus	Good
Specific pollutants	
Ammonia	High
Other Specific Pollutants	Moderate
Hydromorphological elements	
Hydrological regime	High
Priority substances	
Atrazine	High
Cadmium (dissolved)	High
Chlorpyrifos	High
Diuron	High
Isoproturon	High
Lead (dissolved)	High
Mercury (dissolved)	High
Nickel (dissolved)	High
Simazine	High

Table 9-9: Owenkillev River (UKGBNI1NW010102027) WFD Status Classification

Water body name:	Owenkillev River (Gortin)
Water body identification code:	UKGBNI1NW010102027
River Basin District:	North Western
Local management area:	Owenkillev
2018 Status:	Good
2021 Objective:	Good Status
2027 Objective:	Good Status
Confidence in overall status:	-
Biological elements	
Benthic invertebrates	High
Macrophytes	High
Phytobenthos	High
Physicochemical elements	
Biochemical Oxygen Demand	-
Temperature	-
Dissolved Oxygen	High
pH	High
Soluble Reactive Phosphorus	Good
Specific pollutants	
Ammonia	High
Other Specific Pollutants	High
Hydromorphological elements	
Hydrological regime	High
Priority substances	
Priority Substances	High

Table 9-6 to Table 9-10 show that Owenkillev River (Gortin), Dunnyboe Burn and Owenreagh (East) River (Drumlea) are at 'Good' overall status, while the Glenelly River and Glenmornan River are at "Moderate" overall status.

The Glenmornan River has declined to Moderate Status in 2018 while the water body was previously at Good status during the 2015 monitoring cycle. The elements responsible for the decline in status are both biological (fish) and hydromorphological (morphological regime), which both decreased from Good to Moderate status.

Morphological conditions and the biological elements (benthic invertebrate) in the Dunnyboe Burn are the elements hindering the waterbody from achieving High status, however it is not preventing the waterbody from achieving its WFD objective.

Biological elements (benthic invertebrates) and the specific pollutant Cypermethrin in the Glenelly River are the elements hindering the waterbody from achieving good status. Both benthic invertebrates and Cypermethrin are preventing the waterbody from achieving its WFD objective.

Physicochemical conditions (dissolved oxygen) in the Owenkillev River (Gortin) was the sole element hindering the waterbody from achieving its WFD objective, "Good" status in 2015. Dissolved oxygen has improved to Good status in 2018. However, soluble reactive phosphorus has declined from High to Good status in the most recent monitoring period.

Hydrological regime, invertebrate status and soluble reactive phosphorus in the Owenreagh (East) River (Drumlea) are all hindering the waterbody from achieving High status, however it they not preventing the waterbody from achieving its WFD objective.

It is important to ensure this development does not introduce new pressures to these water bodies, which would be contrary to the objectives of the WFD including the achievement of the protected area objectives for water dependent protected areas under Article 6 of the WFD.

Table 9-10: Owenreagh (East) River (Drumlea) (UKGBNI1NW010104041) WFD Status Classification

Water body name:	Owenreagh (East) River (Drumlea)
Water body identification code:	UKGBNI1NW010104041
River Basin District:	North Western
Local management area:	Owenkillev
2018 Status:	Good
2021 Objective:	Good Status
2027 Objective:	Good Status
Confidence in overall status:	High
Biological elements	
Benthic invertebrates	Good
Macrophytes	High
Phytobenthos	High
Physicochemical elements	
Biochemical Oxygen Demand	-
Temperature	-
Dissolved Oxygen	High
pH	High
Soluble Reactive Phosphorus	Good
Specific pollutants	
Ammonia	High
Other Specific Pollutants	High
Hydromorphological elements	
Hydrological regime	Good
Priority substances	
Priority substances	High

9.6.2 WFD Objectives

The core objectives of the WFD is for all water bodies to achieve 'good status' where they are currently at less than good status and to prevent the deterioration in status. In addition WFD objectives requires that the water dependent protected areas linked to the water bodies must not be compromised and pollution from priority substances should be progressively reduced and emissions, discharges and losses of priority hazardous substances into surface waters ceased or phased out. However, Member States are permitted to apply for an extended deadline in achieving good status for water bodies where the necessary improvements in the status cannot reasonably be achieved within the required timescales. This may be for reasons such as technical feasibility, disproportionate cost or natural conditions within the water body. It is evident from **Tables 9.6** through to **9.10** that two of the water bodies associated with this development are subject to extended deadlines as they are not achieving their objectives.

It will be a requirement that this project does not result in any deterioration of the current status of the relevant water bodies and does not prevent the improvement in status where this is required under the WFD.

9.6.3 Protected Areas

A significant proportion of waters in the North Western RBD are protected under existing European Union (EU) legislation requiring special protection due to their sensitivity to pollution or their particular economic, social or environmental importance. The WFD requires competent authorities to establish a register of these protected

areas and ensure that they are adequately protected. A water body which otherwise meets the requirements of the WFD, may have the status reduced to “less than good” if it does not meet the protected area objectives. All of the areas requiring special protection in the North Western RBD have been identified by the NIEA, mapped and listed in a Register of Protected Areas (required under Article 6 of the WFD). The Register of Protected Areas includes:

- Drinking water protected areas;
- Economically significant waters;
- Recreational waters;
- Nutrient sensitive areas;
- Water dependent Natura 2000 sites.
- Within the Burn Dennet and Foyle LMA and Owenkillev LMA there are several protected areas as outlined in **Table 9-11**. **Figure 9-5** and **Figure 9.6** illustrate the protected areas in close proximity to the Proposed Development.

Table 9-11: Protected Areas within the Burn Dennet and Foyle LMA.

Protected Area Type	Details
Waters used for the abstraction of drinking water (drinking water protected areas)	There are only Groundwater Protected Areas within this catchment.
Areas designed to protect economically significant aquatic species Freshwater Fish Directive (78/659/EEC)	
Shellfish Waters Directive (79/923/EC)	There are approximately 71km of rivers identified under the Freshwater Fish Directive, all designated as salmonid.
	There are 2 designated shellfish waters; Balls Point and Longfield Bank.
Recreational waters (Bathing waters) These are bathing waters identified under the Bathing Waters Directives (76/106/EEC)	There are no identified bathing waters.
Areas designated as sensitive under the Urban Waste Water Treatment Directive (91/676/EEC)	There are no Urban Waste Water Treatment Directive sensitive areas.
And the Nitrates Directive (91/676/EEC)	A total territory approach has been adopted in Northern Ireland for the Nitrates Directive.
Areas designated for the protection of habitats or species (Natura 2000 sites) These are areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection.	
Habitats Directive (92/43/EEC)	There is 1 water dependent Special Area of Conservation (SAC); River Foyle and Tributaries.
Birds Directive (79/409/EEC)	There is 1 water dependent Special Protection Area (SPA); Lough Foyle.

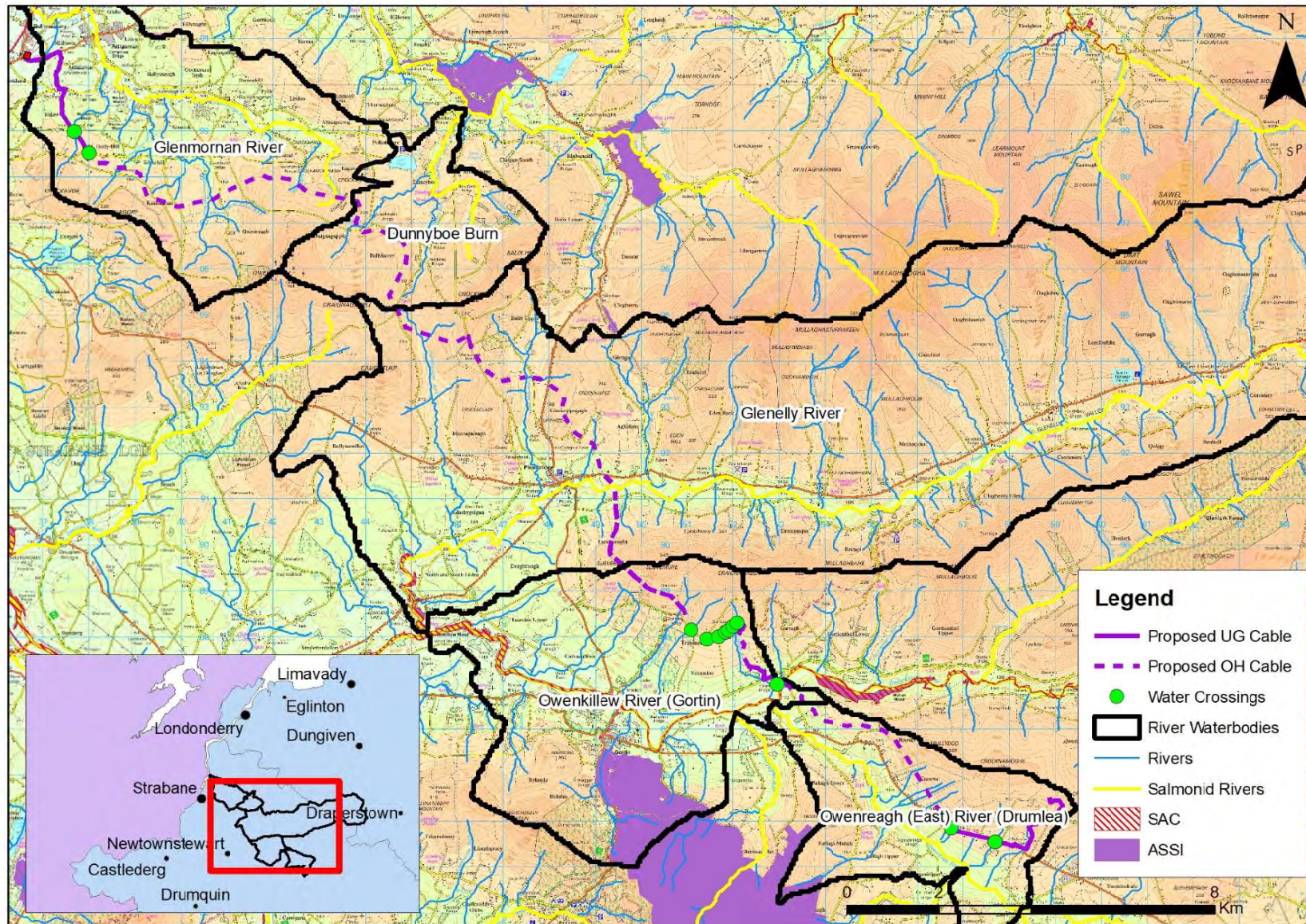


Figure 9-5: Protected Areas within the Vicinity of the Proposed Development

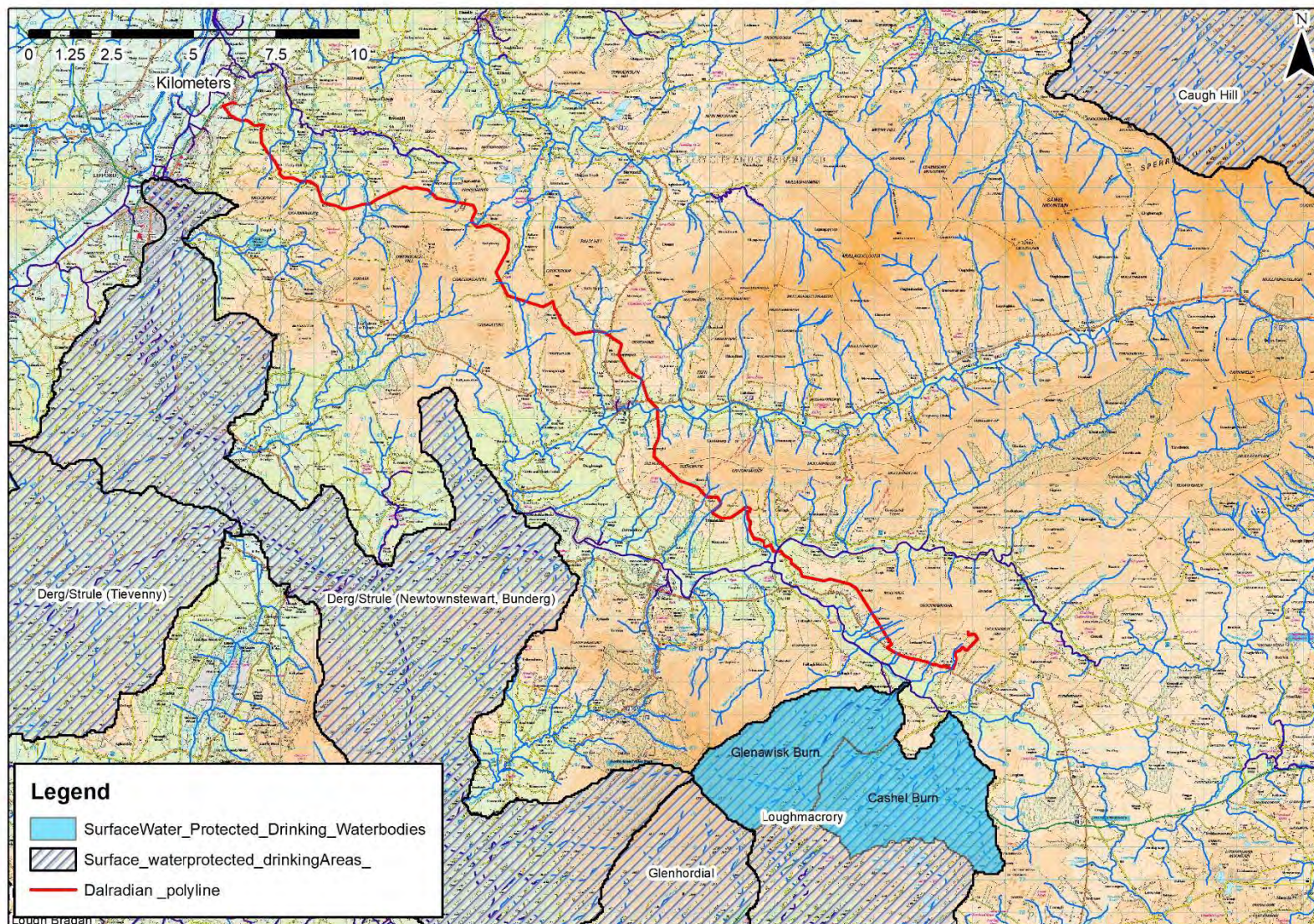


Figure 9.6: Location of drinking water protected surface waterbodies

Table 9-12: Protected Areas within the Owenkillev LMA.

Protected Area Type	Details
Waters used for the abstraction of drinking water (drinking water protected areas)	There are 2 drinking water protected rivers (Glenawisk Burn and Cashel Burn, both tributaries of the Owenreagh (East) River (Drumlea). Both of these rivers are upstream of the Proposed Development.
	There is 1 drinking water protected groundwater (Gortin groundwater body).
Areas designed to protect economically significant aquatic species	
Freshwater Fish Directive (78/659/EEC)	There are 152km of rivers identified under the Freshwater Fish Directive, all designated as salmonid.
Shellfish Waters Directive (79/923/EC)	There are no designated shellfish waters.
Recreational waters (Bathing waters)	
These are bathing waters identified under the Bathing Waters Directives (76/106/EEC)	There are no identified bathing waters.
Areas designated as sensitive under the Urban Waste Water Treatment Directive (91/676/EEC)	There is 1 Urban Waste Water Treatment Directive sensitive area; River Foyle.
And the Nitrates Directive (91/676/EEC)	A total territory approach has been adopted in Northern Ireland for the Nitrates Directive.
Areas designated for the protection of habitats or species (Natura 2000 sites)	
These are areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection.	
Habitats Directive (92/43/EEC)	There are 4 water dependent Special Areas of Conservation (SAC); Owenkillev River, River Foyle and Tributaries; Teal Lough and Black Bog.
Birds Directive (79/409/EEC)	There are no water dependent Special Protection Areas (SPA).

Waters designated under the Freshwater Fish Directive (FFD) are required to comply with imperative quality standards and should aim to achieve 'guide' standards. Compliance was assessed annually by NIEA using the monitoring results for the calendar year (typically quarterly monitoring). The FFD was repealed by the WFD at the end of 2013. However, waters designated under the FFD have been afforded similar protection under the WFD. The UK Technical Advisory Group (UKTAG) has ensured that WFD standards provide at least the protection afforded under the FFD. A detailed assessment on fisheries and aquatic ecology has been completed and is included in chapter 8.

9.6.4 Industrial Consents, Pollution Incidents and Abstractions

Information regarding industrial consents, abstractions and pollution incidents in relation to the proposed development study area was downloaded from the NIEA Water Information Request viewer in March 2021. **Figure 9-6** shows the locations of all known industrial consents and pollution events within a 3km radius of the centre of the Proposed Development to ensure that the information within the relevant water bodies traversed by the Proposed Development is captured.

There are 68 records of industrial consents within the five river water bodies associated with the Proposed Development. In terms of Industry type, the majority of the consents were described as Private Sewage (Domestic) suggesting that due to the rural nature of the area that the key discharges to water bodies (surface and ground) are from privately owned septic tanks licensed under the Water (Northern Ireland) Order 1999. The remaining consents relate to site drainage from quarrying activities.

In addition there have been 13 pollution incidents investigated by NIEA within the same area between 2012 and 2016. NIEA's records show that 1 of the incidents was from an unknown source, 10 from a farming source and 2 incidents were from an industrial source. Eight out of the thirteen incidents were of low severity, with four being classed as medium and one as high severity.

Information in relation to abstraction sites was compiled as part of a Northern Ireland water body characterisation study undertaken under Article 5 of the WFD. The study report was published by the Environment and Heritage Service (now NIEA) in 2005. Prior to the advent of the Water Abstraction and Impoundment (Licensing) Regulations (Northern Ireland) 2006, which came into effect in February 2007, there was no formal register of abstractions within Northern Ireland, as a result the information in this dataset was sourced from a number of historical datasets held by Government Departments and external agencies including; Northern Ireland Water, Drinking Water Inspectorate and Geological Survey Northern Ireland. It should therefore be noted that there may have been more historical abstractions within the area which have not been identified.

There are 20 known current abstractions or abstraction licence applications (all surface water abstractions) under the Water Abstraction and Impoundment (Licensing) Regulations (Northern Ireland) 2006 within the river water body sub basins. However, small scale abstractions of less than 10m³ per day do not require notification to NIEA and may therefore be present.

The Drinking Water Inspectorate only holds information on private water supplies registered with DWI under The Private Water Supplies Regulations (Northern Ireland) 2017. This includes supplies to public or commercial premises or two or more private dwellings where the water is used for drinking, cooking, food preparation or other domestic purposes. The database of private water supplies across Northern Ireland which have been registered with the Drinking Water Inspectorate (DWI) under The Private Water Supplies Regulations (Northern Ireland) 2017 was consulted through the Spatial NI web portal in April 2021 and there are no private water supplies registered within the study area.

9.6.5 Groundwater Status

The Proposed Development is located over the Claudy and Gortin groundwater body, which are currently classified as 'Good' status in the North Western River Basin Management Plan. These groundwater bodies are defined by surface water catchments and the coastline along the north of the Claudy water body. It is important to ensure that the Proposed Development does not introduce new pressures to this ground water body, which would be contrary to the objectives of the WFD (achieving good status). A groundwater vulnerability map is also available for Northern Ireland, where vulnerability is classified into 5 categories, with Class 1 areas having the least risk of groundwater pollution and Class 5 having the highest risk. As shown in **Figure 9-7** the groundwater vulnerability map indicates that the Proposed Development is quite vulnerable to groundwater pollution with a vulnerability class of '4' underlying the site.

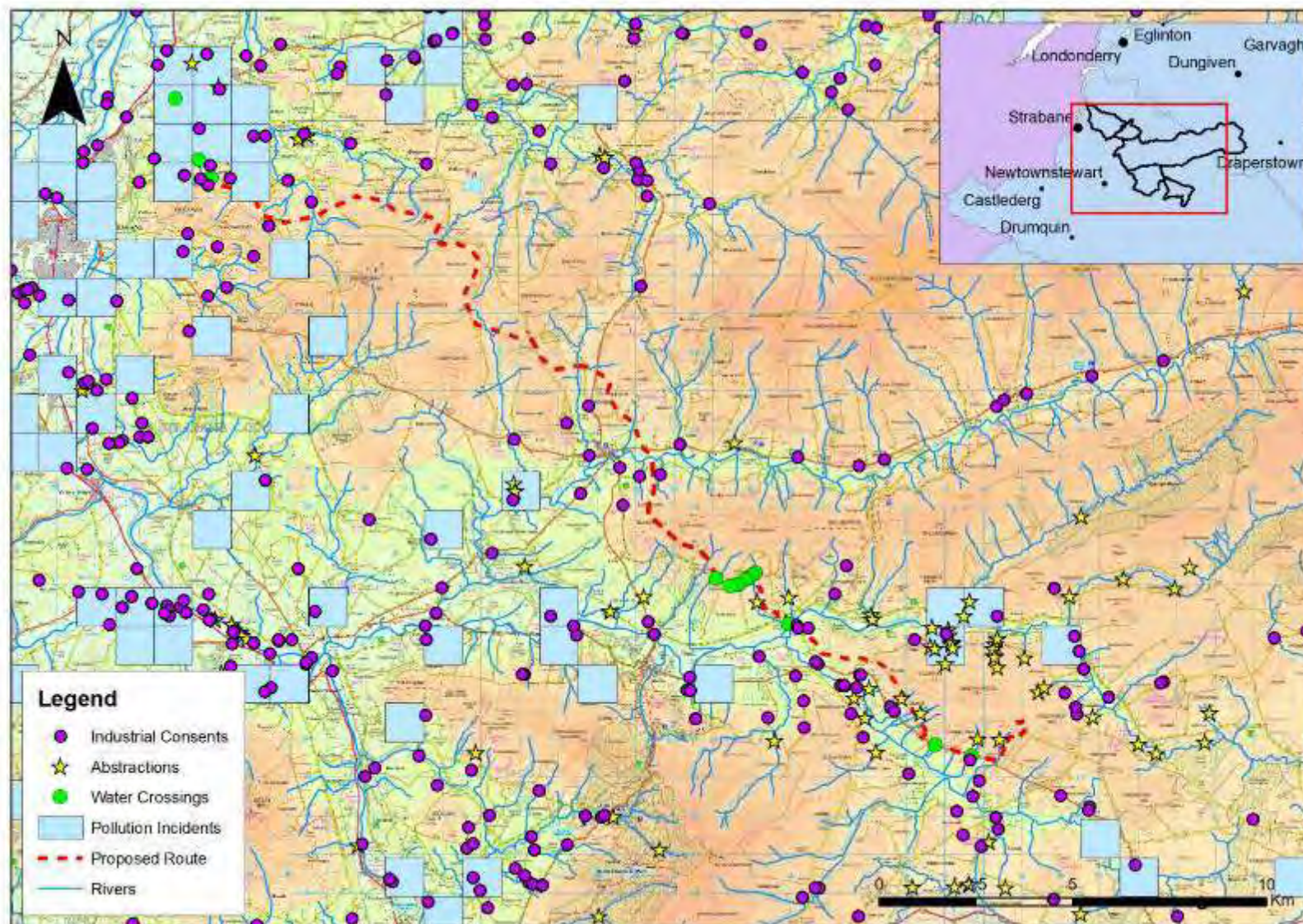


Figure 9-7: NIEA Response Data

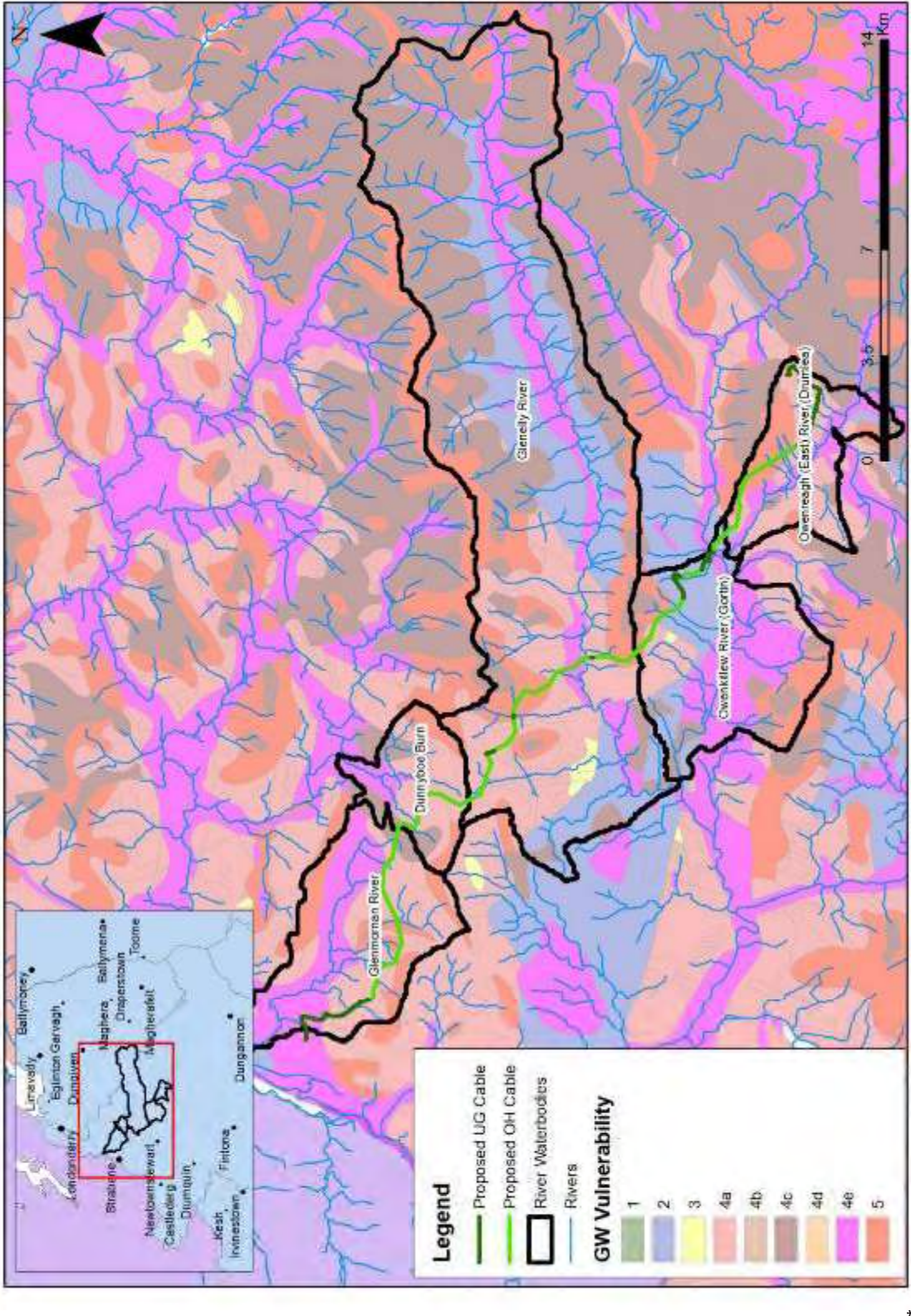


Figure 9-8: Ground Water Vulnerability Mapping

9.7 Impact Assessment

The key focus of the water quality impact assessment is to ensure whether the development can be undertaken in a way which is consistent with the objectives of the WFD. Therefore likely significant effects were assessed for construction and operational phases of the project with particular regard to the objectives of the WFD. This section provides an assessment of the potential impacts from each component of the Proposed Development on water quality in and around the development area. It has been undertaken using information from published sources and consultation to characterise the water environment at the site, including rivers, streams, ponds, wetlands (including marshy grassland) and other water features including ground waters.

9.7.1 Water Body Sensitivity

Section 9.4 outlines the approach for establishing the significance of the impact. A key element in the determination of impact significance is the sensitivity of the receiving environment. For those water bodies that are traversed by the overhead powerline (**Table 9-13**) and the underground cable (**Table 9-14**) an assessment of their sensitivity is provided below.

The sensitivity of the receiving environment across the route in this case has been deemed low to very high due to the presence of water bodies with high status and/or with designations within close proximity including salmonid waters and the intersected SAC. Considering the scale of the development it is unlikely to have significant impact in the wider context of the RBD but could have significant impact on individual water bodies in close proximity to the site. As such each water body likely to be affected was considered when determining the sensitivity of the receiving environment.

Table 9-13-: Water body sensitivity summary of watercourses crossed by the proposed overhead powerline

Water Body	Location	Sensitivity
Fowl Glen Burn	O/H powerline crossing. Burn flows to north and is a tributary of Glenmornan River.	High - tributary of a designated salmonid water that is currently at good status with a WFD objective to maintain good status).
Owenreagh Burn	O/H powerline crossing. Burn flows to north and crossing location is at the confluence of the Owenreagh Burn and Glenawanda Burn. The Owenreagh Burn is a tributary of Glenmornan River.	High - tributary of a designated salmonid water that is currently at good status with a WFD objective to maintain good status).
Glentrasna Burn	O/H powerline crossing. Burn flows to the north; Upper catchment of the Glenmornan River.	High - tributary of a designated salmonid water that is currently at good status with a WFD objective of 2021 for the maintenance of good status).
Legnavadder Burn	O/H powerline crossing. Burn flows to north; Upper catchment of the Glenmornan River.	High - tributary of a designated salmonid water that is currently at good status with a WFD objective of 2021 for the maintenance of good status).
Legolougha Burn	O/H powerline crossing. Burn flows to north-east and is a tributary of Dunnyboe Burn.	Medium - tributary of non-designated salmonid water that is currently at good status with a WFD objective of 2021 for the maintenance of good status).
Glashyngolgan Burn (2 crossings)	O/H powerline crossing the upper catchment of Glashyngolgan Burn, which flows to south and is a tributary of Glenelly River.	Medium - tributary of a designated salmonid water that is currently at moderate status with a WFD objective of 2021 to achieve good status).
Letterbrat Burn (2 crossings)	O/H powerline crossing. Burn flows to south and is a tributary of Glenelly River.	Medium - tributary of a designated salmonid water, currently at moderate status with a WFD objective of 2021 to achieve good status).
Glenelly River near Plumbridge	O/H powerline crossing of main river, which flows to the west and is a tributary of the Owenkillaw River.	Very High - designated salmonid water and tributary of Owenkillaw SAC, currently at moderate status with a WFD objective of 2021 to achieve good status).
Trinamadan	O/H powerline crossing. Burn flows to south and is a tributary of Owenkillaw River.	Medium (tributary of designated salmonid water and SAC, currently at moderate status with a WFD objective of 2021 for the maintenance of moderate status).

Water Body	Location	Sensitivity
Owenkillev River near Golan Bridge	O/H powerline crossing of the main channel river crossing which flows to west.	Very High (designated salmonid water (good salmonid nursery habitat) and SAC, currently at moderate status with a WFD objective of 2021 for the maintenance of moderate status. Downstream of any potential Freshwater Pearl Mussel (FPM) populations within the Owenkillev River SAC).

Table 9-14: Water body sensitivity summary of watercourses crossed by the proposed underground cable

Location Reference	Name of Watercourse	Sensitivity
ST1 (ch550m)	Glenmornan Tributary 1 at Berryhill Road	Medium - tributary of a designated salmonid water that is currently at good status but the local conditions are moderate based on aquatic surveys.
ST2 (ch2790m)	Glenmornan Tributary 2 at Hollyhill Road	Medium - tributary of a designated salmonid water that is currently at good status but the local conditions are moderate based on aquatic surveys.
ST3 (ch3370m)	Glenmornan Tributary 3 at Hollyhill Road	Medium - tributary of a designated salmonid water that is currently at good status but the local conditions are moderate based on aquatic surveys.
ST4 (ch50m)	Owenkillev Tributary 1 at Meenadoo Road	High - tributary of designated salmonid water and SAC that is currently at moderate status but the local conditions are good based on aquatic surveys.
ST5 (ch450m)	Owenkillev Tributary 2 at Meenadoo Road	Low - tributary of designated salmonid water and SAC that is currently at moderate status but the local conditions are poor based on aquatic surveys. Downstream of any potential FPM populations within the Owenkillev River SAC.
ST6 (ch695m)	Owenkillev Tributary 3 at Meenadoo Road	Low - tributary of designated salmonid water and SAC that is currently at moderate status but the local conditions are poor based on aquatic surveys. Downstream of any potential FPM populations within the Owenkillev River SAC.
ST7 (ch895m)	Owenkillev Tributary 4 at Meenadoo Road	Low - tributary of designated salmonid water and SAC that is currently at moderate status but the local conditions are poor based on aquatic surveys. Downstream of any potential FPM populations within the Owenkillev River SAC.
ST8 (ch980m)	Owenkillev Tributary 5 at Meenadoo Road	Low - tributary of designated salmonid water and SAC that is currently at moderate status but the local conditions are poor based on aquatic surveys. Downstream of any potential FPM populations within the Owenkillev River SAC.
ST9 (ch1100m)	Owenkillev Tributary 6 at Meenadoo Road	Low - tributary of designated salmonid water and SAC that is currently at moderate status but the local conditions are poor based on aquatic surveys. Downstream of any potential FPM populations within the Owenkillev River SAC.
ST10 (ch1230m)	Golan Burn at Meenadoo Road	High - tributary of designated salmonid water and SAC that is currently at moderate status but the local conditions are good based on aquatic surveys).
ST10 (ch1450m)	Tributary of Golan Burn	Medium - tributary of designated salmonid water and SAC that is currently at moderate status but the local conditions are not sensitive based on photographic and desk top assessment).
ST 11	Owenkillev Tributary 7 at Gortacashill Road	High - tributary of designated salmonid water and SAC that is currently at moderate status however fish present.
ST12 (ch500m)	Owenreagh Tributary 1 at Crocknaboy Road	Low - tributary of a designated salmonid water that is currently at good status but the local conditions are poor based on aquatic surveys. The crossing is downstream of any potential FPM populations within the Owenkillev River SAC.
ST13 (ch1500m)	Owenreagh Tributary 2 at Crocknaboy Road	High - tributary of a designated salmonid water that is currently at good status with the local conditions also good based on aquatic surveys.

Whilst the Proposed Development will not directly impact on the protected areas listed in **Table 9-11** and **Table 9-12**, there are some protected areas in close proximity to the Proposed Development which are connected through hydrological pathways.

These include the Glenmornan River, the Glenelly River, the Owenkillew (Gortin) River and Owenreagh (East) River (Drumlea) which were designated as Salmonid Waters (originally designated under the FFD but now included as economically significant waters protected under Article 6 of the WFD). The Owenreagh (East) River has also a significant population of Freshwater Pearl Mussel and annexed species under the Habitats Directive, however the river is not currently designated for its protection.

Additionally the Owenkillew River SAC is intersected by the proposed overhead powerline near Golan Bridge and could potentially be affected by the Proposed Development. The other hydrologically connected SAC is the River Foyle and Tributaries SAC (northwest of the route). Teal Lough SAC (east of the route) and Black Bog (southeast of the route) are upstream of the Proposed Development therefore the conservation objectives will not be impacted by the Proposed Development. The only designated SPA is Lough Foyle SPA, north of the development. Two shellfish waters are also occurring within the Lough Foyle; Balls Point and Longfield Bank.

The likely significant effects from the pressures outlined on the water quality, ecological status and protected area objectives of the water bodies traversed by the project is assessed below, whether that be by causing a deterioration in water body status or preventing a water body currently at less than good status from achieving good status under the timelines outlined in the RBMP.

9.7.2 Construction Phase Impacts

9.7.2.1 Suspended Solids

Both temporary and permanent impacts on surface waters may occur during construction. Pollution from mobilised suspended solids (silt) is of concern. Suspended sediment due to run off from stripped construction areas (line corridors), stockpiled earth and the dewatering of excavations can have a severe negative impact on water quality. This is particularly true in sloping areas with underlying clay following topsoil stripping. In areas of moderate to high rainfall, the potential problems are exacerbated. If allowed to enter surface watercourses this run off can give rise to high suspended solids and detrimental impacts, in particular to fisheries and aquatic invertebrates which can impact the ecological status of a water body. Suspended solids may have an effect on:

- Sediment movement through rivers and its settlement onto the river bed causing formerly clean gravels to become clogged with fine sediment;
- The survival of fish eggs in gravel beds or spawning grounds as a result of deoxygenation caused by silt deposition;
- The survival of plants and algae by smothering;
- The survival of young fish and aquatic invertebrates such as freshwater pearl mussel, particularly the juvenile life stage, mayfly larvae (*Calopteryx* sp.) through fine sediment infiltration into river bed substrate;
- The success of angling due to increased turbidity; and
- Amenity value through impaired visual appearance.

Once a silt load enters a river it can result in long-term changes that cause chronic harm. Silt causes river hydromorphological changes, which in turn change the dynamics of the river in the future (Curran & Wilcock, 2005; Colosimo & Wilcock, 2005; Dietrich et al., 1989). Both bed and suspended materials, and subsequent changes in channel form associated with changes in sediment supply, may affect benthic invertebrates in many ways at various stages in their life cycle. The direct kill is only the first stage in the damage that silt causes to a benthic invertebrate population. Sediment that infiltrates the river bed decreases oxygen supply in interstitial areas, and destroys habitat for juvenile stages of the many benthic invertebrate life cycles. As mentioned above, all three of the water bodies associated with this application (Glenmornan River, Dunnyboe Burn and Owenreagh East River Drumlea) are currently at “good” status. It is an objective of the WFD that no waterbody should deteriorate in status, therefore all monitored elements must remain at “good” indicative quality or above.

The sediment subsequently provides a medium for macrophyte growth. Macrophytes can smother the river substrate and habitat further, and can trap more sediment which exacerbates the problem in the long term. Silt infiltration of river bed gravels can also have a negative effect on fish species (Levasseur et al., 2006).

9.7.2.1.1 Overhead Powerline sections

The route of the overhead powerline is largely cross country and access will be required to agricultural lands to erect the poles and string the conductors. Where land access is required damage to the ground surface providing a source of sediment and, depending on ground conditions, a pathway to surface waters via surface channels or overland flow would result in likely significant effects on the water quality and supported aquatic habitats. Table 9.1 identified those pole sets that are within 10 metres of a field drain or water course where the potential for impact is greatest.

In addition there will be some topsoil stripping and minor excavation required for the foundations of the overhead powerline poles. The typical footprint of the excavation is 1.5 m² whilst the worst case scenario, depending on ground conditions, is a footprint of 9m². This larger footprint is required in limited circumstances where a wooden brace is placed in the ground, thereby requiring a larger area to be stripped, to provide additional support to the pole set in soft ground conditions.

Even when the worst case scenario is considered the footprint of each pole set, i.e. 3m x 2.8m, represents a limited area of ground disturbance however if this is located adjacent to a watercourse the risk of suspended solids on the receiving environment is greater. On this basis, and considering the sensitivity categories for the watercourses ranges from 'low' to 'very high', as outlined in Table 9-12, with the Owenkillev River near Golan Bridge and the Glennelly River 'very high' the significance of the impact ranges from slight to large on a short to medium term basis based on the matrix outlined in **Table 9-5**.

9.7.2.1.2 Underground Cable Sections

As detailed in the OCEMP the majority of the proposed underground cable is to be installed in public carriageway in a 500mm wide trench approximately 1000mm in depth using the standard construction technique as summarised in Chapter 2 of the ES and detailed in the OCEMP. The material excavated in the road bed is not suitable for backfilling of the excavated trench therefore this material will not be re-used on site. If this material is stockpiled in the works area within the public carriageway fine sediment can wash into the road drainage and ultimately into the watercourses that the road drainage discharges to and therefore represents a source of suspended sediment to these watercourses.

In those locations where the road traverses a watercourse and suitable depth of cover is not available above the culvert or within the bridge structure it will be necessary to install the cable using alternative methodologies including excavation around and below a structure (Methodology A) or diverting off the road and undertaking the watercourse crossing by horizontal directional drill (HDD) (Methodology B) or damming and using an open cut trench in the watercourse (Methodology C). The alternative methodologies available are detailed in Volume II, Appendix 2.2 OCEMP Appendix D. The methodologies proposed at these locations are detailed in **Table 9-2** above.

The degree of risk is considered higher for open-cut because it involves direct disturbance of the watercourse bed and requires closer proximity of plant machinery to the watercourse.

HDD methods may result in the escape to the watercourse of pressurised drilling fluids (bentonite/ mud) through break out of drilling fluids from the underlying bed material or from surface run-off caused by drilling fluid returns at tunnel entry and exit points. However this occurs very infrequently as the drilling process is closely monitored and managed by the drill operator to ensure that if there is a reduction in pressure (which may indicate the escape of drilling fluids from the bore) the drilling operations are ceased until the source of the pressure reduction is identified and addressed. These drilling fluids may be considered a type of fine sediment which can infiltrate river substrate and sensitive habitats.

Given the sensitivity of the downstream water bodies many of which are salmonid waters, and the protected areas from some water bodies, i.e. the Owenkillev River SAC the sensitivity of the receiving environment is considered to range from low to high as outlined in Table 9-13. Based on the current status of the water bodies the deposition of suspended sediment would deteriorate the river habitat downstream therefore hindering the achievement of

good status. On this basis the magnitude of the impact can be considered as moderate to major based on the severity of run-off. An impact of moderate to major magnitude on a 'low' to 'high' sensitivity environment the likely significant effects are considered to range from slight to large adverse (**Table 9-5**) in the absence of mitigation. It is likely that these impact would be of short term duration.

9.7.2.2 Hydromorphological Impact

In addition to their contribution to sediment release soil erosion, removal of vegetation cover, soil compaction (caused by the bearing weight of heavy machinery), particularly in the riparian zone can alter preferential drainage paths and ultimately change the hydromorphological regime of a watercourse by changing the timing and magnitude of flows entering it and altering the riparian zone, banks and channel thus exacerbating sediment movement. In the absence of mitigation these processes will have permanent effects on associated watercourses both upstream and downstream of the proposed crossing locations resulting in a knock-on effect on water quality.

The magnitude of the impact is assessed as moderate based on the scale of the underground cable crossings and the fact that the pole sets on the overhead line will be set back a minimum of 10 metres from the majority of watercourses with only a limited number sited closer than 10 metres. Therefore the likely significant effects for an impact of moderate magnitude on a low to very high sensitive water body is considered to be large adverse in the absence of mitigation with the potential to affect the riparian zone and the hydromorphology of the watercourse.

9.7.2.3 Oils and other Chemicals

Construction of the Proposed Development will involve the use of plant and machinery at the active working areas as well as the associated temporary storage of construction materials, oils, fuels and chemicals in the site compounds. Two main compounds will be used to service the construction of the Proposed Development. These will be NIE Networks Omagh Depot and a temporary compound at the proposed Curraghinalt mine site. The materials for the construction of the Proposed Development will be stored at these locations and will only be delivered to the active working areas when works are scheduled and storage will only be for a temporary period of time and include materials such as wooden poles, steel cross arms, wooden baulks for use in pole and stay foundations, stay wire, porcelain and polymeric Insulators.

There will be no requirement for the use of cement or concrete during the Proposed Development, foundations for pole sets and stays will be secured using wooden baulks.

The main impact from the construction of the Proposed Development is therefore spillage or release of fuel oil and other dangerous substances from plant and machinery impacting on the surface and ground water bodies associated with the Proposed Development. There is also the risk that small residue amounts left on site will be mobilised by surface run-off and washed into the watercourses.

Given the scale of the Proposed Development and assuming minor to major spillage occurrences the magnitude of the impact is considered to be major and with the sensitivity of the receiving surface waters assessed to be 'low' to 'very high' the likely significant effects are assessed as negligible to very large adverse over short to medium term in the absence of mitigation.

9.7.2.4 Sewage and welfare facilities

Facilities will be provided along the route of the Proposed Development and in the proposed compounds to ensure appropriate collection and treatment of sewage is undertaken so as not to impact on the aquatic environment.

The impact of inadequate sewage and welfare facilities would result in a minor impact to receiving waters given the workforce that is anticipated at each working front as outlined in the OCEMP. Given the Proposed Development is linear and will require active working areas along the length of the route the sensitivity of the receiving environment is considered to be 'low' to 'very high' and therefore the likely significant effects, based on the matrix in **Table 9-4**, are considered negligible to moderate/large and for a short duration.

9.7.3 Operational Phase Impacts

9.7.3.1 Overhead Powerline

As outlined in the OCEMP once the circuit is commissioned it will be subject to regular inspections from the ground every three years. This will involve a single person walking along the route to visually inspect the overhead line. Vegetation management will also be carried out periodically as required (when vegetation encroaches on specified safety clearances, NIE Networks vegetation management cycle is typically once every three years). Wood pole replacement typically occurs every 30-40 years. The impact on water quality for these types of activities is low given the scale of the inspection activities and the vegetation maintenance proposed. It is envisaged that vegetation maintenance would require a two-person team accessing the target area on foot or via 4x4 with Mobile Elevated Working Platform (MEWP).

The scale of these works will mean that the magnitude of the impact is negligible and therefore the significance of the impact across all water body sensitivities is considered to be negligible based on the matrix in **Table 9-5** and there are no likely significant effects anticipated.

9.7.3.2 Underground Cable

The underground cable would undergo electrical testing every 5 years between terminal positions at each underground cable section. As outlined in the OCEMP no intrusive works are required for testing. Testing involves disconnecting the underground cable section at each end of the cable and then connecting test gear (a handheld briefcase sized piece of equipment) and running tests. This would be carried out by an engineer who would travel to the site in their private vehicle.

Where underground cable faults occur a localised repair is carried out. This involves excavation at the location of the fault, cutting out the faulted piece of cable, inserting a new piece of cable into the duct, jointing the new cable into the existing cable network and then reinstating as per the Underground Cable construction methods set out in Volume II, Appendix 2.2 OCEMP Appendix D and summarised in Chapter 2 of the ES. The impact of these activities will be similar to those identified for the installation of the cable however the magnitude of the impact will be less given the localised scale of the potential fault repairs.

On this basis the magnitude of the impact can be considered as moderate for each of those impacts identified under the construction phase, i.e. suspended solids, hydromorphological impact, oils and chemicals and sewage/welfare facilities. An impact of moderate magnitude on a 'low' to 'high' sensitivity environment is considered to range from slight to moderate adverse (**Table 9-5**) in the absence of mitigation. It is likely that this impact would be of short term duration.

9.7.4 Decommissioning Stage Impact

9.7.4.1 Overhead Powerline

As outlined in the OCEMP, once operational, the overhead line will become a network asset and form part of the wider network. Decommissioning is not envisaged, however should the overhead line be required to be decommissioned, all associated structures and materials would be recovered and items recycled with the site returned to its original use. Decommissioning impacts will be the same or lesser than the impact of construction.

On this basis the magnitude of the impact can be considered as moderate for suspended solids and hydromorphological impacts, major for oil and chemicals and minor for sewage and welfare facilities. An impact of minor to major magnitude on a 'low' to 'very high' sensitivity environment is considered to range from negligible to very large adverse (**Table 9-5**) in the absence of mitigation. It is likely that this impact would be of short term duration.

9.7.4.2 Underground cable

Decommissioning is not envisaged, however should the underground cable be required to be decommissioned, it would be disconnected from the circuit breakers or poles to which it is connected, safely insulated using pot end joints and the cable recovered. As a result, the impact of decommissioning the underground cable is considered to be negligible for water quality.

9.8 Mitigation and Monitoring

Prior to the commencement of construction a final Construction Environmental Management Plan (CEMP) will be agreed with the Planning Authority to manage the prevention and control of environmental impacts during the construction phase. In order to achieve this, the final CEMP will provide a method of compliance with all environmental commitments outlined in the ES and will be within the parameters outlined in the OCEMP which has been submitted as an appendix to this ES, Volume II, Appendix 2.2 OCEMP. Furthermore, detailed construction method statements will be prepared and agreed with the relevant authorities (NIEA Water Management Unit, DAERA and Inland Fisheries) within the parameters included in the outline construction methodologies (Volume II, Appendix 2.2 OCEMP Appendix D) in advance of any waterway crossing or where proposed construction works occurs within 10 metres of a watercourse. The method statement will need to be submitted for DAERA agreement a minimum of eight weeks prior to works commencing onsite.

9.8.1 Construction Phase

Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPP) are a series of documents developed by the Environment Agency for England and Wales, the Northern Ireland Environment Agency (NIEA) and the Scottish Environment Protection Agency (SEPA). The DAERA Planning and Environment section has published Pollution Prevention Guidance 4, “Standing Advice for Planners and Applicants Seeking Planning Permission for Developments which may Impact upon the Water Environment” (DAERA, 2017). This highlights the need for the developer and contractor to apply good practice in relation to pollution prevention and to adhere to the guidance contained within the relevant PPGs and GPPs. They provide useful information on good practice and DAERA recommend they are used as a source of information and good practice. Furthermore, DAERAs “Standing advice for development that may have an effect on the water environment (including groundwater and fisheries)” is applicable to the development under the following documents “Standing Advice WTR Pollution Prevention Guidance”, “Standing Advice WTR Discharges to the Water Environment”, “Standing Advice WTR Abstractions and Improvements” and “Standing Advice Sustainable Drainage Systems”.

Mitigation and control measures to address the potential for pollution associated with construction activities included in this assessment and the OCEMP has been informed by these guidance documents and will follow good work practices and sound design principles and best practice where relevant, including the following current series of guidance documents:

- GPP1: Understanding your environmental responsibilities - good environmental practices;
- GPP2: Above ground oil storage tanks;
- GPP5: Works and maintenance in or near water;
- PPG6: Working at construction and demolition sites;
- PPG7: Refuelling facilities;
- GPP8: Safe storage and disposal of used oils;
- GPP13: Vehicle washing and cleaning
- PPG18: Managing fire water and major spillages;
- GPP21: Pollution incident response planning;
- GPP 22: Dealing with spills
- GPP26: Storage and handling of drums & intermediate bulk containers.

Within these guidance documents a range of measures are applicable. Those relating specifically to the issues raised are highlighted in this statement. In addition, best practice provided by CIRIA in their series of guidance documents will also be applied where relevant.

- CIRIA Report C532 Control of Water Pollution from Construction Sites;
- CIRIA Report C649 Control of Water Pollution from Linear Construction Projects. Site Guide.
- CIRIA Handbook C651 Environmental Good Practice on site checklist

- CIRIA Report C692 Environmental Good Practice on site 3rd Edition
- CIRIA Report C689 – Culvert Design and operation guide

In the event of a pollution or environmental incident occurring that may impact upon the water environment, regardless of the time of day, the NIEA Water Pollution Hotline will be contacted within 30 minutes of the incident occurring unless it is unsafe to do so.

9.8.1.1 Sediment Control

Sediment, including all soils, mud, clay, silt, sand etc., is the single main pollutant generated at construction sites and largely arises from the erosion of exposed soils by surface water runoff. The adoption of appropriate erosion and sediment controls during construction is essential to prevent sediment pollution.

Mitigation and control measures to address the impact from suspended sediments associated with construction activities will follow good work practices and sound design principles. Contractors will establish contact with the relevant authorities, e.g. NIEA before works commence, with ongoing liaison throughout the construction. Contractors will be required to follow the requirements of best practice and relevant guidelines including:

- GPP5: Works and maintenance in or near water;
- PPG6: Working at construction and demolition sites;
- Technical Guidance C648: Control of Water Pollution from Linear Construction Projects, (CIRIA, 2006); and
- Technical Guidance C532: Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors (CIRIA, 2001).

The following specific measures, in accordance with the above guidance, will be taken to ensure adequate protection of the aquatic environment:

- Excess material stockpiles from the overhead line and underground cable will not be sited within 10 metres of a watercourse. This will ensure that there is a minimum of a 10 metre buffer between the stockpile and the water course to provide a barrier to prevent run-off from the stockpile reaching the aquatic zone.. Where the soil stockpiles represent a particular risk of runoff, i.e. if they are up gradient of a watercourse, on sloping ground or there is a limited buffer area to prevent overland flow, an interception ditch (cut-off) or silt fencing will be deployed to contain and direct run-off away from the aquatic zone;
- Tool Box talks will be given by the Environmental Manager nominated under the final CEMP to all contractor's site personnel to inform them of the mitigation measures required to ensure protection and conservation of the aquatic environment.
- A detailed schedule of plant and machinery is provided in Appendix C of the OCEMP. For the overhead power line tracked excavators (maximum 20T but more commonly 13T) will be used to install the pole sets to limit ground disturbance. Suitable smaller vehicles such as 4x4 pick-up trucks with MEWP and quad bikes will be used to transport linespersons on site to minimise movement and impact of larger vehicles
- Movement of vehicles on-site will be suspended during and immediately after heavy rainfall when ground conditions would be likely to deteriorate to ensure that ground disturbance is minimised and to prevent a source of sediment and its mobilisation to the aquatic environment via overland pathways (saturated flow) or preferential pathways. This decision would be made by the environmental manager under the contractor's CEMP.
- Movement of vehicles in close proximity to watercourses will be avoided, except where the cabling traverses a culvert on the road network. This is to ensure the integrity of the riparian zone in order to avoid risk of damage to the banks, associated erosion and the release of sediments into the channel.
- Silt fencing will be installed between the active working area and a watercourse where 10 metres set back is not possible and the working area encroaches within 10m of a watercourse (with the exception of dedicated watercourse crossing points) as identified in Table 9.1 or where particularly steep slopes heighten the risk of pollution.
- For the overhead line stringing across very high sensitivity watercourses, i.e. Owenkillev River and Glennelly, a drone will be employed to ensure no disturbance to the river. This will involve an initial pull

through of a fishing line by drone, the fishing line will then be used to pull through a rope at tension, with the rope used to subsequently pull through the bond at tension so that nothing comes into contact with the river or river banks at any time.

9.8.1.2 Watercourse Crossings and HDD Mitigation

- The HDD option is proposed for a number of crossings on the UGC route where the cable cannot be laid safely within the carriageway above a culvert or structure including the tributaries of the Owenkillev River (ST5, ST6 where HDD is the preferred option and ST7, ST8, ST9, ST11 where it is being considered as alternative option) tributary of the Glenmornan River (ST2, HDD is the alternative option) and the Golan Burn (ST10, ST10b, HDD is the alternative option).
- Ground Investigation prior to undertaking the crossing will characterise the nature of the strata through which the cable ducting is to be drilled through to assess the risk of drilling mud break out through fissures or weakness in the underground strata. To further reduce the risk of break out of drilling muds significant setback distances from the water course will be included to ensure significant buffers are in place for any surface break out of drilling mud as the drill profile transitions from the deeper strata to subsoils and ultimately the surface where the weak points in the sub surface conditions often occur.
- Where dewatering of cable trenches or launch and receiver pits from the HDD is required it will be directed to a suitable treatment area within the working area. Where the HDD occurs off-line, i.e. not within the footprint of the road this will include a small bunded area lined with tarpaulin or similar impermeable material to allow the settling out of suspended solids. The settled water will then be allowed to flow from the bund via diffuse flow outlet to a series of treatment swales made from sandbags to slow the overland flow and provide further opportunity for settlement. From these treatment swales the clean water will overtop the sandbags and flow onto the vegetation.
- Where dewatering is required from within the road footprint a tanker will be used to dewater the trenches for disposal off site. Where volumes are low an adequately sized silt sock will be used to filter the water before diffuse flow to the road verge.
- There will be no direct or indirect discharge from any excavations to surface water. Discharges to surface water from these treatment systems, if required, will be consented under the Water (Northern Ireland) Order 1999,
- The transmission and receiver pits, the size of which will depend on the drilling rig and the required drill profile, will be bunded and adequately sized to hold excess water. Liaison with landowners for confirmation on locations of land drains will also be undertaken. These will not be directly pumped into without being filtered through the ground.
- As per best practice drilling mud pressures will also be continuously monitored by an experienced drill operator using information transmitted back to the drill control panel from sensors at the drill head. If pressures levels drop to a level below that expected given the size of the bore and drilling profile that would indicate a potential loss of drilling mud this can be acted upon immediately by the drilling operator so that preventative action can be taken under the emergency pollution control measures.
- Water required for the drilling mud will be brought to site in large IBC's and there will be not requirement for surface water abstractions.
- The works contractor will have all materials and machinery on site to deal with a drilling mud spillage or break out based on the mitigation outlined above. As a failsafe there will be a rapid reaction contract with specialist subcontractor should this be required to assist in the spillage response at the directional drilling locations which includes tanker call out, deployment of pumping and personnel. Emergency plans will be sent to the contractor in advance of works.. In addition to this, wash down of the drilling plant will be contained, tankered and disposed offsite.
- In the event of a drilling mud break out a road tanker will access drilling pits and the location of any HDD break out to recover any escaped drilling fluid. The sump in the drill pits will be accessible by vacuum bowser. Drilling pits will be in the road footprint or in adjacent lands where a wayleave/easement has been secured, so access to these pits will be within the works area and unobstructed access will be available for the tanker.

If a break out does occur it will be along the alignment of the drill and a wayleave/easement will have been secured allowing access to the area. If the break out occurs on third party lands off the line of the drill shot then NIE Networks will need to ensure access to these lands is agreed in advance of the drilling being undertaken to allow for such contingencies.

- River quality observer - As per the OCEMP continual visual inspection during the drilling process is essential and this duty can be alternated between trained persons to ensure that there is adequate cover for the duration of the drill. The purpose of the visual inspection is to spot any streaming of adverse colour or where visibility of identified depth markers becomes impeded. The highest risk of break out is within the first and final metres of the drill profile where there may be interface with weaker substrate, water table or physical pathways like tree roots so these locations will be important for the observers. Break out can occur remote from the drill head along the alignment of the drill hence visual inspection needs to be adept for the entire length of the drill shot and adjacent lands.
- Table 9.2 provides the methodologies that will be used to cross water courses, these are also detailed in Volume III, Appendix 2.2 OCEMP, Appendix D. Open cut cable crossing options are proposed where the cable cannot be laid safely within the carriageway above a culvert or structure. This methodology is an option on the tributary of the Glenmornan (ST3) and tributary 7 of the Owenkillev (ST11) or the tributary of the Golan Water (ST10b). Depending on the flow and size of the watercourse the open cut crossing will be undertaken in dry conditions by either damming the reach across which the UGC will be laid and over-pumping, i.e. pumping of water behind an upstream coffer dam (used to isolate the works area) into the river reach downstream of a secondary cofferdam installed to ensure water does not flow back into works area. The proposed use of temporary/coffer dams at open-cut crossings will result in a very low likelihood of sediment entrainment and the associated environmental impacts because excavation will be in non-flowing conditions.

9.8.1.3 Hydromorphology

To stabilise the riparian zone and reduce the risk of bank erosion and sediment input to the channel the following measures will be undertaken:

- Disturbed areas will be returned to former landforms and vegetation of exposed areas will occur as soon as practicable once construction activities are completed in any particular location. Where open cut crossing of watercourses is proposed these areas are prone to erosion will receive particular attention, e.g. cleared banks will be stabilised to facilitate reinstatement. A biodegradable membrane will be deployed (e.g. Geojute; Terram) followed by reinstatement of the bank and riparian zone. Any areas where mitigation methods are used to prevent pollution from suspended solids from surface water runoff will be maintained after drilling or construction of the poles until there is no longer a threat to aquatic life, following vegetation being re-established.
- When reinstating watercourses, stockpiled stream bed rocks, pebbles and/or coarse gravel will be replaced and watercourse banks will be reinstated to stabilize and facilitate bio-restoration.
- Stream bank reinstatement will commence as soon as in-stream construction work is completed.
- For trenchless crossings where launch and exit pits have been excavated, all soils and vegetation will be reinstated and replanted.
- No abstractions will be permitted from surface waters during works. The source of water for drilling muds will be from either water mains or provided by the contractor.
- The majority of cabling works will occur within the road network, however, works will occur off line where open cut crossings of the water courses are proposed, liaison will be required with the landowners to determine if any unregistered private water supplies are located in close proximity to the works area. Should unregistered private water supplies occur within the study area, which will be confirmed with landowners prior to construction, measures to protect the well head, including horizontal clearance distances and the prohibition of handling or storage of chemicals on lands that drain to the water supply will be agreed with the landowner during the wayleave/easement and pre-entry agreements and will be implemented fully by the contractor to ensure these will not be impacted.

- The most significant impact on the quality of the well water would be associated with any accidental leaks and spillages in close proximity to a shallow well. A range of appropriate mitigation measures have been proposed to reduce the risk of leakage or spillages in section 9.7.1.3, however in the event of any such incident occurring remediation measures required will depend on the severity of the incident. Measures will include local soil and groundwater remediation and well rehabilitation or replacement.
- There are no known private wells in the vicinity of the proposed development. Notwithstanding this the impact on groundwater levels in any private well during the operational phase is not likely to result in significant effects as there will be very limited intervention with the exception of operational walkover inspections, vegetation maintenance and possible pole replacement. The nature of the inspections are walkover and given the scale of excavation for a typical pole set replacement will be approximately 1.5m² there will be no likely significant effects in terms of groundwater levels or quality of the private well as a consequence of the operation is considered negligible therefore mitigation is not necessary.
- The Derg water supply, which is supplemented by the River Strule (the Owenkillew and Glennelly rivers are tributaries of the Strule), is the main source of public water supply that could be affected by the project. However, pollution prevention mitigation, as outlined in this chapter will ensure that no impact on public water supply sources in terms of quality. Additionally, the construction phase involves the crossing of minor watercourses within the Strule public water supply over small time scales. Therefore, the works will not negatively impact the sufficiency of the public water supply as there is no abstraction requirement or significant impounding of watercourses required.

9.8.1.4 Oils and Chemicals

The use of oils and chemicals on-site requires significant care and attention. Fuel and chemical storage will only occur in the site compounds. As outlined in Section 2.4.6 of the Project Description two main compounds will be used to service the construction of the Overhead line. These will be located within the NIE Networks Omagh Depot and a temporary compound at the proposed Curraghinalt mine site. The following procedures will be followed at the site compounds to reduce the potential risk from the storage of oils and chemicals.

- The Control of Pollution (Oil Storage) regulations (Northern Ireland) 2010 create new standards for above ground Oil Storage facilities in industrial, commercial and Institutional sectors. In summary, the Regulations apply to:
 - Above ground oil storage in containers over 200 litres
 - Private domestic or residential oil tanks over 3,500 litres
 - Industrial, commercial and institutional/residential establishments (e.g. schools, day care centres, hospitals nursing homes)
 - Waste oil storage and companies who refine or distribute oil
 - Oil stored in buildings
- A key requirement of the Regulations is that oil storage containers covered by the Regulations, fixed or mobile, must have a secondary containment system (of 110% capacity) as defined by the regulations (e.g. a bund, which is an outer wall or enclosure designed to contain the contents of an inner tank, or a drip tray) to ensure that any leaking oil is contained and does not enter the aquatic environment.
- All relevant measures outlined in the Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010 guidance | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk) will be implemented during the construction and operation of the proposed development.
- Fuel, oil and chemical storage will be sited on an impervious base within a bund and secured (locked) to prevent vandalism or theft.
- All valves and trigger guns will be protected from vandalism and unauthorised interference and will be turned off and securely locked when not in use. Any tanks or drums will be stored in a secure container or compound, which will be kept locked when not in use.
- The risk of spilling fuel is at its greatest during refuelling of plant. Refuelling of plant will not occur in the active working areas but rather in the site compounds where it will be undertaken by appropriately trained people.

Refuelling in the site compound will be undertaken well away from any drains or watercourses. A spill kit will be available at all times and a bowser with secondary containment will be used. Vehicles will not be left unattended during refuelling nor will a delivery valve be jammed open. Hoses and valves will be checked daily, before and after use, for wear and turned off and securely locked when not in use.

- A contingency plan for the works will also be prepared in accordance with PPG 21 Pollution Incident Response Planning. The Emergency Response Plan will reflect the parameters established by the OCEMP and detail actions to be taken in the event of an accidental spillage of fuel, chemicals or other hazardous material. The Plan should also detail the procedures to be followed if there is a breach in any licence conditions or a non-compliance.
- It will be important to ensure that the Environmental Manager is notified of all incidents where there has been a breach in agreed environmental management procedures. Suitable training should be provided to relevant personnel detailed within the Emergency Response Plan to ensure that appropriate and timely actions will be taken should an incident occur.
- Drip trays will be used for any large plant and vehicles where they are left overnight at an active work location.

9.8.1.5 Sewage and welfare facilities

In order to cater for the welfare of persons working on the construction of the project, a mobile welfare van (Volume II, Appendix 2.2 OCEMP Appendix C, Figure 14) will be positioned either within the active work section or, where there is an area used for parking vehicles in close proximity to the active work section, that area may also be used. The vehicle will be returned to the vehicle owner's depot for removal of sewage.

Sewage effluent from the temporary site compound will be removed using a vacuum tanker by a suitable licensed waste contractor.

9.8.2 Operational Phase

During the operational phase potential impacts could occur where underground cable faults need localised repairs to be carried out. Given the localised nature of these the impact is less significant than the construction phase however the mitigation measures proposed for the construction phase will also be applicable to these active work areas and will ensure the residual impact is negligible.

9.8.3 Decommissioning Phase

If the overhead line is required to be decommissioned, all associated structures and materials will be recovered and items recycled with the site returned to its original use. In terms of water quality the decommissioning would require access to lands and the use of plant and machinery to recover the materials. On this basis the sediment and oil and chemical mitigation outlined in the construction phase will be applicable and will ensure that the residual impact is negligible.

9.9 Residual Impacts

The likely significant effects of the Proposed Development were assessed for the construction, operational and potential decommissioning phases of the development. In terms of adverse impacts on the water quality the significance of the impacts were assessed to be **negligible to very large adverse** in the absence of adequate mitigation measures.

The likely significant effects on water quality for the affected water bodies and the residual impact with the mitigation applied have been summarised in **Table 9-15** and **Table 9-16**.

An assessment of the significance of the residual impacts is provided for the construction, operational and decommissioning phases of the project. With the implementation of the mitigation measures proposed in this assessment, the residual impact from the Proposed Development is considered to be **negligible**.

Table 9-15: Construction Phase OHL downstream sensitive watercourses - Magnitude and Significance of Effects without Mitigation, and Residual Effects after Mitigation.

Site ID	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
Fowl Glen Burn	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Owenreagh Burn	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Glentrasna Burn	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Legnavadder Burn	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Legolougha Burn	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
Glashybolgan Burn (2 crossings)	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
Letterbrat Burn (2 crossings)	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
Glenelly River Plumbridge (ST14)	nearVery High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible

Site ID	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
Trinamadan	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
Owenkilwee River Golan Bridge (ST15)	nearVery High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible

Table 9-16: Construction Phase UGC - Magnitude and Significance of Effects without Mitigation, and Residual Effects after Mitigation *Note that the assessment takes into account the crossing method.*

Site ID & crossing method	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
ST1 Install as per normal technique above the structure or;	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
ST2 1. Alternate Methodology A: Excavation and Installation around and below a structure or; 2. Alternate Methodology B: Directional drilling	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
ST3 Alternative Methodology C: Dam watercourse and install open trench through watercourse	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
ST4 Install as per normal technique above the structure or;	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
ST5 Alternate Methodology B: Directional drilling	Low	Suspended Solids	Moderate	Slight	Negligible
		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
		Release of oils or chemicals	Major	Moderate	Negligible

Site ID & crossing method	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
ST6	Low	Suspended Solids	Moderate	Slight	Negligible
Alternate Methodology B: Directional drilling		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
		Release of oils or chemicals	Major	Moderate	Negligible
ST7	Low	Suspended Solids	Moderate	Slight	Negligible
1. Install as per normal technique above the structure or; 2. Alternate Methodology B: Directional drilling		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
		Release of oils or chemicals	Major	Moderate	Negligible
ST8	Low	Suspended Solids	Moderate	Slight	Negligible
1. Install as per normal technique above the structure or; 2. Alternate Methodology B: Directional drilling		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
		Release of oils or chemicals	Major	Moderate	Negligible
ST9	Low	Suspended Solids	Moderate	Slight	Negligible
1. Install as per normal technique above the structure or; 2. Alternate Methodology B: Directional drilling		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
		Release of oils or chemicals	Major	Moderate	Negligible
ST10	High	Suspended Solids	Moderate	Large	Negligible
1. Install as per normal technique above the structure or; 2. Alternate Methodology B: Directional drilling		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
ST10b	Medium	Suspended Solids	Moderate	Moderate	Negligible
1. Alternate Methodology C: Dam watercourse and install open trench through watercourse or; 2. Alternate Methodology B: Directional drilling.		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
ST11	High	Suspended Solids	Moderate	Large	Negligible
1. Alternate Methodology C: Dam watercourse and install open trench through watercourse or; 2. Alternate Methodology B: Directional drilling.		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
ST12	Low	Suspended Solids	Moderate	Slight	Negligible
Install as per normal technique above the structure or;		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible

Site ID & crossing method	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
		Release of oils or chemicals	Major	Moderate	Negligible
ST13	High	Suspended Solids	Moderate	Large	Negligible
Install as per normal technique above the structure or;		Sewage or welfare facilities	Minor	Moderate	Negligible I
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible

9.10 Cumulative and transboundary effects

9.10.1 Cumulative Effects

The definition for cumulative impacts used in the Institute of Environmental Management and Assessment (IEMA) guidance on EIA originates from the US Council on Environmental Quality, and is as follows:

“the impacts on the environment which result from incremental impacts of the action when added to other past, present and reasonably foreseeable future actions...”

Cumulative impacts therefore can cover all aspects of the environment. While a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or significant) in the same geographical area, and occurring at the same time, result in a cumulative impact that is collectively significant.

In the context of water quality it is important to consider hydrological connectivity when considering cumulative impacts and the catchment based approach should be central to any assessment. The assessment based on water bodies ensures that past and present activities are accounted for in the baseline and therefore the impact assessment.

With the implementation of the proposed mitigation there are no likely significant effects from the Proposed Development during the construction, operation or potential decommissioning phases, which would result in either positive or negative cumulative effects with other Proposed Developments on the existing water resource for the area traversed by the Proposed Development. There will be no discernible change to the existing baseline water quality environment as a result of the Proposed Development and therefore no likely significant cumulative effects with other projects including the proposed Curraghinalt Mine development.

Notwithstanding this an assessment of committed developments has been undertaken to establish the likelihood for significant cumulative effects. As has been highlighted in Chapter 8 Fisheries and Aquatic Ecology significant cumulative effects on water quality occur when proposed or existing developments are either hydrologically connected or drain to the same receiving environment. It is therefore more important to consider additional developments in the context of river sub catchments, both locally and on a wider river basin or sub-basin scale.

9.10.1.1 Rationale for selection of Zone of Influence

The approach adopted for the assessment for cumulative effects was informed by the advice note by the UK Planning Inspectorate for nationally significant infrastructure projects (<https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2015/12/Advice-note-17V4.pdf>). The Planning Inspectorate recommends a staged approach whereby, to identify the potential for significant cumulative effects, and other planning approved or pending developments, a Zone of Influence (ZOI) is first identified for the environmental aspect under consideration. Given the close interaction with aquatic ecology the same approach to the delineation of the ZOI has been adopted.

For water quality/fisheries and the aquatic environment, the delineation of the ZOI has been based on the sub-basins draining to the water courses that are traversed by the proposed development. There are a number of reasons for using these sub-basins to delineate the ZOI for the cumulative impact assessment as outlined below:

- These sub-basins delineate the sub catchment boundary of the water courses traversed by the proposed development and represent hydrologically connected areas where pressures from existing activities or other committed developments result in cumulative effects with the proposed development. An assessment of the significance of these is undertaken in the sections below.
- The water body sub basins are the WFD reporting units for surface water status classification and the environmental objectives for these water bodies. The potential for cumulative effects can impact on the status classification and the achievement of the environmental objectives for the water body therefore it is important to assess the cumulative effects at this scale.
- The potential for direct impacts on the physical form of a water body channel, habitat and riparian zone from the proposed development are localised and when undertaken in accordance with the mitigation will not have the potential for cumulative effects beyond the water body sub basin scale. The indirect impacts on physico-chemical and chemical parameters, e.g. sediment, hydrocarbons, which can in turn affect the aquatic habitats and biological elements of the water body status, have the ability to impact on a wider area due to hydrological pathways and therefore have the greatest potential for cumulative impacts, even in downstream sub basins.
- If there were the potential to impact significantly on the flow regime, water quality or introduce impediments to the achievement of the environmental objectives of other water bodies then the cumulative assessment would need to consider a wider ZOI but, provided it can be demonstrated that the cumulative effects will not compromise the environmental objectives of the water body sub basin within which the development is proposed then there is no need to further extend the ZOI. If the proposed development were likely to significantly impact on the flow regime or introduce barriers to fish migration (such as impoundments), to an extent that there would be a reduction in the available habitat of downstream water bodies or their ability to assimilate existing pressures then the ZOI would need to be extended to account for potential cumulative effects impact. However, the nature of this development will not result in these types of impact therefore when it is demonstrated that there is no impact at the sub-basin level then the ZOI does not need to be extended beyond this. The assessment of cumulative effects demonstrates that there is no significant cumulative effects at the water body sub basin scale therefore the ZOI does not need to extend beyond this.

All developments within the ZOI were categorised by type as follows:

- Industrial
- Livestock and Poultry
- Overhead lines and electrical connections
- Quarry and Minerals
- Residential
- Slurry Tanks
- Waste facilities and wastewater treatment works (WWTW)
- Windfarm and Hydro renewable energy

The total number of developments within the ZOI was initially determined as a “long list” (as per UK Planning Inspectorate advice) from which a “short list” could then be produced by excluding/ screening out developments where there is no potential for likely significant effects on water quality/fisheries and aquatic ecology (and therefore on cumulative effects together with the proposed development). The exclusion/ screening out of such developments was based on a tiered approach using information on temporal scope, spatial scale, and nature of the development.

For water quality/fisheries and aquatic ecology, the spatial location of the development in relation to the proximity of a watercourse was considered most important because without a hydrological pathway to the Owenkillev and Glenmoran sub-catchments, there is no potential for impacts arising from sediment, other pollutants, obstruction of fish passage, or habitat loss, on fisheries or aquatic ecology. ArcGis 10.8.1 was used to display the spatial locations of all developments from the long list against the DAERA NIEA river segment shape file layer, which displays the Northern Ireland river and stream network (<https://www.daera-ni.gov.uk/articles/download-digital-datasets>). Developments intersecting or within a defined buffer distance of a watercourse in the selected sub-

basins were then further scrutinised. There is no definitive minimum distance specified within which a development can be permitted adjacent to a watercourse, although based on pollution prevention guidelines provided by Environment Agencies across the UK, a minimum distance of 10m from a watercourse is recommended for activities such as cement working and wheel washing (PPG5; https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf?utm_source=website&utm_medium=social&utm_campaign=GPP5%2027112017).

However, the minimum distance will be site specific and depend also on gradient and soil types. Use of 10m and 50m distance is recommended for storage of fuels and oils from a watercourse and well/ borehole, respectively (Pollution Prevention Guideline 5: works in or near water). Therefore, if the geographic co-ordinate of a development did not intersect or occur within 50m of a watercourse, the development was screened out, and thus excluded, from the long list for further assessment of potential cumulative effects. The distance between the development and nearby watercourses was measured using ArcGis 10.8.1 based on the centroid of the geographic co-ordinate of the planning application as provided by RPS.

For large developments, where the spatial spread is potentially greater than that indicated by the location centroid (e.g. multiple turbine Wind Farms, quarries and sand/ gravel extractions), the planning reference was searched using the Northern Ireland Planning Portal to determine whether an environmental assessment or request for such was recommended by planning <https://epicpublic.planningni.gov.uk/publicaccess/>; the development was excluded only if no environmental assessment or environmental impact information was requested by the Planning Authority or available, and provided that no watercourses sensitivities were identified in the Development Management Officer Report (case officer), or if available, the Biodiversity checklist and/or Preliminary Ecological Appraisal (PEA).

For developments with hydrological connections, the Northern Ireland Planning Portal website (<https://epicpublic.planningni.gov.uk/publicaccess/search.do?action=simple&searchType=Application>) was then searched using the relevant planning application reference to determine the availability of environmental assessment information; few developments were accompanied by Environmental Statements or information focusing on fisheries and the water environment as potential sensitive receptors. For developments lacking Environmental Statements but retained (not screened out) for further assessment of cumulative effects, information contained in Biodiversity checklists, PEAs and in Planning Reports prepared by Case Officers, was further scrutinised to determine the likelihood of significant effects.

9.10.1.2 Screening of developments and assessment of likely cumulative effects

Section 8.6.2 of Chapter 8 Fisheries and Aquatic Ecology outlines the approach to the screening of the long list of developments identified within the different categories outlined above with the ZOI. The same principles are applicable to water quality and the achievement of the WFD objectives, therefore the assessment is not repeated in this Chapter.

There were 10 developments that were screened in for further assessment as outlined in Chapter 8, Table 8.22 in addition to the Curraghinalt Gold Mine Project. These projects are also relevant to the water quality chapter given the same potential for hydrological pathways providing a link to the aquatic environment from the different pressures sources, i.e. the different developments. As outlined in the Chapter 8 Fisheries and Aquatic ecology there are no likely significant cumulative effects from these 10 developments and the Curraghinalt Gold Mine Project based on a review of the relevant planning and environmental documentation for these developments and the impact assessment undertaken in this chapter.

9.10.2 Transboundary Effects

The study area associated with the Proposed Development is within the Upper Foyle Catchment. The Foyle catchment is a cross border catchment and therefore the hydrological link extends to areas beyond the international border in the River Foyle and Lough Foyle. The project is therefore hydrologically linked to both the River Finn SAC and the Lough Foyle SPA in the Republic of Ireland. However the residual impact after the implementation of the mitigation measures is assessed as negligible and given that there is no likelihood for significant cumulative effects there will be no potential for significant transboundary effects on water quality as a result of the Proposed Development. This is consistent with the EIA determination undertaken by the Department

for Infrastructure (included in Volume III, Appendix 1.2) which states in relation to the River Finn SAC: *“Given the distance from the receiving streams it is unlikely that there will be significant transboundary effects.”*

9.11 Conclusion

This chapter assesses the likely significant effects of the Proposed Development on the water quality and WFD status of the receiving watercourses within the Glenmornan and Owenkillev catchments. It provides relevant baseline information on water quality and WFD status enabling the impacts to be identified and evaluated.

It has been determined that impacts are primarily related to the release of sediment, oil and other chemicals to the receiving watercourses, the direct hydromorphological impact on watercourses and the risk for inadequate sewage/welfare facilities to cause pollution. These impacts from the Proposed Development were assessed for the construction, operational and decommissioning phases of the development. In terms of adverse impacts on the water quality and the likely significance of the effects were assessed to be negligible to very large adverse in the absence of adequate mitigation measures.

A series of specific mitigation measures have been designed to avoid adverse effects on water quality with regard to the construction phase; the operational and potential decommissioning phases are expected to have no significant effects.

It is concluded that, with the implementation of the proposed mitigation measures the construction, operation and decommissioning of the proposed UGC and OHL will have no significant effects on water quality of the water bodies traversed and therefore will not result in a risk to the achievement of the WFD objectives for these water bodies and their water dependent protected areas.

9.12 References

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APPENDIX 1.2 DFI SCREENING RESPONSE

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NIE Networks
c/o Connections
Customer Delivery
57 Dargan Road
Belfast
BT3 9JU

DfI Strategic Planning Division
71 Ebrington Square
Derry/Londonderry
BT47 6FA

Date: 08th December 2020

YourRef:

Our Ref: LA11/2019/1000/F

LA10/2019/1368/F

Please
Contact: (Please quote at all times)

Contact
Number:



Dear Sir/Madam,

Location: Adjoining 89 Woodend Road Ballymagorry, through townlands of Ballymagorry, Woodend, Milltown, Ballee, Holly-hill, Kennaghan, Owenreagh, Knockanbrack, Lagvittal, Knocklnarvoer, Craignagapple, Lagavadder, Ballykeery, Craigatuke, Meendamp, Balix Upper, Letterbrat, Glencoppogagh (Main Portion), Aghalane and Lisnacreaght ending at 681m NW of 24 Meenadoo Road Culvacullion Gortin.

737m NW of 56 Mullydoo Road Greencastle, through townlands of Crockanboy, Teebane West, Casorna, Rousky, Drumlea, Garvagh, Meenadoo, Trinamadan and Culvacullion ending at 785m NW of 24 Meenadoo Road Culvacullion Gortin.

Proposal: 33kV power line involving both construction of above ground 33kV overhead line supported by wooden poles and underground 33kV cable laid below ground level in ducts, to serve Curraghinalt mine (currently under consideration planning application LA10/2017/1249/F).

33kV connection is c37.9 km in length, comprising of c26.9 km of overhead line supported by single and double wooden pole sets and c11 km of underground cabling.

c 22.8 km of the powerline is within the Derry City & Strabane

District Council area comprising of c 18.7km of overhead line supported by single and double wooden pole sets and c 4.1 km of underground cabling.

c 15.1 km of the powerline is within the Fermanagh & Omagh District Council area comprising of c 8.2 km of overhead line supported by single and double wooden pole sets and c 6.9 km of underground cabling.

I refer to the above planning applications LA11/2019/1000/F and LA10/2019/1368/F called in by the Department on 23rd December 2019.

As the proposed development is one which falls within Category 3 – Energy Industry, (c) Transmission of electrical energy by overhead cables of the Planning (EIA) Regulations (NI) 2017, the Department is obliged under Regulation 12 to make a determination as to whether the planning application should be accompanied by an Environmental Statement.

The Department is of the opinion that the proposed development would be likely to have significant effects on the environment and hereby determines that the planning application must be accompanied by an Environmental Statement. The reasons for this determination are set out in the attached screening determination.

I would advise you that under Regulation 16(5) of the above Regulations, you are required , within **4 weeks** from the date of this determination, to inform the Department's in writing that you:-

- (a) accept the Department's determination and propose to provide an Environmental Statement; or
- (b) do not accept the Department's determination and propose to seek a hearing before the Planning Appeals Commission.

If you do not inform the Department in writing in accordance with Regulation 16(5) as outlined above then the permission sought shall be deemed to be refused at the end of the relevant 4 week period.

Matters for inclusion in an environmental statement are set out in Schedule 4 of the above Regulations, which is not to say that a particular statement must cover every aspect of the potential effects identified in the Schedule at the same level of detail. Emphasis should be placed on the main or significant environmental effects/issues to which the proposed development gives rise, the scope of which you are advised to discuss with the statutory bodies and this office. I would point out, however, that whereas the Department and the statutory bodies may express views about the environmental issues that should be addressed and the information that should be included in the statement, initially they may not be aware of all the potential effects/issues and therefore responsibility for the content of the statement must rest with the applicant.

In the event that the statement when submitted should contain insufficient information to enable the likely significant effects of the proposal to be thoroughly assessed, the Department may ask you to supply the necessary information under Regulation 21. Receipt of such information must be publicly advertised as required by Regulation 18 of the Planning (EIA) Regulations (NI) 2017.

Yours faithfully

[SIGNED]

[REDACTED]

for Strategic Planning Directorate



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1. INTRODUCTION

1.1 This report represents the Department's determination on the need for Environmental Impact Assessment with respect to the proposed powerline applications (listed below). In making its determination it has had regard to the following Environmental Impact Assessment Screening reports prepared by RPS on behalf of the applicant NIE Networks:

- Ecological Impact Assessment;
- Landscape and Visual Screening Assessment;
- Cultural Heritage Screening Assessment;
- Water Quality Screening Assessment;
- Fisheries & Aquatic Ecology Screening Assessment with update;
- Flood Risk Analysis (mapping);
- Outline Construction Environmental Management Plan (OCEMP).

1.2 Given the detailed technical appraisal in many of the reports the Department also conducted a consultation exercise with relevant expert consultees and their responses were also taken into account in the determination. Account was also taken of the RPS letter accompanying the request for EIA screening determination.

2. NATURE AND EXTENT OF PROPOSED DEVELOPMENT

2.1 The development is contained within two separate applications submitted to the local Councils, (Fermanagh and Omagh District Council and Derry City and Strabane District Council) and subsequently called-in by the Department under Section 29 of the Planning Act (NI) 2011.

2.2 The application references are LA10/2019/1386/F - Fermanagh & Omagh Council District & LA11/2019/1000/F – Derry City & Strabane Council District. The proposal consists of a 33kV power line involving both construction of above ground 33kV overhead line and underground 33kV cable laid in ducts. These in combination will provide the electricity supply to the proposed Curraghinalt mine (currently under consideration planning application LA10/2017/1249/F).

2.3 The total line length is c37.9 km, comprising of c26.9 km of overhead line and c11 km of underground cabling. Some 15.1 km of the powerline is within the Fermanagh &

Omagh District Council area comprising of c 8.2 km of overhead line and c 6.9 km of underground cabling. A further 22.8 km of the powerline is within the Derry City & Strabane District Council area comprising of c 18.7km of overhead line with c 4.1 km of underground cabling.

- 2.4** The design is a mix of single and double (“H”) wood pole structures which are supported by stays at points where the overhead line route changes direction or terminates. Each wooden pole will be stout with a 200mm head diameter. The pole heights will range from 11-20m, with the H pole consisting of 2 poles braced together 1.8m apart and a steel cross arm supporting the 3 phase conductors.

3. EIA LEGISLATION AND REQUIREMENT FOR EIA DETERMINATION

- 3.1** Section 51 of the Planning (NI) Act 2011 allows the Department by regulations to make provision about the consideration to be given, before planning permission for development of any class specified in the regulations is granted, to the likely environmental effects of the proposed development. The relevant Regulations made by the Department are *The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017* - the ‘EIA Regulations’.

- 3.2** Under Regulation 12 (1) of the EIA Regulations, where it appears to the Department that the application received is:

- a) a Schedule 1 or Schedule 2 application;
 - b) the development in question has not been subject of a screening determination as to whether the development is or is not EIA development;
 - c) the application is not accompanied by a statement referred to by the applicant as an environmental statement.....;
- the Department shall make a screening determination as to whether the development is EIA development.

Regulation 8 of the EIA Regs shall apply as if receipt of the application were a request made under paragraph (1)(a) of regulation 8.

- 3.3** In assessing whether the development falls within Schedule 1 or 2 development TABLE 1 sets out the principal steps in the process:

TABLE 1	Yes/No – Please Describe
Does the proposed development fall within the scope of Schedule 1	NO
Does the proposed development fall within a type listed in Column 1 of Schedule 2?	YES The proposed development mostly falls within category 3 of Column 1 – Energy Industry, (c) Transmission of

	electrical energy by overhead cables (underground component not mentioned).
Does the proposed development meet any of the relevant thresholds and / or criteria in Column 2 of Schedule 2?	NO (i)The nominal voltage of the electric line does not exceeds 33kV; and (ii)the purpose of the line is to supply one consumer; (iii) modification of an existing line is not proposed outside the tolerances specified in the Overhead Lines (Exemption) Regulations (Northern Ireland) 1992
Is the proposed development to be located within a “sensitive area”?	YES The majority of the proposed development is located within the Sperrin AONB. A portion of the proposed development spans the Owenkillev River, a designated Special Area of Conservation (SAC) and a European Site. The Owenkillev River is also an Area of Special Scientific Interest (ASSI).
Does the proposed development change or extend development described in Column 1 of Schedule 2?	NO

- 3.4** Regulation 2 defines “sensitive area” as any of the following - Areas of Special Scientific Interest (ASSI), Areas of Outstanding Natural Beauty (AONB), National Parks, World Heritage Sites, Scheduled Monuments and European Protected Sites. As Schedule 2 applies to any part of that development to be carried out in a sensitive area, the development is Schedule 2 development and a screening determination is required to determine as to whether the development is EIA development.

4. SCREENING DETERMINATION FOR EIA

- 4.1** As the development is determined to fall within Schedule 2, the screening process considers whether the development is EIA development. EIA development is defined at Regulation 2 as development which is **‘likely to have significant effects on the environment by virtue of factors such as nature, size or location’**. As required by regulation 8(7), where the Department has to decide whether Schedule 2 development is EIA development, they must take into account the selection criteria set out in Schedule 3 as are relevant to the development. The development under consideration comprises the two powerline planning applications and it is the totality of their likely significant effects that forms the basis of the screening determination.

4.2 The Department has taken into account the selection criteria set out in Schedule 3, as are relevant to the proposed development and as assessed in the screening determination matrix at Table 2. In considering the assessment the matrix assists in:

- identifying the potential impacts of the proposed development based upon the characteristics of the development and its location;
- considering whether significant environmental effects are likely based upon the characteristics of the potential impacts and the possibility of effectively reducing the impact;
- establishing the broad considerations leading to the detailed reasons for conclusion at Section 6

TABLE 1	<u>Potential Impact</u>	<u>Is this likely to result in a significant effect?</u>
Schedule 3 selection criteria as are considered relevant	<u>(Yes/No/N/A)</u> Briefly describe potential impact. If answer NO, the answer in the second column is N/A	<u>(Yes/No/N/A)</u> Include measures envisaged to avoid or prevent significant adverse impacts on the environment
SIZE AND DESIGN		
Will the proposed development be out of scale with the existing environment?	NO Overhead powerline infrastructure is widely present throughout parts of the rural landscape – whilst extensive in overall length it is not out of scale with the existing environment.	N/A
CUMULATIVE EFFECTS		

TABLE 1	Potential Impact	Is this likely to result in a significant effect?
Schedule 3 selection criteria as are considered relevant	(Yes/No/N/A) Briefly describe potential impact. If answer NO, the answer in the second column is N/A	(Yes/No/N/A) Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Are there potential cumulative impacts with other existing and/or approved developments	YES Visual impact with existing wind turbines, existing powerlines, the proposed mine served by this proposal, existing residential properties/rural development and consented turbines etc.	NO The Sperrin AONB is considered to have a high sensitivity to change and given the length of the proposed development and in combination with other developments it is considered there is the potential for significant visual impacts. No landscape mitigation measures are proposed.
USE OF NATURAL RESOURCES		
Will the proposed development use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or are in short supply?	YES The development by its nature of sourcing and erecting wooden poles, overhead wires and laying underground cabling will impact on the use of natural resources.	NO Whilst the project, would result in the need for excavation of land to provide the infrastructure, and use of materials the effects are not considered to be significant. The main raw material is considered a renewable resource.

TABLE 1	<u>Potential Impact</u>	<u>Is this likely to result in a significant effect?</u>
Schedule 3 selection criteria as are considered relevant	<u>(Yes/No/N/A)</u> Briefly describe potential impact. If answer NO, the answer in the second column is N/A	<u>(Yes/No/N/A)</u> Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Will construction, operation or decommissioning of the project involve actions which will cause physical changes in the topography of the area?	YES The development by its nature of erecting wooden poles and laying underground cabling will impact on the topography albeit it is unlikely to change significantly the topography of the area.	NO This is not considered to be a likely significant effect. The OCEMP indicates relatively small intrusive construction activities and it is not envisaged that there will be any significant change to the area's topography.

TABLE 1 Schedule 3 selection criteria as are considered relevant	<u>Potential Impact</u> <u>(Yes/No/N/A)</u> Briefly describe potential impact. If answer NO, the answer in the second column is N/A	<u>Is this likely to result in a significant effect?</u> <u>(Yes/No/N/A)</u> Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Are there any areas on/around the location which contain important, high quality or scarce resources which could be affected by the project, e.g. forestry, agriculture, water/coastal, fisheries, minerals?	YES There are important water courses that are home to pearl mussel and salmon.	YES The OCEMP in support of the application sets the parameters in respect of water quality, fisheries and aquatic ecology, within which the detailed provisions of the final CEMP will be delivered. The OCEMP includes best practice for works in and around watercourses taking account of matters such as: structural integrity, site drainage, foul water disposal, silt management, fuels and material storage, monitoring, pollution prevention and emergency planning. The mitigation measures delivered through the CEMP are dependent on suitable planning conditions and a low risk for the various methodologies operating over an extensive area in a variety of terrains and ground conditions and habitat interests. The Department is not convinced that standard planning conditions will address all these matters and finds the potential remains for likely significant effects.
PRODUCTION OF WASTE		

TABLE 1 Schedule 3 selection criteria as are considered relevant	<u>Potential Impact</u> <u>(Yes/No/N/A)</u> Briefly describe potential impact. If answer NO, the answer in the second column is N/A	<u>Is this likely to result in a significant effect?</u> <u>(Yes/No/N/A)</u> Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Will the construction, operation or decommissioning of the proposed development produce wastes?	YES There will be excavated earth and building materials during construction phase	NO With the mitigation measures proposed this is not considered to be a likely significant effect. It is considered the amount of waste arising from excavations to lay cable or set poles would not be significant and an amount of the excavated material will be reinstated where possible as backfill.
POLLUTION AND NUISANCES		
Will the construction, operation or decommissioning phases of the proposed development release pollutants or any hazardous, toxic or noxious substances to the air?	YES Potential for impacts on local air quality at construction phase due to use of machinery/plant, dust from excavation and construction traffic,	NO It is not considered that the nature of any of the construction excavation works would give rise to release of any hazardous, toxic or noxious airborne substances or be likely to have a significant effect upon air quality. It is considered that in line with best practice for construction phase, traffic management and dust control measures could be secured as necessary by condition in consultation with Environmental Health Departments.

TABLE 1 Schedule 3 selection criteria as are considered relevant	<u>Potential Impact</u> <u>(Yes/No/N/A)</u> Briefly describe potential impact. If answer NO, the answer in the second column is N/A	<u>Is this likely to result in a significant effect?</u> <u>(Yes/No/N/A)</u> Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Will the construction, operation or decommissioning of the proposed development lead to risk of contamination of land or water from releases of pollutants?	YES Potential primarily for soil, mud and clay to be released into surrounding watercourses via surface water run-off, the potential removal of vegetation along watercourses, use and storage of fuels, oil for machinery and treatment of sewage facilities, and primarily during construction phase.	YES It is acknowledged the Owenkillev and Glenelly catchments in particular are highly sensitive receptors. The Owenkillev is an SAC and incorporates the Owenkillev River Area of Special Scientific Interest (ASSI). The SAC features the largest population of freshwater pearl mussel in Northern Ireland. The OCEMP in support of the application sets the parameters in respect of water quality, fisheries and aquatic ecology, within which the detailed provisions of the final CEMP will be delivered. The mitigation measures are dependent on suitable planning conditions and a low risk for the various methodologies operating over an extensive area in a variety of terrains and ground conditions and habitat interests. The Department is not convinced that standard planning conditions will address all these matters and finds the potential remains for likely significant effects.

TABLE 1	Potential Impact	Is this likely to result in a significant effect?
Schedule 3 selection criteria as are considered relevant	(Yes/No/N/A) Briefly describe potential impact. If answer NO, the answer in the second column is N/A	(Yes/No/N/A) Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Will the construction, operation or decommissioning phases of the proposed development cause noise, vibration or the release of light, heat, energy or electromagnetic radiation?	YES The proposed development will generate electric and magnetic fields (EMF) with potential for a noise impact. There is potential to generate noise from plant and machinery during construction phase	NO It is considered this is not a significant effect and EMF can be considered in consultation with Public Health Agency who can provide expert advice on the relevant ICNIRP guidelines. Likely significant environmental effects arising from vibration and noise during construction can be controlled through restrictions on hours or operation for construction.
MAJOR ACCIDENTS		
Will there be any risk of major accidents (including those caused by climate change, in accordance with scientific knowledge) during construction, operation or decommissioning?	YES Potential for human error that could impact on the environment	NO As with most construction operations there is a risk of major accidents happening. In carrying out the operations, workers must adhere to the Health and Safety at Work (NI) regulations and expert advice can be sought from HSENI through the consultation process. It is considered this is not a likely significant effect and can be mitigated by appropriate condition.
HUMAN HEALTH		

TABLE 1	Potential Impact	Is this likely to result in a significant effect?
Schedule 3 selection criteria as are considered relevant	(Yes/No/N/A) Briefly describe potential impact. If answer NO, the answer in the second column is N/A	(Yes/No/N/A) Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Will the project present a risk to the population (having regard to population density) and their human health during construction, operation or decommissioning? (for example due to water contamination or air pollution)	YES Potentially there could be impact on the human health of the surrounding population in terms of use of plant equipment, material transportation and possible dust from construction operations.	NO With the mitigation measures proposed this is not considered to be a likely significant effect. Advice will also be taken from Public Health Agency as part of the consultation process and appropriate conditions can be applied to implement any agreed CEMP measures. Dust pollution is not considered to be a likely significant effect given the nature of the development. Where any small and localised impacts arise dust control measures could be secured by condition in consultation with Environmental Health Departments if necessary.
LAND USE		
Are there existing and/or approved land uses or community facilities on or around the location which could be affected by the project? E.g. housing, densely populated areas, industry / commerce, farm/agricultural holdings, forestry, tourism, mining, quarrying, facilities relating to health, education, places of worship, leisure /sports / recreation	YES The majority of the land use that the proposal traverses is rural in nature, therefore there could be potential impact on local residents, farming activities and tourism etc.	YES Given the extent of the development it is not established that there would not be likely significant effects on residential amenity. 208 properties and clusters of properties are identified within the 500m corridor. The outlook from a number of these properties has the potential to be significantly impacted and a residential visual amenity assessment should be carried out as part a wider residential amenity assessment. A likely significant effect cannot be precluded.

TABLE 1	<u>Potential Impact</u>	<u>Is this likely to result in a significant effect?</u>
Schedule 3 selection criteria as are considered relevant	<u>(Yes/No/N/A)</u> Briefly describe potential impact. If answer NO, the answer in the second column is N/A	<u>(Yes/No/N/A)</u> Include measures envisaged to avoid or prevent significant adverse impacts on the environment
NATURAL ENVIRONMENT		

Are there any areas on or around the application site that are protected under international or national legislation for their ecological, landscape, cultural heritage or other value which could be affected by the construction, operation or decommissioning of the proposed development? Are there any protected areas which are designated or classified for their terrestrial, avian and marine ecological value, or any non-designated / non-classified areas which are important or sensitive for reasons of their terrestrial, avian and marine ecological value, located on or around the location and which could be affected by the project? (e.g. wetlands, watercourses or other water-bodies, the coastal zone, mountains, forests or woodlands, undesignated nature reserves or parks. (Where designated indicate level of designation (international, national, regional or local))). Could any protected, important or sensitive species of flora or fauna	YES The majority of the proposed development falls with the Sperrin AONB. A portion of the proposed development spans the Owenkillew River, a designated Special Area of Conservation (SAC) and therefore a European Site. This is also an Area of Special Scientific Interest (ASSI). The Owenkillew and Owenreagh Rivers are within the River Foyle and its tributaries Special Area of Conservation (SAC) - supports significant numbers of Atlantic Salmon and Otter. The Owenkillew River is an SAC and incorporates the Owenkillew River Area of Special Scientific Interest (ASSI), Drumlea and Mullan Woods and Owenkillew and Glenelly Woods ASSI. The SAC features the largest population of freshwater pearl mussel in Northern Ireland. Also includes salmon, otter, bog woodland, water crowfoot and old woodlands.	YES It is considered that there will be likely significant effects on designated sites, habitats and species. The mitigation measures are dependent on suitable planning conditions and a low risk for the various methodologies operating over an extensive area in a variety of terrains and ground conditions and habitat interests. The Department is not convinced that standard planning conditions will address all these matters and finds the potential remains for likely significant effects. At least one species will require further survey work to assess impact.
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TABLE 1 Schedule 3 selection criteria as are considered relevant	<u>Potential Impact</u> <u>(Yes/No/N/A)</u> Briefly describe potential impact. If answer NO, the answer in the second column is N/A	<u>Is this likely to result in a significant effect?</u> <u>(Yes/No/N/A)</u> Include measures envisaged to avoid or prevent significant adverse impacts on the environment
which use areas on or around the site, e.g. for breeding, nesting, foraging, resting, over-wintering, or migration, be affected by the project?	Owenreagh River ASSI for the feature of freshwater pearl mussel. Also possible impact on peat which supports blanket bog and wet heath habitats which are priority habitat under Annex 1 of the EU Habitats Directive. Potential impact on protected species such as otter, badger, newt, common lizard, breeding birds and fritillary marsh butterfly.	
WATER RESOURCES		

TABLE 1	Potential Impact	Is this likely to result in a significant effect?
Schedule 3 selection criteria as are considered relevant	(Yes/No/N/A) Briefly describe potential impact. If answer NO, the answer in the second column is N/A	(Yes/No/N/A) Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Are there any water resources including surface waters, e.g. rivers, lakes/ponds, coastal or underground waters on or around the location which could be affected by the project, particularly in terms of their volume and flood risk? Are there any groundwater source protection zones or areas that contribute to the recharge of groundwater resources which could be affected by the proposed development?	YES There is potential for impacts to occur on surface water and ground water quality. Potential for run off into sensitive receiving water courses.	NO It is considered that the risk of flooding in the development corridor is low. Whilst there is potential for temporary impoundment for some minor streams it is not considered a significant effect in terms of affecting water volume. In terms of ground water impacts, the poles, when sunk into the ground may release some contamination due to the protecting coats they will be covered in, however it is not considered nor is there evidence to suggest these are likely be significant and can be fully assessed as part of the consultation process with NIEA.
Are there any areas on or around the location of the proposed development where environmental quality standards are already exceeded which could be affected by the proposed development?	NO DfI Planning are not aware of any documented evidence to suggest there are any specific areas in the proximity of this proposal where there are issues with environmental quality standards.	N/A
LANDSCAPE AND VISUAL		

Are there any areas or features on or around the location which are protected for their landscape and scenic value, and/or any non-designated / non-classified areas or features of high landscape or scenic value on or around the location which could be affected by the project? Where designated indicate level of designation (international, national, regional or local). Is the project in a location where it is likely to be highly visible to many people?	YES The route is largely within the Sperrin AONB (nationally important) and will traverse 4 different landscape character areas. Circa 28km will be over ground. Given the length of the powerline route it is considered that it will have impacts for both local residents and to the wider community who may visit the locality for tourist or recreation purposes.	YES The Sperrin AONB in parts is considered to have a high sensitivity to change; whilst wooden pole overhead lines are not uncharacteristic in parts of the route corridor, given the length of the route, in parts over an open elevated landscape, and in combination with other developments it is considered that there is potential for likely significant environmental effects. Of the 208 dwellings identified within the 500 metre corridor, the screening assessment judges all to be minor/moderate with respect to their experience of visual effects (Table 10). Given the number of properties along the length of the line corridor it is considered that a Residential Visual Amenity Assessment (RVAA) would provide additional information to assess whether the development is likely to result in visual changes which significantly affect the quality of life or living conditions of residents – which would also assist in assessing wider residential amenity issues. The potential of likely significant effects arising from the outlook from neighbouring properties cannot be excluded. Potential of the 11 viewpoints selected to illustrate the existing visual context is queried as well as the significance of the impacts. A likely significant effect cannot be precluded.
TRANSPORTATION AND ACCESS		

TABLE 1	Potential Impact	Is this likely to result in a significant effect?
Schedule 3 selection criteria as are considered relevant	(Yes/No/N/A) Briefly describe potential impact. If answer NO, the answer in the second column is N/A	(Yes/No/N/A) Include measures envisaged to avoid or prevent significant adverse impacts on the environment
Are there any transport routes on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the proposed development? Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the development?	YES The development has potential have an impact in terms of increase traffic movements and volume of vehicles on the road network, mostly during construction phase. Potential impact on laying of underground cables along parts of road network	NO Impacts will be concentrated at the construction phase for a period circa 12-18 months and therefore not long term. With the projected vehicle trip numbers (Table 4.2 of the OCEMP) and using mostly the existing road network during the construction phase (Appendix C of the OCEMP) it is not considered to be a likely significant effect.
CULTURAL HERITAGE AND ARCHAEOLOGY		
Are there any areas or features which are protected for their cultural heritage or archaeological value, or any non-designated / classified areas and/or features of cultural heritage or archaeological importance on or around the location which could be affected by the project (including potential impacts on setting, and views to, from and within)? Where	YES Based on the available information there are scheduled monument sites in proximity to the route of the line, a number of industrial heritage sites (bridges) and a number of listed buildings.	YES Mitigation is proposed to include exclusion zones at construction phase within the vicinity of identified/recorded/potential archaeological monuments. A licensed archaeological monitoring programme to be implemented at early construction phase and post evaluation excavation reporting as necessary. It is considered the project has the potential to have a likely significant effect on cultural heritage (e.g.: on the setting of a group of prehistoric monuments in Culvacullion and Trinamadan townlands) by introducing

TABLE 1	Potential Impact	Is this likely to result in a significant effect?
Schedule 3 selection criteria as are considered relevant	(Yes/No/N/A) Briefly describe potential impact. If answer NO, the answer in the second column is N/A	(Yes/No/N/A) Include measures envisaged to avoid or prevent significant adverse impacts on the environment
designated indicate level of designation (international, national, regional or local).		an incongruous form of development into parts of the upland landscape. This impact has not been sufficiently mitigated and the impact is thus likely to be significant It is not considered that there are likely significant effects on the various listed buildings along the proposed route There is no LB's within the 200m corridor and only two within 1km.
TRANSBOUNDARY		
Is the project likely to lead to transboundary effects?	YES The project is hydrologically linked to the River Finn SAC; there is potential for sediments or contaminates to impact this watercourse through surface water run-off. There may be transboundary visual impact from the project	NO Given the distance from the receiving streams it is unlikely that there will be significant transboundary effects. It is considered they may be some transboundary visual impacts at the northern point of the line with County Donegal however given the distance and nature of the proposal it is considered these are unlikely to have a significant transboundary visual impact.
STABILITY		
Is the location susceptible to earthquakes, subsidence, landslides, erosion, or extreme /adverse climatic conditions?	N/A	N/A

5. ENVIRONMENTAL IMPACT ASSESSMENT SCREENING DETERMINATION

- 5.1 The Department has had regard to the scale and nature of the project and provided a proportionate assessment taking account of all available information including consultee responses, the proposed mitigation measures outlined in the detailed technical screening documents and the probability of impacts on the receiving environment arising from the proposed development during the construction or operational phases.
- 5.2 The Department does not concur with various submissions that all the impacts are reduced to no likely significant effects, in some cases even where extensive mitigation measures are proposed. On that basis the Department determines that the proposed development is EIA development and that the proposed project must proceed by way of an Environmental Impact Assessment.

6. STATEMENT ON THE MAIN REASONS FOR THE CONCLUSION

- 6.1 In reaching the conclusion that the proposed project must proceed by way of an Environmental Impact Assessment, the Department has had regard to the environmental information submitted including in particular the Ecological Impact Assessment **EclIA** (with a confidential badger survey), Landscape and Visual Impact Assessment **LVIA**, Cultural Heritage Screening Assessment **CHSA**, Water Quality Screening Assessment **WQSA**, Fisheries & Aquatic Ecology Screening Assessment **FAESA** and the additional Fisheries & Aquatic Screening Assessment - Received 15.09.20 **aFAESA**, Flood Risk Analysis **FRA** and the Outline Construction Environmental Management Plan **OCEMP**. It has also taken into account consultee comment. The main reasons for the conclusion reached are:

- **Potential Water Quality Effects**

In the **WQSA** the potential impacts are assessed for the construction, operational and decommissioning phases of the development. Neither the operational nor the decommissioning phase is likely to give rise to significant environmental effects. The significance of the adverse impacts on water quality are assessed in the construction phase to be in a range from negligible to very large adverse in the absence of adequate mitigation measures. The potential impacts on water quality for affected water bodies for both overhead line and underground cable are summarised in Tables 8.1 and 8.2. It is concluded that provided the mitigation measures proposed in the assessment are implemented, the residual impact from the development is considered to be negligible.

The mitigations measures proposed comprise three main elements related to prevention of sediment pollution, measures to reduce the risk of bank erosion and sediment input to the channel and procedures to be followed to reduce the potential risk from the storage of oils and chemicals. Off-site sewage disposal is not considered

to be significant. The proposed mitigation measures at Section 7 are largely repeated at Section 5 in the OCEMP.

The construction method for the underground watercourse crossings are listed in Table 2.1 and as identified in Figures 5.1 to 5.3 of the WQSA. Where the methodology differs from the standard technique outlined in Section 2.2.3 the detailed methodology is provided in Appendix D of the OCEMP.

The Department is satisfied that the proposals might well be routine and standard industry environmental management systems though the OCEMP does not provide an evidence base to demonstrate the risk associated with the various mitigation methodologies. Information on how routine such methodologies are or how their use and operational outcomes in similar sensitive environments including river crossings with high nature conservation value would have allowed some comparison of risk. In the absence of same the probability of a significant effect cannot be ruled out.

Notwithstanding whether or not the mitigation measures are routine and of low risk they must also be capable of successful implementation. The mitigation measures will form part of the site-specific Construction Environmental Management Plan (CEMP) which will be in operation during the construction phase.

Successful implementation goes beyond adherence to published guidelines and operating practices as it relies on whether the planning system has the appropriate means to monitor, control and enforce the CEMP provisions. As a planning condition cannot in itself prevent harm if for example the CEMP methodologies/processes fail it is particularly important that there is a strong evidence base of low risk for the various methodologies operating over an extensive area in a variety of terrains and ground conditions with significant habitat interest. The issue should be read in conjunction with the mitigation measures proposed for ecology and fisheries & aquatic ecology given their interrelated nature.

Whilst not precluding that this could be done at low risk the Department finds that, for screening purposes, there is material doubt and in applying the precautionary principle, which underlies the EIA Directive, the potential for likely significant effects on water pollution should be resolved in favour of EIA. (see also comment in ecology and aquatic ecology on mitigation)

- **Potential Ecological Effects**

The **OCEMP** at Section 6 outlines the ecological mitigation measures informed by the **EclIA**. Residual impacts (Section 7 of the EclIA) identifies the significance of effects after the implementation of mitigation measures. This indicates that for the different phases, even with mitigation measures there remain a range of adverse effects including:

major adverse on the NIPH Wet Woodland, during construction and operation;
moderate adverse on Owenreagh Hill Local Wildlife Site, during construction and on bats if Bat Roost Inspection Surveys of Trees confirm the presences of bat roosts.

There is doubt about what this effect will be as Bat Roost Inspection Surveys are required to confirm (Table 1 Preliminary Roost Assessment for Trees and Further Survey Inspection Result);

minor adverse on Glenelly River Local Wildlife Site, during construction and operation but no permanent damage following the implementation of mitigation measures to protect water quality;

- on Golan Burn Local Wildlife Site, during construction and during operation but no permanent damage following the implementation of mitigation measures to protect water quality and reinstate habitat;

- on the NIPHS Blanket Bog; Wet Modified Bog; Upland Fens, Flushes and Swamps; Upland Heath and Purple Moorgrass and Rush Pasture, during construction due to pole and cable installation, with temporary disturbance to features of regional importance but no permanent damage and No Significant Effect during operation following the implementation of mitigation measures to protect habitat;

- on the NIPH Rivers and Streams, during construction due to site clearance of vegetation and watercourse crossings and during operation due to vegetation management, with temporary disturbance to features of regional importance, but no permanent damage following the implementation of mitigation measures to protect water quality;

- on the NIPH Hedgerows and the non-priority habitat broadleaved semi-natural woodland during construction and operation due to site clearance of vegetation and vegetation management, with the loss of woodland of regional importance following the implementation of mitigation measures;

- on the non-priority habitat marshy grassland during construction due to pole and cable installation, with temporary disturbance to features of regional importance but no permanent damage and No Significant Effect during operation following the implementation of mitigation measures to protect habitat.

Measures are proposed in Section 8 of the EcIA to compensate for damage to Northern Ireland Priority Habitats across the project. These areas will be in addition to compensatory measures already outlined within the Curraghinalt mine site *Ecological Mitigation and Management Plan* submitted in respect of planning application LA10/2017/1249/F and will be delivered by the developer (Section 6.6 of the OCEMP). The Department has checked the relevant mine site ecological mitigation and can find no reference currently to these additional compensatory measures required by the powerlines. No weight is therefore attached to this proposal and the impacts remain as described at 7.2.

The ecological mitigation measures proposed in the OCEMP at Section 6 are informed by the EcIA report. Ecological protection relies in combination on the ecological mitigation measures detailed in the EcIA, the WQSA, the two FAESA reports and as set out in the OCEMP. The measure in the WQSA and FAESA are dealt with separately and this section focuses on those mitigation measures identified in the EcIA and the OCEMP. The OCEMP sets out the standards that will be implemented throughout the life of the development including details of the construction and operation of the project, construction method statements at

watercourse crossings, environmental management measures that will be put in place to mitigate environmental effects and provides details of audit procedures.

Of central importance in monitoring mitigation measures is the provision of an ECoW, or several, who will provide direction at both pre-construction and during construction in relation to undertaking a range of activities including appropriate monitoring. It is indicated that the direction of the ECoW will be binding.

The Department does not find that the combination of mitigation/compensation and implementation measures will be routine. For example there is potential for a number of ECoWs on site particularly where multiple active work sections may be constructed in parallel using additional work teams. Whilst the OCEMP outlines the binding powers of the ECoW, in terms of implementation, these powers must also be capable of control through the planning systems. Given the linear extent of the site, the number and diverse range of habitats impacted, the potential for numerous working sites simultaneously, the Department is not convinced that the OCEMP measures, primarily under the control of the applicant and however well-intentioned would be sufficient to ensure that all mitigation measures are implemented by a routine planning condition. For the mine project the Department is considering the need to appoint its own on-site ecologists and as part of the project this should be extended to the powerlines. These would be employed by the Department but funded by the applicant and this measure (and its costs) will be the subject of detailed negotiations and the subject of a S76 planning agreement. Any binding powers, for example the ability to stop work, it is felt should rest with the Department's ecologist and enforced through a legally binding planning agreement rather than a breach of planning condition.

The Department finds that, for screening purposes, there is potential for likely significant effects on bats which may only be determined following further survey work. Compensation measures do not appear to be currently subsumed within the mine application. The Department also finds material doubt in how mitigation measure will be implemented, particularly where a S76 planning agreement may have to be negotiated and in applying the precautionary principle, which underlies the EIA Directive, the potential for likely significant effects on ecology should be resolved in favour of EIA.

- **Potential Cultural Heritage Effects**

The **CHSA** at Section 6 sets out the mitigation measures primarily for the construction phase. These comprise three main measures:

- Creation of exclusion zones at initial phase of Construction Stage, adjacent recorded/potential archaeological sites
- Licenced archaeological monitoring programme (watching brief) at earliest stage(s) of construction phase at all greenfield cable route areas, adjacent areas of identified Cultural Heritage constraints (recorded and potential) and pole-sets not subject to field inspection as part of this report
- Post-evaluation/excavation reporting, as appropriate, to the relevant authorities

The letter requesting a screening determination indicates that design iterations were completed following detailed field surveys including cultural heritage matters. The assessment of significance of Effect is categorised as Profound, Very Significant, Significant, Moderate, Slight, Not Significant or Imperceptible and the study corridor was determined to be 200m wide for assessment of potential direct impacts and the 1km wide study area for indirect visual impact assessment. Impacts are summarised at Table 4.

HED (Historic Monuments) has assessed the information and has some concerns regarding the impact of the proposed overhead powerlines (OHL) on the setting of a group of prehistoric monuments in Culvacullion and Trinamadan townlands, Co. Tyrone. This includes a stone circle (TYR 18: 56), four stone circles and alignments known as the Slieve Beg standing stones (TYR 18: 08) and 3 standing stones that are possibly the remains of a megalithic tomb (TYR 18: 50). The first two of these are scheduled monuments afforded statutory protection under the provisions of the Historic Monuments and Archaeological Objects (NI) Order 1995. HED (Historic Monuments) considers that any adverse impact upon the setting of these monuments should be avoided and advises that the applicant considers realigning the proposed OHL to avoid the impacts identified in the archaeological impact assessment accompanying the application. Currently the setting of these monuments is relatively undisturbed upland, with wide views across the area and more distant views towards Donegal. The introduction of the OHL as proposed will introduce an incongruous form of modern development into this upland landscape and change the character of the functional and visual settings of this group of monuments. A further group of potential prehistoric monuments has been identified to the north-east of these recorded monuments by the applicant's archaeological consultants during field work for this project. Taken with the recorded monuments these indicate that a substantial prehistoric landscape is present on Slieve Beg.

Physical, visual and functional setting criteria were used by the applicant's consultant to describe the potential impact on the setting of the newly discovered stone arrangement, as well as the nearby Scheduled Monuments. Trinamadan, close to the boundary with Culvacullion, County Tyrone. Consideration was given to amending the alignment to potentially lessen the indirect impact on the setting of the stone arrangement but such movement had the potential to increase the visual prominence of the OHL and might have also potentially brought the line closer to other potential archaeological features.

Proposed cultural heritage mitigation measures are to a large extent limited to those relating to archaeological monitoring during the construction phase and post-evaluation/excavation reporting, as appropriate, to the relevant authorities. The ability to mitigate by adjusting the route of the line may be constrained by other factors such as landscape or nature conservation impacts and such detailed consideration is a matter for the planning application where it would be possible to consider the relative balance between these sometimes competing interests.

For screening purposes, based on the route as submitted and HED comments, the Department is persuaded that there will be potential for likely significant effects. The potential for likely significant effects on cultural heritage should be resolved in favour of EIA.

- **Potential Landscape and Visual Effects**

In the **LVIA** the potential landscape and visual effects are assessed for the construction and operational phases of the development. All of the identified LCAs have been predicted to experience localised, temporary, adverse but not significant landscape impacts during the construction phase which is accepted. During the operational phase of the development no significant landscape effects are predicted for any of the four LCAs and the wider AONB due to the nature of development and the open, expansive nature of the landscapes within which it is placed (Table 8 of the LVIA Summary of Predicted Landscape Effects). Visual effects from 11 representative viewpoints are predicted to range from minor and not significant to a single impact of minor to moderate and not significant (Table 9 of the LVIA: Summary of Predicted Visual Effect).

Mitigation measures are not proposed though it is indicated that the initial route design took account of the Holford Rules which are used by NIE Networks as a tool to select and assess potential route options for overhead power lines. The route design of the development has addressed the principles established by these Rules which are not solely concerned with landscape but involve a consideration of other matters such as cultural heritage, ecological and technical e.g. consideration of the need to maintain clearances from specified structures such as phone masts and wind turbines and to minimise crossings with other existing power lines. It is considered that a number of matters remain to be addressed.

The limited number of viewpoints (11 No) is unlikely to be fully representative of the viewpoints and visual effects of the development along its route. The Department does not agree that there are unlikely to be significant landscape effects because it does not accept that only one viewpoint VP 7 Glenelly Road would result in minor to moderate and not significant visual impact. It considers that VPs 2, 3, 4, 8 and 10 (and the landscape they represent) have the potential to result in greater visual effects than VP7. OHLs are generally a minor element or not visible in these viewpoints.

As these viewpoints are representative, selected to illustrate the existing visual context of the development and as an aid to the visual impact assessment (1.7 of the LVIA) the extent to which these may be characteristic of the entire route is not known. If they are, and impacts are greater than for VP7, then there is potential for likely significant landscape effects over an extensive part of the route. If they are not characteristic then a greater range of viewpoints would be required to better reflect the entire route.

The range of cumulative impacts identified represent the landscape and visual impacts of the development when viewed in context with other development within the study area and is limited to proposed development. (Table 7 of the LVIA - Cumulative Developments Considered). The cumulative impacts of existing development including overhead lines, telecommunication masts, wind turbines and built form, where present within the landscape have been considered as part of the LVIA baseline and are noted in views where applicable. There is little reference in the baseline to these features and references to existing overhead lines are generalised as at 1.3.1. Information on existing powerlines are identified for small parts of the route at Drawings 689-1-1 - 689-1-4 which include 33kv overhead lines. Such information for the entire route would have been helpful to allow a fuller assessment of likely cumulative impacts.

The predicted visual impacts on residents of residential properties that occur within 500m of the Proposed Development has also been undertaken. The significance of effect is judged as none for 119 properties, minor for 73, minor to moderate for 16 and none for moderate to major or major to substantial. Whilst reserving judgement on the exact numbers and effects, given the broad numbers indicated of the residential properties impacted along the route, the Department considers there is potential for likely significant effects on residential amenity. With outlook from neighbouring properties as one subset of assessing residential amenity the Department considers it important that a Residential Visual Amenity Assessment is carried out to assess the views from properties and in particular where the significance of effect is judged to be minor/moderate or above. Without this it is not possible to conclude that there would not be likely significant effects on residential amenity.

The Department finds material doubt in regard to the number of viewpoints, the visual impacts from the viewpoints, the extent that the viewpoints are characteristic of the entire route, cumulative impacts and the impacts on residential outlook. In applying the precautionary principle, which underlies the EIA Directive, the potential for likely significant landscape and visual effects should be resolved in favour of EIA.

- **Potential Fisheries & Aquatic Ecology Effects**

The NIEA Natural Environment Division (NED) consultee response highlighted Loughs Agency (LA) concerns with the March 2020 **FAESA**, particularly the representation of wild brown trout habitat within the stream crossing points. NED considered the proposal may be capable of having significant impacts on the populations within the designated sites. In response an additional report was prepared (aFAESA September 2020) assessing the potential significance of the effects associated with the construction of the UGCs. The aFAESA sets out the magnitude and significance of potential effects during the construction phase for each river crossing at Table 17. Without mitigation the effects during the construction phase are predicted to be at worst of Major Magnitude and of Very Large Significance. With mitigation, residual effects are reduced to neutral where the net impact will be negligible.

The underground cable construction sequence and construction methodology is covered at Section 6 of the OCEMP. At a number of specific locations the construction of the underground cable will be carried out as per the Activities 1 – 3 but after this will be subject to alternative methodologies referred to in Table 4.1 of the and detailed in Appendix D of the OCEMP

Mitigation measures relating to UGC are covered at 4.6.1 of the Alternative Underground Cable Construction Methodologies for Location Specific Requirements. At the locations ST2, ST3, ST5, ST6, ST7, ST8, ST9, ST10, ST10b and ST 11 as shown in drawing nos. 689-1-1 - 689-1-4, the construction of the underground cable will be carried out as per the methodology Activities 1 – 3. Following this, the alternative methodologies referred to in Table 4.1 and with further detail provide in Appendix D of the OCEMP will be undertaken.

It is noted that HDD will only be used where ground conditions indicate a low risk drilling fluid breakout to the watercourse. In assessing effect it is noted at 6.1.3 of the aFAESA that an appropriate geo-technical assessment will be undertaken to determine the porosity of the stream bed underlying proposed HDD crossings so that the risk of drilling mud break out can be ascertained. Open cut approaches will still be used where the local geology and on-site management is deemed still to pose a risk of rupture or drilling mud run-off. While the obvious immediate effects of an open-cut crossing is sediment entrainment, if the procedure is short-term it will have lower magnitude of impact as compared to a drilling fluid break-out or any surface run-off associated with trenchless crossings.

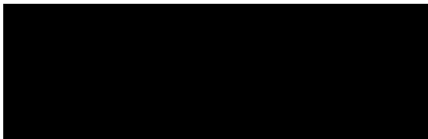
The Department considers that the appropriate methodology to be adopted is reliant on further geotechnical assessment and locations ST5 and ST6 appear to propose HDD with no alternative in advance of further assessment.

As the Department finds some marginal material doubt in this regard and in applying the precautionary principle, which underlies the EIA Directive, the potential for likely significant effects on fisheries & aquatic ecology should be resolved in favour of EIA.

- **Flood Risk**

The Proposed Development including placement of each pole structure has been reviewed against present day 1% AEP floodplains of the watercourses along the route. As it has been demonstrated that none of the pole structures are located within the strategic flood plain (9 in total are located within 5m) it is not considered to represent a flood risk. None of the works involved in either the construction or potential de-commissioning of the development will impact on the flood plain or increase flood risk. The development will not impact on flood risk during the operational phase.

Signed

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Date: 10/11/2020

APPENDIX 1.1 EIA SCREENING REQUEST

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Our ref: NI1851

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Co. Antrim BT12 6RZ
T +44 2890 667 914

Date: 13th January 2020

DfI Planning
Building 71
Ebrington Square
Londonderry
BT47 6FA

Dear Sir/Madam,

RE: CURRAGHINALT 33KV CONNECTION PROJECT – REQUEST FOR EIA SCREENING DETERMINATION

I write in respect of the planning applications, submitted by NIE Networks on 22nd November 2019 (Planning references: LA10/2019/1386/F & LA11/2019/1000/F), which seek consent to develop a new 33kV connection (hereafter ‘the Proposed Development’) between Strabane Main Sub-Station and the proposed Curraghinalt mine, currently under consideration by the Department for Infrastructure (DfI) under planning application LA10/2017/1249/F.

Pursuant to the terms of Regulations 8 and 12 of The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017 (“the EIA Regulations”), the applicant is hereby submitting a request for a formal EIA Screening Determination in respect of the Proposed Development.

Regulation 8(3) of the EIA Regulations states that a request for a Screening Determination must be accompanied by:

- (a) A plan sufficient to identify the land;
- (b) A description of the development, including in particular –
 - i. A description of the physical characteristics of the development, and, where relevant, of demolition works;
 - ii. A description of the location of the development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.
- (c) A description of the aspects of the environment likely to be significantly affected by the development;
- (d) To the extent the information is available, a description of any likely significant effects of the Proposed Development on the environment resulting from –
 - i. The expected residues and emissions and the production of waste, where relevant; and
 - ii. The use of natural resources, in particular soil, land, water and biodiversity.

Regulation 8(4) also makes provision for the person making the request to submit additional information in respect of a description of any features of the Proposed Development or any measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment.

In accordance with these requirements, and for the purposes of the EIA determination, a Site Location Plan is provided in support of the planning applications showing the Proposed Development in its entirety with the relevant council boundaries demarcated. This submission sets out below a description of the Proposed

Development and its potential effects on the environment. This submission should be read in conjunction with the planning application(s) and all associated materials including the following reports which address the relevant potential impacts across the whole Proposed Development:

- Ecological Impact Assessment;
- Landscape and Visual Screening Assessment;
- Cultural Heritage Screening Assessment;
- Water Quality Screening Assessment;
- Fisheries & Aquatic Ecology Screening Assessment;
- Flood Risk Analysis (mapping);
- Outline Construction Environmental Management Plan (OCEMP).

1.1 SUMMARY OF THE PROPOSED DEVELOPMENT

The Proposed Development comprises a 33kV connection to serve the proposed Curraghinalt mine, currently under consideration under planning application LA10/2017/1249/F.

The Proposed Development connects the existing NIE Networks Strabane substation to a proposed substation building at the mine site; the substation at the mine site is proposed as part of planning application LA10/2017/1249/F.

The proposed 33kV connection is 37.9km in length, comprising of 26.9km of overhead line (OHL) supported by single and double wooden pole sets and 11km of underground cabling (UGC).

The design is a mix of single and double ("H") wood pole structures which are supported by stays at points where the overhead line route changes direction or terminates. Each wooden pole will be stout with a 200mm head diameter. The pole heights will range from 11-20m, with the H pole consisting of 2 poles braced together 1.8m apart and a steel cross arm supporting the 3 phase conductors.

1.2 DETERMINING WHETHER ENVIRONMENT IMPACT ASSESSMENT (EIA) IS REQUIRED

1.2.1 Screening Methodology

Under the EIA Regulations, developments may fall within the descriptions of development defined in Schedule 1 or Schedule 2. In the case of a Schedule 1 development, EIA is required. Schedule 2 developments do not automatically require EIA but must be screened formally to determine the need for an EIA.

Development which is classed as being Schedule 2 requires an EIA screening determination if the proposal is of a description mentioned in column 1 of the table in Schedule 2 where either:

- (a) any part of that development is to be carried out in a 'sensitive area'; or
- (b) any applicable threshold or criterion in the corresponding part of column 2 of that table is respectively met or exceeded in relation to that development.

Regulation 2 defines "sensitive areas" as being Areas of Special Scientific Interest (ASSI), Areas of Outstanding Natural Beauty (AONB), National Parks, World Heritage sites, Scheduled Monuments and European Protected Sites.

Schedule 1 Assessment

The Proposed Development does not fall within any category in Schedule 1.

Schedule 2 Assessment

The Proposed Development does fall within the relevant Column 1 of Schedule 2, Description of development under category 3 - Energy Industry, (c) Transmission of electrical energy by overhead cables. However, the Proposed Development does not meet or exceed the applicable thresholds and criteria in column 2 of Schedule 2, in that:

- (i) the nominal voltage of the electrical line does not exceed 33kV;
- (ii) the purpose of the line is the provision of a supply to one consumer;
- (iii) it does not comprise the modification of an existing line outside the tolerances specified in the Overhead Lines (Exemption) Regulations (Northern Ireland) 1992 (S.R. 1992 No. 118).

The Proposed Development falls within the following sensitive areas:

AONB – the Proposed Development route falls within the Sperrins AONB with the exception of approximately 4.2km of the route (largely comprised of UGC) located between Strabane Main substation and the AONB boundary in the townland of Holly-Hill, approximately 3km northeast of Strabane.

European Site & ASSI – the Proposed Development spans the Owenkillev River (via an OHL), approximately 4km northeast of the village of Gortin. The Owenkillev River is designated as a Special Area of Conservation (SAC) and is therefore a European Site. It is also an ASSI.

Schedule 3 Selection Criteria

Regulation 8(3) of the EIA Regulations requires that:

“When making a request for a screening determination, an applicant shall, taking into account so far as relevant the selection criteria and the available results of other environmental assessments required under Union legislation (other than legislation implementing the requirements of the Directive)....”

The selection criteria as outlined in Schedule 3 are listed under 3 headings as follows:

- Characteristics of the development
- Location of the development
- Characteristics of the potential impact

Consideration of each of the selection criteria and the relevant sub-criteria is set out below.

1.3 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

1.3.1 Background Summary

The Proposed Development will provide a new 33kV distribution power line from the existing Strabane Main substation to the proposed Curraghinalt mine; the development will be constructed and operated by NIE Networks.

Early line design undertaken by NIE Networks in conjunction with the developers of the mine project, took place in March 2016 with development of a revised route completed in December 2016 following further technical investigations and land owner discussions. This initial route design took account of the Holford Rules which are used by NIE Networks as a tool to select and assess potential route options for overhead power lines. In summary the rules cover the following headline considerations:

- *Rule 1: Avoidance, where possible, of the major areas of high amenity value.*
- *Rule 2: Avoid smaller areas of high amenity value, or scientific interest by deviation, provided that this can be done without using too many angle towers.*
- *Rule 3: Other things being equal, choose the most direct line, with no sharp changes of direction and thus with few angle towers.*
- *Rule 4: Choose tree and hill backgrounds in preference to sky backgrounds, wherever possible; and when the line has to cross a ridge, secure this opaque background as long as possible and cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees.*
- *Rule 5: Prefer moderately open valleys with woods where the apparent height of the towers will be reduced, and views of the line will be broken by trees.*
- *Rule 6: In country which is flat and sparsely planted, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concatenation or ‘wirescape’.*
- *Rule 7: Approach urban areas through industrial zones, where they exist; and where it is necessary to cross residential and recreational land carefully consider the option of undergrounding for lines other than those of the highest voltage.*

It should be noted that while the Holford Rules were developed in consideration of Transmission level projects which employ steel pylons that are larger in height and mass, and therefore will result in greater impacts than the wooden pole structures in the Proposed Development. The route design of the Proposed Development has addressed the principles established by these Rules.

The initial route design also considered the need to maintain clearances from specified structures such as phone masts and wind turbines and to minimise crossings with other existing power lines. Further design iterations were completed following detailed field surveys (considering ecological and cultural heritage matters) and further land owner discussions.

1.3.2 Technical Description – Size & Design

A detailed description of the proposal and the operations necessary to construct the development are provided in the outline Construction Environmental Management Plan (OCEMP) accompanying this submission. The OCEMP sets the parameters in respect of environmental management of the construction process within which the detailed provisions of the final CEMP will be delivered.

As noted above, the Proposed Development comprises of 26.9km of OHL and 11km of UGC. The OHL will comprise three conductors suspended on single wood poles and double wooden poles (H poles) supported by stays at points where the overhead line route changes direction or terminates. Each wooden pole will be stout with a 200mm head diameter. The pole heights will range from 11-20m, with the H pole consisting of 2 poles braced together 1.8m apart and a steel cross arm supporting the 3 phase conductors.

The conductors will be All Aluminum Alloy Conductors (AAAC). The poles support conductors and to ensure that conductor clearances to ground meet the statutory requirements of The Electricity Safety, Quality and Continuity Regulations (Northern Ireland) 2012 which sets minimum clearances between NIE Networks overhead lines at all voltages and general obstacles, vegetation, railway property, and other power lines. The span between the poles will be generally around 100 m but can vary from 30 m to 130 m, the specific span being determined by the design objectives of locating poles within or near field boundaries and minimising environmental impacts.

The height of the poles will range from 11-20m depending on the terrain as set out in Appendix B - (Pole Schedule) in the OCEMP.

The underground cable is rated at 33kV and comprising of 3x240 mm² single core XLPE cables installed in 100mm diameter ducts with an additional 100mm diameter duct also laid as a spare duct for communication links. The cable trench is 500mm wide by 1000mm deep.

1.3.3 Project Overview & Use of Natural Resources

The Proposed Development has a small physical footprint with regards to the construction/placement of OHL poles, representing a minimal permanent loss of land. Locations of OHL poles have been considered in the context of existing land uses, in particular with regards to agricultural land use. Where feasible, through discussions with land owners, OHL poles have been placed so as to limit impact upon agricultural lands and practices. Loss of land (due to placement of structures) is therefore low, with limited impact in terms of both agricultural land and habitats with ecological value.

Waste arising from excavations (to facilitate OHL poles and UGC trenches) will be limited as excavated material will be reinstated where possible. All excavated material for OHL poles will be used as backfill, with no imported backfill being required nor is there a need for spoil to be removed from the site. Details of the excavation footprint and foundation footprint for each pole is set out in Appendix B - (Pole Schedule) in the OCEMP. Spoil generated during excavation of the UGC trench where it occurs within the road bed is expected to be unsuitable for reuse as backfill and will be removed using a dumper and/or grab lorry. Excavated material will be drawn to a registered disposal site.

Traffic generated by the Proposed Development will only occur during the construction phase which will be temporary and localised in nature. An Overhead Line Construction Work Team consists of the following sub-teams:

- Access and Landowner engagement officer (1 person)
- Material delivery team (Maximum of 2 persons in one delivery vehicle)
- Pole erection team (1 excavator operator + 3 Linespersons)
- Stringing team (9 Linespersons + 2 tractor operators + 1 excavator operator)
- Audit Team (1 auditor + 2 persons to assist)

An Underground Cable Work Team will consist of no more than 8 persons. Team members will sign onto the Active Work Location at the beginning of each working day at the Mobile Site Office. They will assemble at their employer's place of work and travel to site. The Mobile Welfare Vehicle will be used to transport the work team to site. An additional designated vehicle may also be used as necessary to transport members of the work team and hand tools. This additional vehicle will be no larger than a 6 person light commercial vehicle.

The presence of electrical OHL infrastructure is not uncommon throughout the wider locale of the study area; OHL connections between small settlements and individual properties are common place.

As confirmed in the OCEMP, the characteristics of the Proposed Development are such that it will not result in significant use of land, soil, water or biodiversity features. There will be limited waste produced and it will not result in pollution or other nuisance.

1.3.4 Location of the Proposed Development

The Proposed Development is located primarily within a rural, upland landscape, extending from the Strabane Main Substation (which is located approximately 3km northeast of the town of Strabane, County Tyrone), to the Curraghinalt mine which is located approximately 7.5km east of the village of Gortin, County Tyrone.

The route (of the OHL and UGC) traverses largely rural, upland areas, avoiding close proximity to settlements. Small settlements, clusters and individual properties occur throughout the wider study area.

Sections of the UGC follow the alignment of the existing road network including Ballee Road, Hollyhill Road, Pine Road, Glenforan Road, Drumlea Road, Gorticashel Road, Meenadoo Road and Crockaboy Road. The OHL route traverses a wide range of habitat types (detailed within the ecological assessment) but the majority of line traverses habitat defined as *improved grassland*.

All but 4.2km of the Proposed Development is located within the Sperrins AONB. The Proposed Development spans the Owenkillev River, a designated SAC and ASSI.

1.4 CHARACTERISTICS OF THE POTENTIAL IMPACT

The characteristics of the potential impacts of the Proposed Development are considered in a number of supporting environmental screening reports. These reports are summarized below.

1.4.1 Ecology

An Ecological Impact Assessment (EclA) has been completed in respect of the Proposed Development and is submitted in support of the Proposed Development planning application(s).

Designations – There are a number of statutory and non-statutory designated sites of international, national and local nature conservation importance within the Zone of Influence (Zol) of the Proposed Development. These include the Owenkillev River SAC and ASSI; the River Foyle and Tributaries SAC and ASSI; the River Finn SAC in the Republic of Ireland; Owenreagh Hill Local Wildlife Site (LWS); Glenelly River LWS; and Golan Burn LWS. The route of the Proposed Development has been designed, as far as possible, to avoid designated sites. The Proposed Development has the potential to impact the water quality of designated sites where construction works are in close proximity to watercourses or at watercourse crossings. There is also potential to impact habitats during pre-construction site clearance works; construction works that will include machinery access, excavation and installation of infrastructure and also during operational maintenance works that will require the removal of vegetation to defined safety clearance distances. Extensive mitigation measures including timing of works, good practice measures, pollution prevention measures, contingency planning and method statements are set out in the OCEMP to protect watercourses.

Northern Ireland Priority Habitats (NIPH) – There are a total of six NIPH that occur along the route of the Proposed Development. These include blanket bog; upland fens, flushes and swamps; upland heath; purple moor-grass and rush pasture; wet woodland; and hedgerows. The route of the Proposed Development has been designed, as far as possible, to avoid both NIPH and the loss of habitats which are considered features of natural heritage importance. There are a number of locations along the route of the Proposed Development however where pre-construction site clearance works, construction works and operational maintenance works will have a direct impact on NIPH.

An ECoW will be present during all construction works within priority habitat to provide direction on avoidance of sensitive areas of habitat and to ensure that all mitigation measures set out in the OCEMP and Final CEMP will be implemented during construction.

Non-Priority Habitats – These include woodland, marshy grassland, semi-improved grassland, improved grassland, earth banks and scrub. The Proposed Development will have a direct impact on these habitats considered of local and site level ecological value during pre-construction site clearance works, construction works and operational maintenance works. Mitigation measures will include an Ecological Clerk of Works (ECoW) to supervise works, a reduction in Working Area, sensitive working practices and habitat reinstatement.

Invasive Non-Native Species – The non-native invasive species Japanese knotweed and Himalayan balsam can found along the route of the Proposed Development. Pre-construction site clearance, construction works and operational maintenance works have the potential to spread these invasive species in the absence of mitigation measures. An Invasive Non-Native Species Method Statement has been produced and included in the OCEMP. The method statement sets out the measures that will implemented to prevent the spread the non-native species Japanese knotweed and Himalayan balsam during the construction of the Proposed Development.

Species of Conservation Interest – There is potential for the following protected species along the route of the Proposed Development bat species, otter, marsh fritillary, pine martin, red squirrel, badger, smooth newt, common lizard and bird species. The only confirmed protected species recorded included otter, badger and marsh fritillary. Pre-construction site clearance, construction works and operational maintenance works have the potential to have a direct and indirect impact on these species in the absence of mitigation measures. An ECoW will be present during all construction works to provide direction and to ensure that all mitigation measures set out in the OCEMP and Final CEMP will be implemented during construction.

In line with the terms of regulation 8(4) of the EIA Regulations, the proposed mitigation measures are set out in the EclA and in the OCEMP accompanying this submission. They include provision for the appointment of an Ecological Clerk of Works (ECoW). The EclA also makes provision for appropriate compensatory measures to offset impacts upon NIPH through restoration / enhancement measures of existing peatland habitats; it is considered that no significant and/or residual impacts in respect of ecology will arise as a result of the development.

1.4.2 Ornithology

An ornithological report has been prepared in respect of the Proposed Development and is submitted in support of the project planning application(s) (as an Appendix of the EclA).

The scope of the report including associated surveys, was agreed with DAERA prior to commencement of works, focusing on breeding wader species. Breeding wader surveys were conducted between March – June in both 2018 and 2019 within areas along the Proposed Development route, as agreed with DAERA. The objective of these surveys was to capture breeding wader activity along the corridor of the Proposed Development area and immediate environs.

Surveys did not identify the presence of breeding waders. A single snipe recorded during the late season visit in both years showed signs of breeding behaviour. The report concludes that given the findings of the survey and low occurrence of breeding waders, the Proposed Development would not have a significant effect upon breeding waders.

Pre-construction site clearance works and removal of vegetation including trees, scrub, hedgerows and shrubs have the potential to have effects on wild birds. The mitigation proposed in the OCEMP directs that such works will be completed outside the bird breeding season which extends between 01 March and 31 August inclusive. In areas of marsh fritillary presence works will have to be confined to between 01 October to 31 January in consideration of periods in which marsh fritillary larvae are above ground and vulnerable.

If pre-construction site clearance and removal of vegetation are deemed necessary within the bird breeding season an ECoW will undertake a survey to check for breeding birds immediately prior to works and confirm that breeding birds will be protected from harm during works. In the event that nesting birds are recorded during the construction phase of the Proposed Development, the ECoW will consult DAERA.

1.4.3 Cultural Heritage and Archaeology

A Cultural Heritage Screening Assessment has been prepared in respect of the Proposed Development and is submitted in support of the Proposed Development planning application(s). The following is a summary of the Screening Assessment and its conclusions.

There are no Listed Buildings located within the 200m proposed distribution 33kV power line assessment corridor. The nearest Listed Building (HB11/17/001) is located 337m from the proposed distribution 33kV power line. There is one other Listed Building located within the 1km buffer of the proposed distribution 33kV power line, located 428m from the line. Site survey and assessment has established that, due to mature tree planting, well vegetated boundaries and intervening topographical changes between these sites and the proposed distribution 33kV power line, no significant effects on Listed Buildings are predicted as a consequence of the Proposed Development.

In addition, there are no Historic Parks, Gardens and Demesnes located within the 200m proposed distribution 33kV power line assessment corridor. The nearest Historic Parks, Gardens and Demesnes site (Holyhill) is located 400m from the proposed distribution 33kV power line.

There are no Defence Heritage sites located within 200m of the proposed alignment. The nearest Defence Heritage site is located 2km from the proposed distribution 33kV power line.

There are no Battle sites located within 200m of the proposed alignment. The nearest Battle site (Battle of the Fords – Northern Crossing) is located 2.6km from the proposed distribution 33kV power line.

There are no Areas of Significant Archaeological Interest (ASAI) located within 200m of the proposed alignment. The nearest ASAI site is located 5km from the proposed distribution 33kV power line.

There are no UNESCO World Heritage Sites (Cultural) located within 200m of the proposed alignment. The nearest UNESCO World Heritage Sites is located 118km from the proposed distribution 33kV power line.

A desktop survey coupled with field inspection of the proposed scheme was undertaken in order to identify all known and protected cultural heritage sites in the vicinity/area of the Proposed Development, as well as to identify any possible previously unrecorded sites and ensure that any such sites which may be impacted are afforded appropriate mitigation measures therein. An undulation/mound was noted approximately 115m to the north of pole-set 2292 in the townland of Rousky. Field survey by two fully qualified and experienced archaeologists could not determine if this feature is archaeological in origin. This potential feature is located outside of the 200m assessment corridor and will not be directly impacted by the proposed overhead line. The undulating nature of the field in which this feature is located means that it is invisible from many close-by locations, being screened by the natural topography. In addition, views from the feature towards the proposed line are already impacted by the existing overhead line (OHL) within the same field. This feature is noteworthy, but in the absence of further (potentially intrusive) archaeological investigation it cannot be verified as archaeological. This feature will not be directly impacted by the Proposed Development.

A stone arrangement and small stone cairn was also observed in the townland of Trinamadan. The site is located between two pole-sets 40.8m away, while the line itself will be located 17m north of the nearest stone. The overhead line will not have a direct physical impact on the identified elements of the site, however it will have an indirect impact on the respective context and setting of the site within the landscape. As such, also taking due cognisance of its potential grouping value with scheduled sites this indirect impact on the potential site is considered low value with medium magnitude of impact, thereby having a potential moderate significance of effect.

The stone arrangement is a remote previously unrecorded potential archaeological site, which currently has no heritage designation or appreciable amenity value. It will not be directly impacted by the pole-sets of the proposed OHL, however the setting of this potential site will be impacted. The Value of this site of local importance is considered 'Low'; the magnitude of the impact on the setting may be considered 'Medium', as there is considerable change, thus the Significance of Effect is considered 'Moderate/ Negative'.

The placement of the closest poles maximises the distance to the stone arrangement. The pole locations have been selected in consideration of limiting the visual prominence, proximity to the stone arrangement and a badger sett. In consideration of these matters, the proposed line design is considered the best available option.

Robust mitigation measures will be put in place to lower the potential for direct impact on the newly discovered sites (even inadvertent) and on previously unrecorded sub-surface during works.

The proposed OHL development will have no direct impact on recorded cultural heritage assets, or on the newly discovered potential archaeological features (possible mound and possible stone arrangement). Predicted impacts of the proposed OHL development will be of a visual nature. However, no likely predicted significant impact is expected on the cultural heritage resource as a result of this Proposed Development.

In line with the provisions of regulation 8(4) of the EIA regulations, the report provides details of proposed measures to mitigate any potential direct impacts on previously unknown sub-surface features. Any such potential impacts are deemed to be adequately mitigated by a licensed programme of archaeological monitoring (watching brief) with appropriate evaluation, recording and reporting. It is anticipated that formal agreement (with DfC HED) and delivery of such a programme of works will be a condition of any forthcoming planning approval.

The screening assessment concludes that there are no likely predicted significant impact is expected on the cultural heritage resource as a result of this Proposed Development.

1.4.4 Landscape and Visual

A Landscape and Visual Screening Assessment is submitted in support of the Proposed Development planning application(s).

The Proposed Development is located primarily within a rural, upland context, traversing a number of Landscape Character Areas (LCAs) as defined by the Northern Ireland Regional Landscape Character Assessment. The majority of the OHL element of the route falls within the Sperrin Mountains, Glenelly Valley and South Sperrin LCAs.

The Proposed Development is also located within the Sperrins AONB with the exception of approximately 4.2km of the route.

Whilst the Proposed Development is located within a largely rural environment there are a number of small settlements, clusters and individual properties throughout the study area however, electricity poles and overhead line infrastructure are not uncharacteristic within such landscapes.

The Proposed Development is located within four landscape character areas identified as Foyle Valley, Sperrin Mountains, Glenelly Valley and South Sperrin LCAs. All LCAs have been assessed for both construction and operational phase effects as a consequence of the Proposed Development. All of the LCAs have been predicted to experience localised, temporary, adverse but not significant landscape impacts during the construction phase. During the operational phase of the Proposed Development no significant landscape effects are predicted for any of the LCAs due to the nature of the elements of the Proposed Development and the open, expansive nature of the landscapes within which they have been placed.

The Proposed Development is also largely located within the Sperrins Area of Outstanding Natural Beauty. No significant landscape effects have been predicted to occur within the AONB due to the nature of the elements of the Proposed Development and the nature of the landscapes within which they have been placed.

A total of 11 viewpoints have been assessed, for both construction and operational phases of the Proposed Development. All of the viewpoints assessed have been predicted to experience temporary, adverse but not significant visual impacts during the construction phase. During the operational phase no significant visual impacts are predicted for any of the viewpoints assessed.

Of the 208 residential properties and property clusters assessed, 16Nr. are predicted to experience a Minor to Moderate visual impact during the operational phase of the Proposed Development. Such impacts have been assessed as not significant as views from these properties are often expansive in nature and the Proposed Development is readily absorbed within the available views.

No significant visual impacts have been predicted to occur for Way marked trails such as the Ulster way, Vinegar Hill Loop or for scenic trails such as the Central Sperrins Scenic Route or for the numerous cycling trails that occur within the study area.

In conclusion the surrounding landscape and its visual resources have the ability to accommodate the changes associated with this type of development.

1.4.5 Noise

The Proposed Development has the potential to generate noise impacts during the construction phase. Use of plant and machinery in excavation for pole sets and UGC trenches and the transportation of plant equipment and materials will all generate noise levels above normal background levels.

Construction works will however be of a temporary nature and limited to the environs and the immediate locality of works (i.e. pole locations and UGC cable trenches). Works will be subject to the provisions of a Construction Environmental Management Plan (CEMP) which includes best practice for construction works including limitations of working hours. An outline CEMP is included in support of the application and it sets the parameters in respect of noise management within which the detailed provisions of the final CEMP will be delivered.

The Proposed Development will have no significant noise impact during the operational phase. No significant and/or residual impacts in respect of noise will arise as a result of the development.

1.4.6 Traffic and Transportation

The Proposed Development has the potential to generate impacts on traffic movements and access to the existing road network, during the construction phase due to the transportation of plant equipment and materials. The requirement for trenching along the existing road network for the installation of the UGC has the potential to impact upon access.

Such impacts will however be of a temporary nature and limited to the environs and the locality of works. An outline CEMP is included in support of the application and it sets the parameters in respect of traffic management within which the detailed provisions of the final CEMP will be delivered. Works shall be subject to the provisions of the Final CEMP which will include best practice for construction works including traffic management, implementation of road notices, traffic lights, barriers, pedestrian ways etc. In line with established practice the detailed traffic management measures as set out in the Final CEMP will be agreed with the Department for Infrastructure (DfI) Roads Service and the Police Traffic Branch prior to the commencement of works.

Traffic generated by the Proposed Development will only occur during the construction phase which will be temporary and localised in nature. An Overhead Line Construction Work Team consists of the following sub-teams:

- Access and Landowner engagement officer (1 person)
- Material delivery team (Maximum of 2 persons in one delivery vehicle)
- Pole erection team (1 excavator operator + 3 Linespersons)
- Stringing team (9 Linespersons + 2 tractor operators + 1 excavator operator)
- Audit Team (1 auditor + 2 persons to assist)

An Underground Cable Work Team will consist of no more than 8 persons. Team members will sign onto the Active Work Location at the beginning of each working day at the Mobile Site Office. They will assemble at their employer's place of work and travel to site. The Mobile Welfare Vehicle will be used to transport the work team to site. An additional designated vehicle may also be used as necessary to transport members of the work team and hand tools. This additional vehicle will be no larger than a typical 6 person light commercial vehicle.

Operation and maintenance traffic will only include light commercial vehicles and is estimated to consist of an average of 6 trips per year to various points along the 37.9km route.

Should the development be required to be decommissioned, the traffic levels are expected to be similar to those required for the construction phase. Decommissioning impacts will be the same or lesser than the impact of construction.

The Proposed Development will have no significant impact upon transportation during the operational phase or in the event of the development being de-commissioned. No significant and/or residual impacts upon traffic or transportation will arise as a result of the development.

1.4.7 Air Quality

The Proposed Development has the potential to generate impacts upon local air quality during the construction phase due to an increase in plant equipment and material transportation and dust arising from excavation works. However such impacts will be of a temporary nature and limited to the close environs and the locality of works. All works will be carried out in accordance with established best practice for construction works including traffic management and implementation of dust control measures.

The Proposed Development will have no significant impact upon air quality.

No significant and/or residual impacts upon air quality are likely as a result of the development.

1.4.8 Water Quality, Fisheries and Flood Risk

In the absence of appropriate mitigation, the Proposed Development has the potential to generate impacts upon water quality and fisheries, arising at the construction phase through excavations in and around the watercourses, including instances where the proposed OHL route is intended to span a watercourse or where the UGC route is proposed to cross a watercourse. Spillages of construction related materials or substances such as oils or cement or excavated materials, into a watercourse, also represent a potential impact upon water quality during the construction phase.

An OCEMP is included in support of the application and it sets the parameters in respect of water quality, fisheries and aquatic ecology, within which the detailed provisions of the final CEMP will be delivered. Construction works shall be subject to the provisions of a Final CEMP which includes best practice for works in and around watercourses taking account of matters such as: structural integrity, site drainage, foul water disposal, silt management, fuels and material storage, monitoring, pollution prevention and emergency planning.

Consideration has been given to the crossings of all watercourses along the length of the route (including UGC) following completion a detailed engineering survey; appropriate, detailed methodologies are provided for each water crossing within the OCEMP.

The Water Quality Screening Assessment outlines the potential effects of the Proposed Development on the water quality and WFD status of the receiving watercourses within the Glenmornan and Owenkillew catchments. It provides relevant baseline information on water quality and WFD status enabling the potential effects to be identified and evaluated.

It has been determined that potential impacts are primarily related to the release of sediment, oil and other chemicals to the receiving watercourses, the direct hydromorphological impact on watercourses and the potential for inadequate sewage/welfare facilities to cause pollution. These potential impacts from the Proposed Development were assessed for the construction, operational and decommissioning phases of the development. In terms of adverse impacts on the water quality the significance of the impacts were assessed to be negligible to very large adverse in the absence of adequate mitigation measures.

A series of specific mitigation measures have been designed to avoid adverse effects on water quality with regard to the construction phase; the operational and decommissioning phases are expected to have no impact.

It is concluded that, provided with the mitigation measures are implemented as specified, construction, operation and decommissioning of the proposed UGC and OHL will have a negligible impact on water quality of the water bodies traversed and therefore will not result in a risk to the achievement of the WFD objectives for these water bodies and their water dependent protected areas.

The Fisheries & Aquatic Ecology Screening Assessment outlines the potential effects of the UGC installation on the fish stocks and fish habitats of the receiving watercourses within the Glenmornan and Owenkillew catchments. It also considers potential impacts of the OHL installation at two highly sensitive watercourses, the Glenelly and Owenkillew. It provides relevant baseline information on fisheries and aquatic ecological health enabling the potential effects to be identified and evaluated.

It has been determined that potential impacts are primarily related to sediment release and entrainment and the release of other pollutants to the receiving watercourses with related effects on fish stocks and the wider

stream ecosystem. Without mitigation it is considered that these impacts have the potential to be of Major Magnitude and of Very Large Significance depending on the sensitivity of individual watercourses.

A series of specific mitigation measures have been designed to avoid adverse effects on fisheries with regard to the construction phase; the operational and decommissioning phases are expected to have no impact.

It is concluded that, with the mitigation measures being implemented as specified, construction of the proposed UGC and OHL will have a negligible impact on the fish stocks and aquatic biology of the Glenmornan and Owenkillev catchments for streams directly downstream.

In respect of flood risk, Planning Policy Statement 15 – Planning & Flood Risk (PPS15) sets out the Department's planning policies to minimise risk to people, property and the environment. PPS15 adopts a precautionary approach to development decisions which takes account of climate change and is supportive of the well-being and safety of people. PPS15 contains five policies that planning authorities must take into account in assessing proposals for development that may be at risk of flooding or that have implications for flooding elsewhere.

In line with the principles set out in Planning Policy Statement 15, a 1% Annual Exceedance Probability (AEP) event should be considered when assessing the flood risk from rivers. Detailed flood maps for the area are not available so indicative maps can be used from Flood Maps (NI) to identify general areas that are prone to river flooding.

The Proposed Development including placement of each pole structure has been reviewed against present day 1% AEP floodplains of the watercourses along the route. The Proposed Development in association with the strategic flood plain is presented in Figures NI1851_001 (Pages 1 – 4), accompanying this submission.

None of the pole structures are located within the strategic flood plain (9 in total are located within 5m); the Proposed Development is not considered to represent a flood risk. None of the works involved in either the construction or potential de-commissioning of the development will impact on the flood plain or increase flood risk. The development will not impact on flood risk during the operational phase.

1.4.9 Electric and Magnetic Fields

The Proposed Development comprises of a 33 kV OHL and UGC which will generate electric and magnetic fields (EMFs). EMFs are also produced wherever electricity is generated, transmitted or used. Public exposure to power-frequency EMFs comes from a range of sources including household wiring and appliances, low-voltage distribution power lines or underground cables, and high-voltage transmission power lines or underground cables.

EMF public health protection guidelines have been published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP, 1998). They form the basis of an EC Recommendation and have been adopted in the UK, on the basis of advice from the government's scientific health advisors, in the form of a Code of Practice agreed with the electricity industry. This specifies reference levels that should not be exceeded in order to ensure public health protection. Compliance with the ICNIRP guidelines and Code of Practice is required by the Strategic Planning Policy Statement for Northern Ireland, 2015:

“In relation to power lines current Government policy is that exposures to powerline Electro Magnet Fields (EMFs) should comply with the 1998 International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines. A voluntary Code of Practice Power Lines: Control of Microshocks and other indirect effects of public exposure to electric fields A voluntary Code of Practice (DECC, July 2013) has been agreed by the Department of Energy and Climate Change, the Department of Health, the Energy Networks Association, the Welsh Government, the Scottish Government, and the Northern Ireland Executive. It sets out what is regarded as compliance with those aspects of the EMF exposure guidelines that relate to indirect effects as far as the electricity system is concerned. Further Government policies relating to EMFs from overhead power lines, advise that as a precautionary measure they should, where reasonable, have optimum phasing. This is the subject of a companion Code of Practice “Optimum phasing of high voltage double-circuit power lines”. This Code of Practice applies in England, Wales, Scotland, and Northern Ireland.

Any proposal for the development of new power lines should comply with the 1998 International Commission on Non-Ionizing Radiation Protection (ICNIRP).” (SPPS, paragraphs 6.249 & 6.250)

On the basis of the guidance for EMFs for electricity infrastructure adopted in the UK and the published evidence to support that, the levels of power-frequency EMFs from the Proposed Development will be well below the guideline public exposure reference levels set to protect health and as such, the Proposed Development will have no significant related impact during the operational phase.

1.4.10 Transboundary Considerations

The potential for the Proposed Development to give rise to transboundary impacts has been considered in respect of designated sites, water quality and visual impact.

The analysis has concluded that:

- The project is hydrologically linked to the River Finn SAC via a 5 km downstream pathway. Potential water quality effects might occur on this designated site through the same pathways for the River Foyle and Tributaries SAC. At the construction stage, there is a possibility that suspended sediments and/or contaminants may enter the aquatic environment during activities associated with the crossing of watercourses. Surface waters could possibly carry those suspended sediments or pollutants downstream into the River Finn SAC.
- Extensive mitigation measures to protect watercourses from direct and indirect effects associated with the Proposed Development are detailed in the Water Quality Screening Assessment and the Fisheries & Aquatic Ecology Screening Assessment and are set out in the OCEMP. The OCEMP will provide a framework from which a final CEMP will be developed and will be adhered to by the appointed contractor. The OCEMP and final CEMP sets out the standards that will be implemented throughout the life of the Proposed Development; provides full details of the construction and operation of the project; provides construction method statements at watercourse crossings; sets out environmental management measures that will be put in place to mitigate environmental effects; and provides details of audit procedures.
- The implementation of the mitigation measures to protect watercourses from direct and indirect effects associated with the Proposed Development, will reduce the likely significance of effects on the River Foyle and Tributaries SAC and River Finn SAC to No Significant Effect.
- The Water Quality Screening Assessment confirms that the study area associated with the Proposed Development is within the Upper Foyle Catchment. The Foyle catchment is a cross border catchment and therefore the hydrological link extends to areas beyond the international border in Lough Foyle. However the residual impact after the implementation of the mitigation measures is assessed as negligible and therefore there will be no potential for significant transboundary effects on water quality as a result of the Proposed Development.
- The Landscape and Visual Screening Assessment has concluded that while, in theory, the study area associated with the Proposed Development as identified in the Zone of Theoretical Influence (Appendix A; Figure 1.3) does extend to areas beyond the international border, to the north of Strabane, the site survey and assessment works have concluded that the Proposed Development is not visible over that distance in the wider landscape.

It is therefore confirmed that no significant transboundary landscape or visual effects will occur as a result of the Proposed Development.

1.4.11 Cumulative Effects

The Proposed Development seeks to provide a connection to the proposed Curraghinalt mine. In consideration of the potential impacts outlined above and the detailed assessments undertaken in support of the planning application(s), it is concluded that there are no cumulative effects related to the Curraghinalt development.

The Landscape and Visual Screening Assessment has assessed the potential cumulative impact of the Proposed Development with the mine proposal. It is considered that there will be a direct effect upon those portions of the South Sperrin LCA affected by the proposed Curraghinalt project where the developments will occur in close proximity in the vicinity of Crockanboy Road. However the south-eastern extent of the Proposed Development, approximately 3km of cable route, is proposed to be underground, which negates the likelihood for inter-visibility of the two developments in combined or successive views. The magnitude of cumulative impact associated with the Proposed Development in combination with the proposed Curraghinalt project will therefore be negligible and insignificant.

There are a number of wind farms such as Owenreagh and Craignagapple, located within the locale of Proposed Development. Existing electricity poles and overhead line infrastructure are also present throughout the area

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and as such are not uncharacteristic. The Landscape and Visual Screening Assessment has considered the potential cumulative impact of the development in combination with the approved windfarms and the proposed Curraghinalt project and concluded that the magnitude of cumulative impact associated with the Proposed Development and the proposed Curraghinalt project in combination with the approved wind turbines will be direct and negligible, which in this case would give rise to a minor and insignificant cumulative effect on the landscape.

It is not considered that the potential for likely significant effects will arise in culmination with other development.

1.5 DECOMMISSIONING

Once operational, the Proposed Development will become a network asset and form part of the wider network. Decommissioning is not envisaged, however should the Proposed Development be required to be decommissioned, all associated structures and materials would be recovered and items recycled with the site returned to its original use. Decommissioning impacts will be the same or less than the impact of construction.

1.6 CONCLUSION

Having considered the likely effects associated with the Proposed Development, it is concluded that significant effects on the environment will not arise.

The Proposed Development does not comprise EIA development and no Environmental Statement should be required to accompany the planning application(s). The aforementioned environmental screening reports submitted in support of the planning application(s), address the environmental impacts, associated with the Proposed Development and conclude that there are no predicted impacts that would warrant a determination that the Proposed Development is EIA development.

It is requested that the planning authority provide a screening determination in accordance with the terms of Regulations 8 and 12 of the EIA regulations within the statutory 4 week period.

Should you require any further information or clarification in respect of this submission, please do not hesitate to contact me.

Yours sincerely,
for RPS Group Limited
on behalf of NIE Networks



Director - Planning
 [@rpsgroup.com](mailto: @rpsgroup.com)

Enclosures:

- *Landscape and Visual Screening Assessment* - 4no. copies;
- *Cultural Heritage Screening Assessment* - 4no. copies;
- *Water Quality Screening Assessment* - 4no. copies;
- *Screening Assessment of Potential Effects of the Curraghinalt 33kV Connection on Fisheries and Aquatic Ecological Quality in Streams of the Glenmoran and Owenkillew River Catchments* - 4no. copies;
- *Ecological Impact Assessment* - 4no. copies;
- *Ecological Survey for Badger* – 4no. copies;*
- *Curraghinalt 33kV Connection with 1% AEP Strategic Flood Extent* - Figures NI1851_001 (Pages 1 – 4) - 4no. copies;
- *Outline Construction Environmental Management Plan (OCEMP)* - 4no. copies.

*Confidential report – not be made publicly available.

**Dalradian Gold
Limited**

Curraghinalt Project
County Tyrone
Northern Ireland

Technical Report:
**Ecology and Nature
Conservation**


BSc(Hons) MCIEEM

PAC Refs:

Planning Refs:

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Annexes

Annex 1	Update Phase 1 Habitat Report 2024
Annex 2	Update Badger Report 2024 [REDACTED]
Annex 3	Update Bat Report 2024
Annex 4	Update Otter Report 2024

Annex 5	Update Breeding Birds Report 2023
Annex 6	Update Wintering Birds Report 2024
Annex 7	Update Common Lizard Report 2023
Annex 8	Update Smooth Newt Report 2023
Annex 9	Update Marsh Fritillary Report 2024
Annex 10	Update Biological Water Quality Report 2024
Annex 11	Update BIA Calculations (2024)
Annex 12	Update River nd Fish Habitat Assessment (2020)
Annex 13	Outline Betterment Plan
Annex 14	Loughs Agency Fish Survey Results and Report
Annex 15	Salmonid Habitat Evaluation Guidance
Annex 16	Applicant Fish Survey Results
Annex 17	FWPM Survey Data (2021 / 2022) [CONFIDENTIAL]
Annex 18	FWPM Favourable Condition Assessment 2017
Annex 19	FWPM Favourable Condition Assessment 2011
Annex 20	Article 17 Report Atlantic Salmon NI (2019)

- Annex 21 Loughs Agency Foyle Area and Tributaries Catchment
Status Report 2018**
- Annex 22 JNCC CSM Guidance – Introduction**
- Annex 23 JNCC CSM Guidance – Rivers and Freshwater Fauna**
- Annex 24 SEPAS Guidance - Environmental Quality Standards and
Standards for Discharges to Surface Water**
- Annex 25 “A Strategy for Conservation of the Freshwater Pearl Mussel in Ireland”
(2011)**

1. INTRODUCTION

Purpose of this Technical Report

- 1.1. This Technical Report ("TR") describes the effects of the Curraghinalt Project proposals in relation to ecology and nature conservation matters.

Qualifications and Experience

- 1.2. My name is [REDACTED]. I hold a BSc (Hons) degree in Countryside Management from Aberystwyth University, and I am a member of the Chartered Institute of Ecology and Environmental Management (CIEEM).
- 1.3. Until early March 2024, I was employed by Ecology Solutions Ltd. I joined Ecology Solutions in February 2006 and was appointed to its board of Directors in 2016, a position which I held until leaving that company. I am currently a Director of [REDACTED], a company which I recently formed following my departure from Ecology Solutions. Prior to my employment with Ecology Solutions, I worked as a field ecologist with MKA Ecology Ltd after holding project management positions with the Essex Wildlife Trust and Sandwich Bay Bird Observatory (based in Kent).
- 1.4. During my time at Ecology Solutions I undertook and oversaw a broad spectrum of environmental planning work relating to ecology and nature conservation. In addition to Dalradian Gold Limited, recent clients included (*inter alia*) National Grid, BAE Systems, Aggregate Industries, This is Gravity, Rigby Real Estate, Royal Portrush Golf Course, SITA, EDF Energy, Legal and General, Ulster Farmers Union and a range of national house-builders including Vistry, Persimmon, Taylor Wimpey, Redrow and Bellway.
- 1.5. I have extensive experience of evaluating development proposals in relation to a range of ecological receptors, including sites designated at the international, European, national and district / local level for their ecological importance. I have evaluated development proposals and produced avoidance / mitigation strategies in relation to many Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar Sites, Sites of Special Scientific Interest (SSSIs) and Areas of Special Scientific Interest (ASSIs), locally designated sites, such as Local

Wildlife Sites (LWSs) and also Ancient Woodlands. I have also prepared a significant number of mitigation strategies for a range of protected species including Badgers, Bats, Dormice, Water Voles and herpetofauna including Great Crested Newts, Smooth Newts and common reptiles. In addition, I have held (acting as the Named Ecologist) numerous mitigation (development) licences for Great Crested Newts and Badgers.

- 1.6. I have been closely involved in a number of high-profile projects relating to the ecology and conservation of various species and habitats, including those relating to large residential, retail and leisure schemes, mineral workings, aerodromes and giga factories. I have personally provided written and oral evidence for section 78 appeals and local plan inquiries in addition to providing written evidence for the High Court in respect of judicial review proceedings. Further, I have assisted in the preparation of evidence for numerous section 78 appeals, call-in inquiries, Lands Tribunal hearings and judicial review proceedings in the High Court.
- 1.7. My role in the Curraghinalt Project extends back to 2020 and my appointment involves oversight of ecology and nature conservation matters generally, leading in relation to relevant (nature conservation) legislative provisions and principal expert witness evidence (ecology and nature conservation) relevant to the planning inquiry process. I have reviewed all relevant documents pertaining to the planning application and inquiry process and I was the lead author of the "Update Shadow Habitats Regulations Assessment" (Update sHRA), dated November 2020. Work undertaken on behalf of Dalradian Gold by Ecology Solutions up until April 2024, such as the production of the Update sHRA, was completed by "Ecology Solutions (Manchester) Ltd"¹, of which I was a shareholder until recently.
- 1.8. The evidence which I have prepared and provided for this con-jointed public inquiry, contained in this TR, is true and has been prepared with due regard had to the guidance of my professional institution. I confirm that the opinions expressed are my true and professional opinions.
- 1.9. In preparing this TR I have had regard to technical information and expert opinion provided to me by [REDACTED] of Green and Blue Ecology and [REDACTED]

¹ A sister company of Ecology Solutions Ltd

of Ricardo. A short summary of their respective qualifications, experience and project involvement is described below.

– Green and Blue Ecology

- 1.10. [REDACTED] holds a BSc (Honours) degree in Environmental Management and Monitoring from University College Northampton (2000) and has over 23 years of experience in ecological and environmental consultancy. He is a full member of CIEEM and founded Green and Blue Ecology in 2020, having left his roles at SLR Consulting Limited and SLR Consulting Ireland.
- 1.11. [REDACTED] has been involved in the project since 2010 when working for SLR Consulting Limited and SLR Consulting Ireland. As part of an Environmental Baseline Study, he was the lead ecologist responsible for the planning and carrying out of baseline ecological surveys over an area of circa 2,500 hectares (ha) of land, encompassing the current planning application, that included a broad suite of habitat and species surveys, including for example Phase 1 Habitat surveys, Peat Characterisation surveys and, Badger surveys, Bat surveys (building assessment and transects), Otter surveys (Owenkillew and Owenreagh Rivers), bird surveys (breeding and wintering), herpetological surveys (Smooth Newt and Common Lizard) and assessment of biological water quality in the Owenkillew and Owenreagh Rivers.
- 1.12. [REDACTED] has also been the lead ecologist, responsible for baseline ecological surveys and carrying out Ecological Impact Assessments (EclAs) feeding into the following planning applications:
- K/2013/0072/F - Extension to existing underground exploration tunnel and associated works;
 - K/2014/0246/F - Application under Article 28 of the Planning (NI) Order 1991 for non-compliance with conditions 25 and 26 of approved planning application no. K/2013/0072/F. Conditions 25 and 26 relate to water discharge parameters.
 - K/2014/0387/F - Development of a temporary explosives store and associated works;

- 1.13. Since 2022, Green and Blue Ecology have been responsible for the programme of ecological monitoring carried out on behalf of the Applicant which includes *inter alia* update species surveys and habitat assessments and macro invertebrate monitoring surveys (river water quality assessments). [REDACTED] was responsible for the planning, execution and reporting of the ecological survey / monitoring work.

[REDACTED] – RSK Biocensus Ltd

- 1.14. [REDACTED] is an Associate Director of Ecology at RSK Biocensus Ltd. Prior to this he was an Associate Director at Ricardo. He has over 30 years' experience as a fish scientist and has expertise in carrying out fisheries-based assessments. Prior to consultancy, [REDACTED] spent 20 years at the Environment Agency (EA), starting his career in 1991 as a Fisheries Officer within the current EA Thames Area. He established baseline freshwater fisheries monitoring programmes within several river catchments and has authored numerous fisheries reports.
- 1.15. From 2001 to 2011 he moved to EA Head Office where he was a Fisheries and Water Framework Directive (WFD) Advisor working on developing WFD monitoring programmes and classification tools. Notably, he was the UK lead on the intercalibration of European fisheries classification schemes for the European Commission.
- 1.16. [REDACTED] has been working as a private sector environmental consultant since 2011 and has been involved with the Curraghinalt Project in his capacity as a fish scientist and fisheries consultant since 2014, initially employed by SLR Consulting Limited and latterly of Ricardo. He is a member of the following:

- 1) The Chartered Institute of Water and Environmental Management (CIWEM) - Chartered Water Environment Manager (C.WEM);
- 2) The Royal Society of Biology (MRSB) - Chartered Biologist (C.Biol);
- 3) The Institute of Fisheries Management (IFM); and
- 4) Freshwater Biological Association (FBA).

Additional expertise relied upon

- 1.17. In preparing this TR I have also had regard to the expert opinions and evidence of others who have prepared TRs on behalf of the Applicant for the conjoined Inquiry.
- 1.18. Where relevant to do so, I refer the reader to the TRs of others or to specific information found within the Environmental Statement (for example), in order to keep my TR as succinct as possible.

2. RELEVANT DOCUMENTATION

- 1.19. In this section I describe the key sources of information relevant to effects on ecological receptors and relied upon by me in drawing my conclusions. I have highlighted below the relevant ES chapters and associated Appendices, together with other documents submitted with the planning application. I have also identified new information which is being relying upon since the second Further Environmental Information (“FEI”) submission (ES Addenda). Such information is appropriately referenced and is included as an Annex to this TR.

Environmental Statement dated November 2017

Key Document Name	Key Section and Subsection	Key Page Numbers	Summary notes
Environmental Statement dated November 2017 Volume 2 Prepared by SRK Consulting (UK) Limited			
Environmental Statement - Volume 2: Chapter 7: Biological, Human and Aesthetic Environment	Section 7 Sub-sections 7.2 (7.2.1 to 7.2.16)	Pages 1 - 71	Provides an overview of the biological baseline conditions within the defined ecological study area built upon an environmental baseline study (2011/2013) and further suites of studies into ecology (2015-2016).
Environmental Statement - Volume 2: Chapter 8: Environmental and Social Impact Assessment	Section 8.11 Sub-sections 8.11.1 to 8.11.15	Pages 167 - 202	Provides an assessment of the potential environmental impacts on identified important ecological features.
Environmental Statement - Volume 2: Chapter 9: Cumulative Impacts	Section 9.5	Pages 16 - 17	Provides an assessment of cumulative ecological impacts from other proposed development in the vicinity of the Curraghinalt Project.
Environmental Statement - Volume 2: Chapter 10: Environmental and Social Management Plan	Section 10.3 Sub-section 10.3.7	Pages 31 – 32	Details the measures required to prevent or minimise negative impacts and optimise positive impacts including any identified ecological impacts.

Key Document Name	Key Section and Subsection	Key Page Numbers	Summary notes
Environmental Statement Volume 2: Chapter 11: Conclusion	Section 1 Tables 11-1, 11-2 and 11-3	Pages 2 - 5	Summarises the outcomes of the assessment process to inform the decision makes about environmental and social effects from the project.
Environmental Statement November 2017 Volume 3: Appendices Prepared by SLR Consulting and dated September 2017			
Appendix B2: Outline Construction Environmental Management Plan	Complete Document	All	Describes the construction methodology for the Curraghinalt Project and presents measures that are proposed to be implemented at construction stage to prevent / mitigate environmental (including ecological) impacts.
Appendix C8: Ecological Impact Assessment and Baseline Reports	Complete Document	All	Provides an EclA of the Curraghinalt Project including a description of baseline conditions, evaluation of ecological features, identification of potential ecological effects and assessment of likely significance, mitigation measures to prevent, reduce or offset the level of impact, identification of any residual effects.
Appendix C8 – Annex A: Northern Ireland and Fermanagh & Omagh District Priority Habitats and Species (included in the Ecological Impact Assessment Report)	Complete Document	All	Presents a summary list of priority habitats and species in a Northern Ireland and local context.
Appendix C8 -Annex B: Target Notes (included in the Ecological Impact Assessment Report)	Complete Document	All	Presents a summary description of any feature of particular ecological interest identified as an individual target note.

Key Document Name	Key Section and Subsection	Key Page Numbers	Summary notes
Appendix C8 – Annex C: Phase 1 Habitat Survey and Phase 2 Vegetation Survey Report	Complete Document	All	Presents the results of the habitat surveys carried out in 2015/16 to inform the baseline conditions within the application site and evaluation of habitats to inform the EclA.
Appendix C8 – Annex D: Peat Characterisation Survey Report	Complete Document	All	Presents the results of the peat characterisation survey carried out in 2012 as part of the EBS and in 2015 in areas not previously covered by the ESB to inform the baseline conditions to inform the EclA.
Appendix C8 – Annex E: Badger Survey and Evaluation Report. (Marked Confidential)	Complete Document	All	Presents the results of the badger survey carried out in 2015/16 site to inform the baseline conditions for this species and inform the EclA.
Appendix C8 – Annex F: Bat Survey and Evaluation Report	Complete Document	All	Presents the results of the bat surveys carried out in 2015/16 inform the baseline conditions for this group of species and inform the EclA.
Appendix C8 – Annex G: Otter Surveillance and Evaluation Report	Complete Document	All	Presents the results of the otter surveys carried out in 2015/16 inform the baseline conditions for this species and inform the EclA.
Appendix C8 – Annex H: Breeding Bird Survey Report	Complete Document	All	Presents the results of the breeding bird surveys carried out in 2015/16 inform the baseline conditions for this group of species and inform the EclA.
Appendix C8 – Annex I: Wintering Bird Survey Report	Complete Document	All	Presents the results of the wintering bird survey carried out in 2015/16 inform the baseline conditions for this group of species and inform the EclA.

Key Document Name	Key Section and Subsection	Key Page Numbers	Summary notes
Appendix C8 – Annex J: Common Lizard Survey and Evaluation Report	Complete Document	All	Presents the results of the common lizard survey carried out in 2016 inform the baseline conditions for this species and inform the EclA.
Appendix C8 – Annex K: Smooth Newt Survey and Evaluation Report	Complete Document	All	Presents the results of the smooth newt survey carried out in 2015 inform the baseline conditions for this species and inform the EclA.
Appendix C8 – Annex L: Fisheries Habitat Assessment of the Owenkillew and Owenreagh Rivers Report	Complete Document	All	Presents the results of a River Habitat Survey (RHS) and fisheries habitat survey carried out in 2015 and forming an extension and review of a fisheries habitat assessment undertaken as part of the initial Ecological Baseline Study (EBS) and was used to inform the EclA.
Appendix C8 – Annex M: Freshwater Pearl Mussel Survey Report. (Marked Confidential)	Complete Document	All	Presents the results of the freshwater pearl mussel survey carried out in 2015 inform the baseline conditions for this species and inform the EclA.
Appendix C8 – Annex N: Marsh Fritillary Butterfly Survey Report	Complete Document	All	Presents the results of the marsh fritillary butterfly survey carried out in 2016 inform the baseline conditions for this species and inform the EclA.
Appendix C8 – Annex O: Terrestrial and Freshwater (Lotic) Invertebrate Appraisal Report	Complete Document	All	Presents the results of the invertebrate appraisals carried out in 2015 inform the baseline conditions for this group of species and inform the EclA.
Appendix C8 – Annex P: Biological Water Quality Assessment of the Owenkillew, Owenreagh and Tributaries	Complete Document	All	Presents the results of the biological water quality assessments carried out in 2015/16 to inform the EclA.

Key Document Name	Key Section and Subsection	Key Page Numbers	Summary notes
Appendix C9: Ecological Mitigation and Management Plan (EcMMP) (Annex Q of the Ecological Impact Assessment)	Complete Document	All	Intended to provide agreement on the details of the proposed mitigation measures and management of important ecological features with the potential to be affected during the development of mine and its operation.
C10: Shadow Habitat Regulations Assessment	Complete Document	All	Presents an assessment of the proposals in view of the legal tests associated with the application of the Habitats Regulations. Assessment superseded in 2019 and again in 2020.
Environmental Statement dated November 2017 Environmental Statement - Volume 3: C23 Powerline Specialist Study Reports Prepared by SLR Consulting and dated September 2017			
Appendix C23a: Preliminary Ecological Appraisal of the 33 KiloVolt Power Connection of the Proposed Mine to the Substation at Ballymagorry	Complete Document	All	Intended to provide baseline information on the proposed route of the power line connection and the potential ecological implications to ensure Appraisal superseded by information contained within the 2020 FEI2.

Table 1: Key references for information sources relevant to the 2017 ES

1.20. In addition to the documents highlighted in Table 1 above, the following 2017 ES appendices are also relevant to ecological considerations and informed the EclA process:

- B2 Outline Construction Environmental Management Plan;
- B7 Peat Landslide Hazard and Risk Assessment;
- B8 Peat Management Plan;
- B11 Lighting Specifications (replaced by Hoare Lee Lighting Plan – see Lighting TR);
- C3 Surface water baseline report;
- C4 Surface water impact assessment;

- C16 Landscape and Visual Impact Assessment and Visualisations;
- C17 Landscape and Landscape Restoration Plans;
- C18 Noise Impact Assessment;
- C19 Air Quality Impact Assessment and Baseline Report; and
- C20 Vibration and Impact Assessment.

Addendum to the Environmental Statement (2019)

1.21. DfI requested the submission of FEI pursuant to Regulation 23 of the “Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015” in a letter dated 8th January 2019. Hereinafter this will be referred to as “FEI1” where relevant. Table 2 below provides a summary of the further information submitted as part of FEI1 in relation to ecology.

Key Document Name	Key Section and Subsection	Key Page Numbers	Summary Notes
Curraghinalt Gold Project Addendum to Environmental Statement prepared by SRK Consulting (UK) Limited and dated July 2019	Section 4 Sub-section 4.2.11	Pages 27 - 30	Addendum to the Environmental Statement that addresses the request by the DfI for FEI taking into the account the scheme revisions and the implications for important ecological features, on-going monitoring programme and peat management.
FEI Appendix B.2: Updated oCEMP	Complete Document	All	Document supersedes the 2017 ES version, taking account of scheme revisions.
Technical Appendix C.8: Addendum to the Ecological Impact Assessment and Baseline Report prepared by SLR Consulting Limited and dated August 2019	Complete Document	All	Assessment of the ecological implications of minor revisions to scheme design and provided Ecological Monitoring Reports for 2017 (Appendix 1) and 2018 (Appendix 2).
FEI Appendix C8 Badger Monitoring Report 2017 (Marked Confidential) prepared by SLR Consulting Limited and dated April 2018	Complete Document	All	Presents the results of ecological monitoring in 2017 of badgers at the proposed infrastructure site

Key Document Name	Key Section and Subsection	Key Page Numbers	Summary Notes
FEI Appendix C8 Badger Monitoring Report 2018 (Marked Confidential) prepared by SLR Consulting Limited and dated August 2019	Complete Document	All	Presents the results of ecological monitoring in 2018 of badgers at the proposed infrastructure site
Technical Appendix C.9: Addendum to the Ecological Mitigation and Management Plan prepared by SLR Consulting Limited and dated July 2019	Complete Document	All	Update to the Biodiversity Impact Statement originally presented in the EclA (September 2017) and EcMMP (September 2017) based on the proposed minor revisions to the scheme.
Appendix C10: Shadow Habitats Regulations Assessment dated July 2019 prepared by [REDACTED] Associates	Complete Document	All	Update to the assessment presented in the 2017 ES.
Appendix C23: Drawing showing the proposed Power Line route	Complete Document	All	Addendum to the information contained in the 2017 ES.
Note: NIEA requested redacted copies of the Badger Monitoring Reports for 2017 and 2018 (provided by the Applicant), it is not known whether these have subsequently been made openly available.			

Table 2: Key references for information sources relevant to FEI1

- 1.22. In addition to the documents highlighted in Table 2 above, the addendum to the Surface Water Baseline Report, included at FEI1 Appendix C.3 is also of direct relevance to ecological considerations and the evidence presented in this TR.

Second Addendum to the Environmental Statement (2020)

- 1.23. A second request for FEI was made by DfI by way of a letter dated 15th September 2020. Hereinafter this will be referred to as “FEI2” where relevant.
- 1.24. The second Addendum to the Environmental Statement submitted in response to the FEI2 letter included an Update Shadow Habitats Regulations Assessment, Appendix C10, produced by Ecology Solutions. In addition, Appendix C.23 included Powerline Specialist

Study Reports, with a summary of the proposals provided at section 3.2.5 of the Second Addendum to Environmental Statement. Also of direct relevance to ecological considerations and the evidence presented in this TR, FEI2 included a second addendum to the Surface Water Baseline Report, included at FEI2 Appendix C.3.

New Information

- 1.25. Ecological monitoring has been carried out by consultants appointed by the applicant since the planning application was submitted in 2017. Other parts of the wider environment have also been periodically re-surveyed and monitored, access permitting.
- 1.26. The programme of specific ecological monitoring work was initially carried out by SLR Consulting Limited from 2017 to 2021. Green and Blue Ecology continued with this work since 2022.
- 1.27. The results of this ecological monitoring have been reported. It provides updated information to ensure the adequacy of ecological information available for the decision-making process, with due regard had to guidance provided by British Standard (BS) 42020:2013 (Biodiversity - Code of Practice for Planning and Development) and that issued by CIEEM.
- 1.28. The new ecological monitoring information prepared by Green and Blue Ecology is detailed below in Table 3. Copies of the reports referenced below are included as appendices to this TR.

Appendix Reference	Document Name	Purpose
Annex 1	Phase 1 Habitat Survey Report dated April 2024	This report presents the findings of the walkover survey to review the habitats present within the proposed infrastructure site in April 2024.

Appendix Reference	Document Name	Purpose
Annex 2	Badger Survey Report dated April 2024	This report presents the findings of a badger survey undertaken at the proposed infrastructure site in April 2024 to update the survey originally carried out by SLR Consulting Limited in 2015/16, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex E). It also presents a summary of any ecological monitoring carried out by SLR during the period 2017 to 2021 and by Green and Blue Ecology from 2022-2023.
Annex 3	Bat Survey Report dated January 2024	This report presents the findings of a bat survey undertaken at the proposed infrastructure site in 2022/23 to update the survey originally carried out by SLR Consulting Limited in 2015/16, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex F). It also presents a summary of any ecological monitoring carried out by SLR during the period 2017 to 2021.
Annex 4	Otter Survey Report dated April 2024	This report presents the findings of the otter surveillance along the Owenkillev and Owenreagh Rivers in April 2024 to update the survey originally carried out by SLR Consulting Limited in 2015/16, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex G). It also presents a summary of any ecological monitoring carried out by SLR during the period 2017 to 2021 and by Green and Blue Ecology from 2022-2023 on the Pollanroe Burn flowing through the proposed infrastructure site.
Annex 5	Breeding Bird Survey Report dated December 2023	This report presents the findings of a breeding bird survey undertaken at the proposed infrastructure site in 2022 to update the survey originally carried out by SLR Consulting Limited in 2015/16, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex H).

Appendix Reference	Document Name	Purpose
Annex 6	Wintering Bird Survey Report dated January 2024	This report presents the findings of a wintering bird survey undertaken at the proposed infrastructure site in 2022 to update the survey originally carried out by SLR Consulting Limited in 2015/16, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex I).
Annex 7	Common Lizard Survey Report dated November 2023	This report presents the findings of a common lizard survey undertaken at the proposed infrastructure site in 2022 and 2023 to update the survey originally carried out by SLR Consulting Limited in 2016, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex J). It also presents a summary of any ecological monitoring carried out by SLR during the period 2017 to 2021.
Annex 8	Smooth Newt Survey Report dated December 2023	This report presents the findings of a smooth newt survey undertaken at the proposed infrastructure site in 2022 and 2023 to update the survey originally carried out by SLR Consulting Limited in 2015/16, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex K). It also presents a summary of any ecological monitoring carried out by SLR during the period 2017 to 2021.
Annex 9	Marsh Fritillary Survey Report dated January 2024	This report presents the findings of a marsh fritillary survey undertaken at the proposed infrastructure site in 2022/23 to update the survey originally carried out by SLR Consulting Limited in 2016, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex N).
Annex 10	Biological Water Quality Assessment Report	This report presents the results of the biological water quality assessment undertaken in 2022/23 to update the assessment originally carried out by SLR Consulting Limited in 2015/16, and which was submitted as part of the original planning application in 2017 (Appendix C8 Annex P).

Appendix Reference	Document Name	Purpose
Annex 11	Updated Biodiversity Net Gain calculation	Updates the Biodiversity Net Gain calculation presented in the Ecological Mitigation and Management Plan (September 2017) and Technical Appendix C.9 submitted as part of FEI Addendum to Environmental Statement 2019.
Annex 12	River and Fish Habitat Assessment of the Owenkillew River, Owenreagh River and Tributaries	Update to the Fish Habitat Assessment using data from 2020.

Table 3: Key references for new information associated with ecological monitoring

- 1.29. In addition to the above, further information has also been obtained in connection with implications for surface water quality associated with relevant watercourses, and on use by fish of the Pollanroe and Curraghinalt burns. Further survey and assessment information is also relied upon as part of the evidence base pursuant to water quality matters and associated implications for qualifying features of nearby designated sites. This information is referred to where relevant within this TR and where necessary the information is appended. Such information is also considered and discussed within the Statement of Case relating to Water Discharges submitted on behalf of the Applicant.
- 1.30. A Betterment Plan has also been prepared. This Betterment Plan relates directly to the issue of discharge and the discharge consent to the water system. It will deliver significant material improvement to the environment that reduces discharges that otherwise would enter the water system from uncontrolled uses that would take place. As a result, it is linked to and impacts directly upon the proposed discharges from the project into the water system.
- 1.31. The proposals go beyond what is considered necessary mitigation for the Mine proposals. A copy of this document is presented at **Annex 13**.

3. SCOPE AND METHODOLOGY OF ASSESSMENT

Establishing the ecological baseline

- 1.32. Baseline ecological data was collated by SLR Consulting Ireland in 2015-2016 through a combination of desk-based studies and field survey consistent with standard methodologies and published good practice guidelines which were current at the time. The scope of the ecological field surveys was defined on the basis of known and potential ecological interest within the study area (which extended beyond the application site boundary where relevant). This survey and assessment process built upon data collated as part of the earlier Ecological Baseline Study (EBS) carried out by SLR Consulting Ireland from 2010 to 2013. This body of information informed the ecological assessment work which supported the EIA process (initial planning submission).
- 1.33. A programme of ecological monitoring was and continues to be carried out, predominantly at the proposed infrastructure site. SLR was responsible for the ecological monitoring programme from 2017 to 2021 which included the annual monitoring for Badgers, Bats, Otter, Common Lizard and Smooth Newt.
- 1.34. The annual monitoring reports for 2017 and 2018 were submitted as part of FEI1. The results of the monitoring undertaken by SLR Consulting Limited is included in the relevant updated survey reports prepared by Green and Blue Ecology as detailed above in Section 2 of this TR.
- 1.35. Since 2022, further targeted ecological monitoring associated with the proposed project has been carried out by Green and Blue Ecology. The monitoring programme was devised in order to maintain baseline information for key species / groups given the timescales involved in determining the planning application/s. The focus of this additional monitoring work was on the proposed Infrastructure Site, where the greatest level of impact from the mine development will occur.
- 1.36. Additional fish habitat and population surveys have also been undertaken (2020 and 2022) by SLR Consulting and Ricardo.
- 1.37. New information being relied upon is described in Section 2 of this TR.

- 1.38. Full details of the methodologies used are described in the relevant survey reports either included as part of the ES (including FEI1 and FEI2) or presented as appendices to this TR.
- 1.39. Insofar as matters concern implications for the Owenkillew and Owenreagh Rivers and the statutory designations associated with these sites (ASSI and SAC, as relevant), and also implications for aquatic ecological receptors more generally, the reader is additionally directed to the Statement of Case regarding Water Discharges submitted by the Applicant.
- 1.40. The EclA, which underpins relevant ES Chapters (as described at Table 1 in Section 2 of this TR), was undertaken with due regard had to the guidelines published at the time by the Chartered Institute of Ecology and Environmental Management (CIEEM) and BS42020:2013 “Biodiversity - Code of Practice for Planning and Development”. The EclA followed a standard approach based upon:
- a) The description of the existing baseline conditions within the application site for the mine development;
 - b) An evaluation of the designated sites, habitats and species present within the application site and wider surrounding area;
 - c) The identification of potential ecological effects of the mine development;
 - d) An assessment of the likely significance of identified impacts on important ecological features;
 - e) Identification of mitigation, enhancement and/or compensatory measures to prevent, reduce or offset a significant effect; and
 - f) The determination of the significance of any residual impacts of the mine development and its implications from a legal and policy perspective.
- 1.41. Insofar as the submitted Shadow Habitats Regulations (sHRA) assessments are concerned (including the Update sHRA of 2020), these were produced with appropriate regard to the legislative provisions, associated guidance and case law, the relevant Conservation Objectives and the best available evidence. Matters concerning the relevant baseline environment and the current (unfavourable) condition of the SAC are specifically discussed within this TR and I also refer the reader to the Statement of Case regarding Water Discharges.

Permitted development works and previous planning consents

- 1.42. In carrying out my assessments, I have been mindful of previous planning permissions relating to this site (set out above) and I have considered the extent to which the baseline may have been influenced by the exploration activities which took place between 27th August 2014 and 8th May 2017.
- 1.43. The principal point in this regard is that such activities were focussed below ground, with no significant impact upon flora / fauna. Further, the location of the exploration activities is significantly removed from the proposed infrastructure site and sufficiently distant not to impact upon the terrestrial baseline recorded, assessed and reported in the ES.
- 1.44. Of specific relevance, given the issues raised by consultees (and objectors to the proposals) are any changes to the baseline which may have occurred in respect of water quality during the exploration activities. This is a matter expressly dealt with in the Surface Water TR prepared by [REDACTED] of Kaya Consulting and also in the Statement of Case regarding the Water Discharge applications. Reference is made to the programme of on-going water quality monitoring undertaken by the Applicant and also third party data. This data shows no significant change in water quality within the Owenkillew River caused by the exploration activities. The well documented issues regarding water quality within the Owenkillew catchment (including the Owenkillew River SAC itself) can be largely attributed to land use practices such as agriculture and forestry operations and discharges from Waste Water Treatment Plants, matters discussed in detail further below within this TR.

4. OVERVIEW AND SUMMARY OF ASSESSMENT WORK

1.45. The EclA (submitted as part of the ES) has three principal purposes:

- 1) To provide an objective and transparent assessment of the effects of the proposed mine development on ecological receptors;
- 2) To allow objective and transparent determination of the consequences of the proposed development in view of national, regional and local policies relevant to nature conservation matters; and
- 3) To demonstrate that the proposed development complies with nature conservation legislation.

1.46. Although a key focus of the EclA was on new above ground development, it nonetheless had to fully consider potential environmental pathways by which important ecological features could be impacted from the overall mine development including below ground and existing infrastructure development.

1.47. Ecological features were valued in accordance with a geographical frame of reference, ranging from International to Local (lower tier), based on documented / recognised ecological value or through using professional judgement.

1.48. Broadly, important ecological features were defined as:

- Designated sites including statutory and non-statutory nature conservation sites;
- Habitats, sites and features of recognised biodiversity value; and
- Species protected or controlled by law or of biodiversity value or significance including priority (Biodiversity Action Plan – BAP) species.

1.49. With due regard had to CIEEM guidelines, only ecological features considered to be important (as defined above) were carried forward for detailed assessment.

1.50. The sources of potential impacts (arising from the proposed development) and the relevant ecological features which have the potential to be directly or indirectly affected in the absence of mitigation, were carried forward for further assessment.

- 1.51. It should be noted that given the timeframe over which the initial survey /assessment work, applications, consultations and application process has run, monitoring has been undertaken to ensure that the conclusions of the EIA assessment work remain valid. Where relevant to do so, I confirm the current position within this TR.
- 1.52. Regarding matters concerning designated sites, the Owenkillew River SAC / ASSI lies in close proximity to the Application Site and hydrological connectivity exists. As such, the statutory tests of The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 are invoked. The ES package of documentation submitted by the Applicant contains Shadow Habitats Regulations Assessments, including an Update sHRA (2020), submitted as part of FEI2.

5. SUMMARY BASELINE

- 1.53. In this section of my TR, I summarise the key information relevant to the ecological and nature conservation baseline. For detail, I refer the reader to the reports highlighted at section 2 of this TR.

Designated Sites

- 1.54. The following European designated sites / Ramsar sites are located within a 10km radius of the Application Site boundary:

- a) Owenkillew River SAC;
- b) Upper Ballinderry River SAC; and
- c) Black Bog SAC/Ramsar site.

- 1.55. The Owenkillew River SAC and Black Bog SAC/Ramsar site are both located within 5km of the Application Site, with the Owenkillew River SAC located in very close proximity and linked to the Application Site by the Curraghinalt Burn, into which it is proposed that appropriately treated water will be discharged.

- 1.56. Beyond a 10km radius, the following European designated sites / Ramsar sites are present which, whilst well removed from the Application Site, are hydrologically linked with it:

- a) River Foyle and Tributaries SAC;
- b) Lough Foyle SPA;
- c) Lough Foyle Ramsar site;
- d) River Finn SAC (Republic of Ireland); and
- e) Lough Foyle SPA (Republic of Ireland).

- 1.57. Additionally, sites designated at the national level are located in close proximity to the Application Site. Excluding any sites that were designated for geological reasons (only), eight such sites are located within 5km of the Application site boundary. These are the Owenkillew River ASSI, Drumlea and Mullan Woods ASSI, Owenreagh River ASSI, Black Bog ASSI, Mullaghcarn ASSI incorporating Boorin Nature Reserve (NR), and Murrins ASSI and NR.

1.58. The Owenreagh River was formally designated as an ASSI on 29th March 2018. The EclA (2017 ES submission) considered implications for the site in view of its status as a proposed ASSI (as it was at that time). However, prior to formal designation no site boundaries were defined for the site and so the assessment proceeded on a precautionary basis and considered the entire length of Owenreagh River as the potential ASSI. In fact, this designated site extends upstream of Cashel Bridge, Greencastle and therefore upstream of the Application Site. This is an important consideration. It means that whilst in broad terms hydrological connectivity exists between the Application Site and this ASSI, discharges to water courses as part of the proposed surface water strategy could not impact water quality within the ASSI as all discharges would be relevant to points downstream of the designation. This is a matter explored in more detail at later points within this TR.

1.59. The locations of the closest designated sites, is shown in Figure 1 below:

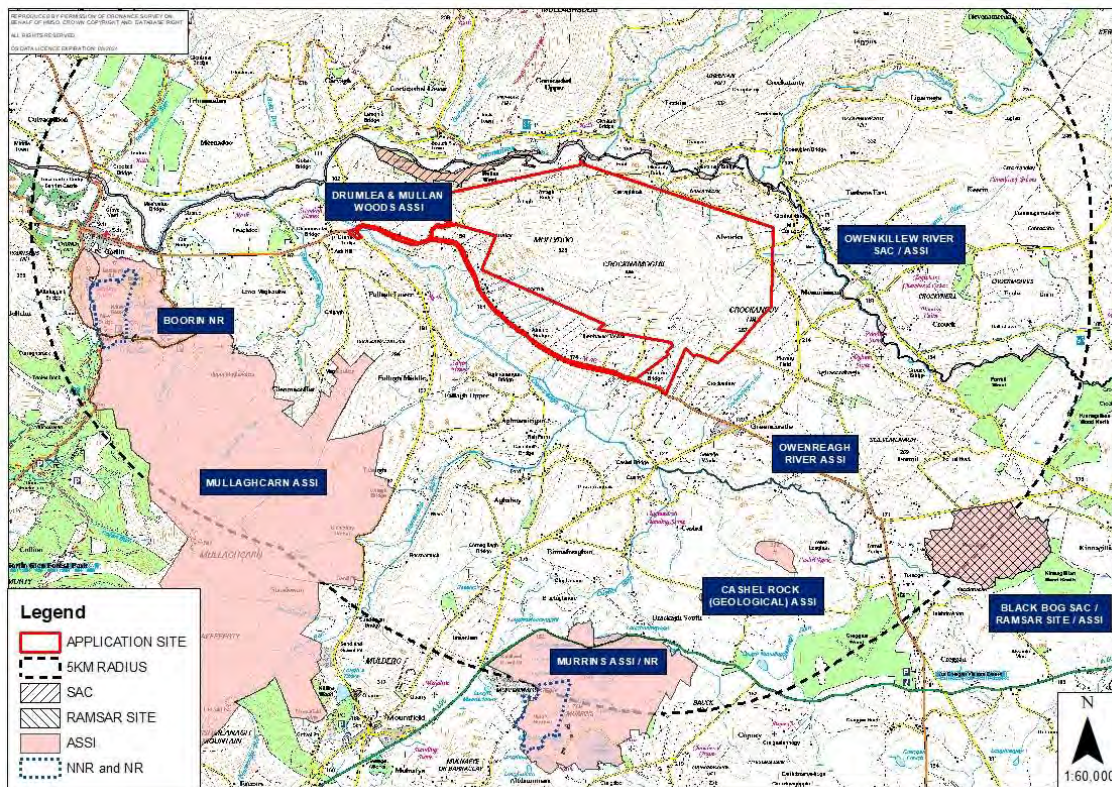


Figure 1 Designated sites within 5km of the Application Site

- 1.60. Qualifying interest features associated with relevant European level designated sites are described within section 4 of the Update sHRA (2020)², which also includes the Conservation Objectives for these sites.
- 1.61. Given the hydrological connectivity between the Application Site and the Owenkillev and Owenreagh rivers, and also on the basis of concerns raised by NIEA regarding proposed water discharges, the water quality baseline is also of relevance. In this regard I direct the reader to the Statement of Case (and associated annexes) in respect of Water Discharges and the TR in respect of Surface Water prepared by [REDACTED] of Kaya Consulting.

Habitats

- 1.62. A summary of the habitats identified as important ecological features is provided in Table 4 below. The table also indicates which of these habitats are EU Annex I Habitats and Northern Ireland (NI) Priority Habitats. Figure 2 shows the location and extent of habitats considered likely to fulfil the criteria of EU Annex I and Figure 3 shows the location and extent of NI Priority Habitats in the application site.

² Appendix C.10 of FEI2

Habitat Type	Phase 1 Habitat Classification	Application Site	Proposed infrastructure site only	Hierarchy	Importance
Woodland & Scrub	A1.1.1 Woodland - broadleaved – semi-natural	1.83 ha	0.80 ha	Local (Higher)	NI Priority Habitat
Grassland & Marsh	B5 Marsh/marshy grassland (NVC M23a)	189.79 ha*	37.30 ha	Local (Higher)	NI Priority Habitat
Heathland	D6 Wet heath/acid grassland mosaic	65.55 ha	2.86 ha	County	EU Annex I NI Priority Habitat
Mire	E1.7 Bog – wet modified / E1.8 Bog – dry modified	485.55 ha	33.49 ha	Up to County	EU Annex I NI Priority Habitat
	E2.1 Flush spring - acid / neutral flush	-	0.26 ha	Local (Higher)	NI Priority Habitat
	E3.1 Fen – valley mire	7.99 ha	7.99 ha	County	NI Priority Habitat
Open Water	G1.4 Standing water – dystrophic	0.19 ha	0.15 ha	County	NI Priority Habitat
	G2 Running water (unclassified)	27,182 m	260 m	Local (Higher)	
	G2.3 Running water – oligotrophic	2,747 m	2,384 m	Local (Higher)	Possibly NI Priority Habitat
Miscellaneous	J2.1.1 Boundaries – hedges – intact – species-rich	6,930 m**	105 m	Local (Higher)	NI Priority Habitat
Notes: *Area does not distinguish between NVC M23a and other marshy grassland communities. ** Length does not distinguish between intact species-rich and intact species-poor hedgerows.					

Table 4: Habitats Identified as Important Ecological Features in the Application Site and Proposed infrastructure site in the EclA

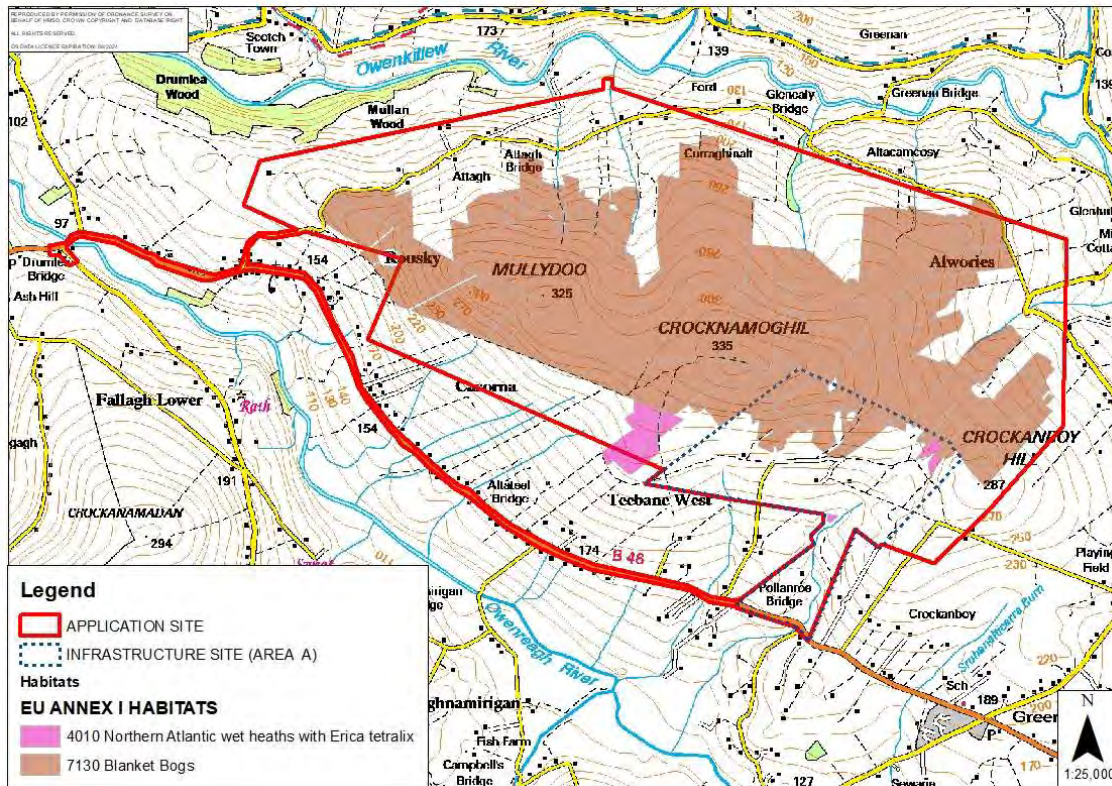


Figure 2: EU Annex I Habitats

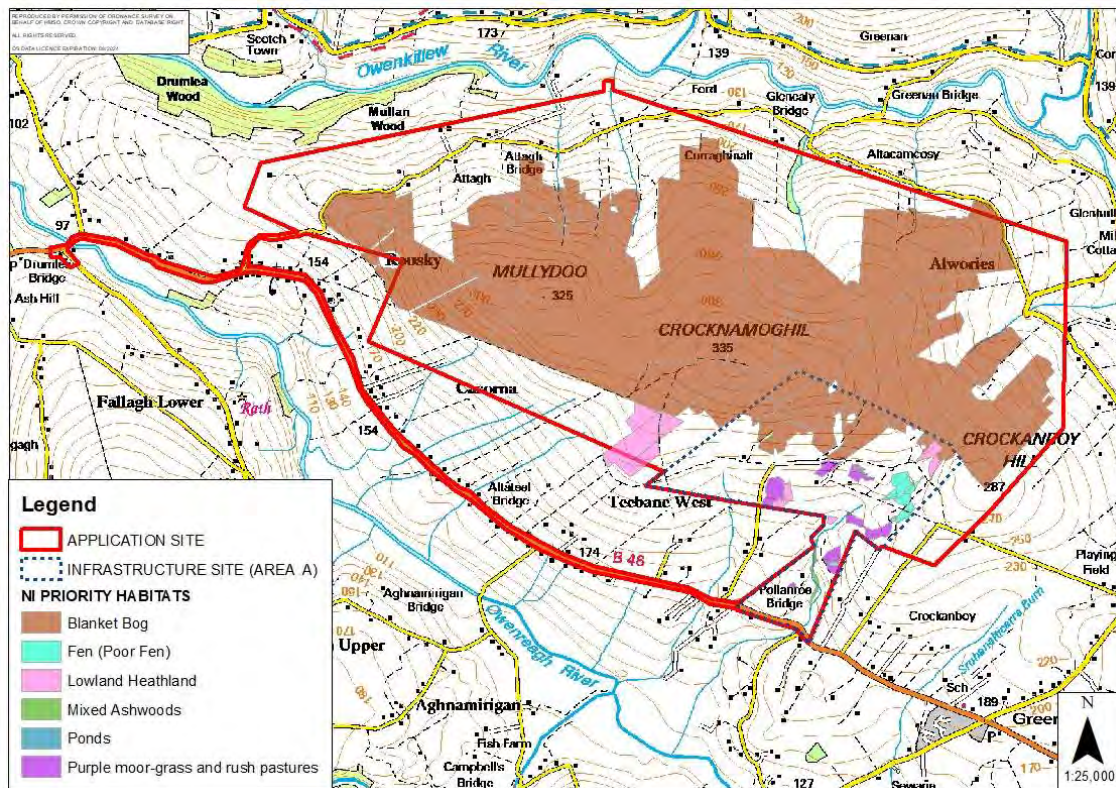


Figure 1: NI Priority Habitats

Invasive Non-Native Species (INNS)

- 1.63. Himalayan balsam (*Impatiens glandulifera*) was previously recorded at one location in the proposed infrastructure site although it was known to be widespread through the catchments of both the Owenkillew and Owenreagh Rivers.
- 1.64. The baseline conditions of Himalayan balsam have significantly changed both at the proposed infrastructure site and wider Application Site. This species is now present and prolific along the entire length of the Pollanroe Burn as well as throughout the wider surrounding area. The Applicant commenced a programme of treatment for this invasive species in 2023 to try and control it within its landholding and other areas within its control.

Faunal Species

- 1.65. In this section of the TR I summarise the baseline position in relation to faunal interest features. For ease of reference, I have presented the information under the following broad headings:
- 1) Terrestrial species;
 - 2) Fish and Freshwater Pearl Mussel.

Terrestrial Species

- 1.66. A summary of the species identified as present and representing important ecological features at the proposed infrastructure site (as presented in the EcIA) is provided in the table below.

Species Group	Species	Evaluation	Importance
Mammals	Badger (<i>Meles meles</i>)	Local (Higher)	Protected under the Wildlife (Northern Ireland) Order 1985.
	Bats (all species) including Leisler's bat (<i>Nyctalus leisleri</i>), Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>), common pipistrelle, soprano pipistrelle (<i>Pipistrellus pygmaeus</i>), and brown long-eared bat (<i>Plecotus auritus</i>)	Local (Higher)	Protected under the Wildlife (Northern Ireland) Order 1985 and the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended) including the Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019. NI Priority Species*
	Irish hare (<i>Lepus timidus subsp. Hibernicus</i>)	Local (Higher)	NI Priority Species
Birds	Bird assemblage (breeding and wintering)	Local (Higher)	Protected under the Wildlife (Northern Ireland) Order 1985 (as amended).
Reptiles	Common lizard (<i>Zootoca vivipara</i>)	Local (Higher)	Protected under the Wildlife (Northern Ireland) Order 1985 (as amended). NI Priority Status
Amphibians	Smooth newt (<i>Lissotriton vulgaris</i>)	County	Protected under the Wildlife (Northern Ireland) Order 1985 (as amended).
	Common frog (<i>Rana temporaria</i>)	Local (Higher)	
Notes: *The EclA recognised that Nathusius' pipistrelle, soprano pipistrelle, brown long-eared bats were at the time listed as Northern Ireland Priority Species whereas at this current time all eight species of bat currently recorded in Northern Ireland are identified as priority species.			

Table 5: Terrestrial species Identified as Important Ecological Features in the EclA

- 1.67. Following from the above table, it should be noted that in addition to recorded foraging and commuting behaviour, bat roosts were identified within the proposed infrastructure site.
- 1.68. Pollan Rua cottage was identified as a roost site for Common Pipistrelle bats during survey work which supported the ES (2017). Subsequently, monitoring of the Pollan Rua cottage has recorded a further two bats roosting at this building including Leisler's bat and Natterer's bat (*Myotis nattereri*). Whilst this represents a change in the baseline it should be noted that only low numbers of Common Pipistrelle constantly use this building on an annual basis and at all times of the

year. It is therefore considered that the evaluation conclusions (and required mitigation) remain the same as presented in the 2017 EclA. No greater conservation significance arises in relation to the updated position regarding the roost site.

- 1.69. The derelict farm building (Building B08) was originally recorded as being used by roosting Leisler's bat. However, as identified during monitoring work undertaken subsequently, its suitability for roosting bats has been reduced due to the southern part of the building having been partly demolished. This work was not carried out or authorised in any way by the Applicant.
- 1.70. Regarding Otter, the survey carried out in 2015/16 did not record any evidence of otter activity along the Pollanroe Burn and the un-named tributary flowing through the proposed infrastructure site. However, Otter spraints were recorded on the Pollanroe Burn along with footprints in May 2018 within the proposed infrastructure site at the ford structure east of the Pollan Rua Cottage. Since 2022 Otter spraints have been regularly recorded on the Pollanroe Burn at the culvert under the Crockanboy Road although no evidence of Otter has been recorded upstream of this location. It is considered that this culvert marks the upstream territorial boundary of an Otter.
- 1.71. Badger surveys have identified use of the proposed Infrastructure Site by Badgers and active sett entrances have been recorded. A currently active (as recorded in April 2024) main sett for a small social group is considered to be present.
- 1.72. I refer the reader to section 2 (above) for the references regarding where to find the baseline data relevant to terrestrial faunal species.

Fish and Freshwater Pearl Mussel

- 1.73. The principal concern maintained by NIEA relates to the discharge limits to be applied to any discharge consents in the light of the unfavourable condition of the Owenkilow SAC (e.g. in respect of Freshwater Pearl Mussel) and purported 'functional linkage' existing between the SAC and the Pollanroe / Curraghinalt burns.. Specifically regarding functional linkage, whilst a hydrological link exists with the SAC, it is disputed that the either of the burns perform a function which is

significant in the context of maintaining the populations of species (e.g. Atlantic Salmon) for which the SAC is designated. This matter is discussed below (and see section 13) in relation to the recorded use of the burns by relevant fish species. The unfavourable condition of the SAC Freshwater Pearl Mussel population has been linked to a deterioration in water quality (although other pressures are also documented). The deterioration in water quality arises from a range of sources, with agriculture, forestry and consented discharges (e.g. from waste water treatment plants. Relevant ecological baseline data is discussed below, with further analysis of the issues raised, presented at section 13.

Fish Species

1.74. Fish species recorded as being present within the Owenkillew and Owenreagh catchments, based on Loughs Agency records³, include:

- Atlantic salmon;
- Brown trout/sea trout;
- European eel;
- River lamprey / brook lamprey (and possibly sea lamprey);
- Minnow; and
- Stone loach.

1.75. In addition, it is well known (and reported) that both the Owenkillew and Owenreagh Rivers support populations of Freshwater Pearl Mussels.

1.76. There are four watercourses which are of principal interest in relation to the Project, where potential significant effects could arise in the absence of appropriate and proportionate mitigation. These are:

- The Owenkillew River;
- The Owenreagh River;
- Curraghinalt Burn; and
- Pollanroe Burn.

³ The Foyle system is monitored by the Loughs Agency using fish counters and via annual semi quantitative electrofishing surveys at several reference sites.

- 1.77. Figure 4 below shows the locations of the above watercourses in context. The Curraghinalt burn flows north and has a confluence with the Owenkillew River SAC. The Pollanroe Burn flows south and has a confluence with the Owenreagh River, downstream of the ASSI designated section of this river.

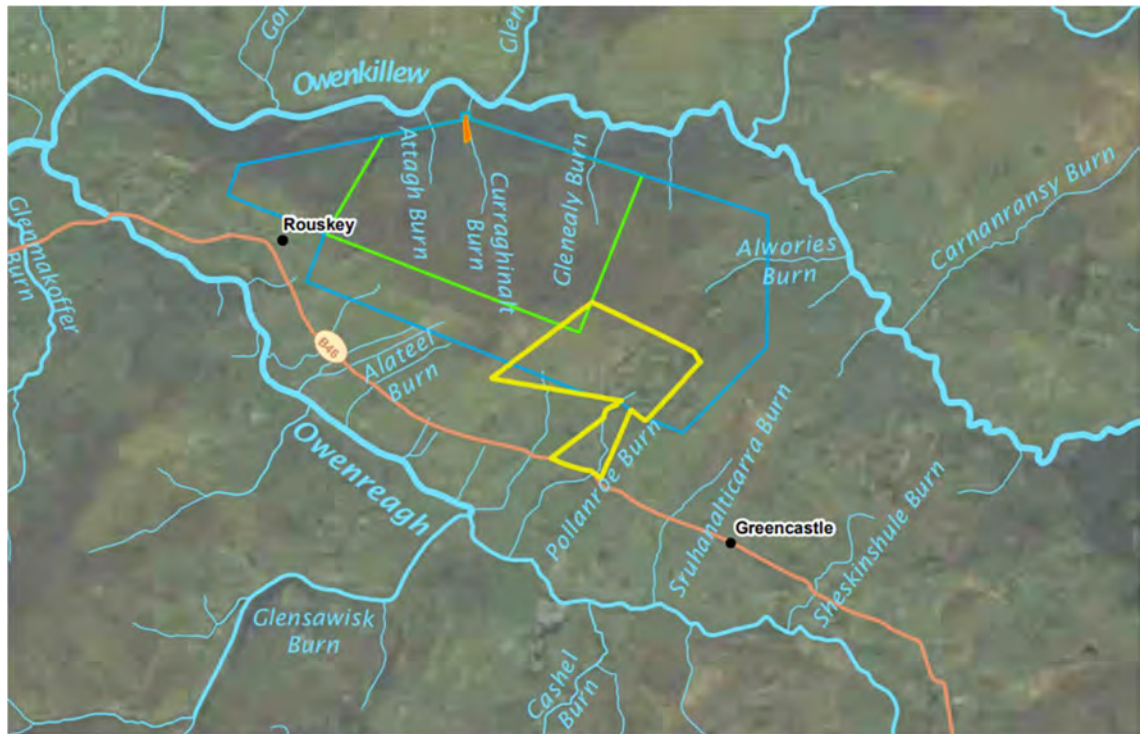


Figure 4. Location of relevant watercourses, extracted from the ES (2017) Appendix C.3 (Surface Water Baseline Report)

- 1.78. Each have been subject to specific surveys as part of the EIA process. Fish Habitat Surveys were undertaken in 2013 and 2015, with a repeat of this exercise undertaken in 2020. All of these surveys were undertaken by SLR Consulting using the Life Cycle Unit Method (LCUM) which was developed in Northern Ireland by the Loughs Agency. A copy of the update (monitoring) report regarding the 2020 survey work⁴ is included at **Annex 14** of this TR. Results from the 2020 survey work are summarised below.
- 1.79. The 2020 monitoring programme indicated that the baseline conditions as recorded in 2015/16 had not significantly altered with regard to the surveyed

⁴ River and Fish Habitat Assessment of the Owenkillew River, Owenreagh River and Tributaries for the Curraghinalt Gold Project, County Tyrone, Northern Ireland (2021)

stretches of the Owenkillev and Owenreagh rivers. However, it was noted that within the Owenkillev River (survey Reach 2 and Reach 3) and the Owenreagh Rivers (survey Reach 4 and Reach 5) the riverbed exhibited poor stability, with unconsolidated gravels, cobbles and boulders. This was attributed to the flood event that occurred within both rivers in August 2017, where peak flows are understood to have exceeded 500 cumecs.

- 1.80. Surveyed lengths of the Owenkillev and Owenreagh Rivers both contain areas of good holding, nursery and spawning habitat for Atlantic Salmon and Brown trout/sea trout. These species are still known to be present in both rivers, however data suggests that the Atlantic Salmon population is in decline, a situation mirrored across the UK and a matter which is discussed in more detail later in this TR when addressing the concerns of Statutory Consultees.
- 1.81. The Curraghinalt Burn is a small watercourse which was recorded as offering no habitat for fish due to its steep gradient, water depth and substrate. Significantly, the bed of the burn is 'perched' above the bed of the Owenkillev river by around 2m and the channel substrate was recorded as consisting of bedrock, boulders, and cobbles. A chute of <5m in height was also encountered circa 100m above the confluence of the Owenkillev River. This feature was considered impassable to fish. No suitable salmonid spawning areas were observed.
- 1.82. The Curraghinalt Burn is considered unsuitable for FWPM and no evidence of presence was recorded during any survey.
- 1.83. The Pollanroe Burn is a linear watercourse comprising a series of riffles and, largely, an unconsolidated bed of cobbles, gravels and sand. Iron ochre is evident in parts and the watercourse supports no aquatic or marginal vegetation. From the surveys, the watercourse was considered to be unsuitable for salmonid fish and no suitable spawning areas were observed within the sections surveyed.
- 1.84. The Pollanroe Burn was also considered unsuitable for Freshwater Pearl Mussel and no evidence of presence was recorded during any survey.

Updated fish surveys (electrofishing)

- 1.85. During consultation on the planning application, the Loughs Agency stated that it considers the lower reaches of the Curraghinalt and Pollanroe burns to support important habitat for salmonid fish species. Subsequent to the Loughs Agency issuing its consultation response of 5th March 2021, it undertook specific surveys of the Curraghinalt and Pollanroe burns during 2021 (NIEA officers were also present in an observational capacity). These surveys involved both habitat assessments and electrofishing.
- 1.86. Habitat assessments and electrofishing surveys were also undertaken on behalf of the Applicant in 2022, with Loughs Agency and NIEA officers attending in an observational capacity. For these surveys, a significant proportion of the Curraghinalt burn was surveyed, however due to access restrictions only one section of the Pollanroe Burn previously surveyed by Loughs Agency could be surveyed by the Applicant. The results are however valuable in the context of improving the level of baseline data available for assessment purposes, noting that the section surveyed lies in the lower reaches of the burn (i.e. the area reported to be of greater concern to Loughs Agency).

Loughs Agency 2021 data - Curraghinalt Burn

- 1.87. The survey report and underpinning data is included at **Annex 14** of this TR. In respect of habitat suitability for various life stages of salmonids, it is stated:

"In the case of the Curraghinalt Burn the range of habitat which was accessible to fish was small, but nevertheless it was felt that it would at the very least provide a refuge for juvenile salmonids in times of spate in the main Owenkillew River. The Pollanroe Burn was deemed to have a greater expanse of suitable habitat capable of providing spawning, nursery and pockets of holding. Therefore all three habitat types required for Salmonids to complete their life cycle were judged to be present in the lower section of the Pollanroe Burn."

- 1.88. As reported by the Loughs Agency, the Curraghinalt Burn has a limited range of habitat available to (salmonid) fish, with only its potential to provide a refuge for juvenile salmonids (under very specific conditions within the main river) cited in terms of suitability. The value of the Pollanroe burn was purported to be higher.

- 1.89. Additional survey work was undertaken by Loughs Agency, and this was specifically focussed upon determining actual fish presence through electrofishing. In other words, the survey work went beyond habitat analysis, where judgements are made on the likelihood of a species being present, to a fish capture exercise where raw data in terms of fish presence (e.g. species, age class) is documented.
- 1.90. Raw survey data was requested by the Applicant in order to assist with understanding the survey information presented. Survey Data Sheets were subsequently provided by the Loughs Agency (see **Annex 14**).
- 1.91. For the Curraghinalt Burn, the relevant survey data sheet confirms that in terms of habitat suitability, for spawning, nursery and holding habitat, a grading of "3" is given for each. With reference to the Advisory Leaflet titled "The Evaluation of Habitat for Salmon and Trout" (see Annex 15), this grading puts the habitat **"well outside grade 1 on one or more counts"** in terms of nursery habitat. The grading is therefore **"failing"** in respect of suitability as nursery habitat. For spawning and holding areas a grading of 2 would be failing, so the grade of 3 falls below even that fail grade.
- 1.92. The electrofishing did not provide any evidence of the presence of Atlantic Salmon (qualifying interest feature of the SAC) within the Curraghinalt Burn. Only two Brown Trout (age class 1+ only, and not a qualifying feature of the SAC) were recorded in that burn during the survey.
- 1.93. The habitat quality data, bed morphology information and electrofishing data provided by the Loughs Agency, all point to the fact that Curraghinalt Burn is not important for Salmonid fish species. Specifically, regarding bed morphology, it is important to have regard to the fact that there is a significant (circa 2m) level change at the head of the burn, making fish passage into the burn extremely difficult, and very unlikely under most river conditions.
- 1.94. The 2021 Loughs Agency data does not support the proposition that the Curraghinalt burn is of value, let alone importance, to Atlantic Salmon. The habitat is documented as being sub-optimal (at best) in respect of nursery, spawning and holding habitat. No Atlantic Salmon, at any life stage, were recorded during the detailed surveys.

- 1.95. From the Loughs Agency's own data, it is clear that the Curraghinalt Burn does not provide habitat on which the qualifying SAC population of Atlantic Salmon are in any way reliant in terms of maintaining favourable conservation status for this species.
- 1.96. Regarding Brown / Sea Trout, the capture of (only) 2 Brown Trout parr at the very bottom end of the burn, is indicative of these fish moving into the burn when conditions allowed, then becoming trapped (noting the perched nature of the burn). A small number of fish may move into, and out of the burn as conditions allow / dictate. The burn cannot be concluded to be of importance to Brown / Sea Trout.

Loughs Agency 2021 data – Pollanroe Burn

- 1.97. In the case of the Pollanroe Burn, hydrological connectivity does exist with the Owenkilnew River SAC, but unlike with the Curraghinalt Burn, this is via the undesignated (non ASSI) stretch of the Owenreagh River.
- 1.98. The survey report (see **Annex 14**) and detailed survey results provided by the Loughs Agency shows use of the Pollanroe Burn by both Atlantic Salmon and Brown Trout.
- 1.99. In the case of Brown Trout, both juvenile and adult trout were recorded. Brown Trout are not a qualifying interest feature of the Owenkilnew River SAC. It is relevant that, as reported by the Loughs Agency⁵, whilst there is some recognised cross-over in terms of habitat requirements, the general trend within the Foyle catchment is that Atlantic Salmon dominate the main river and swifter water, while trout dominate the smaller tributaries.
- 1.100. Atlantic Salmon were recorded in the Pollanroe Burn. This species is a qualifying interest feature of the SAC and as discussed, connectivity exists between the Pollanroe Burn and the SAC.
- 1.101. In view of the survey data sheets provided by the Loughs Agency, and having regard for the published Advisory Leaflet, the habitat grades associated with the habitat suitability for Salmonid species along surveyed lengths of this burn were

⁵ Foyle Area and Tributaries Catchment Status Report 2015 (2016), Loughs Agency of the Foyle Carlingford and Irish Lights Commission, page 25 of 37

higher than for the Curraghinalt burn. However, the habitat was concluded not to be of the highest grade (Grade 1). Results are set out below.

Survey site POLL 001 was graded as follows:

	Grade
Spawning	2
Nursery	2
Holding	3

Survey site POLL 002 was graded as follows:

	Grade
Spawning	3
Nursery	2
Holding	3

Survey site POLL 003 was graded as follows:

	Grade
Spawning	3
Nursery	2
Holding	3

- 1.102. In the light of the above gradings, and with reference to the Advisory Leaflet discussed above, each of the burn sections can be categorised as sub-optimal in respect of nursery areas and failing in terms of spawning and holding areas.
- 1.103. Unlike the Curraghinalt burn, during the electrofishing surveys Atlantic Salmon were recorded in the Pollanroe Burn. These were all recorded at survey site “Poll 001”, closest to the confluence with the Owenreagh River. No Atlantic Salmon were recorded at survey site 002 and no fish at all were recorded at site 003.
- 1.104. Importantly, the Atlantic Salmon recorded during the surveys were all Salmon parr. No fry or adult Salmon were recorded. Therefore the Loughs Agency data does not show that the Pollanroe Burn is a breeding site for Atlantic Salmon. It is likely used as a temporary resource by juvenile Salmon when conditions allow.

Applicant surveys 2022 – Curraghinalt Burn

- 1.105. Electrofishing surveys and habitat assessments were undertaken on 28th June 2022 by the Applicant with representatives of the Loughs Agency and NIEA present. Three survey runs (over a 45m stretch) were completed at the bottom end of the burn (highlighted by Loughs Agency as providing suitable spawning and nursery habitat for salmonid species) and one upstream run was completed over an 800m stretch. The survey followed standard survey protocols and was more comprehensive than that undertaken by Loughs Agency, with greater coverage and use of stop nets. Survey data is presented at Annex 16, with the results summarised below.
- 1.106. In relation to all areas of the surveyed watercourse, a grading of "3" was given for nursery, holding and spawning habitat (i.e. failing on each count at the lowest grade, also concluded by Loughs Agency).
- 1.107. During the electrofishing survey of the bottom end of the burn, three Brown Trout were caught along with one European Eel. A single Brown Trout was caught on the upstream survey run.

Applicant surveys 2022 – Pollanroe Burn

- 1.108. Electrofishing and habitat surveys were undertaken on 27th June 2022 by the Applicant, again with representatives of the Loughs Agency present. Only one section of this burn could be surveyed due to access restrictions, however, the section surveyed was at the lower end of the burn close to the main river, from where salmonids could enter the burn. This was section Poll 002, previously surveyed by Loughs Agency. Three survey runs were undertaken (the second stopping 10m short of the run end due to interference.) Again, survey data is presented at **Annex16**, with the results summarised below.

- 1.109. In terms of habitat suitability the following was recorded:

	Grade
Spawning	3
Nursery	2
Holding	3

- 1.110. The grading shows the habitat to be ‘failing’ in all three aspects.
- 1.111. Across the electrofishing survey a total of 76 Brown Trout and 15 Atlantic Salmon (parr) were caught.

Summary conclusions regarding the 2021 and 2022 fish survey data

- 1.112. There is no evidence that any salmonid fish (of particular relevance to matters concerning the Owenkillew River SAC) permanently live (or spawn) within the Curraghinalt Burn. The data is consistent with a few isolated small brown trout being present in the burn. Access to the Curraghinalt Burn by salmonid fish species is only possible during high flood events. Individual fish are considered to become trapped when the river levels drop and are only expected to be resident within the Curraghinalt Burn in the short term only, between such events.

1.113. There is no evidence that Atlantic Salmon, Brown Trout / Sea Trout spawn in Pollanroe Burn. Evidence suggests that small numbers of juvenile salmon do visit the lower sections of Pollanroe Burn. Brown trout are expected to be resident in the lower sections of Pollanroe Burn circa 800m downstream of Crockanboy Road bridge. The extent to which these fish species use the burn over the course of the year is dependent upon water levels. As discussed, they have only been recorded in the lower reaches of the burn in any event, and during very low flows (e.g. during the summer months) access even to these areas will be significantly restricted or not possible. In these terms, the burns are not significant in the context of the maintenance of the Atlantic Salmon population and as such ‘functional linkage’ in Habitats Regulation terms is not demonstrated. This matter is discussed further in section 13 of this TR.

Freshwater Pearl Mussel

- 1.114. Freshwater Pearl Mussel (“FWPM”) are known from locations within both the Owenkillev and Owenreagh rivers. Given the protection afforded to the species and pressures faced by it from a range of factors including illegal pearl fishing, data regarding locations of mussel beds is highly sensitive. For this reason, data obtained from NIEA, including that in relation to the most recent survey work conducted in 2021 and 2022 is included in a Confidential Annex (**Annex 17**). The data is summarised below.
- 1.115. Survey work undertaken on behalf of NIEA in 2021 was focussed on the Owenkillev River SAC and upstream of the Curraghinalt Burn. FWPM were found at similar locations to those previously recorded and discussed within the ES. A total of 2,277 FWPM are reported.
- 1.116. Survey work undertaken in 2022 included three sites in the Owenkillev River. These sites are downstream of the Curraghinalt Burn and are similar to those described in the 2012 ATEC survey and discussed in the ES⁶. A total of 10 mussels are reported for this area. It should be noted that no FWPM were recorded in this section during survey work undertaken by SLR during a survey in 2020.
- 1.117. The 2022 survey work also included a total of nine survey sites in the Owenkillev River downstream of Curraghinalt Burn and the confluence of the Owenreagh/Owenkillev. A total of 365 FWPM are reported by NIEA in this stretch.
- 1.118. Regarding the survey of the Owenreagh River in 2022, no FWPM are reported for the (undesignated) river section downstream of the Pollanroe Burn. During survey work undertaken by SLR in 2020, no FWPM were recorded in this section. Data from the 2012 ATEC survey showed 5 individual FWPM recorded in this section.
- 1.119. Further information regarding the conservation status of FWPM is included below at Section 13 of this TR, where the concerns of Statutory Consultees are considered.

⁶ Confidential Appendix C.8 Annex M of the 2017 ES.

6. EXISTING CONSENTS

- 1.120. The Department has noted that the SAC is currently in unfavourable condition. In so noting, the Department has suggested discharge limits for the proposed development and linked them to various guidelines and standards. All of them are relevant to the consideration of the discharge that is to be permitted.
- 1.121. However, in understanding the receiving environment and the context of the Department's position, it is necessary to have regard for existing activities in the relevant area, and also to the discharge consents that have been issued by the Department for industrial and other processes that are directly and indirectly material to the SAC, the catchment and the conservation objectives.
- 1.122. The Tables below set out examples of the discharge consents that have been issued by the Department and its predecessor departments over a period of many years.

Sewage Treatment Plants

WWTW	Consent No.	Latest date of issue or re-issue	Receiving catchment	Catchment Area (km ²)	Discharge	Treated waste water discharge (m ³ /day)	Treated Daily Dry Weather Flow waste water (m ³ /day)	95 th percentile limit (upper limit)		
								BOD (mg/L) O ₂	TSS (mg/L)	NH4-N (mg/L)
Gortin	No. 6485_2007	3/30/2007	Owenkillew (Upper Foyle)	253	All	480	160	40	60	-
Greencastle	No. 6488_2007	11/19/2009	Owenkillew (Upper Foyle)	33	Secondary treated waste water	400	133	35	55	10
Rousky	No. 0432_2010	08/11/2010	Owenkillew (Upper Foyle)	0.6	Secondary treated waste water	55	7	-	-	-

NOTE – No samples will be taken during unusual weather conditions which will adversely affect the operation of the treatment works.
NB phosphorous not conditioned

Table 6: Existing discharge consents relating to WwTWs

Industrial

Operator	Consent No.	Latest date of issue or re-issue	Receiving catchment	Maximum limit		
				BOD (mg/L) O ₂	TSS (mg/L)	NH4-N (mg/L)
Ulster Minerals Ltd	No. 10611/87	8/13/1987	Owenkillew (Upper Foyle)	No limit	50	-
Devlin Sand and Gravel	No. 165/05	06/07/2005	Owenkillew (Upper Foyle)	No limit	50	-
Pat Dobbs	No. 360/00	3/24/2000	Owenkillew (Upper Foyle)	No limit	50	-
Northstone (NI) Ltd	No. 21570/95	June 2005	Owenkillew (Upper Foyle)	No limit	50	-
P Keenan	No. 031/05/2	10/30/2019	Owenkillew (Upper Foyle)	No limit	50	-
Dalradian Gold Ltd	068/12/2	06/02/2014	Owenkillew (Upper Foyle)	10	50	-

Table 7:: Existing discharge consents relating to Industrial operations

Domestic

Consent No.	Latest date of issue or re-issue	Receiving catchment	Maximum limit			Other
			BOD (mg/L) O ₂	TSS (mg/L)	NH4-N (mg/L)	
2020/23/1	09/10/2023	Easting 248289 and Northing 366996	20	30	N/A	Not exceed 1 cubic m per day
1167/22/1	14/06/22	Easting 261409 and Northing 361322	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 95% removal of the influent Biochemical Oxygen Demand (BOD)
1156/21/1	29/06/2021	Waterway at Irish Grid Reference H 5531 8487	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 95% removal of the influent Biochemical Oxygen Demand (BOD)
1478/23/1	18/07/2023	Easting 290646 and Northing 366370	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 97.5% removal of the influent Biochemical Oxygen Demand (BOD)
2166/21/1	05/11/21	Waterway at Easting 260818 and Northing 365602	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 97.5% removal of the influent Biochemical Oxygen Demand (BOD)
1392/21/1	03/08/21	Waterway at Irish Grid Reference H 5493 8743	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 95% removal of the influent Biochemical Oxygen Demand (BOD)
275/21/1	15/02/2021	Waterway at Irish Grid Reference H 5623 8418	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 97.5% removal of the influent Biochemical Oxygen Demand (BOD)
1784/21/1	02/09/2021	Waterway at Easting 248345 and Northing 369582	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 97.5% removal of the influent Biochemical Oxygen Demand (BOD)
2685/21/1	30/12/2021	Easting 261536 and Northing 361299	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 95% removal of the influent Biochemical Oxygen Demand (BOD)
794/20/1	30/07/2020	waterway at Irish Grid Reference H 6206 7949	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 97.5% removal of the influent Biochemical Oxygen Demand (BOD)
1254/23/1	15/06/23	Easting 261098 and Northing 361306	N/A	N/A	N/A	The sewage treatment works shall have BSEN 12566-3 certification demonstrating at least 97.5% removal of the influent Biochemical Oxygen Demand (BOD)

NOTE – standard condition in domestic consents "The effluent discharged to the waterway shall not: a. contain any substance which will cause the water in the underground stratum or in any waterway to be toxic or injurious to fish or other aquatic organisms; b. contain any substance to such an extent as to cause the receiving waters, or any waters of which the receiving waters are a tributary, to be poisonous or injurious to the spawning grounds, spawn or food of fish in those waters, or otherwise cause damage to the ecology of those waters."

Table 8:: Existing domestic discharge consents

- 1.123. The discharge limits set by the Department far exceed the suggested limits for this development proposal. In particular, they far exceed what the Department asserts are key discharges relating to the SAC, conservation objectives and the relevant priority species.
- 1.124. Insofar as existing consents are helpful in understanding the significance of effects, the Department appear to have issued discharge consents and/or not sought to have them amended in full knowledge of the SAC, the unfavourable condition and the impacts on priority species. Therefore it is to be assumed, absent any contrary explanation, that the discharge consents were considered to be proportionate and acceptable having regard to the environmental designations.
- 1.125. I am also mindful of the fact that Discharge Consent 068/12/2 relating to discharges from the exploratory mine into the Curraghinalt burn remains extant. The limit values placed by the statutory authority upon relevant key parameters for this discharge consent are also well in excess of what is now being proposed. As with the other consents, at the point of the statutory authority issuing the discharge consent, the same issues associated with water quality on interest features of the Owenkillew River SAC / ASSI (and wider catchment) were known. Significantly,

the baseline position was similar to now in that key features were recorded as being in unfavourable condition.

- 1.126. The rationale and proportionality of the discharge limits being suggested for the proposed development cannot be reconciled with the extant discharge consents. The discharge consents in the wider catchment are very significantly above the existing baseline level for the water environment.
- 1.127. In simple terms, if the proposed development was to discharge at the existing baseline level, any reduction of extant discharge consent limits in the wider catchment, and more particularly those related directly to the SAC would have the effect of reducing the baseline and returning the SAC to favourable condition.
- 1.128. In summary the development proposal will secure:
- i. Discharge of key limits relevant to the SAC and favorable condition status at the current baseline;
 - ii. Delivery of a Betterment Plan securing significant benefits and controls in terms of discharge to the SAC over and above the baseline discharge, thereby securing effective discharges below the current baseline;
 - iii. The removal of agricultural activity from the infrastructure site and wider area that currently discharges to the water network with permitted limits that are again very significantly higher than the proposed discharge limits.
- 1.129. In terms of ecological assessment, it is not necessarily the case that the factors recited above demonstrate that the limit values previously and currently applied by the regulator ~~then~~ must still be acceptable and must still be applied to any new discharge consent. However, the approach now proposed by the regulator in respect of discharge consent makes it abundantly clear that, reflecting the change in stance of the regulator, all existing discharge consents, including those issued in respect of industrial processes and WWTWs in the catchment will need to be reviewed and almost certainly brought in line with the approach being taken by the regulator in respect of the Mine proposals as reflected in the published advice. This is a matter discussed in detail at Section 13 of this TR.

7. SUMMARY OF EFFECTS

1.130. Ecological impacts (in the absence of mitigation) on important ecological features will predominantly occur during the construction phase of the mine development and in the infrastructure site for which mitigation and compensation measures are deemed to be necessary. Long-term management of parts of the infrastructure site and any compensation areas will be required throughout the operational lifetime of the mine to maintain its biodiversity value.

1.131. Impacts sources arising from the proposed mine development were assessed against the relevant important ecological features which could be directly or indirectly impacted through the source-pathway-receptor model. The impact sources included:

- habitat loss, damage and fragmentation;
- disturbance from human activity (noise and visual disturbance);
- disturbance from vibration;
- increased lighting;
- dust deposition;
- changes in air quality (traffic emissions);
- alterations to hydrogeological regime;
- alterations to hydrological regime; and
- changes in water quality (groundwater and surface waters).

1.132. The tables presented below provide a summary of the assessment for the construction, operational and closure phases of the Proposal on the relevant receptors, in the absence of mitigation.

Receptors	Habitat Loss, Damage and Fragmentation	Noise and Visual Disturbances	Vibrations	Light	Dust-Depositions	Changes-in-Air-Quality	Alterations to Hydrogeological-Regimes	Alteration to Hydrological-Regimes	Changes in Water-Quality
Construction-Phases									
Owenkillew-River SAC and ASSIs	Not-significant	Not-significant	☐	☐	Not-significant	Not-significant	Significant at European / International levels	Significant at European / International levels	Significant at European / International levels
Drumlea and Mullan Woods ASSIs	☐	Not-significant	☐	☐	☐	Not-significant	☐	☐	☐
Owenreagh ASSIs	Not-significant	Not-significant	☐	☐	☐	Not-significant	☐	Not-significant	Not-significant
Woodland – broadleaved – semi-natural	Not-significant	☐	☐	☐	Not-significant	Not-significant	☐	☐	☐
Marsh/marshy grasslands	Significant at Local (Higher) levels	☐	☐	☐	☐	☐	☐	☐	☐
Wet heath/acid-grassland-mosaic	Significant at County levels	☐	☐	☐	☐	☐	☐	☐	☐
Blanket-bogs	Significant at County levels	☐	☐	☐	Not-significant	Not-significant	☐	Not-significant	☐
Flushes	Significant at Local (Higher) levels	☐	☐	☐	☐	☐	☐	☐	☐
Fen (valley mire)	Significant at County levels	☐	☐	☐	☐	☐	☐	☐	☐
Standing water (ponds)	Significant at County levels	☐	☐	☐	☐	☐	☐	☐	☐
Receptors	Habitat Loss, Damage and Fragmentation	Noise and Visual Disturbances	Vibrations	Light	Dust-Depositions	Changes-in-Air-Quality	Alterations to Hydrogeological-Regimes	Alteration to Hydrological-Regimes	Changes in Water-Quality
Running water (streams)	Significant at Local (Higher) levels	☐	☐	☐	☐	☐	☐	Not-significant	Significant at Local (Higher) levels
Hedgerows	Not-significant	☐	☐	☐	☐	☐	☐	☐	☐
Badgers	Significant at Local (Higher) levels	Significant at Local (Higher) levels	Significant at Local (Higher) levels	Not-significant	☐	☐	☐	☐	☐
Bats	Significant at Local (Higher) levels	Significant at Local (Higher) levels	Significant at Local (Higher) levels	Significant at Local (Higher) levels	☐	☐	☐	☐	☐
Irish hares	Not-significant	☐	☐	☐	☐	☐	☐	☐	☐
Bird assemblages	Significant at Local (Higher) levels	Not-significant	Not-significant	☐	☐	☐	☐	☐	☐
Common lizards	Significant at Local (Higher) levels	☐	☐	☐	☐	☐	☐	☐	☐
Smooth newts	Significant at County levels	☐	☐	☐	☐	☐	☐	☐	☐
Common Frogs	Significant at Local (Higher) levels	☐	☐	☐	☐	☐	☐	☐	☐
Operational-Phases									
Owenkillew-River SAC and ASSIs (including Drumlea and Mullan Woods ASSIs)	☐	☐	Not-significant	☐	☐	☐	Significant at European / International levels	Significant at European / International levels	Significant at European / International levels
Owenreagh-River ASSIs	☐	☐	☐	☐	☐	Not-significant	☐	☐	Not-significant
Receptors	Habitat Loss, Damage and Fragmentation	Noise and Visual Disturbances	Vibrations	Light	Dust-Depositions	Changes-in-Air-Quality	Alterations to Hydrogeological-Regimes	Alteration to Hydrological-Regimes	Changes in Water-Quality
Blanket Bogs	☐	☐	☐	☐	Not-significant	Not-significant	☐	☐	☐
Bats	☐	☐	☐	Not-significant	☐	☐	☐	☐	☐
Bird assemblages	☐	Not-significant	☐	☐	☐	☐	☐	☐	☐
Closure-Phases									
Owenkillew-River SAC and ASSIs	☐	☐	☐	☐	☐	☐	Significant at European / International levels	Significant at European / International levels	Significant at European / International levels
Owenreagh ASSIs	☐	☐	☐	☐	☐	☐	☐	☐	Not-significant

Table 9 Summary of Effects before mitigation

8. MITIGATION AND COMPENSATION

1.133. Where significant effects have been identified, mitigation measures are included to prevent, reduce or offset any significant effect. Where it was identified that any significant effect could not be mitigated, compensation measures have been identified. Compensation in these terms includes the provision of alternative, enhanced habitat for protected species (listed below), noting that in some instances (Badgers, Bats, Common Lizard and Smooth Newt) derogation licences will be required in order to implement mitigation strategies (including associated compensatory measures).

1.134. Receptors where significant effects could not be mitigated against included:

- a) peatland habitats comprising of wet heath / acid grassland mosaic, bog (wet and dry modified) and valley mire habitats;
- b) badgers;
- c) bats;
- d) birds;
- e) common lizard;
- f) smooth newt; and
- g) common frog.

1.135. Outline compensation measures were included in the EcIA but were expanded upon in more detail in the EcMMP, submitted as part of the original planning application (2017). In addition, the EcMMP included for the management of INNS.

1.136. The EcMMP (2017 ES Appendix C.9 and Addendum to ES C.9) provided details of proposed mitigation / compensation strategies and management of important ecological features with the potential to be affected during the development of the mine and its operation.

1.137. In addition, to help demonstrate (qualify and quantify) the habitat impacts, and that that the mine development would have no net loss of biodiversity, a Biodiversity Impact Assessment (BIA) was included in the EcMMP (2017). The BIA was revised in 2019 (FEI Appendix C9) to take account of changes to the Peat Management Plan. It has since been revised further, principally given the need to include the

powerline footprint⁷. Whilst noting that the BIA metric itself has undergone revisions, for consistency, the same version of the metric as used in the original assessment undertaken by SLR has been used in undertaking the update BIA calculations. The BIA demonstrated that compensatory habitat creation / enhancement would be required outside the proposed infrastructure site to predominantly offset the loss of peatland habitats. The area of peatland habitat compensation (52.73ha) to the area of peatland habitat loss to the gold mine development (c.25.84ha) is at a ratio of approximately 2:1 clearly showing an overall net gain in terms of area (ha).

1.138. The BIA currently shows a Habitat Impact Score (overall net gain for biodiversity in terms of habitats) of 86.01 biodiversity units⁸. A separate linear habitat (e.g. ditches, streams and hedgerows) calculation is also included as part of the BIA. This shows a loss of 6.35 biodiversity units. I refer the reader to the updated calculation at **Annex 11**.

1.139. Regarding the BIA calculations, the following points are important:

- a) For linear habitats, the negative score (-6.35) is reflective of losses to running water habitat in “poor” condition, dry ditches and walls. A gain is in fact realised in respect of hedgerows;
- b) Additional ecological enhancement, beyond that considered in the cited calculations, would be delivered at the Application Site on completion of the mining operations, predominantly through the restoration of the dry stack facility; and
- c) Unlike in England, there is no legislative or planning policy requirement to confirm ‘Biodiversity Net Gain’ through the use of such a metric. The information presented as part of this planning application is included to assist in qualifying and quantifying the overall position regarding habitat impacts.

1.140. The requirement for a final EcMMP will be the subject of a planning condition associated with any planning permission granted. That EcMMP will be an update, fine-tuned to account for any changes to points of detail regarding mitigation. This

⁷ For the powerline route, the BIA considered that assessed in the Environmental Statement prepared by RPS .

⁸ A Biodiversity Unit in BIA terms, is a value derived by the application of a formula which takes account of a range of factors such as size, type, condition, difficulty of creation and time taken to reach target condition.

would include for example, the removal of reference to grazing⁹, a matter discussed in detail further below in this TR in respect of water quality matters.

- 1.141. Construction stage mitigation for ecological (and other) receptors is also to be delivered through a CEMP. An outline CEMP was submitted with the 2017 ES¹⁰ and an updated oCEMP was submitted as part of the 2019 Addendum to the ES, taking account of changes to the proposed scheme. A final CEMP will be agreed following the grant of any planning permission and will include as a minimum the issues identified in the ES process. The final CEMP will for example, contain full details of the timing of peat works during the construction stage, containment measures, drainage features and any associated treatment for the drainage for both the peat to be stored in the rehabilitation area and the DSF. Whilst the reader is directed to the 2019 oCEMP for the detail in terms of how construction phase risks to the environment are to be managed, at the end of this section of the TR, I have included information regarding the phasing for enabling and construction works, particularly in view of the need to deliver protected species mitigation, some of which will require licences to be obtained.

Designated sites

- 1.142. With reference to the Update sHRA (2020), effects relating to changes in water quality and the hydrogeological and hydrological regime are of greatest relevance to the Owenkilley River SAC. There is potential for effects to extend to River Foyle and Tributaries SAC, Lough Foyle SPA (UK and ROI), Lough Foyle Ramsar site and the River Finn SAC, due to hydrological connectivity. However, the mitigation proposed to address potential adverse effects arising in relation to water quality issues at the Owenkilley River SAC (waste water treatment including below baseline for key parameters,, consented limits on discharges and Betterment proposals which include the removal of existing nitrogen sources from the Applicant's lands), would in turn, mitigate against adverse effects on these other sites.

⁹ The grazing of livestock will cease on land controlled by the Applicant, as a result of mitigation commitments regarding water quality issues.

¹⁰ Appendix B.2 of the 2017 ES.

- 1.143. It has been identified that significant adverse effects could arise through changes in water quality arising from discharges of waste water, and through changes in the hydrogeological and hydrological regime.
- 1.144. Construction related mitigation will be secured and delivered through the CEMP. In particular, strict controls will be implemented in respect of soils / silts, petrochemicals and other potential pollutants which could, through surface water run-off (for example) enter watercourses including the Owenkillev River.
- 1.145. The Proposal includes state of the art water treatment infrastructure based around Reverse Osmosis (“RO”) technology and it should be noted that in addition to treating the ‘mine / processing water’ the effluent discharged from the proposed WwTW plant will also pass through the RO plant ahead of discharge to the environment (watercourses).
- 1.146. The critical consideration in relation to matters concerning water quality is the setting of appropriate enforcement values in granting Discharge Consents. Discharge Consents set strict limit values for relevant parameters, with non-compliance most likely leading to enforcement action.
- 1.147. The Applicant puts forward limit values which are considered fully protective of the aquatic environment and relevant species (including FWPM and Atlantic Salmon). The matter is discussed in detail below at section **13** of this TR which addresses the comments and concerns of Statutory Consultees, and also within the Statement of Case regarding Water Discharges. By providing a treatment system that achieves existing baseline for key parameters, together with a Betterment Plan linked to discharge that delivers significant benefits in respect of discharge of key discharges this results in a proposal that not only delivers no harm to the environment, but positively contributes towards moving feature conditions towards favourable condition against a background of current, and historic / long term, unfavourable condition.
- 1.148. Regarding changes to the hydrogeological and hydrological regime, it has been concluded that there would be no significant deviation from existing baseline flows. Notably, a ‘baseline condition’ discharge of water from the freshwater pond (collecting water from upstream of the proposed infrastructure site) is proposed to

ensure baseflow levels in the Pollanroe Burn are maintained / enhanced. I understand that the effect of this will, in simple terms, be to reduce peak (storm) flows and increase flows during low flow events (periods of drought).

- 1.149. In addition, a condition is proposed which will secure the Applicants commitment to monitor vibration and noise impacts. This is of relevance to potential effects on Atlantic Salmon. As discussed at paragraph 5.55 of the Update sHRA, it is proposed that the precautionary thresholds relevant to the protection of fish and incubating embryos from the effects of blasting in / near water bodies, produced by the Alaska Department of Fish and Game are adopted. With reference to paragraphs 5.43 to 5.46 of the Update sHRA, adverse effects are not likely, but the monitoring and adoption of appropriate triggers for cessation and review of (blasting) procedures provides certainty on the matter.

Peatland Habitats

- 1.150. The strategy for the identified peatland habitats has been developed to demonstrate that through the initial management prescriptions, as presented in this revised EcMMP, and proposed development of a long-term management plan, conditioned through any planning consent, that the compensatory measures proposed are sufficient to offset the loss of priority habitats and active peatland from the mine development. This strategy is based on four standard and accepted ecological principles that include:

- 1) **Protection of retained peatland habitats.** Retained peatland habitats will be protected during the construction phase of the mine within the overall proposed infrastructure site (Area A).
- 2) **Habitat creation.** New peatland habitats will be created within parts of the proposed infrastructure site (Area A) through the re-use of peat overburden arising during the construction works.
- 3) **Restoration and enhancement of retained peatland habitats.** During the development and operation of the mine retained peatland habitats within the proposed infrastructure site (Area A) will be restored and enhanced.
- 4) **Compensation.** The management of land outside the proposed infrastructure site, but within the overall Application Site boundary, through the restoration / enhancement of existing peatland habitats that are largely comparable, and with the same ecological functionality, to the peatland habitats being lost, or

permanently damaged where any residual impact cannot be avoided or mitigated.

Badgers

- 1.151. In view of the current evidence base relating to Badgers, the position is that the development will result in the loss of one badger sett assessed as being a main sett due to its levels of activity and with the risk of causing disturbance to three outlier setts due to their proximity of proposed construction works to these setts at the proposed infrastructure site.
- 1.152. The mitigation strategy for badgers is designed to mitigate and compensate for loss any active sett and minimise disturbance of all retained setts during the development of the above ground infrastructure associated with the mine. It will also ensure the protection of this species by avoiding badgers from being killed or injured and ensuring the local population status of this species is not affected through the mine development. The strategy includes the following:
- 1) Prior to the commencement of any site preparation / construction works an inspection will be made of all areas to be disturbed and within a 50m radius of these areas for any signs of badger activity.
 - 2) Where a sett, or setts are found to be within the footprint of the proposed construction works or activities and a sett cannot be avoided a licensed closure will be undertaken between July to November, inclusive.
 - 3) For any badger sett found in a given working area or adjacent a working area, an assessment will be made (by a suitably experienced ecologist) as to whether or not the sett can be retained, and/or disturbance minimised.
 - 4) Where a sett is considered to be at high risk of damage, but not necessarily from destruction, and will not be fragmented by the installation of security fencing consideration will be given to temporary exclusion of the sett, with the exclusion measures being removed post construction works and the Badgers being allowed to re-colonise any such sett.
 - 5) Where sett closure is unavoidable, the activity level of the sett and the sett's relative importance to the local Badger population will be re-appraised to determine whether the construction of an artificial replacement sett is required. As a minimum, an artificial sett will be constructed to replace the loss of a main, i.e. breeding sett. Any artificial sett will be constructed as close to the

original sett location as possible using proven construction methods and badgers encouraged to investigate the artificial sett using bait.

- 6) Any construction works or activities within 30m of a sett will be subject to a specific working method, agreed with an Ecological Clerk of Works (ECoW) and under an appropriate NIEA disturbance licence (if considered necessary). Where above ground blasting is required as part of any cut and fill earthworks consideration will be made to obtain a licence where any such blasting event will take place within 100m of any active Badger sett.
- 7) Instruction will be provided to site staff on the appearance of Badger setts and the action to take if a suspected mammal burrow is discovered.

Bats

1.153. Compensation is required for the loss of an existing roosting site and the loss of foraging habitat used by at least six species of bats.

1.154. The mitigation strategy for bats is designed to ensure the local population status of any bat species is not adversely affected from the development of the mine, in particular:

- To ensure no physical harm comes to bats during the demolition of the Pollan Rua cottage;
- To ensure no net loss of roost, or roosting potential for bat species recorded within the proposed infrastructure site through the provision of alternative roosting sites; and
- To enhance foraging and commuting habitats for bats in parts of the proposed Infrastructure Site not impacted by construction activities, or through the operation of the mine (linked with the Landscape Plan).

Birds

1.155. Compensation habitat will be delivered in respect of the loss of potential breeding habitat for a range of bird species.

- 1.156. The mitigation strategy for birds involves ensuring protection for nesting birds during site preparation and construction works as well as habitat creation and enhancement of retained habitats for birds.

Common Lizard

- 1.157. Compensation is required for the loss of existing habitat used by common lizard.
- 1.158. The mitigation strategy for common lizard is designed to ensure that all reasonable efforts are taken to mitigate and compensate for the loss of habitat confirmed as supporting, or which is likely to support common lizard to:
- Ensure the protection of individual animals from being killed or injured during construction works and activities; and
 - To ensure there is no net reduction in the conservation status of the local common lizard population in the medium to long-term as a result of the mine development through the capture and removal of animals from within the development footprint area to an alternative safe area that provides suitable habitat that is of a sufficient size with adequate carrying capacity for the anticipated number of animals to be relocated, and with connectivity to other suitable habitat for common lizard.

Smooth Newt and Common Frog

- 1.159. Compensation is required for the loss of existing breeding and terrestrial habitat used by smooth newt and common frog. The strategy is designed to mitigate and compensate for the loss smooth newt breeding and terrestrial habitat and which is also used by common frog to:
- to avoid smooth newts from being killed or injured by the use of a capture and removal strategy from areas of the site likely to contain smooth newts prior to areas being released for construction works; and
 - by ensuring there is no net reduction in the population size class within the site in the medium and long-term by retaining the population in the local vicinity by providing alternative breeding ponds, enhancement of retained terrestrial habitat and creation of features (i.e. providing artificial refuges and hibernacula close to newly created ponds) for smooth newts and common frog.

Invasive Non Native Species

- 1.160. Management is proposed which will aim towards the eradication of Himalayan balsam within the proposed infrastructure site and all other areas of the Applicant's landholding throughout the lifetime of the mine.
- 1.161. As previously discussed, the management of Himalayan balsam was commenced in 2023.

Specific consideration of construction activities and the oCEMP

- 1.162. As discussed previously, an outline CEMP has been submitted as part of the ES, the current version being that submitted as part of the 2019 Addendum package of information (FEI1 Appendix B2).
- 1.163. The reader is directed to section 3 of the oCEMP details the proposed construction phasing and associated works, with Table 3.2 showing the indicative programme of activities. A series of figures are also presented which shows the locations of construction phase activities.
- 1.164. With regard to the programme of proposed construction activities, including the upfront enabling works, a key consideration is the implication of the works on ecological receptors, including protected species. This is discussed below.
- 1.165. There is an identified requirement to deliver specified mitigation and compensatory measures in respect of certain species (as set out in the ES package of information). Furthermore, for bats, Badgers, Common Lizard and Smooth Newt, derogation licences will be required. Mitigation proposals in respect of ecological features are discussed within the EcMMP and this includes specific reference to construction stage mitigation with discussion also on licencing requirements and timings for delivery. That detail is not repeated here but clarity is provided in respect of certain key aspects regarding timings of works. Some refinements to the mitigation proposals are also discussed.

1.166. Insofar as (protected species) licensable works are concerned, the following broad sequence of events is relevant to each species for which a licence is required:

- 1) Prior to an application, planning matters will need to be resolved (e.g. permissions granted and any relevant conditions / obligations discharged);
- 2) Application made to the statutory authority (NIEA);
- 3) Review and determination of the licence application;
- 4) Implementation of any enabling works relevant to the mitigation strategy, such as replacement shelter / breeding provision, and cessation of grazing (activities which do not themselves require licensing);
- 5) Implementation of the capture / relocation or exclusion programme;
- 6) Confirmation by the relevant ecologist (party to the licence) that those aspects of the mitigation strategy required to be completed prior to habitat destruction (bat roost, Badger sett, or habitat used by Common Lizard and / or Smooth Newt) are clear of constraint (as relevant to the terms of the licence);
- 7) Supervised destruction of the habitat having regard to the terms of the licence.

1.167. The above is a guide as to how the process of licensing informs a construction programme. Specifically regarding point 4 above which deals with mitigation enabling works, this will be carefully coordinated between the project ecologist and the construction team.

It should be noted that baseline survey data submitted in support of the licence application must be sufficiently robust and 'current' for the purposes of undertaking the impact assessment. Monitoring of those species for which licences are required has been undertaken by the Applicant, with the most recent data from 2024. The baseline is current and could support licence applications in 2025, although the age of the data will be kept under review and updates undertaken if necessary in view of the project timetable (including determination of the planning applications).

1.168. As currently described within the oCEMP, construction works have been split into four 6 month phases (24 month build programme), with enabling works also highlighted to take place in the first two months (see section 3.3 of FEI1 Appendix B2). Specific regard has been had to these early stage works in view the ecological mitigation programme and this is discussed below.

1.169. Section 3.3 of the oCEMP confirms that construction of the (RO) water treatment plant and elements of the surface water drainage system are key early stage activities. It is stated:

“During the first two months, while the RO WTP is under preparation, the main elements of work will be

- *Construction of temporary fuelling stations at proposed infrastructure site entrance and laydown area*
- *Construction of bottomless culvert over the Pollanroe Burn for access road to span stream*
- *Construction of part of the west pond*
- *Excavation of the portal, construct laydown area at portal with pond and associated works*
- *Installation of temporary security fencing (permanent fencing where possible)*
- *Construction of water treatment plant pad/compound and discharge pipe/point*
- *infrastructure. Treatment plant to be manufactured off-site in advance of Phase 1 and delivered for connection and commissioning.”*

1.170. Section 3.3.1 describes other works which are proposed to be undertaken during months 1 to 6 of the construction programme and this includes *inter alia*, the construction of the new road and access tracks.

1.171. The construction phasing timing ensures the least amount of disturbance / stress to those species concerned.

1.172. Following from the above, critical to aligning the construction programme with (construction stage) ecological mitigation is the following:

- Establishment of buffer zones around any Badger setts where potential disturbance to Badgers or damage to the sett could occur, coupled with on-going monitoring of the construction footprint and immediate surround land for signs of Badger activity, including the construction of new setts;

- Closure of the single entrance main sett (and any others where this is deemed necessary) at the earliest possible opportunity, noting that this will need to be undertaken in the period July to November in order to avoid the breeding season; and
- Delivery of the Common Lizard and Smooth Newt relocation programme in the earliest possible seasonal window (typically between April and September – weather / temperature dependent). Likely to be targeted on a rolling basis with an initial focus upon clearing supporting habitat associated with drainage and road / access infrastructure and using habitat manipulation techniques to aid the trapping exercise.

1.173. A rolling programme of habitat (including hedgerow) removal will be undertaken, following appropriate survey checks regarding nesting birds where the works cannot be undertaken outside of the breeding season. This work will be commenced at the earliest possible opportunity and will have full regard to overlap with licensable protected species mitigation requirements (i.e. any conflicts). Safeguards will also be put in place to deter nesting in areas where habitat has been cleared (e.g. the use of bunting to act as a visual deterrent), with monitoring of these areas also undertaken to determine whether further clearance is needed over time.

1.174. Regarding the demolition of the existing bat roost at Pollan Rua cottage, as originally proposed, it would be feasible to retain this roost *in situ* during the early stages of construction, maintaining a fenced buffer to the building in order to prevent damage (to the roost) and disturbance (to bats). However, a better solution would be to remove this roost (under licence) as soon as possible, in the first available window to undertake this work (e.g. either September / October or April / May, avoiding the hibernation and maternity periods), noting the requirement for prior delivery of replacement roost features. This approach would remove (as opposed to reduce to acceptable levels) the potential for disturbance of bats at the existing roost during construction activities (e.g. those associated with the berm).

1.175. As currently proposed, construction stage mitigation for foraging bats includes a proposal to maintain light levels below 4 lux along the key foraging areas used by bats, until such time as these habitats are lost to the mine

development. However, in view of current guidance¹¹ and noting the recorded presence of *Myotis* species of bat (known to be more sensitive to increased light levels) within the Application Site, it is proposed that light levels will be maintained below 1 lux along key foraging corridors and any commuting habitat linking with Pollan Rua cottage, until such time as the roost is removed under licence. This will be achieved through a combination of:

- Limiting artificial lighting to locations where it is needed;
- Limiting illumination to periods when it is needed, using timers or motion sensors where appropriate;
- Use of LED lamps where possible and avoidance of Metal Halide and compact fluorescent lamps;
- Adopt warm white light sources (2700 Kelvin or lower) where possible to reduce blue light;
- Feature wavelength higher than 550nm;
- Avoid luminaires with upward light ratio; and
- Be mounted horizontally with no light output above 90° and/or no upward tilt.

1.176. Aspects of the proposed construction implementation and early phase works can be undertaken in the absence of triggering licence requirements. In such instances, ecological mitigation would still be needed and this would be carefully coordinated with Ecological Clerk of Works (EcOW) supervision adopted.

1.177. The programme detailed in the oCEMP demonstrates the programme to be delivered, however a final CEMP will need to be agreed. Any such CEMP will have full regard to the ecological mitigation requirements and would build in specific detail such as that described above.

¹¹ GN08/23: Bats and Artificial Lighting At Night (2023), published by the Institution of Lighting Professionals and the Bat Conservation Trust.

9. RESIDUAL EFFECTS

1.178. The table below provides a summary of the criteria used to evaluate the residual impacts and assess the significance of any such impact.

Description	Definition
Direction of impact	Positive (a change that improves the quality of the environment) or Negative (a change which reduces the quality of the environment)
Probability of occurring	Broadly defined on 4 levels: Certain (95% chance or higher), Probable (above 50% but below 95%), Unlikely (above 5% but less than 50%) and extremely unlikely (less than 5%)
Magnitude	Size, amount, intensity and volume of any impact on any particular feature including any severity of effect for example major (> 50% plus feature affected); moderate (25-50% feature affected), minor (<25% feature effected) or negligible (<5% feature effected)
Duration	Effects may be described as Permanent or Temporary in ecological terms (e.g. within the lifetime of the species affected)
Frequency of timing	The number of times an activity will occur and timing of an activity
Reversibility	Whether or not the effect can be reversed from spontaneous recovery or which may be counteracted by mitigation within a reasonable timescale

Table 10: Key Considerations in Characterising Impacts

1.179. A summary of identified residual effects, excluding consideration of effects on the Owenkillev River SAC / ASSI, is presented in the table below. Matters concerning the Owenkillev SAC / ASSI are discussed further below.

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
Marsh / Marshy Grassland (Species-rich)										
Local (Higher)	Direct loss of 0.8 ha of species-rich marshy grassland habitat	Negative	Certain	Major	Permanent	Once during construction phase	No	<u>Construction Phase:</u> Habitat creation and enhancement of retained habitat in the proposed infrastructure site.	Not significant	Probable
Wet Heath / Acid Grassland Mosaic										
County	Direct loss of 2.62 ha of wet heath / acid grassland mosaic	Negative	Certain	Major	Permanent	Once during construction phase	No	<u>Construction Phase:</u> Habitat creation, restoration and enhancement of retained habitat in proposed infrastructure site and compensation areas (offsite).	Not significant	Probable
Bog (Wet and Dry Modified)										

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
County	Direct loss of 9.05 ha of blanket bog habitat	Negative	Certain	Moderate	Permanent	Once during construction phase	No	<u>Construction Phase:</u> Restoration and enhancement of retained blanket bog habitat in proposed infrastructure site and compensation areas (offsite).	Not significant	Probable
Flush and Spring										
Local (Higher)	Direct loss of 0.03 ha of flush habitat	Negative	Certain	Major	Permanent	Once during construction phase	No	<u>Construction Phase:</u> No mitigation or compensation possible to offset the loss of this habitat.	Significant at Local (Higher) level	Certain
Fen (Valley Mire)										
County	Direct loss of 7.94 ha of valley mire habitat	Negative	Certain	Major	Permanent	Once during construction phase	No	<u>Construction Phase:</u> It is considered that it will not be possible to mitigate and compensate for the loss of this habitat like for like.	Significant at County level	Certain
Standing Water (Ponds)										
County	Direct loss of 3No. ponds (0.15 ha)	Negative	Certain	Major	Permanent	Once during	No	<u>Construction Phase:</u>	Not significant	Certain

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
						construction phase		Compensatory ponds created as part of the measures required for the protection of smooth newts.		
Running Water (Streams)										
Local (Higher)	Direct loss of 1.68km of stream habitat	Negative	Certain	Moderate	Permanent	Once during construction phase	No	<u>Construction Phase:</u> It is considered that it will not be possible to mitigate and compensate for the loss of this habitat like for like.	Significant at Local (Higher) level	Certain
Local (Higher)	Changes in water quality	Negative	Certain	Major	Temporary	More than once during the construction phase	Yes	<u>Construction Phase:</u> Standard pollution prevention measures to minimise the risk of pollution.	Negligible risk of pollution or increased sedimentation and not significant	Probable
Badgers										
Local (Higher)	Direct loss of 1No. outlier sett and approximately 86 ha of potential foraging habitat	Negative	Certain	Moderate	Permanent	Once during construction phase	No	<u>Construction Phase:</u> Construction of artificial sett (s) and closure of any active sett within the construction footprint.	Not significant	Probable

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
Local (Higher)	Disturbance from human activity (noise and visual disturbance)	Negative	Unlikely	Moderate	Temporary	Many times during construction phase	Yes	<u>Construction Phase:</u> Maintain a 30m stand-off from any retained badger sett. Where construction activities are required within 30m of an active badger sett works will only be undertaken under an appropriate wildlife licence and under supervision of an EcOW.	Not significant	Certain
Local (Higher)	Disturbance from vibration	Negative	Probable	Major	Temporary	Many times during construction phase	Possibly reversible	<u>Construction Phase:</u> Maintain a 100m stand-off during any above ground blasting from any retained badger sett. Where blasting is required within 100 m of an active badger sett works will only be undertaken under an appropriate	Not significant	Certain

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
								wildlife licence and under supervision of an EcOW.		
Bats										
Local (Higher)	Direct loss of 1No. confirmed roost used by: common pipistrelle (maternity / hibernation); soprano pipistrelle (maternity) and brown long-eared bat (day roost)	Negative	Certain	Major	Permanent	Once during construction phase	Possibly reversible	<u>Construction Phase:</u> Replacement alternative roosting sites including: 1No. purpose built bat houses; and - Installation of bat boxes. Enhancement of foraging habitat in retained areas of habitat.	Not significant	Probable
Local (Higher)	Direct loss of potential foraging habitat and commuting routes	Negative	Certain	Major	Permanent	Once during construction phase	Only in the medium to long term	<u>Construction Phase:</u> Enhancement of foraging habitat in retained areas of habitat but not likely to have any benefits in the short-term.	Significant at Local (Higher) level	Probable
Local (Higher)	Disturbance from human activity	Negative	Probable	Major	Temporary	Many times during	Possibly reversible	<u>Construction Phase:</u>	Not significant	Probable

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
	(noise and visual disturbance)					construction phase		Establishment of a 50m buffer zone around the Pollan Rua holiday cottage free from all construction activities at all times. No construction activities will take place within 100 m of the Pollan Rua holiday cottage from October to April inclusive). Where works are required within the buffer zone works will only take place during the month of September and/or subject to a specific working method agreed with an EcOW and under an appropriate licence.		
Local (Higher)	Disturbance from vibration	Negative	Probable	Major	Temporary	Many times during	Possibly reversible	<u>Construction Phase:</u> Establishment of a 50m buffer	Not significant	Probable

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
						construction phase		zone around the Pollan Rua holiday cottage free from all construction activities at all times. No construction at activities will take place within 100m of the Pollan Rua holiday cottage from October to April inclusive). Where works are required within the buffer zone works will only take place during the month of September and/or subject to a specific working method agreed with an EcOW and under an EPS licence.		
Local (Higher)	Light	Negative	Certain	Major	Temporary	Many times during construction phase	Yes	<u>Construction Phase:</u> Implementation of lighting strategy to maintain construction	Not significant	Probable

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
								lighting below 4 lux along the key foraging areas used by bats until such time as these habitats are lost to development. A dark area will be maintained around the Pollan Rua holiday cottage and dark commuting routes and foraging areas linking to this building will be established where no lighting will be permitted.		
Bird Assemblage										
Local (Higher)	Direct loss of habitat	Negative	Certain	Major	Permanent	Once during construction phase	No	<u>Construction Phase:</u> Removal of all potential breeding habitat outside the breeding bird season. Installation of a variety of bird boxes.	Not significant	Probable
Common Lizard										

Value	Potential Impact	Direction	Probability	Magnitude	Duration	Frequency	Reversibility	Notes	Residual Impact	Probability
Local (Higher)	Direct loss of habitat	Negative	Certain	Major	Permanent	Once during construction phase	No	<u>Construction Phase:</u> Enhancement of habitats at receptor site. Capture from construction footprint areas and release at safe site.	Not significant	Probable
Smooth Newt										
County	Direct loss of habitat	Negative	Certain	Major	Permanent	Once during construction phase	No	<u>Construction Phase:</u> Construction of alternative breeding ponds; Enhancement of terrestrial habitat at receptor site. Capture from construction footprint and release at receptor site	Not significant	Probable
Common Frog										
Local (Higher)	Direct loss of habitat	Negative	Certain	Major	Permanent	Once during construction phase	No	<u>Construction Phase:</u> As per smooth newt	Not significant	Probable

Table 11 Summary of residual impacts

- 1.180. Regarding matters concerning the Owenkillew River SAC / ASSI, residual effects are considered to be **positive** at the European / international level and of **major significance**. This is because the proposed approach to the application of discharge limits on key parameters, coupled with the capabilities of the proposed treatment chain (Including the RO plant) will play a key role in the positive movement towards favourable condition for the SAC features, from a degraded baseline position. On the evidence, the Mine project will be making a positive contribution towards favourable condition and meeting the Conservation Objectives of the SAC. This matter is discussed in greater detail within the Statement of Case regarding the Water Discharges applications submitted by the Applicant and also at section 13 of this TR.

10. CUMULATIVE EFFECTS

- 1.181. The proposed powerline is the subject of separate planning applications (LA10/2019/1386/F and LA10/2019/1000/F), and this is acknowledged by the Applicant as an integral part of the mine project, and has been assessed.
- 1.182. It is concluded that with the adoption of appropriate and proportionate mitigation and avoidance measures, no adverse cumulative effects arise and no adverse in-combination effects arise in relation to European level designated sites.

11. RESTORATION

- 1.183. The restoration of the site following closure of the mine is mainly focussed upon delivering landscape benefits. However, the proposals will have benefits for biodiversity. The updated BIA (see **Annex 11**) has calculated that on completion of the mining operations the restoration of the site is anticipated to generate a net gain for biodiversity score of circa 241 units. This is achieved predominantly through the restoration of the dry stack facility.

12. POSITION OF STATUTORY CONSULTEES

- 1.184. In this section of my TR, I discuss the position of relevant statutory Consultees. To keep this TR as succinct as possible, I do not set out and discuss all comments raised during the consultation on the 2017, 2019 and 2020 submissions. A comprehensive schedule of comments / issues raised by consultees is included at Appendix 6 of the Statement of Case (“SoC”) and the reader is referred to this information. In this TR I describe the consultee’s current position in broad terms, highlighting any remaining concerns. Any substantive concerns raised by consultees are addressed within the following section of this TR, with reference to the information contained within the ES (and supporting documentation), or by reference to relevant guidance or new information which forms part of the SoC. Where appropriate, I refer the reader to the evidence presented by others on behalf of the Applicant.
- 1.185. It should be noted that on matters concerning the discharge consent application, further correspondence has been received from NIEA. The most recent position of NIEA is described within a letter dated 5th September 2024. The points raised within that letter are specifically addressed within a sub-section of section TBC of this TR.

Position and key concerns of the respective consultees

DAERA / NIEA

NIEA - Natural Environment Division (NED)

Non-designated features

- 1.186. Insofar as matters concern (non-designated) Natural Heritage features¹², NED confirmed within its most recent consultation response, dated 8th March 2021, that it has no remaining concerns following the submission of further information. NED is content that the proposed mitigation and compensatory habitat provision are

¹² Broadly, habitats and species issues not related to matters concerning designated sites.

appropriate. It is highlighted by NED, and indeed recognised by the Applicant, that it will be necessary to apply conditions to any planning permission, to secure those measures proposed for the avoidance of adverse impacts on ecological features. For completeness, the response dated 8th March 2021 states:

“NED has no concerns regarding impacts to non-designated Natural Heritage features, but as stated in our previous responses, some features will require conditions to be included in the final decision notice to ensure that these features are not adversely impacted. NED will provide these conditions in the final DAERA response.”

Designated sites

1.187. In its most recent response, dated 8th March 2021, NED raise several concerns regarding implications for nearby designated sites. The concerns are focussed upon the Owenkillew River ASSI / SAC and the River Foyle and Tributaries ASSI / SAC. The concerns primarily relate to hydrological / water quality matters.

1.188. That response highlights NED’s view that management of both SACs must be based around an integrated, catchment level approach. It is stated:

“The Owenkillew River and the River Foyle and Tributaries SAC are not only hydrologically linked but ecologically integrated with smaller tributaries within the catchment of the SAC, which are also very important ecological resources for Atlantic Salmon in particular. Therefore, to ensure protection to the conservation status of the qualifying habitats and species, it is critical that the management of both SACs is undertaken through an integrated, catchment based approach.”

1.189. NED references the “Conservation Management Plan for the Owenkillew River SAC/ASSI 2021-2031” and highlights (at numerous points) the importance of a catchment-based approach to management. It also describes the symbiotic relationship of Freshwater Pearl Mussels and Atlantic Salmon. NED also summarises its interpretation of the relevant Conservation Objectives, with reference to maintaining and enhancing the qualifying interest features (e.g. Freshwater Pearl Mussel and Atlantic Salmon). It is stated:

“This catchment scale approach is essential in order to strive to meet the conservation objectives of the site for both the Freshwater Pearl Mussel and the Atlantic Salmon, which are to maintain and, where possible, enhance the extent and quality of suitable habitats and maintain and if possible expand, existing population numbers and distribution.”

1.190. At this point, with reference to NEDs consultation response, I emphasise the very clear and simple point that regarding the populations of (and habitat quality for) Atlantic Salmon and Freshwater Pearl Mussel, these are not concerns which only manifest themselves in the context of the Proposal, but are current and indeed historic concerns that encompass a broad range of issues which impact upon water quality and habitat structure / availability. The need for a “catchment-based approach” arises because things need to happen, or indeed not happen, across a far greater area (the whole catchment) than could be impacted by the Proposal. It is both the actions of others, whether that be land uses / management practices, landowner discharges to water courses and the issuing of consents / permits; or the in-action of others, such as a lack of enforcement where breaches of statute / permits are concerned, or through an inability to initiate protective or restorative measures aimed at species / habitat conservation, which gives rise to the current situation.

1.191. As I will explain in this TR, notwithstanding the clear and accepted need for the proposals to meet the required legislative tests in respect of the Habitats Regulations, the position now being adopted by NIEA is such that were its advice¹³ to be followed through fully, the Applicant would be the most heavily ‘limited’ operation in the catchment by some clear margin. This is against the backdrop of the current situation, described above and in further detail later in this TR, and the fact that the Proposal deliver the most technologically advanced water treatment initiatives possible; considerably more advanced than those sanctioned and used within existing permitted WWTWs, domestic foul waste systems and quarries in the catchment, for example.

1.192. Turning back to the matters of concern raised by NED, these can be distilled as follows:

¹³ Regarding water quality / discharge matters

- 1) Discharge consents should include a limit for Total Suspended Solids (TSS) set at a mean of **<10mgL⁻¹** (as relevant to spawning & nursery grounds for Atlantic Salmon) and applicable to the receiving Curraghinalt and Pollanroe Burns and not the confluences with the main rivers¹⁴.
- 2) NED acknowledge the submitted Conceptual Closure Plan and also welcome the fact that it will be an 'active plan' that will be revisited during the life of the mine. Reference is made to the Golder Associates peer review and the positive conclusions regarding the post-closure phase. However, it also states that water quality standards for Atlantic Salmon should be met at specific points in both burns (as per point 1 above).
- 3) Confirmation needed regarding potential changes to the hydrological regime, including potential scouring of suitable Atlantic Salmon habitat within the Curraghinalt and Pollanroe Burns.
- 4) Concerning the interdependent powerline project, confirmation is requested that the potential impacts on the features of Owenkillew SAC will be considered in – combination.
- 5) Mitigation measures for spawning Atlantic Salmon should be included within a final CEMP.

1.193. In addition to the above concerns or points for clarification, the consultation response confirms that NED is content on the issue of air quality impacts arising from vehicle emissions, stating that the proposals are in line with DAERA Operational Protocol on Nitrogen Emissions. It is also content on the issue of acid rock drainage. Further, NED confirms that it welcomes the Applicant's commitment to develop a final CEMP with input from NED (prior to commencement of works), including agreement on a suite of reporting parameters and reporting mechanisms.

1.194. The salient points raised, are discussed and addressed in detail further below.

¹⁴ Owenkillew and Owenreagh rivers.

NIEA – Water Management Unit (WMU)

1.195. Comments issued by NIEA WMU are relevant to ecology and nature conservation matters insofar as they concern water quality issues associated with relevant designated sites.

1.196. The WMU response of 9th March 2021 is helpful in that it references the key findings of the peer review into matters concerning surface and ground water assessments (in particular the models used and the results / outcomes of the various assessments). It acknowledges that the peer review was broadly supportive of the assessment work undertaken by the Appellant and also that whilst points are raised with regard to improving the models used, the validity of the outcomes of those used, is not questioned. It is stated:

“WMU notes that the Reports are broadly supportive of the conclusions expressed in the relevant impact assessments, presented within the Environmental Statement, and that the modelling is sound and fit for purpose.”

However, Golders have identified a number of issues which should/could be addressed to improve the robustness of the models. Golders have acknowledged that the current absence of these points being addressed, at this stage, does not call into question the validity of the modelling outcomes.”

1.197. WMU also recognise that the review undertaken by Golders highlighted a few issues where negative planning conditions could be used to address points which could be left to the detailed design stage, though WMU would prefer to see the issues addressed upfront (where possible), ahead of the Inquiry. It is stated:

“Whilst Golders have suggested a number of these issues could be addressed at the detailed design stage, this approach may require the use of negative planning conditions. Given that this application is to be subject to a public inquiry, it is WMU’s view that these issues should be addressed, as far as practicable, prior to a public inquiry hearing.”

1.198. I do not comment on matters concerning the modelling or assessment work undertaken. That is a matter addressed in the TRs relating to surface and ground water.

- 1.199. Regarding the post closure phase, comments are largely limited to a description of the Applicant's proposals for active and passive treatment and the timeframes involved. No concerns are raised with the proposals and comments are limited to matters concerning the securing of measures. It is stated:

“To maintain ongoing water quality monitoring and to ensure suitable treatment facilities are in place, maintained and monitored at the site during all phases of the development and in all eventualities, an appropriate Financial Guarantee must be in place, in accordance with The Planning (Management of Waste from Extractive Industries) Regulations (Northern Ireland) 2015.”

- 1.200. The matter of “Statutory Permissions” is of direct relevance to considerations relating to the ecology of receiving water bodies, including the relevant burns and the Owenkillew (ASSI / SAC) and Owenreagh (non-designated section) rivers. Indeed, this is a key issue which the Applicant has sought to resolve with DAERA / NIEA over many years.

- 1.201. The consultation response goes no further than setting the scene in terms of the need for discharge and abstraction licences to be granted and confirming that applications have been made for each. It is simply stated that:

“The processing and determination of these environmental authorisations, discharge consents and abstraction licences, is not currently at a sufficiently advanced stage for WMU to make a substantive comment on the proposed discharge and abstraction related elements of the proposed development, as part of this planning consultation.”

- 1.202. Regarding discharges, in order to understand and describe the position of DAERA (NIEA NED and WMU) I have had regard to discussions and communications between the Applicant and relevant DAERA representatives and also, importantly, the Legal Opinion which forms part of the Inquiry evidence base.

- 1.203. In summary, it is the position of DAERA that since the Owenkillew SAC / ASSI is in unfavourable condition, and since the Conservation Objectives require the

‘maintenance and restoration (where necessary)’ of favourable conservation status in relation to the qualifying features of the SAC. In applying the Integrity test, DAERA suggest that an assumption should be made that the site is in favourable condition (meeting its Conservation Objectives). As a result of that position, any movement away from that (presently hypothetical position of favourable condition) would amount to an adverse effect on Integrity. In order to ascertain the level of effect from discharges and to provide the level of certainty needed in addressing the relevant legal tests (confirming no adverse effect on Integrity), the advice places reliance upon JNCC Common Standards Monitoring (CSM) Guidance. The CSM guidance is advocated (as part of DAERA’s case) as the primary source of guidance in terms of setting limit values to be applied for a range of cited parameters of relevance to FWPM and Atlantic Salmon.

- 1.204. It is also my understanding that DAERA / NIEA require the delivery of betterment in water quality for the SAC through the setting of discharge limits applicable to the two receiving burns with the JNCC CSM guidance being the source of certain key limit values (i.e. the limit value directly reflects the favourable condition target value). NIEA’s current position with regard to the discharge consent limits to be applied is described within its letter of 5th September 2024.
- 1.205. The above matters, including the letter of 5th September 2024, are discussed in detail at section **13**.

DAERA – Marine and Fisheries Division (MFD)

- 1.206. Following initial concerns raised within its response of 26th March 2018 regarding potential implications for aquaculture operations (fish farm) downstream, DAERA MFD subsequently confirmed that it was content with the information provided by way of response to those concerns. In its response of 25th October 2019 it confirmed that it raised no issues or concerns from an aquaculture perspective so long as the mitigation proposed in the Mine Waste Management Plan is implemented.

Loughs Agency

- 1.207. As a headline point, Loughs Agency's current position is that both the Pollanroe Burn and Curraghinalt burn are important resources for Atlantic Salmon and Brown Trout. Accordingly, the Loughs Agency have concluded that discharges to these burns must be protective of the fish within the burns. The data underpinning this conclusion and the position taken by the Loughs Agency is discussed further below in tandem with an analysis of the DAERA / NIEA position, given the reliance by NIEA on the Loughs Agency conclusions when considering implications for Atlantic Salmon and the Owenkilnew SAC more broadly.
- 1.208. Turning to the Loughs Agency consultation response of 5th March 2021, the salient points insofar as ecological matters are concerned, are as below.
- 1.209. Despite previous consultation responses confirming that the Loughs Agency was content with the baseline fisheries and assessment work undertaken and the proposed future monitoring strategy, the March 2021 response presents a different view. For completeness, in December 2019 the Lough Agency stated:

"As previously highlighted, the Fisheries and River Habitat Assessment, Biological Water Quality Assessment, and Surface Water Impact Assessment are written to a high professional standard and provide the basis for environmental baseline data that can be used for ongoing monitoring throughout the lifetime of any approved extractive processes, activities or operations as part of the development proposal."

- 1.210. In the response of March 2021, the Loughs Agency raise the issue of the two burns being considered suitable for supporting relevant fish species. In the case of the Curraghinalt Burn, the bottom section is cited as being suitable for Salmon parr. The bottom section of the Pollanroe Burn is cited as containing excellent spawning, nursery and holding habitats for Atlantic Salmon, Brown Trout / Sea Trout and possibly lamprey (sps). On this basis the Loughs Agency advocate the undertaking of a targeted and up to date Habitat and Fisheries assessment. It is stated:

"Loughs Agency are of the opinion the bottom section of the Curraghinalt Burn is suitable habitat for salmon parr, and an area of approximately 1.2 kilometres on the bottom section of the Pollanroe Burn contains excellent spawning, nursery and holding habitats, suitable for Atlantic salmon and sea trout, as well as indigenous brown trout and possibly lamprey. A targeted and up to date Habitat & Fisheries assessment would be more appropriate in

terms of fully assessing habitat suitability for salmonids and other designated species which may be utilising these tributaries within the study area.”

- 1.211. At this point I highlight that, subsequent to the consultation response of March 2021, Loughs Agency and the Applicant conducted separate surveys / assessments in respect of the two burns. None of those surveys show the burns to be significant in terms of supporting the populations of salmonid fish species in the catchment. The results of these surveys and assessments are discussed above at section 5, with further analysis discussed below at section 13. .
- 1.212. Concerns are raised in relation to the proposed removal of peat and the risks associated with peat landslides.
- 1.213. In relation to landslides, Loughs Agency cites the submitted Peat Landslide Risk Assessment and then briefly highlight the potential impacts of peat entering the (downstream) hydrological environment in the context of implications for spawning beds. However, no criticism of the Risk Assessment, proposals or mitigation are brought forward, nor is any evidence which would necessitate further, more detailed analysis of the point.
- 1.214. Regarding the removal of peat, Loughs Agency states that the removal of such a large volume of peat “*may increase the velocity of surface water runoff in times of flood and affect resident fish species*”. My own understanding of the proposed drainage system is that a greater element of ‘control’ over surface water runoff will arise through the proposals. As such, the effect of flood events will be reduced. This matter is addressed in detail within the Statement of Case regarding Water Discharge applications and the TR of [REDACTED] and I refer the reader to that evidence.
- 1.215. Loughs Agency also raises a concern with implications for groundwater base flow. It is stated:

“Any reduction in groundwater base flow, no matter how limited, would be an issue of concern, if considered in conjunction with potential loss of head water streams, and addition of consented discharges, this could lead to negative impacts upon the hydrology and water chemistry of the river system, and as such a potential negative affect on freshwater ecology. There is

limited consideration of the long term impact of the development on the surface water environment post closure.”

- 1.216. The matter of “consent discharges” is discussed in detail further below. Regarding implications for groundwater base flow and the long-term impact on the surface water environment post closure, I refer the reader to the Statement of Case regarding Water Discharge applications and the TR of [REDACTED].
- 1.217. Finally, with reference to a hypothesis, Loughs Agency raises the point that potential impacts have not been considered regarding Atlantic Salmon using olfactory cues to return to the Owenreagh River, in the event that water abstraction is from a different catchment. In simple terms, if water from another catchment is imported for use in the mining process, it will have a different (e.g. chemical) composition and if Atlantic Salmon follow a chemical trail during migration, this could affect their ability to relocate their natal river, the Owenreagh. It is stated:

“It has been hypothesized that salmonids use olfactory cues to return to their natal rivers and streams. In the event that abstraction a different catchment is the primary source of water for mining operations, and the water is subsequently discharged to the Owenreagh catchment, the likelihood of any potential impact on Atlantic salmon return to the Owenreagh River has not been considered.”

- 1.218. For clarity, the water to be abstracted for the mining operations is to be from groundwater. The baseline situation is that this groundwater flows into either the Owenkillow or Owenreagh River depending upon the prevailing water tables condition. In the light of this, the water is not from a different catchment. Further detail regarding this matter, is presented in the Statement of Case regarding Water Abstraction and I direct the reader to that information. Also, impacts relating to olfactory cues would arise where those chemical cues are masked or mimicked. My understanding is that the chemical composition of the watercourses will not be altered to the extent that olfactory cues are masked or mimicked.

Shared Environmental Services (SES)

- 1.219. SES submitted two consultation responses, dated 26th October 2018 and 24th March 2021. No substantive comment is made in either of these responses, with each simply referring to the position of NIEA and its request for clarifications /

further information. SES simply states that it should be reconsulted once NIEA's comments have been addressed. For completeness, in its response of 24th March 2021 SES states:

“NIEA in its response of 9/3/21 requested clarification and further information, some of which will inform the Habitats Regulations Assessment. Please re-consult SES on receipt of the further information and of NIEA's response confirming that it has sufficient information for all sections to provide a substantive response.”

RSPB

1.220. In its response dated 1st November 2018, the RSPB raised a number of concerns. These concerns can be summarised as follows:

- 1) Specific mitigation is required for the loss of Skylark and Meadow Pipit nesting habitat as bird boxes will not mitigate for the loss of nesting habitat for these species.
- 2) Potential for indirect impacts on other birds and supporting habitats due to impacts on hydrology and hydrogeology;
- 3) Concerns over long term impacts on groundwater levels;
- 4) Peatland habitat could be impacted by the lowering of water levels;
- 5) No mitigation is proposed for the loss of 'flush and spring', valley mire and stream habitats; and
- 6) Inconsistencies within the ES regarding the life of the project.

1.221. These comments were addressed by the Applicant at Section 5.9 of ES Addendum 2019 and I refer the reader to that information.

1.222. A further consultation response was issued by the RSPB, dated 24th March 2021. This consultation response confirms that the RSPB has no further comments to make in relation to the submitted information. The RSPB states that it remains concerned about proximity and connectivity issues associated with the Owenkilwe River SAC / ASSI, but makes no specific points on the matter, deferring to DfI to ensure that the correct expertise is sought in assessing the application and applying the relevant legal tests.

1.223. Matters concerning the Owenkillew River SAC / ASSI (and affected waterbodies more generally) are discussed in detail in the following section of this TR, with reference to the position adopted by NIEA and Loughs Agency.

13. CONSIDERATION OF SUBSTANTIVE ISSUES RAISED BY CONSULTEES

1.224. In view of the statutory consultation responses, further correspondence received from NIEA (e.g. letters dated 11th June 2024 and 5th September) and the position of the relevant bodies, the substantive issues to be addressed all relate, either directly or indirectly to hydrological (water quality and quantity) matters associated with the Owenkillev SAC. Of particular note is the question over the discharge consents and what limit values should be included for various parameters. For ease of reference, I have highlighted below the key points arising from the consultation responses.

- 1) NIEA's position is that, because the SAC is determined to be in unfavourable condition, the proposed project must not cause any further degradation in water quality (movement away from favourable condition in respect of the interest features). Indeed it considers that the discharges must be consistent themselves with favourable condition (meeting the water quality standards which equate to favourable condition as cited in the JNCC guidance) because in its view, the project could stop the site reaching the favourable condition it would otherwise achieve in the future;
- 2) Loughs Agency consider the Curraghinalt and Pollanroe burns to represent important Salmonid habitat;
- 3) Specifically regarding TSS, NIEA's position as described in its consultation response of 8th March 2021 is that this should be set at a mean of **<10mgL⁻¹** and should be and applicable to the Curraghinalt and Pollanroe Burns and not the confluences with the main rivers. With reference to NIEA's letter of 5th September 2024, it would appear that a higher limit of 25mgL is considered appropriate in relation to the Pollanroe burn.
- 4) Matters concerning the hydrological regime, notably potential scouring of suitable Atlantic Salmon habitat within the Curraghinalt and Pollanroe Burns.

- 1.225. Points 1 to 3 above are all intrinsically linked and are addressed together in relation to the discharge consent limit values. As previously stated, NIEA's current position regarding limit values to be applied to any discharge consent is contained within a letter dated 5th September 2024. The key principles of NIEA's approach are addressed in the broader discussion below regarding water quality and discharge consent limit values. In addition, detailed consideration of the letter (dated 5th September 2024) is also presented under separate heading.
- 1.226. In terms of my understanding in relation to the legal tests to be applied and the relevant associated guidance and case law, I refer the reader to section 2 of the Update sHRA (2020).

Discharge Consent limit values

- 1.227. Within this section of the TR I describe the following:
- a) The position as concluded in the Environmental Statement submissions;
 - b) The Conservation Status of qualifying interest features in the Owenkillev SAC;
 - c) Defining Appropriate Discharge Water Quality Parameters with reference to available guidance;

Position as concluded in the Environmental Statement submissions

- 1.228. By way of a headline summary, the position as expressed in the ES submissions is that the proposed discharges are protective of the aquatic environment, including the ASSIs and SAC.
- 1.229. Limit values were arrived at using a methodology which was discussed with NIEA. The main SAC / ASSI rivers were highlighted as the sensitive receptors and 'back calculations' were undertaken to derive the limit values associated with the discharges. The methodology used Environmental Quality Standards (EQS) to inform the proposals wherever available, with Drinking Water Standards adopted where such a value was more precautionary. Such an approach was consistent with the application of the Water Framework Directive and the assessment approach commonly adopted in England at the time (in the absence of an agreed model for Northern Ireland). Other guidance was also used to inform the process, notably where EQS values are not published (e.g. in respect of Nitrate) and such

guidance included BS EN 16859:2017 (specifically relevant to FWPM) and that published in respect of other countries such as the US and Canada where methodologies were broadly in keeping with those in respect of the Water Framework Directive. The Freshwater Fish Directive (although superseded) was also a key reference source.

- 1.230. Liaison with NIEA took place in defining the assessment methods to be used and the Applicant was explicit in wanting to proceed using a robust, defensible and recognised methodology. In the absence of any established approach in Northern Ireland, the Environment Agency approach to assessment was used.
- 1.231. Regarding the Update sHRA of 2020, that assessment report is informed by the calculations and conclusions reported by Kaya Consulting in respect of surface water impacts / discharges (and SRK reporting) with additional reference to WFD assessment information¹⁵, which is cited and summarised (sHRA para 5.84 ff). The sHRA describes the Conservation Objectives in full and copies of all relevant designation documents are appended. The assessment was undertaken in view of that information and a conclusion reached that the proposals would not have an adverse effect on the Integrity of relevant designated sites when considered both alone and in combination.

Conservation status of the Owenkillew SAC

- 1.232. The qualifying interest features of the Owenkillew SAC are discussed in detail at section 4 of the update sHRA (Ecology Solutions 2020). By way of summary, the relevant interest features are:
- a) Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation¹⁶;
 - b) Old sessile oak woods with Ilex and Blechnum¹⁷;
 - c) Bog woodland;
 - d) Atlantic Salmon;
 - e) Otter; and
 - f) Freshwater Pearl Mussel.

¹⁵ See in particular paragraphs 5.75 onwards and paragraph 5.84 onwards- Update sHRA 2020.

¹⁶ Vegetation communities including, but not limited to, Water Crowfoot and Starwort species.

¹⁷ Sessile oak dominated woodland with Holly and Harn Fern.

- 1.233. In view of the consultee comments, and in particular with reference to the position of NIEA and Loughs Agency, the focus in terms of feature condition issues is upon Atlantic Salmon and Freshwater Pearl Mussel populations and water quality (and to an extent, water quantity) effects on these features. Both of these species are well known to require ‘good / high water quality’, with FWPM reported as being particularly sensitive to certain parameters.
- 1.234. NIEA has stated that the Owenkillev River SAC is currently classed as being in unfavourable condition. Information relevant to this classification is discussed below for both of these two key interest features.

Freshwater Pearl Mussel

- 1.235. Regarding Freshwater Pearl Mussel, the 2017 “Condition Assessment”¹⁸ is of relevance as it is understood to be the most up to date, fully reported assessment of its kind. Key points arising from this report are discussed below, with relevant extracts provided at **Annex 18**.
- 1.236. In respect of the Owenkillev River SAC, the 2017 report states in the Executive Summary:

“The Owenkillev River SAC Condition status remained as Unfavourable – No Change.”

- 1.237. Also of note, in respect of the Owenreagh River ASSI, the 2017 report states in the Executive Summary:

“The Owenreagh River ASSI Condition status remained as Unfavourable – No Change.”

- 1.238. As an overall, headline position regarding the species status in Northern Ireland, it is stated:

¹⁸ Horton, M., Bell, D., Keys, A. & Mitchell, F. (2018) Freshwater pearl mussel survey of Northern Ireland 2017. Report prepared by Ballinderry Rivers Trust for the Northern Ireland Environment Agency. Northern Ireland Environment Agency Research and Development

“All of Northern Ireland freshwater pearl mussel populations remain imperilled.”

- 1.239. Insofar as matters concern the population within the Owenkillew River SAC (of specific relevance to the project level HRA associated with the Proposal), further detail is provided regarding the assessment process and results at section 4 of the 2017 assessment report. Here it is confirmed that:

“A total of 8434 live mussels were observed (Table 4). This represents a +4.6% increase on the 8062 mussels observed in 2011 (Reid et al.), despite having not surveyed eight of the 21 point transects. This total also represents a +6.3% increase on the combined count of 7931 mussels reported in 2004 (EHS) and 2007 (Killen) surveys.”

- 1.240. Regarding water quality, at section 4 of the 2017 assessment report it is stated:

“Analysis of the results (Table 6) shows that phosphorus, nitrogen-nitrate and BOD were all above the target thresholds for freshwater pearl mussel (JNCC, 2015). Only suspended solids were generally lower than the threshold of 10mg/l, although on several occasions, during winter months, rose above this threshold at each site.”

- 1.241. The 2017 assessment report concludes that the preferred host fish species in the Owenkillew is Atlantic Salmon, evidenced by specific glochidia encystment surveys. It is stated at section 4 of the report:

“Atlantic salmon are the preferred host in the Owenkillew River, confirmed through gill inspection for glochidia encystment in this survey.

Electrofishing was undertaken at Monanameal Bridge (H 6146 8467). A 20-metre length of river was fished, upstream of Monanameal Bridge, with an average channel width of 12 metres; the area fished was therefore 240m². In total, 192 salmonids were captured comprising 172 salmon and 20 trout of various age classes.

Size-frequency analysis of the salmon population (Fig. 6) revealed that all 175 of the salmon were 0+ and 1+ age classes resulting in a density of 0.73 salmon/m².”

- 1.242. Regarding glochidia infection rates, these are confirmed to be “high” as evidenced through specific surveys. At section 4 of the 2017 assessment report, it is stated:

“Of the 175 salmon captured during electrofishing, 104 were infected with glochidia (Fig. 7). This represents a 59.4% infection rate of available host salmonids in the electrofished stretch. Glochidia infection rates were high, typically 50-100 glochidia per fish. Both 0+ and 1+ year class fish were infected.”

- 1.243. Whilst the report states that the survey work found no evidence of threats / pressures from non-native species, stock transfers, river drainage or pearl fishing, issues regarding livestock are specifically highlighted. It is stated at section 4 of the report:

“A lot of the fields lining the SAC are not fenced off to exclude livestock. As a result cattle can access the rivers at many points. Typically, one bank fenced whilst the opposite one is not or has the remnants of an old fence.

The cattle urinate and excrete in the river adding to the excess nutrient problem as well as causing trampling of banks leading to siltation. There was evidence of direct mussel trampling by cattle at two locations in the SAC. Freshly dead mussels were found upstream of both Monanameal Bridge and Crouck Bridge at livestock drinking points.

The Owenkillev Community Development Company have created a development plan for the area, which includes the erection of riverside fencing and closing off of livestock watering points. If this project is deployed it would have great benefit to the mussel population in the Owenkillev.

There were no signs of river drainage in the surveyed sections.”

- 1.244. Table 8 of the 2017 report summarises the results of the Condition Assessment for the Owenkillev SAC FWPM population. This table is included in the extracts provided at **Annex 18**, but is reproduced in full below for convenience.

Attribute (* = discretionary)	Target	Actual	Pass/Fail
POPULATION			
a. Spatial extent	Should reflect distribution under near-natural conditions.	Extensive beds of mussels with more than 100 individuals but areas of suitable habitat in-between with few or no mussels	FAIL
b. Population density	≥ 5 mussels per m ² within sample transects.	T1 - 2 individuals/m ² T2 - 11.3 individuals/m ² T3 - 0.5 individuals/m ² T4 and 1.04 individuals/m ² AVERAGE – 3.72 individuals/m² ABUNDANCE CODE - C	FAIL
c. Age structure	i. At least 20% of population ≤65mm	2% (2 individuals)	i. FAIL
	ii. At least one mussel ≤30mm.	None	ii. FAIL
d. Dead shells	<1% of population per year and scattered distribution.	44 dead, 8434 living (0.5%)	PASS

WATER QUALITY			
Phosphorus	Mean P of <0.005 mg L ⁻¹	0.02 mg L ⁻¹ (range 0.01-0.09)	FAIL
Nitrogen - Nitrate	Annual median value of <0.125 mg L ⁻¹ N	0.17 mg L ⁻¹ (range 0.003-0.44)	FAIL
BOD	Mean BOD <1.0 mg L ⁻¹	1.59 mg L ⁻¹ (range 1.0-2.9)	FAIL
FLOW	Ideally, flow targets included in the CSM Guidance for Rivers should be used, as these are intended to support a healthy, naturally	No impediment to flow upstream	PASS

Attribute (* = discretionary)	Target	Actual	Pass/Fail
	functioning river ecosystem which protects the whole biological community and individual species to a degree characteristic of the river. As a minimum, UKTAG standards for GES under the WFD should be met.		
HABITAT STRUCTURE			
a. Fine sediment (redox)	There should be no pronounced difference in redox potential (typically <20%) between open water and interstitial water at 5 cm depth*	Range 37-39%	FAIL
b. Fine sediment (siltation)	The PSI targets in the CSM Guidance for Rivers should be used.	Not Assessed	Unknown
c. Filamentous algae	<5% cover across assessment units.	<5% cover across assessment units.	PASS
d. Fish host populations: native juvenile salmonid densities (0+ and 1+ year classes)	1. Should be abundant: > 0.1 native juvenile host salmonids per m ² .	0.73 salmon/m ²	PASS
	2. Should be able to find fish infected with glochidia between September and May.	175 (59.4%) of salmon were infected with glochidia	PASS
e. Alien/locally non-native species	No non-native species likely to cause impairment of freshwater pearl mussel populations.	None	PASS
* f. Stocking transfers of other species	No inappropriate stocking/translocation of fish species.	None	PASS
* g. Introduction/transfers of freshwater pearl mussel	No introduction/transfers of freshwater pearl mussel unless agreed to be in the best interests of the population.	None	PASS
* h. Pearl fishing	No evidence of pearl fishing.	None	PASS
* i. In-stream activities	No evidence of damage of existing mussel beds.	Cattle trampling of river banks; mussels trampled by cattle	FAIL
OVERALL CONDITION: UNFAVOURABLE - NO CHANGE			

1.245. As can be seen from the summary table above, despite an increase (over previous surveys) in the total numbers of FWPM observed, “fails” were recorded in respect of several attributes, including those related to population size, extent and age class, and those associated with water quality (phosphorous, nitrate, BOD and fine sediment).

- 1.246. Notably, a “pass” is recorded in respect of “filamentous algae”, where less than 5% cover (estimated) is recorded across the assessment units. I highlight this fact, because a proliferation of filamentous algae often indicates that nutrient (e.g. phosphate and nitrate) levels are high. Table 3 of the 2017 report describes the criteria used to assess conservation status (of FWPM) and in respect of filamentous algae it is stated:

“Filamentous algal cover should be measured during the pearl mussel survey. In oligotrophic conditions nutrient levels should never be high enough to allow dense mats of filamentous algae to grow. The persistence of filamentous algae is an indication that nutrient levels may be too high for sustainable Margaritifera populations, but may also indicate low flow problems.”

- 1.247. Whilst it is necessary nonetheless to assess chemical water quality issues in more detail (see further below), it is significant that the recorded levels of coverage of filamentous algae would not point to a cause for concern regarding nutrient levels in respect of FWPM.

Freshwater Pearl Mussel - historic condition assessments

- 1.248. Information regarding previously recorded feature condition (pre-2017) is detailed within the report titled “Freshwater pearl mussel survey of Northern 2011”¹⁹. Relevant extracts are provided at Annex 19. Key findings are summarised below.
- 1.249. The 2011 report confirms that the previous (2007) survey recorded the three subject SACs (including the Owenkillew) were all in “unfavourable declining” condition. It is stated within the executive summary:

“Initial condition assessments for the three SAC rivers were carried out by Killeen (2007) and populations were found to be in “Unfavourable declining” condition.”

¹⁹ Reid, N., Preston, S.P. & Keys, A. (2011) Freshwater pearl mussel survey of Northern 2011. Report prepared by the Natural Heritage Research Partnership, Quercus, Queen’s University Belfast for the Northern Ireland Environment Agency. Northern Ireland Environment Agency Research and Development Series No. 10/XX.

- 1.250. For the 2011 assessment, the overall conclusion regarding the populations across all three SACs was that the condition was “Unfavourable no change”. It is stated within the executive summary:

“A total of 12,947 freshwater pearl mussels were recorded on SAC designated rivers (Ballinderry, Owenkillev and Swanlinbar). Whilst there was a +4.1% increase in the numbers of mussels recorded, there was no significant temporal trend in abundance and populations judged to be stable since the previous survey. Nevertheless, water quality and other factors resulted in an overall condition assessment for 2011 judged to be “Unfavourable no change”.

- 1.251. It is of note that the 2011 report also includes data for some non-SAC rivers, including the Owenreagh River, which whilst now designated as an ASSI, was at that time a proposed ASSI. Regarding the Owenreagh, it is stated:

“A total of 9,032 freshwater pearl mussels were recorded on the Tempo ASSI and Owenreagh and Waterfoot proposed ASSIs. Most notably, 8,195 mussels of these mussels were recorded on the Owenreagh proposed ASSI representing the first baseline survey of this river.”

- 1.252. Mindful that the condition assessment conclusion cited above, is one that encompasses all three SAC rivers, it is necessary to focus in on the assessment for the Owenkillev. In the light of the fact that this River contains the largest population of the species in Northern Ireland, negative results elsewhere could result in a distorted picture for the Owenkillev.

- 1.253. Specifically, regarding the Owenkillev River SAC, the survey recorded an increase in mussel numbers when compared to the previous (2007) assessment. It is stated:

“A total of 8,474 live mussels were observed (Table 6). This represents a +6.4% increase on the 7,931 mussels observed during previous surveys.”

- 1.254. The report goes on to state:

“A total of 147 dead shells were collected. No mussels <65mm were recorded and the frequency distribution of shell size suggested that the population was composed predominately of aged adults (Fig. 6). Nevertheless, several juvenile mussels including one estimated to be <5 years old were identified

by NIEA staff during an ‘emergency response’ in late March 2011 (Tony Waterman pers. comms.). This may suggest that some recruitment has occurred during the past 5-10 years.”

1.255. In terms of water chemistry, the report states the following:

“Water chemistry was assessed at Monanameal Bridge (H614848) which was downstream of the pearl mussel population for the period of January 2007 - March 2011 (Fig. 7). Orthophosphate levels ranged from 0.003 to 0.02mg/l (mean = 0.009). Nitrate levels ranged from 0.003 to 0.806mg/l (mean = 0.22). Levels of suspended solids were generally below 10mg/l but rose above this level on a number of occasions, most notably up to a maximum of 34mg/l during July 2008. BOD ranged from 1-3.6mg/l (mean = 1.61).”

1.256. As with the 2017 report, the condition assessment results are summarised in a table format, and this is reproduced below.

Attribute	Target	Actual	Pass/Fail
Mussels			
Density	Potentially suitable habitat at capacity (or at least 10 mussels/m ²)	Some dense beds but large areas of suitable substrate devoid of mussels	Fail
Number of live individuals	No decline since most recent survey	+6.4% increase in numbers since previous survey (NIEA 2004; Killeen 2007)	Pass
Numbers of dead shells	<1% of population	147 dead : 5467 alive (2.7%)	Fail
Age structure 1	At least 20% of population ≥85mm	Several individuals thought to be <5-10 years old found by NIEA (2011)	Fail
Age structure 2	At least some mussels ≤ 30mm	None	Fail
Water Quality (2007-2010)			
Orthophosphate	0.005mg/l (<0.030)	0.009mg/l (range 0.003-0.020)	Fail
Nitrate	0.125mg/l (<0.500)	0.22mg/l (0.003-0.806)	Fail
Suspended Solids	<10mg/l	Generally <10mg/l (max = 34)	Pass
BOD	<1.40mg/l	1.61mg/l (1.00-3.60)	Fail
Substrate Condition			
Siltation	No plumes of silt when substrate kicked to 10cm depth	Some plumes of silt present especially in slow water	Fail
Redox measurements	Measurements <20% loss in redox value at 5cm depth	Not assessed	Unknown
Macrophytes			
Filamentous algae	None (<5% cover)	Ranunculus in places Present but <5%	Not assessed Pass
Adjacent Land Use Issues			
Evidence of pearl fishing	None	Cattle poaching, severe bank erosion due to winter floods & coniferous forestry No exploitation evident	Fail Pass
OVERALL CONDITION: No change			

- 1.257. As can be seen in the table above, insofar as population-based criteria are concerned, whilst recorded numbers showed an increase over the previous survey, a “fail” was recorded for density, the number of dead shells and age structure.
- 1.258. Regarding water quality, a “pass” is recorded for suspended solids, however the criteria are failed in relation to orthophosphate, nitrate and BOD.
- 1.259. As with the more recent 2017 assessment, passes are recorded for filamentous algae and pearl fishing (lack of), but a fail is reported for adjacent land uses, with cattle poaching, bank erosion and coniferous forestry all cited as being relevant pressures.
- 1.260. The condition assessment for the Owenkillew is concluded as being Unfavourable – no change.
- 1.261. It should be noted that the next round of condition assessment reporting is understood to be due in 2025. Interim population survey results held by NIEA have been shared with the Applicant and these have been discussed above in section 5. Given the overall picture of the SAC in view of information shared with the Applicant, including that relating to water quality, it is expected that the next reporting cycle will confirm the condition as being Unfavourable - no change.

Atlantic Salmon

- 1.262. As a headline point, it is well documented that the Atlantic Salmon is in decline within UK waters in general. Specifically, regarding the situation in Northern Ireland, the 2019 Article 17 report²⁰ relating to Atlantic Salmon (as submitted as part of the six-year Habitats Directive reporting cycle) is of relevance. A copy is included at Annex 20, with key points discussed below.
- 1.263. Whilst the data collected and analysed over the reporting period (2013 to 2018) has been concluded to show that the range of the species in Northern Ireland

²⁰ European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). Fourth Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2013 to December 2018. S1106 - Atlantic salmon (*Salmo salar*) Northern Ireland

waters has not changed, the trend direction for the species population/s was determined to be “decreasing”. Further explanation in relation to the decreasing population is given within the explanatory notes associated with the report (at page 12 – see Annex 20). Here it is stated:

“We have assessed the population as decreasing. Note that the figure for returning adults at 6.4 has been taken from the 2013 Report. Since then (although the picture for individual rivers has varied somewhat), there has been a continuing decline in returning adults to NI rivers - see 6.16 below for more detail.”

- 1.264. Key to the maintenance and / or enhancement of Atlantic Salmon stock levels in rivers, are the numbers of adults returning to breed as well as (river) habitat conditions meeting various life stage requirements.
- 1.265. Regarding numbers of returning fish, the 2019 report confirms that those returning to the River Foyle system (relevant to the Owenkillew River) have not been recorded in sufficient numbers to pass management targets and conservation limits since 2009. For this reason, the short-term trend regarding the population has been assessed as decreasing. It is stated:

“The fish counters on the River Roe and Faughan have annually recorded sufficient returning salmon to ensure that the Management Targets and Conservation limits for these rivers have been achieved during this reporting period. In contrast, the counter on the River Mourne (which is used to measure the returning salmon to the River Foyle) last recorded sufficient numbers passing the Management Targets and Conservation Limits in 2009. Hence, short term trend in population assessed as decreasing.”

- 1.266. In the explanatory notes (page 12 of the report) it is stated:

“We have assessed the population as decreasing. Note that the figure for returning adults at 6.4 has been taken from the 2013 Report. Since then (although the picture for individual rivers has varied somewhat), there has been a continuing decline in returning adults to NI rivers - see 6.16 below for more detail.”

- 1.267. Further detail is given under the heading “Change and reason for change in population size” at page 13 of the report. It is stated:

“In summary, population trends and juvenile recruitment display very varied trends over time between rivers and regions. However, looking at data for the

*period 2002-2017, it appears that, in the longer term, numbers of returning adults have shown a very marked decline, **despite the introduction of several management control measures** (e.g. ban on net fishing in Foyle 2009; various catch and release schemes). For example, the 5 year average figures for the **Mourne and Finn Rivers shows a steep decline from 2006**; the River Faughan shows a steep decline from 1996, then a partial recovery before a further decline in 2006. Only in the River Roe have numbers remained at a fairly stable level since 2001. Hence population assessed as decreasing.”*

[emphasis added]

- 1.268. Regarding river / habitat conditions, the 2019 report is helpful in providing a general overview in relation to key river systems (which would include the Foyle system / Owenkillow), however it lacks detailed discussion on individual rivers. At page 13 it is stated:

*“Salmon habitat has been assessed in **almost all key river systems** using the Life Cycle Unit System (LCUS) developed on the River Bush (Kennedy, 1984; O'Connor & Kennedy 2002). However the LCUS is a descriptive and mapping method based on habitat classification and quality; it has not been used to produce a generalised assessment of habitat quality for the region, although summaries for Index Rivers are produced in Anon (2012) and NASCO (2009). Overall habitat quality is therefore unknown, but expert opinion would suggest that **general quality is moderate to good.**”*

[emphasis added]

- 1.269. Following directly from the above, the report cites the Water Framework Directive Fish Population Assessment for 2017 which corroborates the stated “expert opinion” regarding habitat quality:

*“This assessment is supported by the Water Framework Directive Fish Population Assessment for 2017 (Niven and Donnelly, 2018). Nine Water Framework Directive fish surveillance monitoring stations were surveyed within the Loughs Agency jurisdiction in 2017. All nine sites were within Northern Ireland. **22% of sites surveyed were classified as high status, 33% as good status and 45% as moderate status.**”*

[emphasis added]

- 1.270. The “threats and pressures” associated with the species population/s are discussed in detail on page 14 of the report. Water quality and the hydrological regime are discussed, with specific attention being drawn to matters such as, pollution / eutrophication arising from agricultural operations, waste water

treatment and quarries (sediment release), and activities or infrastructure which act as barriers to migration. It is stated:

“Threats and Pressures associated with a wide range of issues. Clearly water quality and hydrology are key factors for the species’ survival in rivers. Pollution/eutrophication from both point and diffuse sources is therefore a major factor (e.g. slurry and fertiliser run-off; leakages from septic tanks, sewage and water treatment works; silage effluent spillages; sediment release from quarries and forestry operations; etc.). Changes in hydrology are also critically important and include such factors as dredging, drainage, impacts from reservoirs, weirs, fish farms and small hydro schemes - some of which may also act as barriers to migration.”

- 1.271. The impacts of cattle grazing, fishing (in particular poaching) and non-native invasive species are also discussed. It is stated:

“Intensive cattle grazing can cause poaching of riverbanks with damage to riparian zone and silt inputs to river channels. Legal fishing is well regulated, but illegal poaching continues. Non-native invasive species are a particular issue in freshwater systems and can cause a threat to native species through competition, spread of disease, etc. For example, Asian Clam has recently been discovered on the tidal River Foyle.”

- 1.272. Regarding climate change and the important issue of migration, in particular the return of adult (breeding) fish, the following is stated:

“Climate change is currently a pressure and is likely to become even more significant in the future. Earlier migration of salmon smolts has been linked to ambient river temperature patterns and may reduce subsequent marine survival pattern to one sea-winter adult return (Kennedy & Crozier, 2010). Additional climate change factor listed under Xe - Threats and pressures from outside the EU territory. This refers to the survival of the species at sea.”

- 1.273. The report goes on:

*“Marine survival continues to be of significant concern throughout the southern range of Atlantic salmon in the North East Atlantic. Marine survival rates for One Sea Winter (1SW) grilse pre the mid 1990's was around 30%, in recent years this has fallen as low as 2.4%. A marine survival rate of 3.76% has been calculated for the 2016 cohort returning to the river in 2017. This is a decrease from the 6.66% marine survival rate recorded for the 2015 cohort, and is well below historic highs. These **extremely low marine survival rates** are possibly the result of altered marine food webs and oceanic prey*

distribution - all in the context of climate change.”

[emphasis added]

- 1.274. The issue of marine survival is clearly critical, with a significant / drastic drop from the mid 1990's. Regarding future prospects for the population/s, it is stated on page 14 of the report:

“The effect of rising sea temperatures resulting from climate change has been shown to have an impact on the species' survival at sea. It is uncertain if the proactive management currently being undertaken in Northern Ireland will be sufficient to protect the region's native salmon stock.”

- 1.275. Specifically, regarding the strength of the Atlantic Salmon population in the Foyle catchment, the 2018 Status Report (see extract at Annex 21) states at section 2.7:

“As outlined above Atlantic salmon have a complex lifecycle which can be impacted upon by many factors. The impacts cannot always be quantified making it difficult to accurately estimate the number of returning adult salmon/grilse to our rivers each year. An analysis of cohort/age class strength throughout its lifecycle from egg to spawning adult is complicated by numerous factors. These include varying egg survival rates, differing age at smolting, marine survival rates, time spent at sea/age at spawning and number of spawning migrations made.

*It is extremely difficult to infer from one life history stage or stages what the strength of any returning cohort will be. This is currently exacerbated by **extremely low marine survival rates** possibly as a result of altered marine food webs and oceanic prey distribution all in the context of climate change.”*

[emphasis added]

- 1.276. It is also relevant to note that whilst net fisheries appear not to have operated (legally) in recent years, angling is still undertaken throughout the catchment. The 2018 Status Report states at section 2.0:

“Total declared Atlantic salmon rod catch for the Foyle and Carlingford area in 2018 was 1598. Voluntary catch and release for the Foyle and Carlingford areas was 66%.”

1.277. This equates to a reported release (not guaranteed survival) of 1055 Atlantic Salmon, with 543 taken.

1.278. Data regarding relevant fish stock numbers over recent years was requested from Loughs Agency. This data is principally in the form of submitted catch returns. The table below, provided by Loughs Agency shows Atlantic Salmon catch return data for the Owenkillev for the period 2008 to 2023. The data shows a fluctuation in the number of Atlantic Salmon caught, with peaks in the periods 2008 to 2012 (accepting the low number in 2009) and then again in 2020 to 2021. It is noted that the percentage of those subject to catch and release shows a general trend upwards, from 50% in 2011 to in excess of 90% in the most recent years.

Year	OWENKILLEW	OWENKILLEW 5 Year Average	Owenkillev Number Caught and Released	Owenkillev % Catch and Release
2008	151	151		
2009	47	99		
2010	128	109		
2011	143	117	72	50
2012	160	126	125	78
2013	68	109	21	31
2014	37	107	26	70
2015*		102		
2016	52	79	32	62
2017	66	56	58	88
2018	33	47	29	88
2019	57	52	43	75
2020	133	68	118	89
2021	106	79	97	92
2022	70	80	69	99
2023	52	84	48	92
*error in data reporting for 2015. No catchment breakdown available				

Table 12: Loughs Agency catch return data

1.279. In the context of all the above, the following key points arise:

- Salmon stock numbers show a downward trend across Northern Ireland, with a significant reduction in the number of returning (breeding) adults. This is despite habitat (river) conditions being assessed as being of good to moderate quality and 'stable';

- A broad range of pressures affecting population numbers are documented. Water quality (pollution / eutrophication) issues are highlighted along with a host of other pressures;
- Very low marine survival rates are pointedly emphasised;
- There is uncertainty as to whether the (proactive) management currently being undertaken will be sufficient to protect the stock; and
- Atlantic Salmon continue to be fished for under licence from Loughs Agency.

1.280. The evidence means that the decline in Atlantic Salmon stocks goes well beyond considerations regarding water quality, or indeed any single parameter. Given the significant issue of marine survival rates, something which is not relevant to considerations regarding the acceptability of the proposed Mine, and cannot be addressed within the proposals, the reported position is that the regime of species conservation (management) measures may not be successful in reversing the downward trend.

1.281. Whilst the cited broad range of threats / pressures and the significance of marine survival rates are very important for context, it still remains necessary to demonstrate that the proposals will not compound the fate of the species. Indeed, it is important to approach the assessment in this way such that when assessed in combination / cumulatively, the proposals can be clearly identified as not adversely affecting the Integrity of the SAC, having regard to the fact that the formal Conservation Objectives require the maintenance and restoration (where necessary) of favourable feature condition.

1.282. In considering 'restoration of the feature' there are clearly many aspects which cannot be influenced through the proposals. However, not retarding the ability for the feature to reach favourable condition is an important consideration. Further, any measures which seek to redress the balance and help to pave the way for a return to favourable condition, should be seen as a benefit of the proposals, being fully in step with the Conservation Objectives themselves.

1.283. Specifically regarding, the Pollanroe and Curraghinalt burns and the position of NIEA that these features are considered to be functionally linked to the SAC, I comment as follows.

- 1.284. First, the simple fact that the burns are connected hydrologically is not sufficient for them to be functionally linked in terms of addressing the Habitats Regulations. In order to adversely affect the Integrity of the SAC an effect on the burns would need to be such that implications for Atlantic Salmon (e.g. loss of that habitat, or loss of the fish themselves), would need to be significant in terms of the population for which the site is designated. That is simply not borne out by the evidence. The Curraghinalt burn is of no value to Atlantic Salmon and none have been recorded within it. Regarding the Pollanroe Burn, Atlantic Salmon parr have been recorded at the southern end of the burn only, closest to the confluence with the Owenreagh River. There is no evidence that it is used as a spawning site and habitat assessments have recorded it as failing in this regard. It is therefore concluded that the burn is used by juvenile Atlantic Salmon in low numbers, when conditions allow.
- 1.285. Even if the Pollanroe Burn was rendered unsuitable for Atlantic Salmon (which would not be the case given the Applicant's proposed approach to discharges), it is not the case that the population of the catchment (including the SAC) would be significantly affected. Atlantic Salmon parr would continue to utilise other habitat within the catchment and may exploit new areas. Further, if it were the case that losses of individual Atlantic Salmon were seen as a risk or threat to the Integrity of the SAC population, then fishing for the species would need to cease completely because of the risk of a fatality or injury. It is abundantly clear that such a position is not being adopted by Loughs Agency or NIEA.

Defining Appropriate Discharge Water Quality Parameters

- 1.286. In defining what were considered to be appropriate discharge limit values associated with the Discharge applications liaison with NIEA took place. In the absence of an agreed standard assessment approach being available for use in Northern Ireland, the Environment Agency approach to assessment was promoted for use by the Applicant. This assessment approach is based around the use of Environmental Quality Standards (EQS) and the methodology was agreed with NIEA and taken forward to inform the discharge consent applications and the work which supported the Environmental Statement (including the Update sHRA of 2020) for the Mine application. The approach and methodology is described within

the Surface Water TR of [REDACTED] of Kaya Consulting and I refer the reader to that document for such details.

- 1.287. As already discussed, in the light of information provided by Loughs Agency regarding the suitability of habitat for salmonid fish within the Pollanroe and Curraghinalt burns, NIEA concluded that the discharges should be protective of salmonid fish within the burns as opposed to 'protection' being demonstrated for such fish within the main receiving watercourses (the Owenkillew and Owenreagh Rivers), where mixing and dilution occur to a greater extent. Effectively this equates to the protective values being applied at 'end of pipe'.
- 1.288. The published DAERA advice note dated 31st July 2023 draws two key conclusions in relation to the setting of discharge values for relevant parameters, as follows:
- 1) JNCC Common Standards Monitoring guidance must be used to inform the thresholds; and
 - 2) Since the Freshwater Pearl Mussel (FWPM) feature of the SAC (and ASSI) is recorded as being in unfavourable condition, it must follow that thresholds are set which ensure "no deterioration in the key water quality attributes".
- 1.289. It is also my understanding that DAERA now considers that when addressing the legal tests of the Habitats Regulations, as relevant to the discharge consent/s, the discharges themselves must be consistent with favourable condition. Its position is therefore that the discharges must meet the water quality standards which equate to favourable condition.
- 1.290. Key points arising from the above are discussed below with reference to DAERA's position and relevant guidance, including the CSM Guidance. This is a matter which is also discussed within the Statement of Case regarding the Water Discharge applications. A detailed response specific to matters raised within NIEA's letter of 5th September 2024 is presented towards the end of this section of the TR.

Consideration of Common Standards Monitoring Guidance

- 1.291. As previously discussed, NIEA seek to place sole reliance upon CSM guidance in defining limit values for certain key parameters in assessing the discharge consent applications and this guidance is discussed below. Following discussion of the relevant CSM guidance, this TR discusses other relevant guidance and the approach of other country agencies in relation to the protection of the aquatic ecosystem and Freshwater Pearl Mussel populations.
- 1.292. CSM Guidance is published to help define the condition of an interest feature by reference to targets or target ranges (i.e whether it is in favourable condition and therefore meeting its conservation targets). It is to be used as an assessment and management tool and it also serves reporting purposes in relation to designated sites (e.g. ASSIs, SSSIs and European / Ramsar sites).
- 1.293. It is accepted that the CSM guidance can be used to assist in the setting of discharge consent values, and it is certainly helpful in highlighting certain key parameters for assessment. Its purpose is however, first and foremost to provide a standardised mechanism for assessing whether conservation targets are being met at designated sites. I remind the reader that the Pollanroe burn sits well outside of any such designation and discharges into the undesignated lower section of the Owenreagh River ASSI. The Curraghinalt burn discharges into the Owenkillew River SAC / ASSI and the lower section of the burn is designated as part of the SAC, although this is on account of the woodland habitat and not for aquatic species interest. From the evidence, neither burn supports Freshwater Pearl Mussel and neither burn represents spawning habitat for salmonid species (e.g. Atlantic Salmon).
- 1.294. The application of CSM guidance, including its possible use in other circumstances is discussed at Section 4 of the CSM “Introduction” document²¹ (see extracts provided at Annex 22), where it is stated:

“While common standards monitoring was designed for SSSIs, ASSIs, cSACs, SPAs and Ramsar sites, in principle the approach could be applied to any defined area holding species features of conservation interest (e.g. statutory voluntary nature reserves), although consideration of the level of targets set may be necessary.”

²¹ Common Standards Monitoring Introduction to the Guidance Manual (2004), JNCC

- 1.295. Whilst the guidance states that it is possible to apply the guidance to areas outside of the specific designated sites (such as other, lower tier designated sites), there is clearly no implication that it *should* be applied. Further, in such circumstances where the CSM approach to monitoring is adopted, the guidance gives a firm steer that different targets should be considered (e.g. reflecting the lower position in the hierarchy of conservation significance).
- 1.296. Other guidance in relation to implications for relevant habitats and species, and importantly the setting of discharge limit values (to protect aquatic ecosystems) is published. I refer to this where relevant below.
- 1.297. I turn now to the specific CSM guidance of relevance to matters concerning water quality (discharge parameters) at the Owenkillew and Owenreagh Rivers (SAC and ASSI respectively). The focus in terms of water quality issues from a nature conservation perspective is upon Atlantic Salmon and Freshwater Pearl Mussel given the cited sensitivity of these species and also in view of the consultation responses of NIEA and the Loughs Agency.
- 1.298. The relevant guidance documents are as follows:
- a) CSM for Rivers (2016)²²
 - b) CSM for Freshwater Fauna (2015)²³
- 1.299. Relevant extracts of each of these two documents are provided at Annex 23.

Atlantic Salmon

- 1.300. In respect of water quality targets for Atlantic Salmon, CSM Freshwater Fauna states, at page 51 (See Annex 23):

“Targets included in the CSM Rivers should be used.”

²² Common Standards Monitoring Guidance for Rivers (2016), JNCC

²³ Common Standards Monitoring Guidance for Freshwater Fauna (2015), JNCC

1.301. Sedimentation (linked to Total Suspended Solids- TSS) is cited as a separate attribute, however, again the reader is referred to CSM Rivers guidance.

1.302. Targets specifically associated with water quality in CSM Rivers are given for:

- a) Organic pollution;
- b) Phosphorus;
- c) “Other pollutants”;
- d) Acidification; and
- e) Siltation.

Organic Pollution

1.303. Regarding organic pollution (BOD and ammonia) CSM Rivers gives the following information at Table 4 of that document (see Annex 23):

Attribute	Target
10%ile DO (% saturation)	85
Mean BOD (mg L ⁻¹)	1.5
90%ile total ammonia (NH ₃ -N, mg L ⁻¹)	0.25
95%ile un-ionised ammonia (NH ₃ -N, mg L ⁻¹)	0.025

Phosphorous and inorganic nitrogen

1.304. It should be noted that the discharge consent applications did not contain proposed limit values for phosphorous on the basis that this would not be present within mine waste and it would be effectively removed by the proposed WwTW. However, it is a parameter which NIEA considers will need to be included and enforced against.

1.305. Table 6 of CSM Rivers gives the following information:

River type		Headwater	River	Large river
High altitude (>80 metres)	Low alkalinity (<50 mg L ⁻¹ CaCO ₃)	10	20	30
	High alkalinity (>50 mg L ⁻¹ CaCO ₃)	15	25	40
Low altitude (<80 metres)	Low alkalinity (<50 mg L ⁻¹ CaCO ₃)	30	40	50
	High alkalinity (>50 mg L ⁻¹ CaCO ₃)	Chalk	40	50
		Clay	40	50

To be applied as a growing season (March-September) mean and as a whole year mean
River Habitat Survey (RHS) river flow categories are used to discriminate river size. (See notes under Table 3.)

Nitrogen

- 1.306. Inorganic nitrogen (as relevant to Nitrate) is also referenced in CSM Rivers. It is stated:

“Targets for total inorganic nitrogen (TIN) can be applied where there is site-specific evidence for nitrogen-mediated eutrophication that is not amenable to control by applying phosphorus targets in isolation. As a guide, values of TIN of around 10 times greater than the SRP target applicable to the river stretch are likely to provide equivalent control of nutrient availability to proposed phosphorus targets.”

- 1.307. With reference to the above information relating to phosphorous, working on the basis we are dealing with a high altitude, low alkalinity river (precautionary basis) that would give a target of 200 µg L⁻¹ (0.2 mg/L) for inorganic nitrogen.

Other pollutants

- 1.308. Regarding “Other pollutants” at paragraph 4.2.5 of CSM Rivers, it is stated:

“Data on the chemical status of individual water bodies are available from the environment agencies. Good chemical status is the target for any pollutant listed on Annex X of the WFD and not specifically considered above.”

- 1.309. Therefore, inherent within the JNCC CSM guidance is a need to review data against the WFD assessment requirements, notably the list of priority substances in the field of water policy (Annex X of the WFD).

Acidification

- 1.310. Regarding acidification it is stated at Table 7 of CSM Rivers:

Targets for acidification	Method of assessment
ANC: Mean ANC for all waters > 80 pH (Clear waters with DOC<10 mg L ⁻¹) : mean > 6.54 pH (Humic waters with DOC>10 mg L ⁻¹): mean > 5.1	Analysis of water chemistry data from environment agencies. At least 36 samples (3 years of data) are required, which must include winter samples.

- 1.311. I have included this information for completeness. However, it should be noted that the proposals will not give rise to any adverse effect in relation to acidification. The pH of any discharges can be easily and effectively controlled to mimic baseline conditions and this is proposed.

Siltation

- 1.312. No guidance is given specifically in relation to Total Suspended Solids (TSS), a parameter which is to be included in any discharge consent. Guidance is however given in relation to siltation. CSM Rivers states at paragraph 4.4.1

“Siltation within and on top of coarse beds is a major threat to interest features (including species such as salmon and freshwater pearl mussel) and is poorly measured by existing WFD tools. For river types characterised by extensive Ranunculus beds, there should be a predominance of ‘clean’ gravels, pebbles and cobbles with relatively low cover by silt dominated substrates. Localised accumulations of silt on the inside of bends or in back channels do not necessarily indicate a problem.”

- 1.313. The CSM guidance refers to River Habitat Surveys (RHS) and River Hydromorphological Assessment Technique (RHAT) (NIEA, 2009), being used to inform an assessment. Table 14 of CSM Rivers gives the following information:

Targets for siltation	Method of assessment
No unnaturally high levels of siltation as indicated by: (a) ‘siltation’ highlighted in section P of the RHS form (‘Overall characteristics – major impacts’) OR (b) one-third or more of the total number of RHS spot-checks in the assessment unit have silt (SI) as the predominant channel substrate	Field observations and site specific information derived from RHS.

- 1.314. Further guidance is provided within the CSM Freshwater Fauna (Atlantic Salmon specific guidance). This includes specific commentary on siltation (at page 53 of that document – see Annex 23). It states:

“No unnaturally high levels of siltation. Siltation targets included in the CSM Guidance for Rivers may be appropriate.”

Freshwater Pearl Mussel

1.315. Specific water quality targets for certain parameters are given for FWPM within CSM Freshwater Fauna. However, it is stated that:

“Generally targets within the CSM Guidance for Rivers should be used.”

1.316. Targets cited in CSM Rivers are discussed above in relation to Atlantic Salmon.

1.317. However, within CSM Freshwater Fauna (FWPM section²⁴) it is stated that:

“For freshwater pearl mussel, organic pollution, reactive phosphorous, acidification and other nutrients are particularly important.”

1.318. It is also stated²⁵ that:

“In addition to habitat-based targets, some more stringent targets for pearl mussel are listed below.”

1.319. Specific targets for the following parameters are given:

- a) Phosphorous;
- b) Nitrate; and
- c) BOD.

1.320. Targets are also given for sedimentation (redox and fine sedimentation).

1.321. These cited parameters and the associated targets are discussed below.

²⁴ See column 1 of the Favourable Condition Table at page 15 of CSM Freshwater Fauna

²⁵ See column 2 of the Favourable Condition Table at page 15 of CSM Freshwater Fauna

Phosphorous

- 1.322. From “Favourable Condition Table 1”, at page 15 of the CSM guidance (see **Annex 23**), when setting targets, if the baseline is less than 5 ug/L, the target should be 5ug/l. If the river exceeds that, the more stringent of high status values for SRP under the WFD or the SRP target for CSM river habitat is to be used.²⁶
- 1.323. It is noted that 5ug/l is the benchmark used when undertaking favourable condition monitoring and this is evident from the 2017 Freshwater Pearl Mussel monitoring report (as discussed previously), and more broadly by DAERA for example, within the Consultation on Significant Water Management Issues relevant to the 3rd Cycle River Basin Management Plan. SRP relating to CSM Rivers and UK TAG Guidance give a higher threshold of **20ug/l** (see extract at Annex 24).

Nitrate

- 1.324. Targets for nitrogen are given in the Favourable Condition Table, on page 16 of the CSM guidance (see Annex 23). The following is cited:

“Annual median value of <0.125 mg L-1 N in line with CSM Freshwater Fauna”

BOD

- 1.325. In respect of BOD, the Favourable Condition Table, on page 16 of the CSM guidance (see Annex 23) gives the follow target:

“Mean less than 1mg L-1”.

Sedimentation

- 1.326. Regarding sedimentation, as relevant to TSS, the following information is given²⁷:

²⁶ Emphasis added to highlight key information from CSM guidance.

²⁷ See Favourable Condition Table at page 17 of CSM Freshwater Fauna

Attribute (* = discretionary)	Target	Method of Assessment	Comments
OTHER ATTRIBUTES			
a. Fine sediment (redox)	There should be no pronounced difference in redox potential (typically <20%) between open water and interstitial water at 5 cm depth.*	Redox measurements collected in open water and river bed, at or around population transect locations.	Excessive delivery of fine sediment, from the catchment or artificially enhanced bank erosion, may lead to a range of problems relating to surface siltation, the compaction or concretion of river beds and to the in-filling of substrate interstices. This affects oxygen supply and exchange within the substrate as well as the ability of juvenile mussels to burrow. Infiltration by fine sediments is one of the main causes of decline in juvenile recruitment for pearl mussel populations. * The infiltration of high loads of fine sediment typically results in low oxygen supply to the interstices of the substrate. Redox measurements provide a reliable estimate as a surrogate for the oxygen level within the interstices of the substrate compared with the open water.
b. Fine sediment (siltation)	The PSI targets in the CSM Guidance for Rivers should be used.	Macroinvertebrate data collected and analysed by environment agencies.	PSI (Proportion of Sediment-sensitive Invertebrates) is an index developed to measure the impact of fine sediment on river-bed invertebrates (Extence et al., 2013). It complements the methods suggested in the siltation section, although it is recommended as a more cost-effective, accurate and easily measurable target.

1.327. Regarding sedimentation / siltation, CSM Rivers states:

“Siltation within and on top of coarse beds is a major threat to interest features (including species such as salmon and freshwater pearl mussel) and is poorly measured by existing WFD tools. For river types characterised by extensive Ranunculus beds, there should be a predominance of ‘clean’ gravels, pebbles and cobbles with relatively low cover by silt dominated substrates. Localised accumulations of silt on the inside of bends or in back channels do not necessarily indicate a problem.”

1.328. It is noted that in relation to TSS, NIEA has stated, as explained previously, that the discharge consents should include a limit set at a mean of **<10mg/l⁻¹** (“as relevant to spawning & nursery grounds for Atlantic Salmon”) and be applicable to the Curraghinalt and Pollanroe Burns. This is a matter discussed in further detail below.

Ammonia

1.329. For completeness, a target for ammonia is not given in relation to FWPM in the guidance. 0.25mg/l in line with CSM for Rivers, is considered to be relevant.

Consideration of other relevant guidance and the approach taken in other jurisdictions

1.330. As I have explained, in addition to the CSM guidance, which has a specific purpose (monitoring and setting of condition targets for designated sites), other guidance is available in relation to the setting of targets and benchmarks used for protecting the aquatic environment and associated species of conservation value. It is also relevant to consider the approaches taken to protecting water quality and

Freshwater Pearl Mussel populations in other jurisdictions. The following are discussed below:

- a) British Standard: BS EN 16859:2017
- b) Environmental Quality Standards (EQS)
- c) SEPA Guidance on the application of environmental standards
- d) European Commission Guidance on Mixing Zones (2010)
- e) The Republic of Ireland (ROI) approach to Freshwater Pearl Mussel conservation
- f) The US and Canadian approach to water quality protection and Freshwater Pearl Mussel conservation

BS EN 16859:2017

- 1.331. I draw the reader's attention to the fact that BS EN 16859:2017 is guidance which is specifically relevant to FWPM. This guidance includes reference to various scientific studies and effectively pools information regarding conditions in which populations of the species are being maintained. Whilst it does not prescribe specific targets, it gives ranges for parameters (based on field observations as opposed to true toxicity studies) which can be shown to be 'acceptable' in view of the species requirements regarding water quality.
- 1.332. It is of note that the evidence base described in BS EN 16859:2017 has been used to inform the relevant CSM guidance, albeit a precautionary approach has been adopted, with the lower end of ranges used at all times to set various targets. Environmental Quality Standards (EQS)
- 1.333. With reference to The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017, Environmental Quality Standards (EQS) are set for specific substances. Concentration thresholds are set, below which no adverse impact is likely, taking account of available dilution at different discharge locations. EQSs concern the environmental receptor, without reference to the sources of emissions. EQS is a widely adopted means of assessing risk and delivering protection to the surface water environment when considering water discharges.

- 1.334. EQS has been used in the approach to assessment and in the defining of proposed limit values insofar as the Curraghinalt Project is concerned. Such matters are described in detail within the TR in respect of Surface Water prepared by Dr [REDACTED] and the Water Discharges Statement of Case.

SEPA Guidance on the application of environmental standards

- 1.335. It is also relevant to consider guidance published by the Scottish Environment Protection Agency (SEPA) titled; "Supporting Guidance (WAT-SG-90) Application of environmental standards in assessing risks to river and loch Natura 2000 interests" (October 2016), a copy of which is included at Annex 24. This guidance describes the process which SEPA will follow when assessing likely significant effects relating to interest features of SACs / SPAs, including Atlantic Salmon and FWPM. This document is available on the SEPA website as part of its "Guidance" resource. The following key points arise:

- 1) Table 1(a) presents a series of step-wise tests associated with determining whether likely significant effects can be ruled out in relation to FWPM. With the exception of 'test 1' all other steps consider a situation where water quality standards are exceeded (to varying degrees) within the SAC, yet at these further steps it still remains possible to conclude no significant effect.
- 2) Table 1(a) specifically considers (at step 6) the use of existing discharge locations (relevant to the Curraghinalt burn) and continuity in terms of the length of the mixing zone (step 7), with no likely significant effect concluded where the answer to both questions is 'yes'.
- 3) Table 1(a) also recognises at steps 8 and 9, that an absence of suitable habitat for FWPM or positive evidence of no FWPM presence, allow a conclusion of no likely significant effect.
- 4) In relation to outfall design (page 9) it is confirmed that improved initial mixing is encouraged in order to shorten the mixing zone length. It is stated that:

"The mixing zone length over which environmental standards are exceeded can be shortened by maximising initial mixing. SEPA will:

- I. *consider proposals to improve initial mixing where it would otherwise conclude that a discharge would be likely to have a significant effect on freshwater pearl mussels; and*
- II. *in all cases, encourage developers to take such steps as are reasonably practical to promote rapid initial mixing of continuous discharges.”*

- 5) The quotation above, emphasises the point that localised exceedances of environmental standards can be acceptable in HRA terms.
- 6) In the case of the project (discharge application) the discharge to each burn will deliver reduced point concentrations at the main rivers (e.g. the Owenkillew) when compared to a direct discharge to the main river. This is similar to the ‘initial mixing’ as actively encouraged by SEPA within its guidance.

European Commission Guidance on Mixing Zones (2010)

1.336. Specific technical guidance on mixing zones was issued by the European Commission in 2010 ²⁸. Several important points arise and these are discussed below.

1.337. A key principle of this guidance is that that measures, compliant with best available techniques (BAT), must be taken. Specifically, regarding this approach, I note at this point that the proposed Reverse Osmosis (RO) plant accords with BAT, and in addition, the proposal to locate the discharge points outside of the main rivers themselves (SAC / ASSI as relevant) also accords with BAT.

1.338. Specifically, regarding mixing zones, on pages 9 and 10 of the EU guidance it is stated:

"Restriction of the extent of the mixing zone should also be considered if the exceedance of the EQS for substance in Annex A of Directive 2008/105/EC has a negative impact on sensitive area such as a spawning area for fish. In Paragraph 5.3 this is further elaborated. The potential for, extent, degree,

²⁸ Technical Guidelines for the Identification of Mixing Zones Pursuant to art. 4(4) of the Directive 2008/105/ec, European Commission (2010)

duration and reversibility of any adverse effects within the mixing zone (e.g. on amenity value or on any of the quality elements of 2000/60/EC (Annex V)) are key elements in the decision making process. The aim should be to limit adverse effects in the mixing zone especially any acute impact from the discharge concerned."

1.339. On page 11 of the EU guidance, it is stated:

"The Competent Authority is responsible for the designation and development of mixing zones under Directive 2008/105/EC and will need to deliver a risk-based, proportionate approach such that all relevant factors are considered in appropriate detail."

1.340. In the case of the Curraghinalt project, when viewed in tandem with the proposed discharge limits (see below), the following key points must all be considered when applying a risk-based, proportionate approach as advocated by the EU guidance:

- 1) The absence of Salmon (at any life stage) in the Curraghinalt Burn;
- 2) The lack of access for fish in the Curraghinalt Burn, outside of spate conditions;
- 3) The lack of optimal spawning habitat in both burns,
- 4) The absence of Freshwater Pearl Mussel both in the burns;
- 5) The absence of Freshwater Pearl Mussel at the main river confluences with the burns, and
- 6) The mixing and dilution which will occur in the main rivers.

Approach to Freshwater Pearl Mussel conservation in the Republic of Ireland

1.341. It is noted that within the Republic of Ireland (ROI), there exists specific legislation concerning the protection and conservation of Freshwater Pearl Mussel, namely The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009. Further, in September 2011, the National Parks and Wildlife Service (NPWS) published "A Strategy for Conservation of the Freshwater Pearl Mussel in Ireland", which is understood to be the current adopted strategy in relation to the national (ROI) conservation aims for this species. Separate guidance is also available in relation to diffuse impacts on Freshwater Pearl Mussel through forestry operations. Additionally, a pilot agro-environment

programme has been established, entitled “The Pearl Mussel Project”, the stated aim of which is to improve the quality of watercourses in order to benefit Freshwater Pearl Mussel in the ROI.

- 1.342. The legislation, guidance and strategies are discussed below. Discussion of the ROI approach is directly relevant because it provides a clear example of how other national governments and associated departments / agencies deal with the issue of conserving / protecting this species.

The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009

- 1.343. These Regulations support the achievement of favourable conservation status for Freshwater Pearl Mussels in ROI.

- 1.344. Regulation 4 states:

“In accordance with Articles 11 and 17 of the Habitats Directive, the Minister shall, at least once every six years, carry out or cause to be carried out monitoring, and assessment of the conservation status, of freshwater pearl mussel populations listed in the First Schedule to these Regulations, and the pressures impacting on that status. The conservation status of the freshwater pearl mussel shall be assessed using, inter alia, the criteria set out in the Third Schedule to these Regulations.”

- 1.345. Regulation 5 states:

“For the purpose of assessing the ecological status of a surface water body in accordance with Schedule IV to the European Communities Environmental Objectives (Surface Waters) Regulations 2009, the Agency shall, in the case of those surface water bodies identified under the First Schedule to these Regulations, assign a status of ‘less than good ecological status’ where, on the basis of specialist surveys undertaken, or caused to be undertaken, by the Minister to assess conservation status, the freshwater pearl mussel is found to be in unfavourable conservation status owing to water quality or hydrology in that water body. The monitoring and assessment required under Regulation 4 of these Regulations shall be such a status assessment.”

- 1.346. Regulation 6 states:

“For each water body listed in the First Schedule to these Regulations, the Minister shall, commencing in 2009, carry out or cause to be carried out:

(a) baseline monitoring of those ecological elements identified in the Third and Fourth Schedule to these Regulations,

(b) investigative monitoring to, where necessary, identify the pressures and their sources, which have led to unfavourable conservation status of the freshwater pearl mussel.

The Minister shall communicate the results of such monitoring to the public authorities listed in the Second Schedule to these Regulations where relevant to the performance of their functions.”

- 1.347. Regulations 7 to 11 are concerned with the preparation, monitoring and subsequent review of required sub-basin management plans for relevant waterbodies.
- 1.348. The First Schedule lists those waterbodies specified as representing Freshwater Pearl Mussel habitat for the purpose of the Regulations.
- 1.349. The Second Schedule lists “Relevant Public Authorities”.
- 1.350. The “Third Schedule” sets out the criteria for the assessment of conservation status of Freshwater Pearl Mussel populations. This is reproduced in the table below.

Criterion	Target to pass	Notes
Numbers of live adults	No recent decline	Based on comparative results from the most recent surveys
Numbers of dead shells	<1% of population and scattered distribution	1% considered to be indicative of natural losses
Mussels shell length 65mm	At least 20% of population 65mm in length	Field survey of 0.5 X 0.5 m quadrats must be carried out in suitable habitat areas for juveniles
Mussels shell length 30mm	At least 5% of population 30mm in length	Field survey of 0.5 X 0.5 m quadrats must be carried out in suitable habitat areas for juveniles

Table 13: Third Schedule of The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009.

1.351. The Fourth Schedule sets out the Ecological Quality Objectives for Freshwater Pearl Mussel Habitat. This is reproduced in the table below.

Element	Objective	Notes
Macroinvertebrates	EQR 0.90	High status
Filamentous algae(Macroalgae)	Absent or Trace (<5%)	Any filamentous algae should be wispy and ephemeral and never form mats
Phytobenthos(Diatoms)	EQR 0.93	High status
Macrophytes — rooted higher plants	Absent or Trace (<5%)	Rooted macrophytes should be absent or rare within the mussel habitat
Siltation	No artificially elevated levels of siltation	No plumes of silt when substratum is disturbed

Table 14: Fourth Schedule of The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009.

1.352. With reference to tables 10 and 11 above, it is clear that this ROI legislation mandates that the assessment of conservation status for Freshwater Pearl Mussel populations must be undertaken against results of surveys targeted at the animals themselves. That is to say, the numbers of live mussels present, also factoring in evidence of dead mussels and the shell size (maturity) of the live mussels recorded.

- 1.353. Secondary to this, is a series of Ecological Quality Objectives, which detail the habitat objectives required to protect the populations. Five, very focussed parameters are considered, which include indicators of water quality in addition to “siltation”, which is known to be a critical factor for the species given.
- 1.354. Of note, with the exception of sedimentation, there is no reference to specific water quality parameters or associated target values.

Freshwater Pearl Mussel Conservation Strategy

- 1.355. It is understood that this (2011) conservation strategy remains current, with no version superseding it. Indeed, in relation to the species conservation measures in the ROI, in terms of an overarching species strategy, the NPWS website provides a specific electronic link to this document. Links are also provided for relevant legislation, Draft River Basin Management Plans and reports on specific projects / studies. For completeness and ease of reference, a copy of the 2011 strategy document is provided at Annex 25.
- 1.356. As confirmed in the introduction / summary of the 2011 strategy:

“The objective of this strategy is to ensure the long-term survival of the species in Ireland, while maintaining its broad geographic range. The strategy sets out a prioritised approach to the implementation of measures necessary to conserve the species.”

- 1.357. It is also confirmed in the introduction / summary of the 2011 strategy that:

“The measures required to restore pearl mussel habitat in the 27 catchments are resource-hungry, in terms of staff, money and expertise. Many of the measures are new and will require testing and further development. It is neither possible nor desirable to implement all necessary measures across the 27 catchments in this first planning cycle.

The national conservation strategy advocates the full implementation of measures in those catchments where:

- 1) The largest pearl mussel populations occur.*
- 2) The mussel population is closest to favourable conservation status and, thus, has the greatest chance of demonstrating a recovery (using the criteria set out in the Third Schedule to S.I. 296 of 2009).*

- 3) *The mussel habitat is most likely to demonstrate improvements in the ecological quality objectives set out in the Fourth Schedule to S.I. 296 of 2009.*
- 4) *The impacting pressures are best understood and, therefore, the measures are expected to be effective.”*

1.358. The strategy therefore presents a focussed approach to conservation management, targeting measures at locations and populations where the greatest benefit for the species can be achieved, with consideration also given to ‘value for money’ in terms of resource use. Regarding this targeted approach, the 2011 strategy states:

“It is clear that it will not be possible to restore some of the 27 populations, because of the low number and poor condition of the remaining mussels, the bad status of the mussel habitat and the magnitude of the pressures in the catchment. It is now evident that such problems existed even at the time of some designations.

The proposed conservation strategy aims to achieve the maximum conservation outputs, in terms of numbers of mussels and populations sustained over the long-term, for the restoration effort.”

1.359. With reference to the above, there is an acceptance that:

- a. Some populations cannot be restored due to small population size, poor quality habitat or the severity of pressures on the population;
- b. The futility of conservation efforts targeted at such populations arises because of historic issues;
- c. Conservation gains for the species are best achieved when focussed on viable populations, with the result that ‘accepted losses’ occur.

1.360. Following from the above, in the case of the Mine proposals, it is important to have regard to the survey data regarding the locations of Freshwater Pearl Mussels (as recorded in the data supplied by NIEA from 2021 and 2022). No mussel beds were recorded within the Owenreagh River. In the Owenkillew River, the larger (more significant) mussel beds recorded, are located well upstream of the Owenkillew’s confluences with the Owenreagh River and the Curraghinalt burn. The 2021 Survey Sites 1 – 3 are all in close proximity with 1150, 230, 367 mussels recorded respectively. Slightly further downstream (but upstream of the confluence with the Curraghinalt Burn), 2021 Survey Site 4 returned a record of 430 mussels. No other Survey Site from either 2021 or 2022 returned records of this scale, with two

locations downstream of the confluence with the Owenreagh holding circa 100 mussels and one site holding 170 mussels well downstream of the confluence, at the downstream extent of the survey. The very low numbers of mussels recorded at points between the higher densities are likely to be representative of mussels being dislodged during fast flow conditions. The simple point here is that if one were to apply the principles contained within the very logical approach to Freshwater Pearl Mussel conservation management as adopted by ROI, then, on the evidence of the surveys, efforts / resources would have a focus on the upstream parts of the Owenkillev catchment (e.g. 2021 Survey Sites 1 to 4).

1.361. The 2011 strategy references work which informed the Sub-basin Management Plan Project, undertaken by Dr [REDACTED]. Notably, another body of work undertaken by [REDACTED], which centred around a desk-based study of European populations of the species, was used to inform the JNCC CSM approach in relation to the species and also BS EN 16859:2017, both of which have been discussed above.

1.362. Regarding [REDACTED] work to support the Sub-basin Management Plan Project, at section 1.3.2 of the 2011 strategy, it is stated:

[REDACTED] has recently published a paper (attached), based on work conducted under the Sub-basin Management Plan Project, that proposes a prioritisation system and grapples with the need for a conservation strategy. The overall aim of the paper was to develop a conservation strategy to ensure the long-term survival of the species on the island of Ireland and, thus, the maintenance of an important part of the species' natural biogeographic range. A secondary aim was to maintain the broad geographical and genetic range within Ireland. The paper advocates:

- 1) Prioritisation of the largest populations, in order to maintain the largest possible portion of the national population;*
- 2) Prioritisation of those populations with the greatest range of age classes, which will increase resilience in terms of their expected survival,*
- 3) Prioritisation of those populations with the greatest occupancy of potential habitat so that catastrophic events are likely to have less severe impacts;*
- 4) Prioritisation of those populations where measures are most likely to lead to improvements in habitat conditions in sufficient time to allow the population to recover naturally,*
- 5) Prioritisation of those populations with the most manageable pressures.*

For each of the five prioritisations above, a filter was developed. Applying each filter, a population was prioritised or rejected, unless it lay between the prioritisation and rejection thresholds, or the required data were unavailable. The result was a table (Table 9 of [REDACTED], 2010) listing the number of prioritisations and rejections and assigning a “priority class” (See also Appendix I). The priority classes are presented in Table 1 below, listing each population by name.”

- 1.363. The screening exercise undertaken in respect of location / population prioritisation is described in detail at section 1.3.3 of the 2011 strategy (pages 6 to 8). Justification for the strategy is described at section 1.3.4 on page 10 of the 2011 strategy. That detail is not reproduced here, instead the reader is directed to Annex 25 for such information.
- 1.364. Importantly, there is no mention of the water quality parameter limits cited in JNCC CSM guidance (and based upon studies previously undertaken by [REDACTED]). The ROI approach to the protection of the species is a step away from generic (non site-specific) guidance, and more focussed in nature.
- 1.365. Section 2 of the 2011 strategy details measures proposed in respect of the diffuse agricultural pressures in the eight priority freshwater pearl mussel catchments (and the Nore catchment), which are focussed around the production and implementation of site specific “farm plans”. It is stated that:

“For the eight priority pearl mussel catchments, the principal agricultural measure in the Sub-basin Management Plans is to develop specific farm plans for target areas of the catchment. The target areas are to be defined based on a combination of high risk physical settings and high risk agricultural land uses/intensity. Target areas for riparian measures along the River Nore will be identified adjacent to and upstream of the extant population. The development of such farm plans requires significant work and collaboration between the National Parks and Wildlife Service of the Department of Arts, Heritage and the Gaeltacht and the Department of Agriculture, Fisheries and Food.

The flow diagram in Figure 1 outlines the process required to develop and implement the farm plans.

The key measures are:

- 1) The employment of a team of dedicated farm advisers, and*
- 2) The availability of funding for the necessary plans.”*

- 1.366. Regarding the funding and delivery of site specific (farm plan) projects focussed upon addressing agricultural impacts on Freshwater Pearl Mussel within the ROI, “The Pearl Mussel Project” is of relevance. This is discussed further below.

The Pearl Mussel Project (ROI)

- 1.367. The Pearl Mussel Project, as referenced above, was set up as a pilot agri-environment programme which seeks to improve the quality of watercourses to benefit Freshwater Pearl Mussel in the ROI. It is stated as being “locally adapted, results-based and focuses on the top eight freshwater pearl mussel catchments in Ireland.” The project is funded by the Department of Agriculture, Food and the Marine as part of Ireland's Rural Development Programme 2014-2020. It has a budget of €10million and was set to run until December 2023.
- 1.368. Farmers within the scheme receive financial rewards based upon the quality peatland, grassland and woodland habitats (used as indicators) present on their land. The quality of watercourses on the farm also affects the level of payment.
- 1.369. A results-based payment system generates higher income rates where improvements are made to previously poor scoring habitats, providing an incentive to deliver enhancements. In addition, a floodplain payment is made to farmers who maintain floodplains and riparian habitats along Freshwater Pearl Mussel rivers. Payment rates vary according to recorded habitat quality. In order to determine the final payment an adjustment is made for the ‘results payment’ using the outcomes from a ‘whole farm assessment’ (based on overall habitat quality at the farm), with additional payments made where the farmer implements measures over the course of the scheme which are aimed at improving habitat quality and reducing the risk of impacts on downstream watercourses.
- 1.370. The Betterment Plan included at **Annex 13**, includes measures which are in line with the aims of the Pearl Mussel Project and the enhancements to farmland which are prescribed.

The US and Canadian approach to water quality protection and Freshwater Pearl Mussel conservation

- 1.371. Regard has also been had to the approach taken in Canada and North America, given that Fresh Water Pearl Mussel populations are present and are afforded protection.
- 1.372. In the US and Canada, effects-based water quality guidelines are set which are based on toxicology data. Guidance on site-specific assessment of secondary effects associated with eutrophication are also provided to support the identification of site-specific management targets. By way of example, for ammonia, the US Environmental Protection Agency (EPA) has a recommended effects-based guideline, but also recommends Ambient Water Quality Criteria for nutrients (including nitrogenous nutrients) in rivers and streams that are based on various ecoregions across the country. This published guidance for nutrients are not laws or regulations, but instead represent guidance that State and Tribal authorities may draw on as a starting point for setting water quality criteria that consider the various water management objectives for aquatic systems. As an example, Ecoregion VIII, which includes all or portions of nutrient-poor, largely glaciated upper Midwest and Northeast states of Maine, New Hampshire, Vermont, Massachusetts, New York, New Jersey, Pennsylvania, Michigan, Wisconsin, and Minnesota, as well as ecoregion XIV, which includes all or portions of the Eastern Coastal Plains associated with the South Carolina, North Carolina, Georgia, Virginia, Maryland, Delaware, New Jersey, New York, Connecticut, Rhode Island, Massachusetts, New Hampshire, and Maine, represent the two ecoregions that encompass the known US extent (**Figure 5**) of Eastern Pearlshell Mussels (*Margaritifera margaritifera*, Linnaeus 1758; Pennsylvania Fish and Boat Commission, 2011). Guidance to support management and target development for Ecoregion VIII and Ecoregion XIV are provided in US EPA (2001)²⁹ and EPA (2000)³⁰, respectively.

²⁹ US EPA. 2001. Information Supporting the Development of State and Tribal Nutrient Criteria for Rivers and Streams in Nutrient Ecoregion VIII. US Environmental Protection Agency, Office of Water, Office of Science and Technology, Health and Ecological Criteria Division, Washington, DC. December 2001. EPA 822-B-01-015.

³⁰ US EPA. 2000. Information Supporting the Development of State and Tribal Nutrient Criteria for Rivers and Streams in Nutrient Ecoregion XIV. US Environmental Protection Agency, Office of Water, Office of Science and Technology, Health and Ecological Criteria Division, Washington, DC. December 2001. EPA 822-B-00-022.

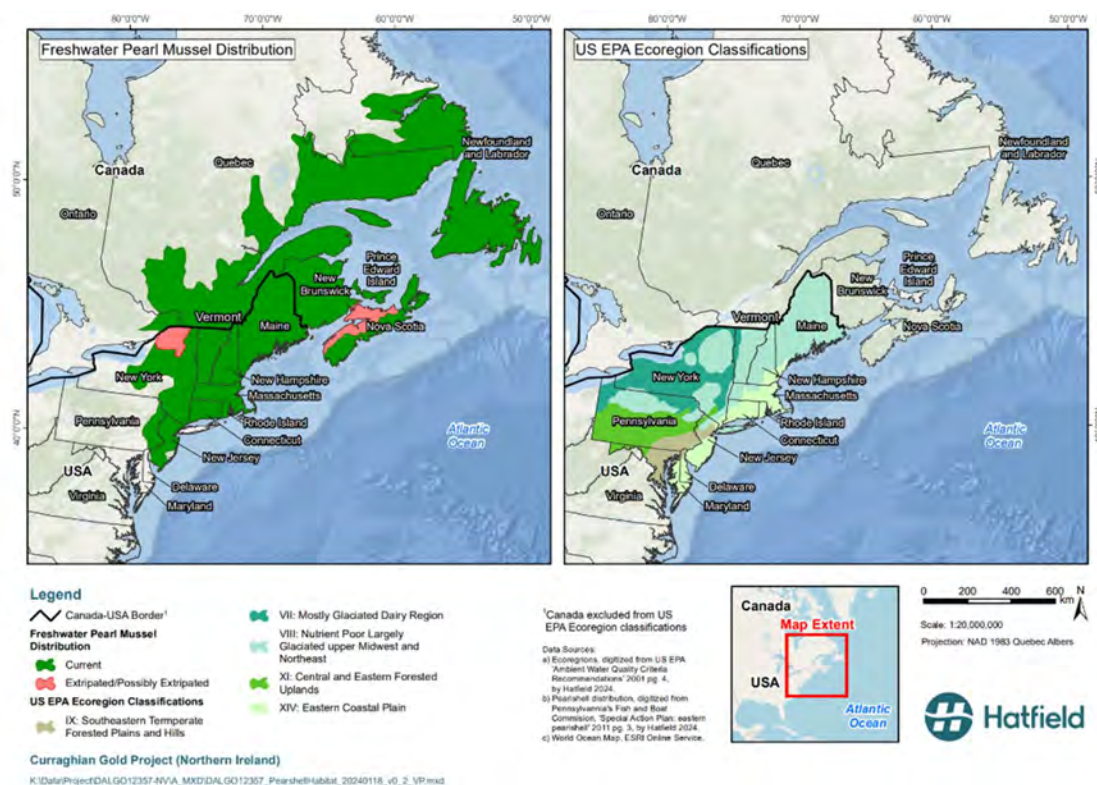


Figure 5. Comparison of North American Freshwater Pearl Mussel (*M. margaritifera*) distribution (reproduced from NatureServe 2010; left figure) relative to US EPA Ecoregion classifications for ambient water quality criteria for nutrients (reproduced from US EPA 2000; 2006; right figure).

1.373. As outlined in Figure 1, the known extent of *M. margaritifera* populations extend north into the eastern provinces of Canada. Similar to the US approach, federally, Canada recommends effects-based water quality guidelines for nitrate, ammonia, and total suspended sediments. These are summarised in Tables 15 and 16 below. As outlined in CCME (2007³¹), the purpose or guiding principles of these effects-based water quality guidelines are:

- “Guidelines represent generic national recommendations that are based on the most current scientific information available at the time of their derivation (i.e., they do not directly consider site-specific, technological, socioeconomic, or management factors that may influence their implementation).
- Guidelines are meant to protect all forms of aquatic life and all aspects of the aquatic life cycles, including the most sensitive life stage of the most sensitive species over the long term, from the negative effects of

³¹ Canadian Council of Ministers of the Environment. 2007. A protocol for the derivation of water quality guidelines for the protection of aquatic life 2007. In: Canadian environmental quality guidelines, 1999, Canadian Council of Ministers of the Environment, 1999, Winnipeg.

anthropogenically altered environmental parameters (e.g., pH, temperature, and dissolved oxygen) or exposures to substances via the water column.

- *In deriving these science-based guidelines, all higher components of the aquatic ecosystem (e.g., algae, macrophytes, invertebrates, and vertebrates [fish, amphibians, etc.]) and their aquatic life stages are considered, if the data are available.*
- *National guidelines can be the basis for the derivation of site-specific guidelines (i.e., derived with site-specific scientific data) and objectives (i.e., derived with site-specific scientific data as well as consideration of technological, site-specific socioeconomic, or management factors).*
- *Provincial jurisdictions may aim for greater or lesser levels of protection (i.e., certainty and margins of safety) depending on circumstances within each jurisdiction.”*

Constituent	CCME (Acute [mg/L])	CCME (Chronic [mg/L])
Ammonia	0.016* (unionized) ¹	-
Nitrate	124 (NO ₃ ⁻ as N)	3.0 (NO ₃ ⁻ as N)
Total suspended sediments	Maximum increase of 25 mg/L that of background when background levels are between 25 and 250 mg/L. Should not increase more than 10% of background levels when background is ≥250 mg/L.	Maximum average increase of 5 mg/L that of background.

Notes: *unionized ammonia in mg/L reported in the CCME WQGPAL was converted to unionized ammonia in mg/L (as N) for comparison to discharge criteria; ¹ The CCME WQGPAL is based on unionized ammonia, with total ammonia guidelines calculated based on pH and temperature, as outlined in Table 13, to maintain unionized concentrations less than the unionized guideline NO₃⁻ as N = nitrate as nitrogen.

Table 15. CCME Water Quality Guidelines for protection of aquatic life for nitrate, ammonia, total suspended sediments.

Temp (°C)	pH							
	6	6.5	7	7.5	8	8.5	9	10
0	190	60	19	6	1.919	0.617	0.206	0.035
5	126	39.8	12.6	3.986	1.268	0.413	0.142	0.028
10	84	26.7	8.48	2.685	0.856	0.282	0.100	0.024
15	57	18.1	5.75	1.828	0.589	0.197	0.073	0.021
20	40	12.5	3.97	1.268	0.411	0.141	0.055	0.020
25	28	8.7	2.78	0.889	0.292	0.103	0.044	0.018
30	20	6.2	1.97	0.632	0.211	0.077	0.035	0.017

Table 16. CCME total ammonia guidelines, adjusted by pH and temperature to reflect predicted concentration of un-ionized ammonia (reproduced from CCME 2010 but adjusted to mg/L as N using a conversion factor of 0.8235).

- 1.374. Canada also has guidance to support site-specific assessments for determining nutrient concentrations protective of secondary effects associated with primary productivity. The Guidance Manual for Developing Nutrient Guidelines for Rivers and Streams³² (2016) is clear that the adoption of a standardised approach to guidelines (i.e., target setting) is not appropriate given site-specific influences that control primary productivity in aquatic receiving environments (e.g., light penetration depth, turbidity, nutrient ratios/limiting nutrients, temperature, etc.). Instead, the recommended approach is to use location specific data to inform regional guidelines. It is stated within the Executive Summary that:

“There is no ideal “one-fits-all” approach to nutrient guideline development, because each region and jurisdiction has a unique combination of natural features, economic and intellectual resources, and existing data monitoring programs”

- 1.375. This reference to the use of location specific data is particularly poignant in the case of the Mine proposals and the issue of applying the JNCC CSM guidance in relation to nutrients (e.g. Nitrates and Phosphorus).

³² Guidance Manual for Developing Nutrient Guidelines for Rivers and Streams (2016), Canadian Council of Ministers of the Environment

Summary conclusions in view of the Guidance

- 1.376. In view of the above, it is clear that there is range of guidance available to assist in the setting of appropriate discharge limits.
- 1.377. Whilst it is relevant to have regard to the CSM guidance in helping to define discharge limit values, that guidance has a specific purpose, that of a monitoring tool for designated sites. That guidance must not be viewed as the 'last word' in defining acceptable water quality for sustaining populations of FWPM or protecting the aquatic environment more generally. None of the other approaches discussed in relation to Freshwater Pearl Mussel protection / conservation apply JNCC CSM Guidance, or an equivalent set of designated site monitoring guidelines.
- 1.378. The approach to protecting water quality and associated ecological functions is well defined through the Water Framework Directive and through this statutory framework the application of EQS values are advocated as the means by which protection is afforded.
- 1.379. The approach to the protection and conservation of FWPM in ROI is logical and grounded in sound ecological and economic principles. Legislation mandates a focus on assessing mussel numbers to determine the conservation status along with five very focussed habitat objectives. The adopted species conservation strategy accepts losses of unsustainable populations and targets efforts at populations where benefits for the species can be realised and a conservation project has been defined, funded and implemented.
- 1.380. The approach to setting water quality targets in Canada and North America is based around actual (recorded) toxicological effects, and site-specific data regarding baseline conditions for water chemistry. By contrast, the CSM guidance for FWPM derives its targets from an observational, desk-based study regarding water quality in rivers supporting populations of FWPM, the same study which informs BS EN 16859:2017.
- 1.381. The approach to defining the revised discharge limits, as proposed by the Applicant, has regard to the CSM guidance, but the overall strategy recognises that the 'one size fits all' approach based on observational data, is not scientifically robust. Further, the approach adopted by the Applicant, as described in the

following section, fully meets the tests of the Habitats Regulations, ensuring no adverse effect on Integrity, a movement towards favourable condition in terms of water quality issues and no retardation of the ability of the Owenkillev River reaching favourable condition.

Discussion regarding appropriate and proportionate discharge consent limits

- 1.382. First and foremost, it must be remembered that for the discharge consent applications, we are dealing with a consenting regime which sets thresholds / benchmarks at which Enforcement action can be taken. These are measured values (through monitoring / testing) where exceedance can lead to prosecution. That is very different to the actual residual effect, post mitigation, of the scheme proposals, modelled or otherwise. In other words, in setting a discharge value for compliance purposes, it does not follow that the discharge will be at that level. In fact, because the discharge will be an enforcement limit, the applicant would ensure that measures (e.g. relevant technology) are in place to give rise to discharges which will be as low as possible when compared to the limits, to avoid any breaches of the consent.
- 1.383. In terms of what those discharge limits should be, they should, in short, be protective of the aquatic environment, including those qualifying interest features of the relevant SAC / ASSIs. Insofar as the Owenkillev SAC is concerned, they should be at a level which does not undermine the sites Conservation Objectives.
- 1.384. The relevant conservation objective for the SAC is to maintain, or restore (where appropriate) the qualifying interest features to favourable condition, and the SAC is reported as currently being in unfavourable condition. On this basis, when applying the tests of the Habitats Regulations, it would be appropriate to take measures which ensured no further deterioration in water quality attributes of importance to the qualifying interest features. That is to say, the project should not make things worse. Further, it is also necessary to demonstrate that the project will not retard the ability of the feature/s to reach favourable condition.
- 1.385. It is important however not to conflate discharge limits with actual discharges and it is equally important to have regard to the fact that current 'failings' in relation to

water quality parameters (contributing to the unfavourable condition of the SAC) arise from a multitude of activities in the catchment, including many which are themselves consented (e.g. residential and WwTW discharges) and many which are not regulated to the degree necessary to stem the rise in nutrient inputs (agriculture).

- 1.386. The proposed mine will, in simple terms, circulate water from within the catchment. It will be using water of existing baseline quality, which has been highlighted by NIEA as not meeting targets set in relation to features attaining favourable condition.
- 1.387. With the exception of a 'baseline condition' discharge of water from the freshwater pond (collecting water from upstream of the proposed infrastructure site), designed to ensure baseflow levels in the Pollanroe Burn is maintained / enhanced, mine water will be passed through an advanced Reverse Osmosis water treatment plant. The process is non-selective and as a result the system will be screening (removing) levels of parameters associated with baseline water quality as well as any additions associated with the mine processes. Therefore, as part of the project water treatment process, baseline water will be cleaned.
- 1.388. Regarding baseline water quality, it is well documented that agricultural practices have a significant adverse impact on water quality in the catchment, with run-off containing fertilisers, slurry and silts being a prime example. A lack of regulation and enforcement is understood to be a critical issue in this regard. However, there are also examples of consenting process which have allowed permits to be issued for discharges well in excess of those values put forward by the Applicant. The sources relevant to water quality impacts in the SAC and the various management plans which have been published to try and redress the issues are discussed in detail within the Betterment Plan included at Annex **13**.
- 1.389. Following from the above, as one example, the Greencastle WwTW discharges into water which holds FWPM. This has discharge limits for BOD and total ammonia and these are set at 35 mg/L (95%ile) and 10 mg/L as N (95%ile) respectively. These concentrations are significantly in excess of JNCC CSM target values. Regarding this and other such examples, the reader is directed to section 6 of this TR.

- 1.390. In view of the above, whilst it is considered relevant to have regard to the CSM guidance in helping to define discharge limit values, it would be a disproportionate, and indeed irrational response to force the Applicant to accept discharge limits (for certain key parameters relevant to the protection of FWPM and Atlantic Salmon) which were aligned directly with the CSM guidance. That would effectively place the designated site monitoring values at 'end of pipe', well removed from the designated site boundaries, any population of FWPM and key habitat for Atlantic Salmon (noting that spawning habitat has not been identified in the burns and only Salmon parr have been recorded (only then at the southern end) in the Pollanroe burn.
- 1.391. In addition, the Applicant would by default be compensating for the permitted discharges of the Greencastle WwTW and other projects in the catchment (e.g. housing schemes) where discharge consents have been issued. Issues then arise in relation to non-discrimination and consistency of approach, with reference to the application of the precautionary principle.
- 1.392. The effect of relevant discharge limits being aligned directly with the CSM guidance would be to mandate betterment for the catchment by focussing attention on the proposed Mine project. In those circumstances, not only would the Proposal (unequivocally) be deemed not have an adverse effect on the Integrity of the SAC in relation to water quality issues, but it would be directly addressing the historic and on-going problems caused by others. This goes well beyond the 'polluter pays' principle, and also well beyond what is required by the legislative provisions of the Habitats Regulations.
- 1.393. As can be drawn from the Freshwater Pearl Mussel Favourable Conservation Status assessments discussed previously, and also from the various management plans and the risks highlighted in the SAC Conservation Management Plan, all discussed within the Betterment Plan at Annex 13, there are a range of intractable factors / processes acting upon the SAC and determining feature condition. Water quality is just one aspect of that range of factors. Therefore, on this basis alone, it is not correct to proceed with an HRA on the basis of an entirely hypothetical scenario, whereby the SAC is deemed to already be in favourable condition, in

order to demonstrate reaching favourable condition is not to be retarded by the project.

- 1.394. Even when focussing purely on water quality issues as part of a favourable condition assessment, I am not aware of any proposals for WwTWs to be upgraded to match, or even get anywhere close to, the efficiency of the plant proposed by the Applicant. There is also no evidence to suggest that nutrient (nitrate and phosphate) inputs from agriculture is being or will be effectively regulated to the extent that the JNCC favourable condition limits will be reached.
- 1.395. The Habitats Regulations require the decision taker to reach a conclusion that the project will not give rise to an adverse effect on the integrity of the site. That decision should be taken in view of the conservation objectives, which require maintenance or restoration of favourable condition if applicable. The existing baseline is important in any such consideration.
- 1.396. With regard to the requirement for restoration, if the proposals can be regulated through discharge limits which ensure that there is no further deterioration and, where possible, movement towards favourable condition, then it cannot be held that the proposals fail the tests of the Habitats Regulations.
- 1.397. I now turn to consider what is proposed to ensure no deterioration in water quality (as relevant to the key parameters), and ensure that the proposals will not undermine the SAC Conservation Objectives, including considerations relating to not retarding the prospect of the SAC reaching favourable condition.

Revised proposed discharge limits

- 1.398. The Applicant proposes a revision to those discharge limits sought under the discharge consent applications. This decision has been taken in the light of the position of NIEA, the available evidence regarding water quality associated with the relevant designated sites, the species population data and cited threats / pressures impacting on these species. The approach demonstrates an abundance of caution and fully accords with the precautionary principle.

- 1.399. I draw the reader's attention to the evidence presented within the TR of [REDACTED] of Kaya Consulting for matters of detail regarding the proposed discharge criteria. However, I summarise the proposals below and discuss why this approach is both appropriate and proportionate, with particular regard to the tests of the Habitats Regulations.
- 1.400. As discussed previously, in view of the legislation, available guidance and the baseline information, it is important to demonstrate that the project will not give rise to further deterioration of water quality and that the proposals will not retard the potential for the relevant interest features to attain favourable condition (noting the current unfavourable status).
- 1.401. Following from the above, if the discharge criteria are set at a level consistent with baseline concentrations associated with the interest feature populations in the main rivers (Owenkillew and Owenreagh), then it can be concluded that the project will not be making things worse in terms of water quality. In this light, the Mine would not be exacerbating any perceived deleterious water quality impacts on interest features associated with the designated sites. Further, because we are dealing with enforcement values, discharges would be below those levels and thus betterment would be achieved for the catchment.
- 1.402. I deal below with the relevant key parameters.

Phosphorus

- 1.403. The issue of phosphorous is covered in further detail within the Geochemistry Characterisation Studies Technical Report, produced by SRK Consulting. For this detail I refer the reader to section 11 of that TR. For convenience, the salient points can be distilled as follows:
- 1) Three minerals which contain phosphate have been identified in the Curraghinalt deposit, but in trace amounts only;
 - 2) The phosphate present would be insoluble in the Curraghinalt water chemistry;
 - 3) BS EN 16859:2017 (FWPM specific guidance) confirms that:
 - "...**phosphorus in any of its forms is not directly toxic to pearl mussels**";

- It is a "...key concern in Margaritifera catchments, as it is normally the limiting nutrient for algal and plant productivity"; and
 - "...it is directly **linked to eutrophication**, resulting in several adverse effects for the species'.
- 4) Unlike for nitrate and ammonia, BS EN 16859:2017 does not present actual water quality guideline concentrations for phosphorus. Instead, it cites the need to demonstrate consistently "very low MRP and total P in conjunction with no evidence of eutrophication (e.g. algal growth)". It recommends a mean or median MRP or total P level for all FWPM rivers consistent with high status under the WFD. This was the approach taken by the Applicant submitting the discharge consent licence applications.
 - 5) The phosphorus standards suggested in Moorkens 2006 (i.e. median of 0.005 mg/L or 5 µg/L, orthophosphate) are not reproduced in the British Standard guidance. However I note that they were taken forward in the JNCC CSM guidance for FWPM.
 - 6) It is unlikely that the Moorkens / JNCC CSM target of **0.005 mg/L or 5 µg/L**, represents a concentration which could be accurately measured.
 - 7) From a review of laboratory capabilities undertaken as part of the 2017 Surface Water Baseline Report, the lowest detection limit was **0.01 mg/L (10 µg/L)**, which is twice the JNCC CSM target value and is also understood to be the detection limit threshold for NIEA data.
 - 8) CSM Rivers guidance gives a relevant target of **10 µg/L (SRP)** in instances where current phosphorus concentrations are below that threshold (as an annual and growing season mean) and where it is feasible to comply with it. However, a proposed maximum of **0.02 mg/L (20 µg/L) SRP** should normally be adopted where the baseline value is higher.
 - 9) Of the available laboratory testing methodologies, only "ICP dissolved phosphorus analysis" is readily capable of delivering concentration resolutions that are directly comparable with the FWPM target (**0.005 mg/L or 5 µg/L**) for soluble reactive phosphorus. There is uncertainty regarding the results due to the possibility of overestimating concentrations through the inclusion of 'non-reactive' phosphorus.
 - 10) For all orthophosphate as PO₄ at upstream monitoring locations in the Owenkillew (SW05, SW07, SW23 and SW24) and Owenreagh (SW10 and SW11), between 2011 and 2024 median concentrations are less than the detection limit.
 - 11) The Project sewage treatment plant is the only source of phosphate from the proposals and all resulting effluent will be further treated by passing it through the RO plant. The RO plant removes a further ~99% of all solutes (see Annex D, 2020 Surface Water Impact Assessment). The result is that the treated

sewage effluent typically has a subsequent **minimum of 100 times dilution** and **a further ~99% concentration reduction** before discharge to the environment.

12) Given the purported sensitivity of FWPM to phosphorous and the fact that the Owenkillew and Owenreagh Rivers already have concentrations that are deemed excessive, it is proposed that the discharge limit is set to prevent exceedance of the average upstream (receiving) background concentration already flowing over the FWPM beds. Thus, the discharge will be regulated to match / dilute the baseline concentrations over an annual period.

13) The average background phosphorus concentration is approximately 0.02 mg/L. It is proposed that this value be applied as an annual mean to end of pipe compliance criteria.

1.404. In view of the above and with reference to the Geochemistry Characterisation Studies TR, the only discernible addition of phosphorus into discharges from the mine proposals themselves, comes from the Project sewage treatment plant. The arising concentrations will be negligible and given the effectiveness of the proposed treatment chain (WwTW followed by RO) the situation can be viewed as follows. The phosphorus from the mine project is fully removed from the discharges and in addition, a proportion of phosphorus in the baseline water is also removed because of the external water coming into the treatment ponds and the RO Plant. Assigning a discharge consent threshold of 0.005 mg/L or 5 µg/L (in line with JNCC FWPM CSM guidance) would be wholly disproportionate, over-precautionary and inappropriate. Further, given the issues identified regarding detection limits, it would not only be impractical, but also non-transparent and prejudicial to impose such limits. There would always be a significant level of doubt / uncertainty regarding measured values and this is not appropriate when the assessment is effectively dealing with judgments on whether enforcement action should be taken.

1.405. Treating to a level in line with a compliance threshold of current baseline (e.g. 0.02 mg/L / 20 µg/L) would ensure no further deterioration in water quality, would be measurable giving confidence in the results of monitoring and would be consistent with CSM Rivers guidance.

Nitrate

- 1.406. As discussed above, the JNCC CSM guidance for FWPM sets a target value of 0.125 mg/L based upon Moorkens (2006). However, the CSM guidance also references the fact that different thresholds have been proposed in scientific literature, for example 0.5 mg/L in central Europe (Bauer 1988) and 1 mg/L for the UK (Oliver 2000). It also references the fact that a UK population showing some recent recruitment has a median value of 0.338 mg/L. The JNCC guidance has taken a precautionary approach and applied the lowest limit value from the cited literature.
- 1.407. Like phosphate, nitrate is linked to eutrophication, and it is this which is recognised in terms of adverse effects on FWPM (and other aquatic life) as opposed to direct toxicity being linked to nitrate. However, it is significant that phosphorus, and not nitrate is cited as being the key limiting nutrient for algae / plant growth in FWPM catchments, as stated in BS EN 16859:2017.
- 1.408. In terms of the reported effects of eutrophication within the catchment, as opposed to the reported concentration levels of nitrate (or phosphate) one can take some comfort from the favourable condition monitoring data. Looking at the condition assessment data / reports from both 2011 and 2017 (see above), in both instances less than 5% coverage of filamentous algae (within assessment units) was recorded. This is in line with the guidance and therefore that criteria was recorded as a 'pass'.
- 1.409. Whilst the CSM monitoring targets (set at a precautionary level) are not met, the evidence available from the filamentous algae surveys, does not demonstrate eutrophication as being at a level which could be harmful to the FWPM populations.
- 1.410. Notwithstanding the above points, since nitrate is linked to eutrophication and that is a known pressure for FWPM populations, it is appropriate that nitrate levels continue to be monitored and that limits are set in relation to any discharges into the catchment.

- 1.411. Unlike with phosphorus, the Mine proposals do result in a direct pathway for increases in nitrate loading, notably from the use of explosives as part of the mining process. However, again the issue of baseline water quality is relevant and in setting appropriate and proportionate enforcement levels one has to be mindful of the fact that the RO plant will be treating water which already has an existing level of nitrate arising from other sources within the catchment (both regulated and unregulated).
- 1.412. It would be both appropriate and proportionate to set the enforcement / limit value in line with the baseline value for nitrate as applicable in the main river. In this way, the Applicant will be regulated to ensure no worsening of the situation and in real terms therefore, with actual discharges below this value, the baseline will be improved through dilution and a trajectory towards favourable condition will result.
- 1.413. The matter of existing Nitrate loading within the main rivers and the Applicant's proposals to deliver additional benefits in terms of a reduction in agricultural sources of nitrate in the rivers, is specifically discussed within the Betterment Plan appended to this TR.

BOD

- 1.414. JNCC CSM guidance for FWPM gives a target of < 1 mg/L (mean). With reference to the 2017 FWPM condition monitoring data / report (see above), this criterion was failed on the basis of a recorded mean of 1.59 mg/L. The TRs in relation to Surface Water and Water Discharges provide detailed discussion regarding the baseline position for BOD and I direct the reader to the information included in that report for further information.
- 1.415. It is proposed that the enforcement / limit value should be set in line with the baseline value for BOD as applicable in the main river FWPM habitat. As with other relevant parameters the Applicant will be regulated to ensure no worsening of the situation and with actual discharges below this value, the baseline will be improved through dilution and a trajectory towards favourable condition will result.

Siltation / TSS

- 1.416. Regarding TSS and potential implications for aquatic habitats / species (including FWPM and Atlantic Salmon), as already discussed above, JNCC CCSM guidance does not set specific target values for siltation. For redox, CSM guidance for FWPM states that *“there should be no pronounced difference in redox potential (typically <20%) between open water and interstitial water at 5cm depth”*. The 2017 FWPM condition monitoring report states that for redox a fail was recorded, the cited range of recorded data being 37% to 39% between open water and interstitial water.
- 1.417. NIEA has stated that the discharge consents should include a limit set at a mean of <10mg/l-1 (*“as relevant to spawning & nursery grounds for Atlantic Salmon”*) and applicable to the Curraghinalt and Pollanroe Burns. The following points arise.
- 1.418. First, it should be noted that this is an issue which is principally limited to the construction phase of the proposals, where silts / soil are likely to be mobilised, with run-off causing elevated levels of TSS within water to be discharged. Any perceived effects would be short-term and reversible. During the operational phase of the project there will be no discernible discharge of TSS, given the treatment processes. During closure, again silts / soil are likely to be mobilised and run-off could give rise to elevated levels of TSS, however again such effects would be short term and reversible. Context is also important here and I am mindful that TSS within the rivers and more minor watercourses will vary significantly throughout the year depending on prevailing weather conditions. TSS loading will be ‘naturally’ high after prolonged rainfall, falling as conditions stabilise and flow rates decrease. Thus, short term elevated TSS levels are a natural and common occurrence and are not something which has the potential to cause significant or irreparable damage.
- 1.419. Second, evidence does not point to either the Pollanroe or Curraghinalt burns being important habitat for Atlantic Salmon. There is no evidence of use of the Curraghinalt burn by the species (following detailed surveys by the Loughs Agency and the Appellant) and habitat scoring assessments have demonstrated it to be sub-optimal. Regarding the Pollanroe burn, whilst Atlantic Salmon parr have been

recorded as present in low numbers, there is no evidence that spawning is supported.

- 1.420. The TR of [REDACTED] (Kaya Consulting) regarding Water Discharges describes what is proposed as appropriate and proportionate in respect of limit values. Those being fully protective of the aquatic environment and the Atlantic Salmon / FWPM populations within the catchment.

NORM / Radon

- 1.421. Naturally Occurring Radioactive Materials (NORM) and Radon Gas are not specifically cited by any statutory consultees in relation to perceived potential implications for ecological receptors. However, for completeness the matter has been considered. Detail is presented in the report titled TR - NORM and Radon Gas for the Curraghinalt Project, prepared by Aurora Health Physics Services Ltd. I direct the reader to that report for further information, but summarise the findings here.
- 1.422. The premise of the analysis conducted is that industrial activities such as mining can lead to increased concentration levels of NORM. In relation to radon, this occurs naturally in air and readily emanates from the ground. Legislative provisions in place to protect people from radon gas exposure at increased concentrations within buildings and confined spaces such as mines, and within drinking water.
- 1.423. With reference to the TR in respect of NORM and Radon Gas, baseline concentrations of NORM were established for the local geology, surface water and ground water. Processed material from the exploratory mine (representing that material which would be discharged to the environment through the proposals) was analysed.
- 1.424. NORM concentrations in the processed materials were found to be not significantly different from baseline NORM levels. Furthermore, in all instances, recorded levels were well below the Out of Scope Limits (OOSLs) specified in the Radioactive Substances Act 1993 (as amended). The recorded levels of NORM in the processed materials were such that they are not considered to be radioactive for

regulatory purposes and no further control measures are required in respect of the NORM content of the materials.

- 1.425. Regarding radon, as confirmed within the Technical Report in respect of NORM and Radon Gas, within water radon readily outgasses during water movement caused by pressure, temperature differences and turbulent mixing. From the analysis undertaken, the discharge from the WwTW is below 20 Bq/L, while the regulated drinking water limit is 100 Bq/L, and the level would continue to fall after discharge due to further outgassing of radon to the atmosphere. Thus, the water at the discharge point would qualify as drinking water with regard to the water quality regulations.
- 1.426. Whilst it is accepted that limits in relation to (human) drinking water quality are perhaps not directly relevant to ecological receptors, in the absence of other available guidance or specific limits or targets, it is considered that they represent an appropriate proxy. The continued outgassing of radon to the atmosphere, with subsequent dispersion (a natural occurrence) gives further comfort in the matter.
- 1.427. No potential adverse implications on any ecological receptors been identified in relation to NORM or radon associated with the proposals.

Metals / other parameters to be subject to enforcement

- 1.428. For other, non-key parameters (with reference to the more sensitive FWPM), such as metals, EQS standards to be applied at end of pipe (on a precautionary basis), are appropriate in protecting the aquatic environment. For the Curraghinalt Burn, Maximum Allowable Concentration (MAC) EQS is proposed on the basis of the poor quality of habitat, and absence of Atlantic Salmon and Freshwater Pearl Mussel. For the Pollanroe Burn, noting the presence of fish, including Atlantic Salmon in part of the burn, both MAC and Annual Average EQS are proposed. For the Pollanroe Burn therefore, both acute and long-term effects are protected against.

Consideration of matters concerning olfactory cues

- 1.429. As described previously, Loughs Agency has raised a concern regarding the potential for discharged water to impact upon water chemistry in such a way that olfactory cues (potentially) relied upon by migrating salmonid fish would be impacted. In simple terms, the water would smell different and this could hinder migrating fish in their return to their natal waters.
- 1.430. In this matter I would simply point to the fact that the water chemistry of the main rivers is determined by fluvial flows from numerous sources (tributaries). The percentage of the main river flow (water volume) derived from the Pollanroe and Curraghinalt burns is infinitesimal compared to other sources. When mixing and dilution are considered, it is not at all likely that the discharges will have any bearing on olfactory cues related to salmonid species, by either masking or mimicking chemical cues for example. It is important to keep in mind that the discharge proposals effectively result in the re-circulation of groundwater which is already present in the catchment (with treatment proposed for Mine related water which will be subject to strict limit values).
- 1.431. I also reiterate the significant evidence that neither the Curraghinalt nor Pollanroe burns are considered to be spawning grounds. The proposals are protective of the fish and aquatic life more generally and thus in respect of salmonid species there would be no adverse change from baseline.

Discharge consent related betterment

- 1.432. Notwithstanding the considerations of the discharge issues above, the Applicant will commit to a water discharge betterment plan that will deliver measures specific to water discharge, and that is separate to the mitigation requirements associated with the Proposal.
- 1.433. Included at **Annex 13** is an Outline Betterment Plan that seeks to secure further improvements to current baseline water and riparian / river channel quality associated with the Owenkillew River. As recognised by the statutory authorities, and reported within the sHRA (2020), pollution from agricultural practices is a significant (and unregulated) contributor to degraded water quality in the

catchment. The Proposal involves the complete removal of agricultural activity (grazing / fertiliser inputs) across in excess of 240 hectares of agricultural land under the direct control of the Applicant. These proposals will further the stated conservation aims for the SAC.

- 1.434. The proposed plan goes further than the management / control of agriculture and includes measures which will deliver further betterment in terms of catchment water quality and riparian habitat betterment. In defining these measures, specific regard has been had to the Owenkillew River Protected Site Conservation Management Plan (Nov 2023), such that the Applicant will be directly delivering measures cited as being required to improve upon baseline conditions and help move the SAC towards favourable condition and then maintain such condition long-term. These measures are all in addition to the proposed Discharge Consent enforcement limits, which as explained, themselves can be seen as part of the 'solution' in terms of addressing the existing failings in relation to water quality effects on the SAC, moving the features back towards favourable condition.

Detailed consideration of NIEA's letter of 5th September 2024

- 1.435. In a letter dated 5th September 2024, NIEA Water Regulation Unit described its current position regarding water discharge applications TC 80/20 and TC 81/20. Attached to that letter is a document providing further detail on its approach to setting discharge standards for the applications. It is stated that

"This has been prepared in line our understanding of the legal requirements under both the Habitats Regulations and the Water Framework Regulations applicable in Northern Ireland."

- 1.436. The letter confirms that these standards are very likely to be formally adopted, forming part of the Supporting Advice linked to Northern Ireland SAC rivers Conservation Objectives. It is stated:

"You may wish to note that the Conservation Objectives (Supporting advice Annex) for all Northern Ireland SAC rivers are in the process of being updated and will likely reflect these standards. The updated documents will be published very shortly."

- 1.437. In the light of the above, it is likely that the information contained within the letter and attached document will represent NIEA's formal position at the conjoined Inquiry, and also possible that the approach will be formally adopted, to be used as part of the assessment process associated with discharge consent applications (potentially) affecting Northern Ireland SAC rivers (i.e. broader than considerations relating solely to the Owenkillev River SAC).
- 1.438. As a headline point, the overall approach to setting discharge limits as described by NIEA in its most recent correspondence is fundamentally flawed. It is baseless in view of the scientific evidence regarding the lack of use of the Curraghinalt Burn by Atlantic Salmon, limited use of Pollanroe Burn by that species and the absence of Freshwater Pearl mussel from both. It is also categorically unworkable in a practical sense due to issues with detection limits, the suggestion that mixing modelling is to be undertaken for the burns and the fact that for some (broadly non-harmful) parameters, no increase (above baseline) would be possible. The outcome of such an approach will likely be that it will not be possible for anyone who discharges water into the catchment to fully comply with discharge consents which align with the new guidance. All set against a background where current conditions within the rivers have arisen through a lack of proper regulation and a lack of delivery in terms of projects and mechanisms identified by stakeholders as being required to address issues concerned with maintaining / restoring the favourable conservation status of the Owenkillev River SAC. These broad points are expanded upon below with reference to the information contained within NIEA's letter.
- 1.439. Whilst the detail regarding approach to setting discharge limit values is contained within an attached document, the letter itself highlights some key points and these are discussed below.
- 1.440. Paragraph 5 confirms that NIEA's approach has been to use a combination of EQS annual average, EQS Maximum Allowable Concentration (MAC) and background water quality. It is stated:

"In the attached document we have made the case for a range of suitable standards based on EQS annual average, MAC and background water quality based on the availability of applicable published standards and the relative toxicity of the components of the proposed discharge in the

aquatic environment. Where a max allowable concentration is published e.g. for Cadmium, this will be considered in setting end of pipe standards. For e.g. Nickel, there is no published Max allowable EQS and as such, the Annual average EQS is applicable.”

1.441. Whilst there remains a disagreement in relation to which parameters should be subject to standards derived from EQS annual average, EQS MAC and background water quality, it is agreed that all three should be used in the setting of the limit values. The Applicant proposes to discharge at better than baseline for key parameters (with reference to Freshwater Pearl Mussel), MAC EQS for other relevant parameters in the Curraghinalt Brun and both MAC EQS and AA EQS for other relevant parameters in the Pollanroe Burn (given the recorded presence of Atlantic Salmon parr).

1.442. Paragraph 6 confirms that NIEA is of the view that (on its understanding) Dutch, Canadian and US standards cannot be used to guide the setting of limit values because they are not widely adopted by other European Agencies or have been subject to the same level of scrutiny and consultation as EQS values. It is stated:

“We note you have outlined the reasoning behind the proposition that Dutch (for barium), Canadian and US standards should be applicable. As far as we are aware, these standards have not been widely adopted by other European Agencies or been subject to the same level of scrutiny and consultations process, prior to adoption, that the published EQS’s have and therefore their applicability to this context is not demonstrated.”

1.443. The Applicant has reviewed a range of guidance considered relevant to the setting of discharge limits. In the case of Barium (cited specifically by NIEA) the Applicant drew reference to Dutch guidance which was considered appropriate. The approach of NIEA, as discussed below, is to apply JNCC values in respect of certain key parameters, EQS on the remainder where an EQS is available, then a ‘no increase from upstream baseline’ for any not caught by JNCC or EQS. As discussed below, there is no scientific basis at all for imposing a ‘no increase from baseline’ enforcement value on parameters which are not recognised (e.g. through EQS) as being a risk to the aquatic ecosystem. The approach by the Applicant is logical and can be characterised as looking more widely, drawing reference to other studies or processes to inform the position. NIEA’s approach is illogical and

unworkable, for reasons discussed further below in relation to the 'no increase from baseline' point regarding certain parameters.

1.444. Paragraph 8 concerns the Applicant's proposition that certain parameters need not be taken forward for regulation on the basis that they are not likely to be present in the discharge. On this point NIEA request further evidence that the elements (Aluminium and Sodium are cited) will not be present within the discharge.

1.445. It is correct that the Applicant has sought to remove some parameters from regulation through the discharge consenting process. Whilst some will be present within the discharge (rainwater for example contains sodium), the important point is that some parameters are not going to be at levels which are in any way significant in terms of impacts on water quality / aquatic life, noting for example that no EQS is given. Reference is drawn to Table 9-25 (at page 137) of the Surface Water Impact Assessment (October 2020) (App C4_of the Second Addendum to the ES). In respect of Aluminium, the reported average baseline value in Pollanroe Burn is 59 µg/L, whereas the sum value for project sources is 9.1 (1.6 + 1.5 + 1.1 + 4.9), before treatment. For Sodium, the reported average baseline value in Pollanroe Burn is 6.1 mg/L and whilst the sum value for project sources is greater (22.5mg/L) this is an element which could occur at significantly higher concentrations without causing any deleterious effects in water quality terms. This is a matter discussed in more detail further below.

1.446. Paragraph 9 concerns the Applicant's proposition that Silver and Chromium should not be taken forward for regulation on the basis of limits of detection. NIEA consider that detection limits are not an issue for these elements. It is stated:

"There appears to be an order of magnitude difference which should not limit assessment. We have therefore continued to include standards for these in the attached tables. Once end of pipe standards are calculated we may revisit this aspect."

1.447. In relation to the removal of parameters (from the discharge consent) due to limits of detection, there is a concern that NIEA are misguidedly placing a reliance upon half detection limits in some instances. In this context, "half detection limit" applies to a situation where, in order to generate data which can be used for analytical purposes, all recorded data with a value which is "less than detect" is halved. This

ensures that a set of data is available for statistical analysis (where it would otherwise be disregarded), but the data does not comprise true values. It is imperative that any limits being set can be robustly measured against, so including limits below the level of detection is not appropriate.

- 1.448. Paragraphs 11 and 12 confirm NIEA's rationale behind a need for the regulation of Phosphorus within the discharges, that being on the basis that treated sewage effluent is proposed to be discharged into the Pollanroe Burn.
- 1.449. Detailed discussion regarding Phosphorus is presented above within this TR. The simple point on this matter is that the actual discharge of Phosphorus attributable to the Mine project after treatment, will be negligible. It is the baseline catchment water, recirculated as part of the project which has a bearing on the discharged water. Regulation on Phosphorus would, on the face of it, appear an acceptable approach to setting the discharge consent limits, but in setting the enforcement limit, due regard must be had to the baseline situation because the Applicant will be treating baseline water as part of the water treatment process. The result of this approach is that the catchment baseline water is being regulated (and potentially enforced against) and not the mine proposals. That approach cannot be justified.
- 1.450. Paragraph 13 concerns the proposed use of chemicals on site (e.g. sodium hypochlorite, citric acid, descalant, sulphuric acid, sodium hydroxide, sodium bisulphite and flocculants) and NIEA request clarification on how these chemicals are to be used, details of the Chemical safety data sheets and the pollution prevention and storage arrangements.
- 1.451. In this matter I draw attention to the fact that following the removal of cyanide use from the project, a Hazardous Substance Consent (HSC) determination was submitted to DfI. It was concluded that an HSC was not required. Since no permit is required, the management / control of chemicals on site can be detailed within operational management plans, secured by condition where necessary.
- 1.452. As discussed above, the detail of NIEA's proposed approach is set out within the attachment to the latter (5th September 2024). This is discussed below.

- 1.453. At paragraph 1 of the attachment NIEA references JNCC (CSM) standards for the protection of FWPMs applying in respect of water quality and it cites Favorable condition table 1 included at page 15 of JNCC CSM Guidance for Freshwater Fauna. Specifically regarding Phosphorus, that table (also discussed above within this TR) states that where the baseline value for Phosphorus exceeds 5 ug/l, *“the more stringent value of either a high ecological status values for SRP under the WFD or the SRP target for the CS river habitat”* should be used.
- 1.454. NIEA notes accompany the table and these explain that, in relation to a high ecological status value for WFD purposes, high to good status is calculated at 15ug/l for the Owenkillew at Drumlea and 17 ug/l at Trinamadden Bridge. With reference to the JNCC CSM Guidance for Rivers, values between 5-40 ug/l are applicable, depending on alkalinity, altitude and substrate, with the relevant standard (from table 6 of the CSM Guidance) being 20ug/l.
- 1.455. At this point, it should be noted that the value proposed by NIEA to be taken forward in relation to Phosphorus is 15/17 ug/l. This is despite the fact that JNCC CSM Guidance for Rivers specifically states that

‘Where a reach is not compliant with the relevant target in Table 6, this target should normally be adopted in conservation objectives’.

- 1.456. With reference to the TR in respect of Surface Water, data shows that the relevant background value for Phosphorus is circa 20 ug/L, therefore it is considered that 20 ug/L should be taken forward as both the relevant discharge limit value and the target for CSM assessment. The JNCC target of 5 ug/l is clearly not relevant, as now accepted by NIEA. There is also the obvious risk that a feature is consistently recorded as being in unfavourable condition due to a failing on Phosphorous levels, where in fact the elevated levels are simply a facet of the baseline and no harm is evidenced. Regarding the later point, I refer back to the fact that increased levels of Phosphorous do not have a toxicity effect. Effects are secondary and linked to increased filamentous algae cover, which is positively concluded not to be an issue for the SAC Freshwater Pearl Mussel population.
- 1.457. Paragraph 2 of the attachment concerns Atlantic Salmon. It is stated that:

“Standards to protect Salmon apply to the lower reaches of the Curraghinalt Burn and to the Pollenroe Burn where Salmon have been identified, habitat suited to salmonid fish has been identified and the functional links between this habitat and that within the SAC has been established.”

1.458. To be clear and with reference to the survey findings presented in this TR, there is no evidence that Atlantic Salmon use the Curraghinalt Burn (indeed there is positive evidence that they do not), and whilst juvenile Atlantic Salmon have been recorded within the Pollanroe Burn, there is no evidence that this is a spawning site. This is a matter discussed further below in relation to TSS.

1.459. Table 2a sets out the water quality standards relevant to the protection of Atlantic Salmon as presented within the JNCC guidance for freshwater fauna (Favourable condition Table 5 at page 51 of that guidance). Table 2b relates to the JNCC CSM guidance for rivers (2016) and it is stated that the information presented in the table incorporates (relevant) information taken from a number of tables throughout the Water Quality section pages 11-15. The table is reproduced below:

<i>Attribute</i>	<i>Target</i>
Mean BOD	1.5 mg/l
90%tile total ammonia (NH ₃ -mg/l)	0.25
Soluble reactive phosphorous (ug/L)	* 15 ug/l (rivers) and 7 ug/l (headwaters)
Acidification: Mean ANC pH (Humic waters, with DOC>10 mg/l)	>80 >5.1

* high alkalinity and high altitude values for Rivers (apply to Owenreagh and Owenkilley) and headwaters (apply to Curraghinalt Burn and Pollanroe Burn)

1.460. Specifically regarding Phosphorus, two points arise. First, it is made plain within the CSM guidance that these are ‘generic targets’. Second, with reference to the footnote to the table, NIEA have seemingly, incorrectly considered the rivers to represent high alkalinity (and high altitude rivers). From available evidence (e.g. see Tables 6-7 regarding water chemistry in the 2017 Surface Water Baseline report), the rivers are classified as low alkalinity. For Phosphorus, therefore, as discussed above, it is determined with reference to JNCC CSM Guidance for

Freshwater Fauna, and background water quality data, that 20 ug / l would be the appropriate target.

- 1.461. Again with reference to the table reproduced above, the footnote states that for the purpose of setting the limit values, the Curraghinalt Burn and Pollanroe Burn are classed as 'headwaters'. It is notable that previously Natural Environment Division of NIEA has confirmed that it does not consider the Pollanroe Burn to meet the criteria applicable to headwaters. It stated in correspondence regarding the Addendum to the ES that:

"NED are satisfied that the Pollanroe Burn does not meet the criteria of a headwater and due its highly modified current state and are content that to the extent possible the watercourses will be naturalised after the operational phase in accordance with the conceptual Closure Plan Appendix B5 and the Landscape Restoration Plan."

- 1.462. Paragraph 3 concerns EQS values. It is stated:

"Environmental Quality Standards to protect water quality in respect of certain priority substances are published in the 2015 WFD regs (Water Framework Directive (Classification, priority substances and Shellfish waters Regulations (Northern Ireland) 2015). Standards outlined in table 47 (of the 2015 regs) (priority substances) are applicable in the small burns, the remaining values are applicable at water body scale."

- 1.463. Table 3 then sets out the EQS standards which NIEA considered are applicable to the proposed application. I simply highlight here that there would appear to be errors within this table, for example 95%ile is not applicable to mercury and this should also be referred to as a bioavailable concentration. For zinc, this should be "bioavailable plus ambient background".

- 1.464. Paragraph 4 concerns NIEA's proposed approach to regulating parameters where there are no relevant published standards. The approach being "no deterioration" in the existing baseline water quality. Table 4 then sets out, with reference to data presented by the Applicant in the ES, upstream water quality data relevant to the Curraghinalt and Pollanroe burns. Paragraph 4 states:

“Where there are no relevant published standards, maintenance of the existing water quality i.e. no deterioration, is the relevant standard.”

1.465. This approach is not logical and cannot be taken forward in a practical manner. In real terms it would deliver higher protection for parameters not listed as priority substances (i.e. they are low toxicity) under the WFD. As an example, SEPA guidance (2020)³³ gives a non-statutory (not taken forward into the legislation) annual mean EQS for sulphate at 400 mg/L as being protective of the freshwater environment. In contrast, the test proposed by NIEA is ‘no deterioration’ on upstream water quality. With reference to Table 4 of the NIEA document that would mean a discharge of <2.5 mg/L. That is substantially below groundwater quality, which already discharges naturally into the rivers as baseflow.

1.466. NIEA go on to state that based on the principles discussed, the RQP tool (Monte Carlo) model will be used in order to calculate the discharge limits, to be measured for compliance purposes at end of pipe. It is stated:

“Based on these principles and applying the RQP tool (Monte Carlo) model, discharge limits will be calculated, which would form conditions of the Consent. These would be measured for compliance purposes at ‘end of pipe’.”

1.467. This approach is misguided and cannot practically be implemented. Mixing modelling cannot be applicable to the burns and EA guidance³⁴ is very clear on this point. Section 5.2 states:

“In some situations, an effluent will be discharged to a small receiving water, tributary or dry ditch where dilution is very limited. In this situation, modelling is likely to show that some or all of the substances in an effluent will require a numeric emission limit”

1.468. Following this the guidance states that Best Available Technology (BAT) treatment technology should apply and it refers to the ‘main river’ being the focus in terms of not being adversely impacted. Specifically regarding this point, the Applicant has

³³ Supporting Guidance (WAT-SG-53) Environmental Quality Standards and Standards for Discharges to Surface Waters (2020)

³⁴ LIT 10419 Modelling: surface water pollution risk assessment risk assessment (2014), Environment Agency.

of course followed the BAT approach in proposing the RO plant, by way of an example.

- 1.469. Monte Carlo modelling is used to determine criteria which will not increase the background or baseline concentration by 10% of the environmental quality standard. Importantly, where there is little or no dilution (such as in the burns) this means that the discharge criteria will end up at about 10% of the environmental quality standard. This creates the perverse situation where the burns would be determined to have far more restrictive discharge criteria than would be applicable if the discharge was direct to the SAC.
- 1.470. To illustrate the absurdity of this situation, it is highly likely that discharge of water taken from the Owenreagh River directly into the Pollanroe Burn would not comply with criteria derived in this manner and it is certain that the discharge of groundwater would not comply. There is no logical rationale to apply Monte Carlo modelling in the manner seemingly proposed by NIEA.
- 1.471. Table 5 of the NIEA document presents the “in river” standards which NIEA consider to be applicable to discharges to the Curraghinalt and Pollanroe Burns. Subject to review “to ensure there is no significant change in water quality since this time” the stated values are those which are proposed to be used in setting the consent limits. It is also confirmed, ahead of presenting the proposed ‘in river’ limit values, that NIEA has taken direction from Loughs Agency regarding TSS, with the advice being that NIEA should adhere to JNCC CSM Freshwater Fauna parameters *“to ensure continuity in mitigating negative environmental impacts on salmonids in the Foyle and Carlingford Catchments”*.
- 1.472. Several points arise in relation to the values presented and these are discussed below.
- 1.473. Regarding TSS, a value of 10 ug / l is given for the Curraghinalt Burn and 25 ug / l for the Pollanroe Burn. 10 ug / l cannot be substantiated in this instance. The only guidance which the Applicant is aware of which references such a value is that from 2003 titled “Siltation in Rivers. 3: Integrated Assessment Procedure³⁵”. However, this concentration is linked to spawning Atlantic salmon only. As

³⁵ Smith B, Naden P & Cooper D (2003). Siltation in Rivers. 3: Integrated Assessment Procedure. Conserving Natura 2000 Rivers Conservation Techniques Series. English Nature, Peterborough

previously discussed, there is no evidence that either Curraghinalt Burn or Pollanroe Burn are, or have been, used by Salmon to spawn and Atlantic Salmon have never been recorded in the Curraghinalt Burn.

- 1.474. In relation to TSS, it is also important to keep in mind that TSS impacts are focussed on the construction stage, with impacts being temporary and reversible, and no worse than 'natural' background levels during flood events. Once the Mine is operational, the water treatment process (which includes the RO plant) will screen out almost all TSS.
- 1.475. Regarding Nitrate, NIEA have adopted the JNCC target value as relevant to FWPMs (0.125). Both Pollanroe and Curraghinalt Burns are unsuitable habitat for FWPMs and there is no evidence of their presence. Further, with reference to NIEAs table 4, baseline concentrations are already at / exceeding this value. The corollary of this is plainly that, not only will the Applicant need to deal with its own discharges, but it will be expected to clean the existing baseline water quality.
- 1.476. With reference to Chloride, NIEA state that the limit value will be based upon a no deterioration criteria, with a value of 8.28/9.6 given. With reference to SEPA guidance (2020), by way of example, a non-statutory Annual mean EQS is given as 250 mg/L. Discharges of chloride of a significant order of magnitude higher than NIEA's proposed 8.28/9.6 limit, would have no adverse effect on the aquatic environment. To put this in context, NIEA's approach would have serious repercussions for the winter salting of roads if this no deterioration criteria were wider reaching. If increases above baseline are a real, rather than fanciful issue for water courses, it is hard to see how the application of road salt could ever be sanctioned. However, the salting of roads can of course continue, because it does not give rise to the effects which NIEA appear to be attempting to mitigate, in the absence of any supporting evidence.
- 1.477. Matters concerning Phosphorus have already been discussed above. Limit values of 15 and 17 are proposed by NIEA in respect of the Curraghinalt and Pollanroe burns. This does not take proper account of the JNCC guidance which NIEA place so much weight upon and nor does it account properly for the existing baseline position. As discussed elsewhere within this SoC, the Mine proposals will effectively re-circulate existing baseline water and through the proposed water

treatment process add nothing discernible in relation to Phosphorus. As previously explained the Applicant will be expected to clean the existing baseline water quality.

Summary conclusions in relation to water quality matters

- 1.478. As I have already explained, the discharge limit values should be viewed as Enforcement values, where breaches / exceedances will trigger actions which could well include prosecution. As such, the Applicant would be treating to well below the thresholds set through any consent to avoid a breach. In short, with the maximum allowable discharge value for relevant parameters set at the baseline level, the actual discharge value will be below this.
- 1.479. In real terms, this represents a betterment over the current situation and delivery of a shift towards favourable condition (in water quality terms). The effect is that the Mine project will not only be fully mitigating its own effects, but it will be 'cleaning' baseline water in the catchment.
- 1.480. This cleaning of baseline water quality is particularly apparent in considering phosphorus. As I have explained, phosphorous is cited as a key parameter in relation to FWPM and currently the baseline values in the catchment exceed monitoring targets set through the JNCC guidance in relation to FWPM. The Mine will use this baseline water and effectively re-circulate it, adding nothing by way of a discernible value as a result of the project. The discharge of any phosphorus would result from that present in the baseline water used. Thus, the removal of phosphorous through the water treatment processes associated with the mine, is purely and simply a benefit for the catchment.
- 1.481. The Applicant has proposed a series of limit (enforcement) values which are fully protective of the aquatic environment, including Freshwater Pearl Mussel and Atlantic Salmon. The approach has regard to JNCC guidance and EQS, but crucially it recognises the reality of the existing baseline position in terms of water quality and qualifying species populations, with due regard had to that evidence. Conversely, NIEA's position has little grounding in evidence, is ill-conceived and unworkable.

Matters concerning the hydrological regime

- 1.482. Insofar as matters concern the hydrological regime, changes relating to flows, specifically concerning the Owenkillev River (SAC) have been assessed. A summary of the conclusions is presented at Section 10.2.3 of the Surface Water Impact Assessment (2020). For all phases of the project, impacts are assessed as negligible.
- 1.483. There would be no significant deviation from existing baseline flows and specific mitigation is included in order to reduce high flow and low flow effects within the Pollanroe Burn, through active flow control. In this context it is considered that there would be no potential for adverse effects to arise in relation to any qualifying interest features of the Owenkillev River SAC, or qualifying interest features of other downstream European / Ramsar designated sites.
- 1.484. No adverse effect on the integrity of the Owenkillev River SAC or any other designated site, would arise in relation to effects from changes to the hydrogeological and hydrological regime.

14. CONSIDERATION OF ISSUES RAISED BY OBJECTORS

1.485. I have reviewed the objections raised by third party objectors. Broadly the key concerns which arise relate to the follow insofar as ecology and nature conservation is concerned are:

1. Water quality implications for relevant designated sites and supported species;
2. The sHRA does not consider in-combination matters; and
3. Implications for the Black Bog Ramsar site, notably in respect of air quality (dust) issues.

1.486. The concerns raised by third party objectors do not give rise to any significant issues beyond those raised by Statutory Consultees. I have addressed matters in relation to water quality at length within this TR and refer the reader to that information and also the information contained within the Water Discharge Statement of Case.

1.487. Regarding in-combination effects associated with the HRA process. I confirm that the only relevant project identified for in-combination assessment is the Power Line project, which is itself integral to the Mine project proposal. This is discussed in detail at the end of Section 5 of the Update sHRA (2020), as relevant to the planning application submitted pursuant to that proposed route. It is concluded that subject to the adoption of appropriate mitigation measures, no adverse effects on the integrity of the relevant designated sites would occur when that project is considered alone, or in-combination with the Mine proposals.

1.488. In relation to concerns regarding implications for the Black Bog Ramsar site, I comment as follows.

1.489. I am aware of correspondence, dated May 2024, sent to the Ramsar Organisation, along with officers from the Department of Environment, Food and Rural Affairs (DEFRA), the JNCC and the Wildfowl and Wetlands Trust (WWT). It was copied to the PAC.

- 1.490. The email refers to a report prepared by a [REDACTED], and goes on to highlight two key concerns relating to the Mine proposals, the first being the potential for a cone of depression to form over time, and the second being air quality / dust impacts on the Ramsar site, arising from wind-blown Mine waste. On my reading, the purpose of the email is to raise awareness of the project among the recipients and invite additional comments / objections.
- 1.491. Before I briefly address the matters raised, I should state that I am not aware of any correspondence from the recipients of the email which indicates a shared concern.
- 1.492. Regarding the matter of a cone of depression forming over time and adversely impacting the Ramsar Site, this is not an issue which has been identified through the detailed and extensive studies undertaken as part of the EIA process, nor is it a matter raised by the relevant statutory authorities. The most relevant associated pathways for significant effects to arise, would be through changes to the hydrological regime, an issue addressed within the Statements of Case submitted by the Applicant in relation to Abstraction and Water Discharge applications. Consideration of the 'cone of depression' point, raises no new issue/s.
- 1.493. Specifically regarding the issue of dust impacts, in qualifying his concerns, reference is made to Sahara dust being transported over large distances and deposited over the UK.
- 1.494. I make the following points in response.
- 1.495. The assertion is that because dust can travel to the UK from the Sahara, it follows directly that the Ramsar site will be affected by the Mine proposals. As explained below, it is not appropriate to use the Sahara dust phenomenon as a proxy to describe how dust arising from the Mine proposals will affect the Black Bog Ramsar site.
- 1.496. The deposition of Sahara dust over the UK is a well known phenomenon, which, whilst considered relatively common, occurs as a result of a specific set of circumstances.

- 1.497. In simple terms, my understanding is that when strong winds blow over the desert, dust and sand can be lifted high into the sky and where these clouds of dust reach very high altitudes, they can be carried over significant distances. If the winds in the upper part of the atmosphere are blowing in a northerly direction, the dust can be carried to the UK. If it then rains, the dust particles are transported from the atmosphere to ground and as the rainwater evaporates, a layer of dust is left behind.
- 1.498. For context it is important to keep in mind that the Sahara covers a vast area of north Africa, reportedly some 9.2 million square kilometres. There is therefore a huge resource, of dust and sand, which strong winds impact upon to form these high altitude 'dust clouds'. Such a resource is in no way comparable to the area of exposed substrate which will arise at any point during the construction or operation of the proposed Mine.
- 1.499. The Sahara is the world's largest hot desert and it is one of the driest places on earth, receiving little or no precipitation on an annual basis. It is widely reported that the region receives between 0 and 3 inches (0mm to circa 76mm) of rain annually. Rainfall is scarce in the northern and southern fringes of the desert, and almost zero elsewhere, with some locations devoid of any rainfall for periods lasting several years. It is the arid nature of the Saharan region which gives rise to the volume of dust available to be transported (by wind).
- 1.500. The climatic conditions associated with the Application Site contrast starkly with those associated with the Sahara. Information available from the Met Office website³⁶ confirms that the Application Site is located in one of the 'wettest' parts of Northern Ireland, which itself is well known to have a generally cooler and wetter climate than many parts of the UK. The Atlantic weather systems result in higher average rainfall in the western counties of Fermanagh, Londonderry and Tyrone, with the Sperrin Mountains specifically cited as being one of the wettest areas, with higher ground receiving average annual total rainfall of around 1600 mm.
- 1.501. Met Office data also shows that for the higher ground (relevant to the Application Site), it is normal in winter (December to February) for the number of days with a

³⁶ https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/weather/regional-climates/northern-ireland_-climate-met-office.pdf

rainfall total of 1mm or more (“wet days”) to be in excess of 55 days, with in excess of 45 wet days in summer (June to August)³⁷.

- 1.502. From detailed assessment work undertaken on behalf of the Applicant it has been concluded that no impacts on any sensitive receptors, including designated sites will arise as a result of dust emissions. I draw the reader's attention to paragraphs 5.31 to 5.42 of the Update sHRA (2020) and to the updated Air Quality Impact Assessment (October 2020) submitted as part of FEI2.
- 1.503. Dust emissions will be ‘naturally’ mitigated to a large extent by the prevailing weather conditions and in any event, where necessary, ‘damping down’ techniques could be employed in order to mitigate dust emissions from the Application Site, a measure which can be secured through the CEMP. Such measures are considered as standard within the construction industry and are widely employed.
- 1.504. By way of summary conclusion, the issues raised are unfounded and simply addressed.

³⁷ Note that comparisons are made between winter and summer, but no data is given for spring and autumn

15. SUMMARY AND CONCLUSIONS

- 1.505. In this TR I have described the significant amount of survey and assessment work which supports the planning and water discharge applications. That body of work spans a significant number of years and where necessary update surveys have been undertaken to support the applications, ensuring that the baseline is current for assessment purposes.
- 1.506. I have described the baseline in relation to habitats, species and designated sites and I have summarised the impacts on ecological features which are considered to arise. In addition, I have explained the proposed approach to mitigation for the various phases associated with the Mine proposals.
- 1.507. In relation to the position of consultees, it is evident that the only substantive concerns relate to Water Discharge matters, with NIEA maintaining concerns regarding implications for the Owenkillev River SAC (and the populations of Atlantic Salmon and Freshwater Pearl Mussel) and Loughs Agency maintaining a concern regarding impacts on Atlantic Salmon. Taking advice from Loughs Agency in relation to the standards / limits to be applied in relation to Atlantic Salmon, NIEA has described its position in relation to the approach to be adopted in setting the limit values. The approach, as described in detail within a letter of 5th September 2024 is considered to be fundamentally flawed and out of step with the requirements of the Habitats Regulations.
- 1.508. I have explained, with reference to survey data that concerns regarding Atlantic Salmon are unfounded. Both burns into which discharges will occur have been classified as failing (sub-optimal) in relation to spawning habitat.
- 1.509. The Curraghinalt Burn is particularly unsuitable for salmonid presence, with poor habitat scores throughout and a significant barrier to fish passage near its confluence with the Owenkillev River which renders it impassable (to fish) outside of very high water levels. No Atlantic Salmon have been recorded in this burn during any survey. Only very low numbers of Brown Trout have been recorded and it is considered that these individuals have entered the burn during a flood event and remained trapped as levels drop, a scenario which may happen from time to time.

- 1.510. Regarding the Pollanroe burn, a low number of Atlantic Salmon parr and Brown Trout have been recorded as present within the lower reach of the burn, close to the confluence with the Owenreagh River. However, there is no evidence that this burn is of conservation significance to salmonid species. Even in an extreme scenario where the burn is lost to the fish, such an effect would not be deleterious to the population because of the huge resource in terms of habitat available elsewhere in the catchment.
- 1.511. Regarding Freshwater Pearl Mussel, this species is not present within the burns or the relevant downstream section of the Owenreagh. However, the data shows mussels being recorded at various locations along the Owenkillev River, with the more significant numbers occurring well upstream of the Curraghinalt Burn discharge point and the Owenreagh's confluence with the Owenkillev. Some records do exist for the downstream section of the Owenkillev, where discharges could impact upon concentrations of several parameters. In many instances, very low numbers of mussels were recorded (e.g. those downstream of the discharge points) and this is indicative of mussels being washed down the river channel after being dislodged from the main mussel beds upstream.
- 1.512. Recognising the sensitivity of Freshwater Pearl Mussel in particular and in view of the position being adopted by NIEA, the Applicant has proposed revised discharge consent limits. These limits are fully protective of the aquatic environment. The approach has regard to JNCC guidance and EQS, but crucially it recognises the reality of the existing baseline position in terms of water quality and qualifying species populations, with due regard had to that evidence. Given the proposed water treatment process, which will deliver discharges below the proposed limits (to avoid enforcement), 'better than baseline' for key parameters will be achieved. In this light the approach would directly assist in delivering a movement towards favourable condition insofar as water quality in the SAC is concerned.
- 1.513. Conversely, as I have explained NIEA's position has little grounding in evidence, is ill-conceived and unworkable.
- 1.514. Insofar as matters concern the Applicant's revised proposed discharge limit values, it can be safely concluded that the proposals will not undermine the

relevant Conservation Objectives and that no adverse effect on the Integrity of the SAC arises should these limit values be adopted.

- 1.515. Notwithstanding that the proposed discharge limit values are fully protective of the aquatic environment and that through the proposals a movement towards favourable condition will be achieved at the SAC, further betterment is also proposed. A package of measures are proposed which will deliver improvements in water and habitat quality in the catchment, with a focus on land under the direct control of the Applicant. Key to this, is the removal of livestock farming across the Applicants lands, with the direct result that nitrate inputs into the catchment will be removed. It has been calculated that this action alone would off-set the nitrate generated by the Mine proposals, but is proposed as an additional benefit.
- 1.516. In addition to giving detailed consideration to the position of statutory consultees, I have also had due regard to the position of third parties. Whilst, no additional matters of significance arise, I have addressed specific points where I felt it appropriate to do so. None of those matters alter my conclusions in relation to the acceptability of the proposals from an ecology and nature conservation perspective.

CURRAGHINALT 33KV CONNECTION PROJECT

STATEMENT OF CASE TECHNICAL REPORT

WATER QUALITY

NI1851
Statement of Case
V.01
October 2024

REPORT

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1 INTRODUCTION

This Technical Report sets out the following summary of the assessment and outcomes:

- The methodology used in the assessment:
- Consideration of any changes to the baseline data, relevant policy, guidance and legislation since the completion of the EIA in May 2021
- Impacts without mitigation.
- Proposed mitigation measures.
- Residual impacts.
- Cumulative impacts/interactions/transboundary impacts.
- Consideration of consultation replies from statutory agencies and relevant third-party representations.
- Conclusions.

This Technical Report has been prepared by [REDACTED].

[REDACTED] is a Technical Director with RPS and was responsible for preparing the water quality impact assessment contained in the Environmental Statement ('the ES') associated with the 33kV power line involving both construction of above ground 33kV overhead line supported by wooden poles and underground 33kV cable laid below ground level in a fully ducted system, to serve Curraghinalt mine (Planning Ref LA11/2019/1000/F) ('the Proposed Development').

[REDACTED] holds a BA in Environmental Sciences and a MSc in Environmental Engineering. He is a Chartered Scientist (CSci); a Chartered Environmentalist (CEnv); a Chartered Water and Environmental Manager (CWEM) and full member of the Chartered Institute of Water and Environmental management (CIWEM). [REDACTED] has over 24 years' public and private sector experience in water quality assessment, aquatic ecology, catchment management and river basin planning, environmental assessment, environmental appraisal of infrastructure projects. He has specific technical expertise in water quality and Water Framework Directive compliance assessments for large infrastructure projects in UK and Ireland including, ports and harbours, road infrastructure, flood relief schemes, electricity transmission OHL and cables, gas transmission pipelines, large scale public water supply and windfarm development. [REDACTED] has project managed a number of large multi-disciplinary and smaller scale projects, developed and project managed numerous impact assessments, planning applications, post consent plans, freshwater environmental surveys, technical reports, and mitigation and monitoring plans.

This Technical Report should be read alongside Chapter 9.0 Water Quality and associated Appendices of the ES, the clarification provided to the Drinking Water Inspectorate on private drinking water supplies and the Shadow Habitats Regulations Assessment (sHRA) previously submitted in support of the planning application.. As outlined in Section 3 this report provides new environmental information on the water bodies traversed by the Proposed Development as the Water Framework Directive status has been updated since the submission of the planning application.

2 METHODOLOGY

The Strategic Planning Division of the Department of Infrastructure Planning undertook an EIA screening determination for the Proposed Development under the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017 and concluded that the planning application for the above ground 33kV overhead line supported by wooden poles and underground 33kV cable laid below ground level in ducts, to serve Curraghinalt mine was 'EIA development'.

The assessment of the potential significant effects has been undertaken in the context of the European Water Framework Directive (2000/60/EC) which has been transposed into Northern Ireland regulations through the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017. The Water (Amendment) (Northern Ireland) (EU Exit) Regulations 2019 ensures that the Water Framework Directive (as transposed) and the various supporting pieces of water legislation continue to operate here after 1 January 2021 and are the main mechanism for integrated catchment management and the protection of water resources. These supporting regulations are listed at Schedule 2 of The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017. The Water Framework Directive (2000/60/EC), as amended by Directives 2008/105/EC, 2013/39/EU and 2014/101/EU, established a new integrated approach to the protection of the water environment. The Directive was transposed in Northern Ireland through the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017.

The Northern Ireland Environment Agency (NIEA) is the competent authority tasked with implementation of the WFD in Northern Ireland. A key requirement of the Water Framework Directive (WFD) is that surface water bodies attain at least good surface water status, requiring both ecological status and chemical status to be at least good, and that there should be no deterioration in existing status. For groundwater the objective is to achieve good groundwater status, requiring both quantitative status and chemical status to be at least good. Therefore, an assessment must be carried out to ensure that the Proposed Development does not compromise these fundamental requirements of the WFD. The aim of this assessment is to determine if specific components or activities related to the planned development will compromise the attainment of an environmental objective as per Article 4 of the WFD or result in the deterioration in the overall status of any water body. This will determine whether it is possible to proceed with the Proposed Development or whether amendments or mitigation measures are necessary.

The environmental baseline is set out within this Report along with an assessment of how the existing environment may be affected by the Proposed Development. Where impacts are expected suitable mitigation measures are detailed.

For the purposes of this assessment and to be consistent with the NIEA Water Management Unit 'EIA Scoping Guidance for Developments likely to Impact upon the Water Environment (NIEA, 2012)' potential impacts on specific waterways are identified. The definition of a waterway is as defined in the Water (Northern Ireland) Order 1999:

"waterway includes any river, stream, watercourse, inland water (whether natural or artificial) or tidal waters and any channel or passage of whatever kind (whether natural or artificial) through which water flows..."

The methodology employed to inform the ES and the planning applications for the Proposed Development is set out in Section 9.4 of Chapter 9.0 of the ES.

The assessment methodology undertaken in the ES is outlined below:

- Existing Environment (Section 9.6 of the ES)
 - o Identification of location of watercourses along proposed route and in the vicinity of the substation;
 - o Initial consultation with NIEA Water Management Unit (WMU) to obtain any relevant information;
 - o Assessment of baseline conditions and areas protected under the WFD (note the WFD classification for the water bodies affected has been updated since the submission of the original ES, The updated baseline is provided in this report (Section 3).
- Impact Assessment (Section 9.7)
 - o Identify potential impacts (from the Proposed Development on the achievement of WFD objectives;
 - o Assessment of the significance of potential impacts using a method adopted from the Design Manual for Roads and Bridges (2011);

- o assessment to determine whether specific components or activities related to the Proposed Development will compromise the attainment of WFD objectives or result in the deterioration in the ecological status of any water body.
- Mitigation (Section 9.8)
- Residual Impacts (Section 9.9)
- Cumulative impacts and transboundary issues (Section 9.10)
- Conclusions (Section 9.11)

2.1 Assessment of Significance of Potential Impact

The significance of impact on surface water runoff and water quality likely to occur during the construction and operational phases of the development was determined using the predominantly qualitative process described below. It is a combination of the magnitude of the impact and the potential sensitivity of the receptor.

The definitions of potential significance are as listed in **Table 2-1** (adapted from the generic methodology for environmental sensitivity outlined in the Design Manual for Roads and Bridges (DMRB) (2020). Impacts can be described as either adverse or beneficial.

The magnitude of the impact has also been adapted from the generic methodology for environmental assessment outlined in the DMRB.

Table 2-2)

Table 2-1: Sensitivity Indication (DMRB, 2011)

Value (Sensitivity)	Typical Descriptors
Very High	Very high importance and rarity, international scale and very limited potential for substitution. Examples: Water body protected area interests are of international importance and have been designated under the Habitats, Birds, Shellfish, Bathing Water or Freshwater Fish, Drinking Water or Nitrate Directives. High Status Water bodies.
High	High importance and rarity, national scale, and limited potential for substitution. Examples: Water body where the current status is good or better and no deterioration is permitted. National designation e.g. Area of Special Scientific Interest (ASSI).
Medium	High or medium importance and rarity, regional scale, limited potential for substitution. Examples: Moderate Status with an objective of good status by 2021, regionally important resource in terms of ecology or fisheries interest.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Table 2-2: Magnitude of Impact Indicating Type and Scale of Impact (DMRB, 2011)

Magnitude	Type and scale of impact
Major	Major alteration to water body status causing deterioration in either the ecological status including supporting elements, i.e., physico-chemical, specific pollutants and hydromorphology, chemical status or protected area status, including downstream protected area interests within the same water body. Severe damage to key water body characteristics, features or elements (Adverse). Large scale or major improvement to water body status, extensive restoration or enhancement of Water body (Beneficial).
Moderate	Water quality impact but not adversely affecting the integrity or status of the water body, partial loss or damage of certain characteristics or water body attributes (Adverse). Benefit to or addition of key characteristics or features of the water body, improvement in water status (Beneficial).
Minor	Some measurable change in water quality attributes, minor loss or alteration to one (maybe more) key characteristics (Adverse). Minor benefit to one or more key characteristics, features or elements of the water body (Beneficial).
Negligible	Very minor loss to water body characteristics, features or elements (Adverse). Very minor benefit to or positive addition of one or more water body characteristics, features or elements (Beneficial).
No change	No loss or alteration to water quality or water body status.

The greater the environmental sensitivity or value of the receptor or resource, and the greater the magnitude of impact, the more significant the impact. The consequences of a highly valued environmental resource suffering a major detrimental impact would have a very significant adverse effect. The typical impact significance categories used in this assessment are presented in **Table 2-3**.

Table 2-3: Estimating the Significance of Potential Impacts (DMRB, 2011)

Sensitivity of Attribute	Magnitude of Impact			
	Negligible	Minor	Moderate	Major
Very High	Negligible/Neutral	Moderate/Large	Large/Very Large	Very Large
High	Negligible/Neutral	Slight/Moderate	Moderate/Large	Large/Very Large
Medium	Negligible/Neutral	Slight	Moderate	Large
Low	Negligible/Neutral	Negligible/Neutral	Slight	Slight/Moderate

3 CONSIDERATION OF ANY CHANGES TO THE BASELINE DATA, RELEVANT POLICY, GUIDANCE AND LEGISLATION SINCE THE COMPLETION OF THE EIA IN MAY 2021

3.1 Baseline Data

As shown in **Figure 3-1** this Proposed Development traverses watercourses within five river water bodies, there are two groundwater bodies underlying these rivers water bodies, namely:

- Glenmornan River (UKGBNI1NW010101075)
- Dunnyboe Burn (UKGBNI1NW010101072)
- Glenelly River (UKGBNI1NW010104040)
- Owenkillew River (Gortin) (UKGBNI1NW010102027)
- Owenreagh (East) River (Drumlea) (UKGBNI1NW010104041)
- Claudy Groundwater (UKGBNI4NW003)
- Gortin Groundwater (UKGBNI4NW004)

The Glenmornan River and Dunnyboe River water bodies are within the Burn Denet and Foyle Local Management Area (LMA). While the Glenelly River, Owenkillew River (Gortin) and Owenreagh (East) River (Drumlea) water bodies are within the Owenkillew LMA, both of which are part of the North Western River Basin District (RBD).

The Glenmornan River overlies the Claudy Groundwater body, while the remaining water bodies overlie the Gortin Groundwater body. Consultations during the preparation of the ES were undertaken with NIEA Water Management Unit in July 2019 and again in July 2020 with respect to the Proposed Development within the context of the WFD Programme of Measures for the water body, the overarching River Basin Management Plan (RBMP) and general water quality assessment.

Since the preparation of the water quality chapter of the ES, the WFD monitoring programme has continued and more recent data from the programme has resulted in some changes to the ecological status and chemical status classification for the water bodies traversed by the Proposed Development. Further consultation with the NIEA Water Management Unit in the form of a water information data request and a review of online resources, i.e. the catchments viewer webGIS was undertaken in March, May and October 2024. The purpose of this consultation was to establish if the current water quality status of each of the aforementioned water bodies had changed since the original planning applications.

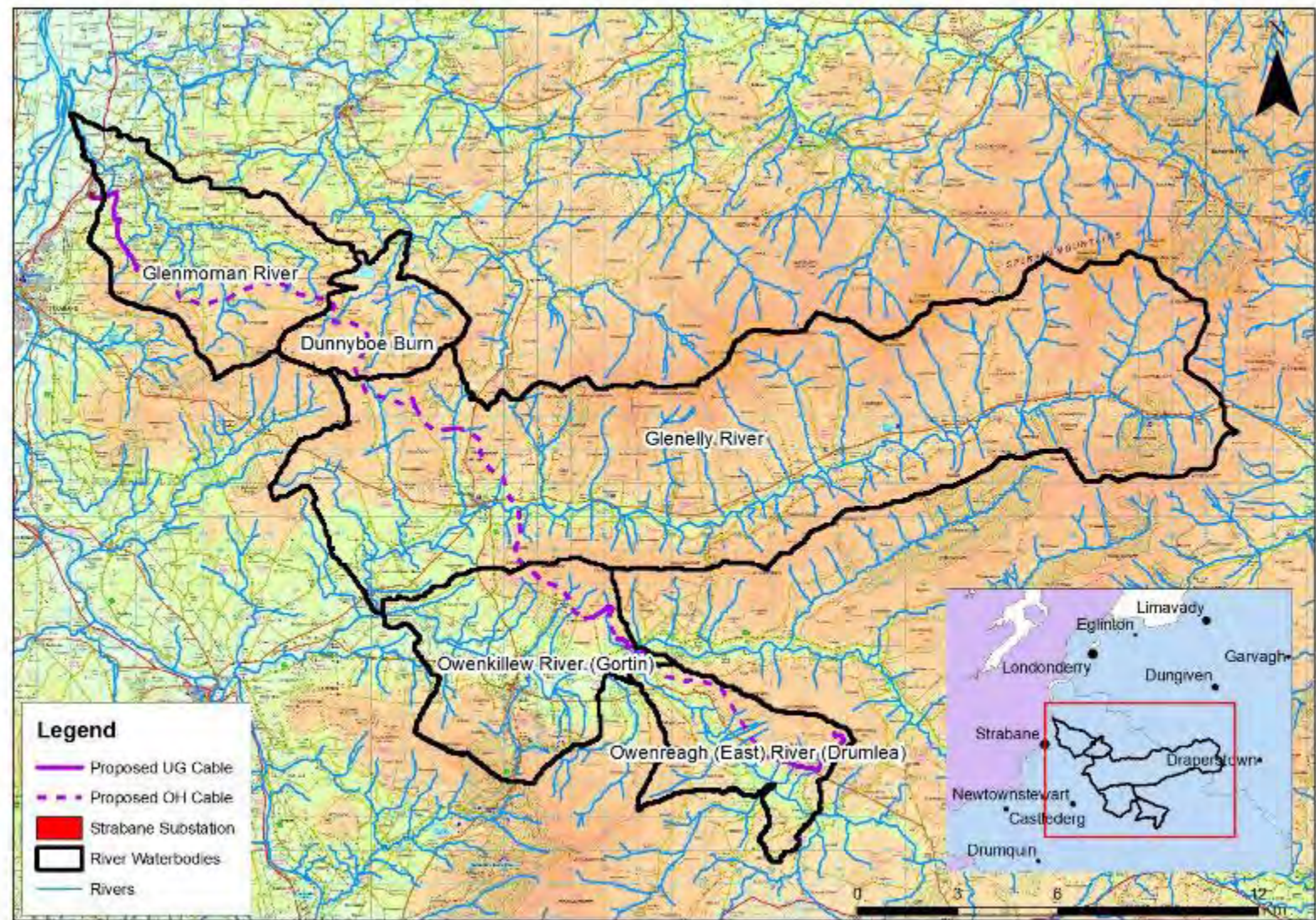


Figure 3-1: Location within the Context of the Water Environment

3.1.1 Ecological Status

The baseline for ecological status has been updated for each water body as summarised in Table 3.1 to Table 3.5. There has been a deterioration in the ecological status of two water bodies traversed by the proposed development, the Glenelly River (UKGBNI1NW010104040) and the Owenkillew River (Gortin) (UKGBNI1NW010102027) which have deteriorated from moderate to poor and from good to moderate respectively. The main reason for this deterioration in the ecological status are the biological elements: benthic invertebrates and fish in the Glenelly River (UKGBNI1NW010104040) are now classified as poor whilst benthic invertebrates in the Owenkillew River (Gortin) (UKGBNI1NW010102027) have also deteriorated to poor ecological status. However, the impact assessment undertaken in the ES does not change as a result of the change in the ecological status classification as the magnitude of the impacts do not change nor do the proposed mitigation measures and the environmental objective for all water bodies is still the achievement of good ecological status. The mitigation measures included in the water quality chapter ensure that the proposed development will not introduce additional pressures that will cause any further deterioration in the ecological status and equally importantly will ensure that the achievement of the environmental objectives in the water bodies affected, i.e. the achievement of good ecological status, through the implementation of the Programme of Measures recommended in the River Basin Management Plan (RBMP) will not be compromised.

Table 3.1: Glenmornan River (UKGBNI1NW010101075) WFD Status Classification

Water body name:	Glenmornan River	
Water body identification code:	UKGBNI1NW010101075	
River Basin District:	North Western	
Local management area:	Burn Dennet and Foyle	
2018 Ecological Status:	Moderate Ecological Status	
2021 Ecological Status:	Good Ecological Status	
2027 Objective	Good Ecological Status	
Confidence in overall status:	-	
Biological elements	2018	2021
Benthic invertebrates	Good	Good
Macrophytes	High	High
Phytobenthos	Good	High
Fish	Moderate	Good
Physicochemical elements		
Dissolved Oxygen	High	High
pH	High	High
Soluble Reactive Phosphorus	Good	Good
Specific pollutants		
Ammonia	High	High
Other Specific Pollutants	High	High
Hydromorphological elements		
Hydrological regime	High	High
Morphological conditions	Moderate	Moderate

Table 3.2: Dunnyboe Burn (UKGBNI1NW010101072) WFD Status Classification

Water body name:	Dunnyboe Burn		
Water body identification code:	UKGBNI1NW010101072		
River Basin District:	North Western		
Local management area:	Burn Dennet and Foyle		
2018 Ecological Status:	Good Ecological Status		
2021 Ecological Status:	Good Ecological Status		
2027 Objective:	Good Ecological Status		
Confidence in overall status:	-		
Biological elements	2018	2021	
Benthic invertebrates	Good	Good	
Macrophytes	High	High	
Phytobenthos	High	High	
Fish	High	High	
Physicochemical elements			
Dissolved Oxygen	High	High	
pH	High	High	
Soluble Reactive Phosphorus	High	High	
Specific pollutants			
Ammonia	High	High	
Other Specific Pollutants	High	High	
Hydromorphological elements			
Hydrological regime	High	High	
Morphological conditions	Good	Good	

Table 3.3: Glenelly River (UKGBNI1NW010104040) WFD Status Classification

Water body name:	Glenelly River		
Water body identification code:	UKGBNI1NW010104040		
River Basin District:	North Western		
Local management area:	Owenkillew		
2018 Ecological Status:	Moderate Ecological Status		
2021 Ecological Status:	Poor Ecological Status		
2027 Objective:	Good Ecological Status		
Confidence in overall status:	-		
Biological elements	2018	2021	
Benthic invertebrates	Moderate	Poor	
Macrophytes	High	High	
Phytobenthos	High	High	
Fish	High	Poor	
Physicochemical elements			
Dissolved Oxygen	High	High	
pH	High	High	
Soluble Reactive Phosphorus	Good	Good	
Specific pollutants			
Ammonia	High	High	
Other Specific Pollutants	Moderate	Good	
Hydromorphological elements			
Hydrological regime	High	High	

Table 3.4: Owenkillew River (UKGBNI1NW010102027) WFD Status Classification

Water body name:	Owenkillew River (Gortin)		
Water body identification code:	UKGBNI1NW010102027		
River Basin District:	North Western		
Local management area:	Owenkillew		
2018 Ecological Status:	Good Ecological Status		
2021 Ecological Status:	Moderate Ecological Status		
2027 Objective:	Good Ecological Status		
Confidence in overall status:	-		
Biological elements	2018	2021	
Benthic invertebrates	High	Moderate	
Macrophytes	High	High	
Phytobenthos	High	Good	
Physicochemical elements			
Dissolved Oxygen	High	High	
pH	High	High	
Soluble Reactive Phosphorus	Good	Good	
Specific pollutants			
Ammonia	High	High	
Other Specific Pollutants	High	High	
Hydromorphological elements			
Hydrological regime	High	High	

Table 3.5: Owenreagh (East) River (Drumlea) (UKGBNI1NW010104041) WFD Status Classification

Water body name:	Owenreagh (East) River (Drumlea)		
Water body identification code:	UKGBNI1NW010104041		
River Basin District:	North Western		
Local management area:	Owenkillew		
2018 Ecological Status:	Good Ecological Status		
2021 Ecological Status:	Good Ecological Status		
2027 Objective:	Good Ecological Status		
Confidence in overall status:	High		
Biological elements	2018	2021	
Benthic invertebrates	Good	Good	
Macrophytes	High	High	
Phytobenthos	High	Good	
Physicochemical elements			
Dissolved Oxygen	High	High	
pH	High	High	
Soluble Reactive Phosphorus	Good	Good	
Specific pollutants			
Ammonia	High	High	
Other Specific Pollutants	High	High	
Hydromorphological elements			
Hydrological regime	Good	Good	

3.1.2 Chemical Status

In 2018, new dangerous substances were introduced to the WFD monitoring programme. For the first time the presence of ubiquitous, persistent, bioaccumulative, toxic (uPBT) substances, so-called 'forever' chemicals, have been assessed as part of chemical status of a water body. Due to their bioaccumulative and persistent nature, uPBT substances have been detected at all monitored stations and resulted in failures of all of those stations. Due to the persistent nature of these chemicals these failures identified in the water bodies included within the WFD monitoring programme were extrapolated to all water bodies and hence no surface water body achieved good chemical status in 2021 by default as explained in the WFD statistics report published by DAERA NIEA (NIEA, 2021). The chemical status for the water bodies traversed by the proposed development had previously been assessed as good and there were no failures recorded, however the introduction of uPBT substances to the WFD monitoring programme has now resulted in all the water bodies potentially affected by the proposed development to fail the chemical status classification.

Many of the uPBT substances such as the Polybrominated Diphenyl Ethers (PBDE), the most widely used flame retardants in the world until banned, had widespread commercial use for decades across the globe. Others are the by-products of industrial and commercial processes. When these products were first registered for use, the full extent of their toxicity was not understood. However subsequent research confirmed their uPBT properties resulting in many of them being banned or their use severely restricted. For example, the use of substances such as PBDE, which has been used in the insulation of electrical cables in the past, has been banned in the UK. The proposed development does not use any of the uPBT substances and therefore will not be a source of this pressure.

Therefore, the change in the approach to chemical status classification of water bodies traversed by the proposed project does not change the conclusion of the impact assessment or mitigation measures proposed as part of the construction, operation and decommissioning phases.

3.2 Guidelines

The ES includes regulatory guidelines for pollution prevention that have been updated since the original ES was submitted, however the content of these guidelines is based on the same principles therefore the mitigation measures to be implemented as part of the Proposed Development, and proposed in the original ES, do not need to change and will continue to apply the principles of pollution prevention contained in the guidelines. The relevant guidelines are listed below:

PPG6: Working at construction and demolition sites, now replaced with Guidance for Pollution Prevention (GPP) 6 Working at construction and demolition sites (first published in April 2023) and can be accessed at <https://www.netregs.org.uk/media/tsybv2y3/gpp6-working-on-construction-and-demolition-sites.pdf>.

4 IMPACTS WITHOUT MITIGATION ¹

4.1 Construction Phase – Pre-Mitigation

As set out in Chapter 9.7.2 of the ES, impacts during construction prior to the application of mitigation measures are predicted as follows:

- The deposition of suspended sediment could deteriorate the river habitat, therefore hindering the achievement of good status. However the magnitude of the impact from suspended solids on water quality and the ecological status of surface water bodies in the Overhead Line (OHL) sections is assessed as moderate given the limited ground disturbance and potential for suspended solids to be mobilised to surface water bodies. Considering that the sensitivity of water bodies traversed ranges from 'low' to 'very high', the significance of effect is predicted to be large adverse based on the matrix provided in **Table 2-3**.
- The original ES assessed the potential impacts from Horizontal Directional Drilling as one of the alternative methodologies to be used should the installation of the cable by typical open cut trench excavation in the road not be possible, however this methodology is no longer proposed as an alternative. Drawing numbers 698-1-1 - 698-1-4 (Appendix A of the Statement of Case) illustrate the route of the proposed underground cable and the locations at which the underground cable will cross an identified watercourse; these locations are labelled ST1, ST2, ST3, ST5, ST6, ST7, ST8, ST9, ST10, ST11, ST12 and ST13. The construction of the underground cable at locations ST1, ST12 and ST13 will be carried out by the typical open cut trench excavations, laying of cable and reinstatement as set out in 2.5.5.1.1 – 2.5.5.1.8 of the project description. At the locations ST2, ST3, ST5, ST6, ST7, ST8, ST9, ST10, ST10 and ST11 the construction of the underground cable will be carried out as per the methodology steps set out in 2.5.5.1.1 – 2.5.5.1.3 of the Project Description (i.e. Site Access and Engagement with Third Parties, Intrusive Ground Investigation Machinery and Vehicle and Equipment Mobilisation); following this, the alternative methodology for crossing a watercourse, referred to in **Table 5-2** below will be undertaken. These methodologies are further detailed in Appendix D of the OCEMP (Appendix C of the Statement of Case). The introduction of the alternative methodology of culvert replacement does not change the assessment of the magnitude of the impact on water quality as the proposed alternative has similar impacts on the watercourses in terms of suspended solids as the open trenching or the risk of drilling fluids entering the watercourse during a HDD. The magnitude of the impact from suspended solids on water quality and the ecological status of surface water bodies for the underground cable sections (UGC) remains the same as assessed in the ES, moderate to major based on the severity of run-off and the methodologies employed to cross watercourses. An impact of moderate to major magnitude on a 'low' to 'high' sensitivity environment means the likely significant effects are considered to range from slight to large adverse in the absence of mitigation, based on the matrix provided in **Table 2-3**.
- Soil erosion, removal of vegetation cover, soil compaction (caused by the bearing weight of heavy machinery), particularly in the riparian zone can alter preferential drainage paths and ultimately change the hydromorphological regime of a watercourse by changing the timing and magnitude of flows entering it and altering the riparian zone, banks and channel. The magnitude of the impact on the hydromorphological supporting conditions of surface water bodies is assessed as moderate based on the scale of the underground cable crossings, the crossing methodologies to be used and the fact that the pole sets on the overhead line will be set back a minimum of 10 metres from the majority of watercourses. Considering the sensitivity of the water bodies traversed ranges from 'low' to 'very high', the significance of effect is predicted to be large adverse in the absence of mitigation, based on the matrix provided in **Table 2-3**.
- Construction of the Proposed Development will involve the use of plant and machinery at the active working areas as well as the associated temporary storage of construction materials, oils, fuels and chemicals in the site compounds. The impact from oils and chemicals from the Proposed Development

¹ This section summarises the assessment undertaken in respect of the baseline as existing in May 2021 when the EIA was completed. Section 3 contains a review of any changes in the baseline data, cumulative/in-combination & transboundary considerations, legislation, policy and guidelines and/or any other consideration that would trigger the need for Additional Environmental Information (AEI).

relates to the spillage or release of fuel oil and other dangerous substances from plant and machinery impacting on the surface and ground water bodies associated with the Proposed Development. There is also the risk that small residue amounts left on site will be mobilised by surface run-off and washed into the watercourses. Assuming minor to major spillage occurrences the magnitude of the impact from oils and other hydrocarbons on water quality and the ecological and chemical status of the water bodies traversed is assessed to be major in the absence of mitigation. Considering the sensitivity of water bodies traversed ranges from 'low' to 'very high', the significance of effect is predicted to be very large adverse in the absence of mitigation, based on the matrix provided in **Table 2-3**.

- Given the workforce that is anticipated at each working front as outlined in the OCEMP, the magnitude of the impact of inadequate sewage and welfare facilities on water quality and the ecological and chemical status of the water bodies traversed should effluent from the welfare facilities be accidentally released to the aquatic environment is assessed as minor. Considering that the sensitivity of water bodies traversed ranges from 'low' to 'very high', the significance of effect is predicted to be moderate/large adverse in the absence of mitigation, based on the matrix provided in **Table 2-3**.

4.2 Operational Phase – Pre-Mitigation

As set out in Chapter 9.7.3 of the ES, impacts during operation prior to the application of mitigation measures are predicted as follows:

Once the circuit is commissioned it will be subject to regular inspections from the ground every three years. This will involve a single person walking along the route to visually inspect the overhead line. Vegetation management will also be carried out periodically as required (when vegetation encroaches on specified safety clearances, NIE Networks vegetation management cycle is typically once every three years). Wood pole replacement typically occurs every 30-40 years. The impact on water quality for these types of activities is low given the scale of the inspection activities and the vegetation maintenance proposed. It is envisaged that vegetation maintenance would require a two-person team accessing the target area on foot or via 4x4 with Mobile Elevated Working Platform (MEWP). Accordingly, the regular inspection regime and maintenance works associated with the OHL are predicted to have a negligible impact on water quality and no likely significant effects are anticipated.

Where underground cable faults occur a localised repair is carried out. This involves excavation at the location of the fault, cutting out the faulted piece of cable, inserting a new piece of cable into the duct, jointing the new cable into the existing cable network and then reinstating as per the Underground Cable construction methods set out in Volume II, Appendix 2.2 OCEMP Appendix D and summarised in Chapter 2 of the ES. The impact of these activities will be similar to those identified for the installation of the cable however the magnitude of the impact will be less given the localised scale of the potential fault repairs. Therefore, considering that the sensitivity of water bodies traversed ranges from 'low' to 'high', the significance of effect of the regular inspection regime and maintenance for the UGC, should a fault in the cable be detected, is predicted to be moderate adverse in the absence of mitigation, based on the matrix provided in **Table 2-3**.

4.3 Decommissioning Phase – Pre-Mitigation

As set out in Chapter 9.7.4 of the ES, impacts during decommissioning prior to the application of mitigation measures are predicted as follows:

Once operational, the overhead line will become a network asset and form part of the wider network. Decommissioning of the overhead line is not envisaged, however should the overhead line be required to be decommissioned, all associated structures and materials would be recovered and items recycled with the site returned to its original use. Decommissioning impacts will be the same or lesser than the impact of construction.

On this basis the magnitude of the impact can be considered as moderate for suspended solids and hydromorphological impacts, major for oil and chemicals and minor for sewage and welfare facilities. An impact of minor to major magnitude on a 'low' to 'very high' sensitivity environment is considered to range from negligible to very large adverse in the absence of mitigation, based on the matrix provided in **Table 2-3**.

Decommissioning of the underground cable is also not envisaged, however should the underground cable be required to be decommissioned, it would be disconnected from the circuit breakers or poles to which it is connected, safely insulated using pot end joints, de-energised and abandoned in situ.

As a result, the impact of decommissioning the Proposed Development is considered to be negligible for water quality.

5 PROPOSED MITIGATION MEASURES & RESIDUAL IMPACTS

Mitigation has been proposed to offset potential significant effects of the proposed development. Mitigation has been recommended for the construction phase, operational phase and decommissioning phase.

5.1.1 Construction Phase

Prior to the commencement of construction a final Construction Environmental Management Plan (CEMP) will be agreed with the Planning Authority to manage the prevention and control of environmental impacts during the construction phase. In order to achieve this, the final CEMP will provide a method of compliance with all environmental commitments outlined in the ES and will be within the parameters outlined in the Outline Construction Environmental Management Plan (OCEMP) which has been updated and re-submitted as Appendix C of the Statement of Case. Furthermore, detailed construction method statements will be prepared and agreed with the relevant authorities (NIEA Water Management Unit, DAERA and Inland Fisheries) within the parameters included in the outline construction methodologies (Appendix D of the OCEMP) in advance of any waterway crossing or where proposed construction works occurs within 10 metres of a watercourse. The method statement will need to be submitted for DAERA agreement a minimum of eight weeks prior to works commencing onsite.

DAERA Planning and Environment section has published Pollution Prevention Guidance 4, “Standing Advice for Planners and Applicants Seeking Planning Permission for Developments which may Impact upon the Water Environment”. This highlights the need for the developer and contractor to apply good practice in relation to pollution prevention and to adhere to the guidance contained within the relevant and GPPs. The Proposed Development will adhere to this standing advice.

Mitigation measures have been recommended in Section 9.8.1 of the ES, and are summarised below, to mitigate potentially significant effects.

- Sediment (Section 9.8.1.1 of the ES)
 - Excess material stockpiles from the overhead line and underground cable will not be sited within 10 metres of a watercourse. In addition, as outlined in the Project Description, Chapter 2 of the ES, typically pole erection will be completed within a day, therefore excavated material will not be left uncovered for more than a day. In the event that pole excavation should take longer than one day, excavated material will be covered with suitable waterproof material (heavy duty plastic sheeting or tarpaulin) to prevent sediment laden run-off being generated.
 - Tool Box talks will be given by the Environmental Manager nominated under the final CEMP to all contractor’s site personnel to inform them of the mitigation measures.
 - Movement of vehicles on-site will be suspended during and immediately after heavy rainfall when ground conditions would be likely to deteriorate to ensure that ground disturbance is minimised and to prevent a source of sediment and its mobilisation to the aquatic environment
 - Movement of vehicles within 10 metres of a watercourses will be avoided, except where the cabling traverses a culvert on the road network.
 - Silt fencing will be installed between the active working area and a watercourse where 10 metres set back is not possible and the working area encroaches within 10m of a watercourse (with the exception of dedicated watercourse crossing points).
 - For the overhead line stringing across very high sensitivity watercourses, i.e. Owenkillew River and Glennelly, a drone will be employed to carry a pull rope (in turn used to pull the conductor) across the watercourse and ensure no disturbance to the river and the riparian zone.
- Watercourse Crossings (Section 9.8.1.2 of the ES). The original ES assessed the potential impacts from Horizontal Directional Drilling as one of the alternative methodologies to be used should the installation of the cable by typical open cut trench excavation in the road not be possible, however this methodology is no longer proposed as an alternative as outlined in section 4.1. The mitigation outlined in the ES for HDD is therefore no longer necessary.
- The alternative methodologies that will be used to cross water courses are detailed in Appendix D of the OCEMP, (Appendix C of the Statement of Case). Excavation and Installation around and below a

structure, open cut trenching, culvert replacement are proposed at water course crossings where the cable cannot be laid safely within the carriageway above a culvert or structure. The use of these alternative methodologies are included as options in a number of watercourses as outlined in **Table 5-2**. Depending on the flow and size of the watercourse all alternative options will be undertaken in dry conditions by either damming the reach across which the UGC will be laid and over-pumping, i.e. pumping of water behind an upstream coffer dam (used to isolate the works area) into the river reach downstream of a secondary cofferdam installed to ensure water does not flow back into works area. The proposed use of temporary/coffer dams at these alternative crossings will result in a very low likelihood of sediment entrainment and the associated environmental impacts because excavation will be in non-flowing conditions. The detailed mitigation for the alternative methodologies is outlined in Appendix D of the OCEMP with general arrangement drawings included in Appendix A of the OCEMP.

- Hydromorphology (Section 9.8.1.3 of the ES)
 - Disturbed areas will be returned to former landforms and vegetation of exposed areas will occur immediately once construction activities are completed in any particular location before moving to the next active working area.
 - Where open cut crossing of watercourses or culvert replacement is proposed these areas are prone to erosion and they will receive particular attention, e.g. cleared banks will be stabilised immediately to facilitate reinstatement. A biodegradable membrane will be deployed (e.g. Geojute; Terram) followed by immediate reinstatement of the bank and riparian zone. In areas where mitigation methods such as silt fencing, management of stockpiles are used to prevent pollution from suspended solids in surface water runoff, these measures will be maintained and retained until there is no longer a threat to water quality, following vegetation being re-established.
 - When reinstating watercourses, stockpiled stream bed rocks, pebbles and/or coarse gravel will be replaced and watercourse banks will be reinstated immediately to stabilize and facilitate bio-restoration.
 - Stream bank reinstatement will commence as soon as in-stream construction work is completed.
 - The cable crossing of watercourses by replacing the existing culvert will not have a significant impact on the hydromorphology as the footprint of the works will not extend beyond the already modified channel, and where practical improvements to the culvert installed will be achieved through adherence to best practice culvert design.
 - No abstractions will be permitted from surface waters during works. For culvert replacement and open cut crossings damming of the water course will be required but over pumping will be used to undertake these works in dry conditions.
 - The majority of cabling works will occur within the road network, however, works will occur off line at limited location in agricultural lands, liaison will be undertaken with the landowners to determine if any unregistered private water supplies are located in close proximity to the works area. Should unregistered private water supplies occur within the study area, which will be confirmed with landowners prior to construction, measures to protect the well head, including horizontal clearance distances and the prohibition of handling or storage of chemicals on lands that drain to the water supply and will be implemented fully by the contractor to ensure these will not be impacted.
 - The most significant impact on the quality of the well water would be associated with any accidental leaks and spillages in close proximity to a shallow well. A range of appropriate mitigation measures have been proposed to reduce the risk of leakage or spillages in section 9.8.1.3 of the ES.
 - There are no known private wells within 50 metres of the proposed development. Notwithstanding this the impact on groundwater levels in any private well during the operational phase is not likely to result in significant effects as there will be very limited intervention with the exception of operational walkover inspections, vegetation maintenance and possible pole replacement. The maintenance inspections are walkover surveys and given the scale of excavation for a typical pole set replacement will not be over 1.5 m² there will be no likely significant effects on groundwater levels or the groundwater quality of any private wells during the operation of the Proposed Development.
 - The Derg water supply, which is supplemented by the River Strule (the Owenkillew and Glennelly rivers are tributaries of the Strule), is the main source of public water supply that could be affected by the project. However, pollution prevention mitigation, as outlined in the ES will ensure that there will be no impact on public water supply sources in terms of quality. Additionally, the construction phase involves the crossing of minor watercourses within the Strule public water supply over small

time scales. Therefore, the works will not negatively impact the sufficiency of the public water supply as there is no abstraction requirement or significant impounding of watercourses required.

- Oils and Chemicals (Section 9.8.1.4 of the ES)
 - All relevant measures outlined in the Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010 guidance, (DEARA, 2010) will be implemented during the construction and operation of the proposed development.
 - It is not intended to have fuel, oil and chemical storage on site however should this type of storage be required it will be sited within the main site compound or temporary site compound on an impervious base within a bund and secured (locked) to prevent vandalism or theft. All valves and trigger guns will be protected from vandalism and unauthorised interference and will be turned off and securely locked when not in use. Any tanks or drums will be stored in a secure container or compound, which will be kept locked when not in use.
 - The risk of spilling fuel is at its greatest during refuelling of plant. Refuelling of plant will not occur in the active working areas but rather at publicly accessible fuel stations and will not occur on site.
 - An Emergency Response Plan for the works has been prepared and is included in the OCEMP. The Emergency Response Plan will detail actions to be taken in the event of an accidental spillage of fuel, chemicals or other hazardous material. The Plan will also detail the procedures to be followed if there is a breach in any licence conditions or a non-compliance.
 - The Environmental Manager will be notified of all incidents where there has been a breach in agreed environmental management procedures. Suitable training will be provided to relevant personnel detailed within the Emergency Response Plan to ensure that appropriate and timely actions will be taken should an incident occur.
 - Drip trays will be used for any large plant and vehicles where they are left overnight at an active work location.
- Sewage and welfare facilities (Section 9.8.1.5 of the ES)
 - In order to cater for the welfare of persons working on the construction of the project, a mobile welfare van (OCEMP Appendix C, Figure 14) will be positioned either within the active work section or, where there is an area used for parking vehicles in close proximity to the active work section, that area may also be used. The vehicle will be returned to the vehicle owner's depot for removal of sewage.
 - Sewage effluent from the temporary site compound will be removed using a vacuum tanker by a suitable licensed waste contractor.

5.1.2 Operational Phase

During the operational phase there is a risk that potential impacts will occur where underground cable faults need localised repairs to be carried out. Given the localised nature of these faults/repairs and the fact that the underground cable sections are fully ducted, the impact is less significant than the construction phase. Negligible effects are predicted in relation to maintenance/repairs of the OHL sections. The mitigation measures proposed for the construction phase to address potential impacts from suspended sediment, watercourse crossings, hydromorphology, oil and chemicals and welfare facilities will also be implemented to active work areas where repairs are being undertaken ensuring the residual impacts are negligible.

5.1.3 Decommissioning Phase

If the overhead line is required to be decommissioned, the pole structures will be cut off at ground level and removed, materials will be recovered and items recycled with the site returned to its original use. Decommissioning of the underground cable is not envisaged, however should the UGC be required to be decommissioned, it would be disconnected from the circuit breakers or poles to which it is connected, safely insulated using pot end joints and the cable will be recovered for recycling. In terms of water quality, the decommissioning would require access to lands and the use of plant and machinery to recover the materials. On this basis the sediment and oil and chemical mitigation outlined in the construction phase mitigation will be applicable and will ensure that the residual impact is negligible.

5.1.4 Summary

The magnitude and significance of effects without mitigation, and residual effects after mitigation have been summarised for the construction and operational phases in **Table 5-1** and **Table 5-2**. Following the application of mitigation as set out above, the construction, operation and decommissioning of the proposed UGC and OHL will have no significant effects on the water quality of the water bodies traversed and therefore will not result in a risk to the achievement of the WFD objectives for these water bodies and their water dependent protected areas including drinking water supplies and nature conservation areas.

Table 5-1: Construction Phase OHL downstream sensitive watercourses - Magnitude and Significance of Effects without Mitigation, and Residual Effects after Mitigation.

Site ID	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
Fowl Glen Burn	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Owenreagh Burn	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Glentrasna Burn	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Legnavadder Burn	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Legolougha Burn	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
Glashyngolgan Burn (2 crossings)	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
Letterbrat Burn (2 crossings)	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible

Site ID	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
Glenelly River near Plumbridge (ST14)	Very High	Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
		Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible
Trinamadan	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
Owenkillew River near Golan Bridge (ST15)	Very High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible

Table 5-2: Construction Phase UGC - Magnitude and Significance of Effects without Mitigation, and Residual Effects after Mitigation *Note that the assessment takes into account the crossing method.*

Site ID & crossing method	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
ST1 Install as per normal technique above the structure;	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
ST2 Alternate Methodology B: Culvert Replacement	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
ST3 Alternate Methodology A: Excavation and Installation around and below a structure or; Alternate Methodology B: Culvert Replacement	Medium	Suspended Solids	Moderate	Moderate	Negligible
		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
ST5 Alternate Methodology A: Excavation and Installation	Low	Suspended Solids	Moderate	Slight	Negligible
		Sewage or welfare facilities	Minor	Negligible	Negligible

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Site ID & crossing method	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
around and below a structure or;		Hydromorphological impact	Moderate	Slight	Negligible
Alternate Methodology B: Culvert Replacement.		Release of oils or chemicals	Major	Moderate	Negligible
ST6	Low	Suspended Solids	Moderate	Slight	Negligible
Alternate Methodology B: Culvert Replacement.		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
		Release of oils or chemicals	Major	Moderate	Negligible
ST7	Low	Suspended Solids	Moderate	Slight	Negligible
Alternate Methodology A: Excavation and Installation around and below a structure or;		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
Alternate Methodology B: Culvert Replacement.		Release of oils or chemicals	Major	Moderate	Negligible
ST8	Low	Suspended Solids	Moderate	Slight	Negligible
Alternate Methodology B: Culvert Replacement.		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
		Release of oils or chemicals	Major	Moderate	Negligible
ST9	Low	Suspended Solids	Moderate	Slight	Negligible
Excavation and Installation around and below a structure or;		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
Alternate Methodology B: Culvert Replacement.		Release of oils or chemicals	Major	Moderate	Negligible
ST10	High	Suspended Solids	Moderate	Large	Negligible
Alternate Methodology A: Excavation and Installation around and below a structure or;		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
Alternate Methodology B: Culvert Replacement.		Release of oils or chemicals	Major	Very Large	Negligible
Watercourse south of Meenadoo Road (ST10b)	Medium	Suspended Solids	Moderate	Moderate	Negligible
Alternate Methodology C: Dam watercourse and install open trench through watercourse.		Sewage or welfare facilities	Minor	Slight	Negligible
		Hydromorphological impact	Moderate	Moderate	Negligible
		Release of oils or chemicals	Major	Large	Negligible
ST11	High	Suspended Solids	Moderate	Large	Negligible
Alternate Methodology A: Excavation and Installation around and below a structure or;		Sewage or welfare facilities	Minor	Moderate	Negligible
		Hydromorphological impact	Moderate	Large	Negligible
Alternate Methodology B: Culvert Replacement.		Release of oils or chemicals	Major	Very Large	Negligible

TECHNICAL REPORT

Site ID & crossing method	Sensitivity	Potential Effect	Magnitude of Effect	Significance without Mitigation	Residual Effect after Mitigation
ST12 Install as per normal technique above the structure.	Low	Suspended Solids	Moderate	Slight	Negligible
		Sewage or welfare facilities	Minor	Negligible	Negligible
		Hydromorphological impact	Moderate	Slight	Negligible
		Release of oils or chemicals	Major	Moderate	Negligible
ST13 Install as per normal technique above the structure.	High	Suspended Solids	Moderate	Large	Negligible
		Sewage or welfare facilities	Minor	Moderate	Negligible I
		Hydromorphological impact	Moderate	Large	Negligible
		Release of oils or chemicals	Major	Very Large	Negligible

6 CUMULATIVE IMPACTS/INTERACTIONS/TRANSBOUNDARY IMPACTS

6.1 Cumulative and In combination Impacts

A staged approach was to identify the potential for significant cumulative effects, and other planning approved or pending developments, whereby a Zone of Influence (ZOI) was first identified based on the sub-basins draining to the water courses that are traversed by the proposed development as it is important to consider hydrological connectivity when considering cumulative impacts on water quality. A long list of developments were then derived from online planning databases and subsequently screened for hydrological connectivity with the proposed development. Where the screening identified hydrological connectivity the potential for cumulative effects on water quality was assessed by considering the supporting documentation for the planning applications for each individual development. There are no likely significant cumulative or in combination effects from these developments based on a review of the relevant planning and environmental documentation and the impact assessment undertaken in the Water Quality Chapter.

6.2 Transboundary Effects

The study area associated with the Proposed Development is within the Upper Foyle Catchment. The Foyle catchment is a cross border catchment and therefore the hydrological link extends to areas beyond the international border in the River Foyle and Lough Foyle. The project is therefore hydrologically linked to both the River Finn SAC and the Lough Foyle SPA in the Republic of Ireland and the shared waters of the Upper Foyle Estuary, Foyle Harbour and Faughan Estuary and Lough Foyle. However, the residual impact after the implementation of the mitigation measures is assessed as negligible therefore there are no significant effects on water quality from the proposed development and given that there is no likelihood for significant cumulative effects there will be no potential for significant transboundary effects on water quality as a result of the proposed development.

7 CONSULTATION RESPONSES AND SUBMISSIONS

7.1 Relevant Statutory Body Consultation Responses

7.1.1 Loughs Agency

The most recent consultation response of the Loughs Agency is dated 9th July 2021. Loughs Agency responded stating that it is content with the proposals provided the mitigation as detailed is adhered to. Loughs Agency also welcomed the consideration of the downstream sensitivities of the watercourses intersecting the UGC route (including highly sensitive watercourses intersecting the OHL route which are identified in Table 9 13 of the ES) and were satisfied that the mitigation measures proposed seemed appropriate to the nature and scale of the development.

7.1.2 Drinking Water Inspectorate (DWI)

The DWI requires that a development must not impact on either the quality or sufficiency of a private water supply, and mitigation measures must be put in place, where required, in the protection of such drinking water supplies.

Chapter 9 of the ES (Section 9.6.4) states that “The database of private water supplies across Northern Ireland which have been registered with the Drinking Water Inspectorate (DWI) under The Private Water Supplies Regulations (Northern Ireland) 2017 was consulted through the Spatial NI web portal in April 2021 and there are no private water supplies registered within the study area.” Clarification was provided to the DWI in August 2021 that there are current and historical registered private water supplies from the database within the water bodies traversed by the project, however there are no registered private water supply polygons within a 50 metre buffer of the overhead power line or underground cable route therefore the potential for impact was screened out. DWI accepted this approach for the registered private supplies. The register of private water supplies was checked again in October 2024 and there are still no registered water supplies within a 50 metre buffer of the Proposed Development.

For unregistered private supplies mitigation has been included within Section 9.8.1.3 the ES and has been reproduced below:

- The majority of cabling works will occur within the road network, however, works will occur off line where open cut crossings of the water courses are proposed, liaison will be undertaken with the landowners to determine if any unregistered private water supplies are located in close proximity to the works area. Should unregistered private water supplies occur within the study area, which will be confirmed with landowners prior to construction, measures to protect the well head, including horizontal clearance distances and the prohibition of handling or storage of chemicals on lands that drain to the water supply will be implemented fully by the contractor to ensure these will not be impacted.
- The most significant impact on the quality of the well water would be associated with any accidental leaks and spillages in close proximity to a shallow well. A range of appropriate mitigation measures have been proposed to reduce the risk of leakage or spillages in section 9.7.1.3 of the ES.
- There are no known private wells in the vicinity of the proposed development. Notwithstanding this the impact on groundwater levels in any private well during the operational phase is not likely to result in significant effects as there will be very limited intervention with the exception of operational walkover inspections, vegetation maintenance and possible pole replacement. The nature of the inspections are walkover and given the scale of excavation for a typical pole set replacement will be over 1.5 m² there will be no likely significant effects in terms of groundwater levels or quality of the private well as a consequence of the operation is considered negligible therefore mitigation is not necessary.

The DWI acknowledge that under Section 9.8.1 appropriate mitigation measures are detailed if an unregistered private water supply is encountered during works.

7.1.3 NI Water

The most recent consultation response of the NI Water is dated 16th September 2021. The main body of the consultation response related to the protection of NI Water Assets, however “Appendix A: Protecting drinking

water and NI Water assets during development activities” raises a number of points that are relevant to water quality.

1. Protecting Drinking Water Quality

NI Water note that the proposed development is within the Strule drinking water catchment area which supplies raw water for the Derg Water Treatment Works (WTW) operating by NI Water and there is an important drinking water abstraction point on the Strule River downstream of the development. The primary issue concerning development activities is the potential impact on drinking water quality and quantity.

The water quality chapter of the ES identifies the Drinking Water Protected Areas (DWPAs) including the Derg/Strule catchment (Figure 9.6 of the ES) and identifies these areas as part of the Register for Protected Areas under the Water Framework Directive stating that the protected area objectives of the DWPAs must not be compromised when considering the impacts of the proposed development. As identified by NI Water the primary concern is the potential impact on water quality and quantity. The ES assesses the impacts of water quality and proposes mitigation measures to ensure that there will be no significant effects on water quality.

Section 9.8.1.3 of the ES states *“The Derg water supply, which is supplemented by the River Strule (the Owenkillew and Glennelly rivers are tributaries of the Strule), is the main source of public water supply that could be affected by the project. However, pollution prevention mitigation, as outlined in this chapter will ensure that no impact on public water supply sources in terms of quality. Additionally, the construction phase involves the crossing of minor watercourses within the Strule public water supply over small time scales. Therefore, the works will not negatively impact the sufficiency of the public water supply as there is no abstraction requirement or significant impounding of watercourses required.”*

The ES also confirms that there is no abstraction proposed from any of the water courses that are upstream of the DWPA and Sections 9.7.2.2, Hydromorphological Impact, Section 9.8.1.2, Watercourse Crossings and HDD Mitigation and Section 9.8.1.3, Hydromorphology of the ES have demonstrated that there is no impact on the hydromorphology of the water bodies affected when the mitigation recommended is implemented. As identified in Section 9.8.1.2 of the ES, water required during construction will be taken from water mains or will be brought to site by the contractors in Intermediate Bulk Containers (IBCs).

2. Regulatory requirements

Under Article 7 of the Water Framework Directive, waters used for the abstraction of drinking water are designated as Drinking Water Protected Areas (DWPA). NI Water is required to ensure that any activity within a drinking water catchment does not affect the ability of NI Water to meet its regulatory requirements.

As identified above water quality and water quantity impacts of the proposed development have been assessed in the ES and mitigation measures will be implemented to ensure that there will be no significant effects on the water quality and water quantity of the water bodies affected and therefore the proposed development will not compromise the protected area objectives of the DWPAs.

3. Specific precautions for drinking water protection

NI Water highlighted a number of precautions that should be considered for drinking water protection. These measures have already been committed to in the ES as mitigation for water quality impacts:

- a. *Construction Method Statement – Response:* The methods of construction, particularly for water course crossings, have been detailed and assessed in Section 9.7.2 and Section 9.8.1 of the ES. The ES has assessed the methods appropriately and included mitigation measures to ensure there will be no significant effects to water bodies flowing into the downstream DWPAs. Construction Method Statements will be prepared in advance of construction of these crossings and will require prior approval by DAERA NIEA within the parameters included in the outline construction methodologies (OCEMP, Appendix D) or where proposed construction works occurs within 10 metres of a watercourse. The method statement will need to be submitted for DAERA agreement a minimum of eight weeks prior to works commencing onsite.
- b. *Any potential effect on the hydrology of the area resulting from the construction and operation of the proposed development should be assessed and the findings presented in the Environmental Statement - Response:* The ES assesses the impact on hydromorphology (Section 9.7.2.2) and the Flood Risk chapter includes an assessment of the drainage risk which has been presented in the ES and concludes that there will not be any significant effects.
- c. *When constructing roads, drainage ditches and trenches, drainage should not be directed into adjacent catchments but retained within the existing catchment - Response:* There are no catchment transfers of drainage features.

- d. *NI Water also highlight a number of pollution control measures for refuelling, sediment run-off, concrete production, watercourse crossings - **Response:** All such measures have been included as mitigation measures within Section 9.8 the ES.*

4. Monitoring requirements to protect drinking water quality

- a. *During construction, a programme of daily visual inspection of the watercourses, flow conditions (i.e. high, medium, low, or no flow), prevailing weather and any other pertinent observations, will be required to be implemented. – Section 9.9 of the ES outlined the mitigation and monitoring that will be undertaken during the construction phase which includes for a programme of visual inspection and assessing the efficacy of the pollution prevention measures.*
- b. *Depending on the vulnerability of the public water supply, NI Water may request that a water sampling programme shall be established and agreed. NI Water have not requested that such a monitoring programme be undertaken for the proposed development and this is not necessary given the nature of the development, the residual impacts identified, and the Proposed Development's location outside of the DWPA.*

7.1.4 DAERA NIEA Water Management Unit

The most recent consultation response DAERA NIEA Water Management Unit is included within the DAERA Planning Response Team's response dated 2nd September 2021. Water Management Unit (WMU) stated that they have considered the impacts of the proposal on the surface water environment and on the basis of the information provided are content subject to:

- Conditions including the submission of a detailed Construction Environmental Management Plan (CEMP), details of any drilling fluids to be used and a schedule of underground water course crossings. These conditions are acceptable and the OCEMP is consistent with these requirements.
- Any relevant statutory permissions are obtained
- The applicant referring and adhering to standing advice
- The applicant noting the advice contained in the explanatory note.

The explanatory note referred to above was included with the NIEA WMU submission and included details in relation to Chapter 9, Water Quality and the OCEMP which are discussed below.

The NIEA noted a minor error in the quality elements for the 2018 ecological status classification (Section 9.6.1) notably the Fish status in the Glenelly River which should have been classed as indicative of high ecological status. This did not change the overall status classification, nor did it impact on the assessment of the significance of effect, or the mitigation proposed in the ES. As outlined in Section 3.1 of this document the WFD status classification has been updated to account for additional monitoring data collated as part of the WFD monitoring programme and a change in the approach to the classification of the chemical status of a water body. The most recent WFD classification was published in 2021 and the changes in status have been identified.

NIEA had highlighted that in Section 9.6.3 Protected Areas of the ES the wrong tense was used in the paragraph relating to water designated under the Freshwater Fish Directive and that the compliance assessment was based on annual assessment rather than quarterly. Whilst this is accepted the context of this paragraph was to highlight that the FFD was repealed by the WFD at the end of 2013 and that waters designated under the FFD have been afforded similar protection under the WFD.

The NIEA WMU also highlighted that in Section 9.8.1.8 - Sediment Control that there is reference to suspension of movement of vehicles to mitigate against suspended solids from haul road. This is not correct, there is no reference to a haul road as it is not proposed to install a haul road in the Active Working Areas and therefore haul road 'slurry' will not be generated. Access to these areas and the location of the pole sets will be achieved from the existing road network and existing agricultural accesses and not a haul road. This mitigation is included to ensure that plant and machinery will not be deployed in the active work areas during times of heavy rainfall and immediately afterwards when ground conditions are more susceptible to rutting and subsequent overland flow of disturbed soil.

NIEA WMU also highlighted the need for monitoring and maintenance of all silt fencing (section 9.8.1.1 of the ES) and any outflows to vegetation from settlement features to ensure no scouring/ erosion thus preventing generation and mobilisation of suspended solids following treatment. As outlined in Section 2.4 and Section 9.8.1.1 of the ES, prior to work commencing each team will receive a Tool Box Talk (local staff briefing in NIE

Networks depot or on site) on the proposed day's activities specific to their work site. The information will include advice from the NIE Environmental Officer and the ECoW to inform each team of the mitigation measures, as set out in the OCEMP, required to ensure protection and conservation of the aquatic environment which will include monitoring and maintenance requirements for assessing effectiveness of measures. The Tool Box Talk session will be carried out by the appointed Contractor Environmental Manager.

The NIEA WMU also highlighted the need for the consideration to be given to the design and size of attenuation and settlement features in relation to the volume and size of fines to ensure they work effectively (Section 9.8.1.2). This can only be achieved once the requirement and location of the settlement features are established, the extent of the area that drains to them and the nature of the soil in these locations. These features will be subject to detailed design as part of the detailed CEMP, a maintenance regime will also be set out to ensure ongoing effective functioning.

The methodology for the installation of coffer dams for watercourse crossings is provided in the OCEMP (included as Appendix C in this Statement of Case). The NIEA WMU have agreed with the principles of the general arrangement drawing and the procedure to be adopted, which will be contained within the red line boundary for the Proposed Development, however they have requested a schedule of the timing of these works, the location and the exact methodology for agreement in advance of the works. This has been recommended as a condition of planning - *"Once a contractor has been appointed, a schedule of works for all underground watercourse crossings to include timings, locations (grid references) and methods to be used for those crossings identified should be submitted to NIEA Water Management Unit, at least 2 weeks prior to those works. (Note Water Management are content for this to be submitted in phases if appropriate)."*

7.2 Relevant Third Party Representations

Of the 204 third party objections 196 consisted of one Form Letter with common objection reasons identified and the remaining eight consisted of individual correspondence. There were no objections specific to water quality however one of the main reasons for objection was identified as the impact on nature and biodiversity.

Deterioration in water quality can have an impact on water dependent habitats and species and therefore can result in significant effects on biodiversity. The assessment of the potential water quality impacts from the proposed development was undertaken in the context of the ecological status of the water bodies traversed and the water dependent protected areas (particularly salmonid waters and SACs). Based on this assessment a suite of mitigation measures (Section 5 of this report) will be implemented to ensure the residual impact is negligible and therefore impacts on water quality from the proposed development will not have a significant effect on biodiversity.

8 CONCLUSIONS

Since the preparation of the water quality chapter of the ES, the WFD monitoring programme has continued and more recent data from the programme has resulted in some changes to the ecological status and chemical status classification for the water bodies traversed by the Proposed Development. These have been detailed in Section 3. As outlined in Section 3 the impact assessment undertaken in the ES does not change as a result of the change in the water body status and the environmental objective for all water bodies is still the achievement of good ecological status.

Significant residual effects upon water quality, ecological status, chemical status and protected area objectives of the water bodies traversed by the proposed development and downstream are not predicted.

With the implementation of the mitigation measures proposed throughout the Environmental Statement and associated outline Construction Environmental Management Plan, the residual impact on water quality, ecological status, chemical status and protected area objectives of the water bodies will be negligible and there will be no significant effects on water quality.

Cumulative and transboundary effects have also been assessed for water quality within a defined zone of influence and it is predicted that there is no likelihood for significant cumulative or in combination effects, nor will there be significant transboundary effects on water quality as a result of the proposed development.

The baseline data for the WFD classification of the water bodies that could be potentially impacted by the proposed development has been updated as the WFD monitoring programme has continued since the submission of the ES. More recent data from the programme has resulted in some changes to the ecological status and chemical status classification for the water bodies traversed by the proposed project but this does not change the conclusion of the impact assessment or mitigation measures proposed as part of the construction, operation and decommissioning phases of the proposed development or the ultimate conclusion that there will be no likely significant effects.

In their most recent consultation responses, NIEA WMU, Loughs Agency, DWI and NI Water have no objections to this proposal and have recommended a number of conditions that the applicant is willing to accept as part of the approval process.

9 REFERENCES

NIEA, 2021. Water Framework Directive Statistics Report December 2021. Available at: <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Water%20Framework%20Directive%20Statistics%20Report%202021.pdf>. Accessed on 30th April 2024.

CURRAGHINALT 33KV CONNECTION PROJECT

STATEMENT OF CASE TECHNICAL REPORT

TRANSBOUNDARY CONSIDERATIONS

NI1851
Statement of Case
V.01
October 2024

REPORT

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1 INTRODUCTION

This Technical Report has been prepared by [REDACTED]. [REDACTED] is former RPS Belfast Planning Director and now sub-consultant to RPS and is responsible for overall management of the planning applications (Planning Ref LA10/2019/1386/F & LA11/2019/1000/F) for the 33kV power line connections to serve Curraghinalt mine (Planning application ref: LA10/2017/1249/F).

[REDACTED] has over 30 years' public and private sector experience of delivering complex planning applications often involving EIA and has been involved in the delivery of a large number of electrical infrastructure projects across Northern Ireland as well as in GB. He is a chartered planning consultant and has a Postgraduate Diploma in Environmental Impact Assessment.

This Technical Report should be read alongside the environmental information, in the form of an Environmental Statement (ES) and shadow HRA , previously submitted to the Department for Infrastructure ('DfI') on 1st June 2021 along with a clarification document submitted on 27th August 2021.

2 METHODOLOGY

The potential for the Proposed Development to give rise to transboundary impacts in respect of designated sites, water quality and visual impact has been considered in the EIA screening request (ES, Volume II, Appendix 1.1) submitted to the Department for Infrastructure (DfI) on 13th January 2020. In addition, the matter was also considered by DfI and relevant statutory consultees as part of the formal EIA screening exercise (ES, Volume II, Appendix 1.2) and further in the relevant responses to the submitted ES (see relevant extract in Table 1 below).

Potential Impacts on Designated Sites & Water Quality

A Water Quality assessment was undertaken as part of the EIA exercise. It confirmed that the study area associated with the Proposed Development is within the Upper Foyle Catchment. The Foyle catchment is a cross border catchment and therefore a potential hydrological link extends to areas beyond the international border in Lough Foyle.

The screening assessment involved a qualitative (desk-based) screening assessment of potential impacts on local surface water quality and groundwater quality. The potential impacts of soil contaminants and drainage on local watercourses were considered and set out in the screening report. The following tasks were implemented to complete the desk-based screening assessment:

- Review of the Existing Environment
- Identification of location of watercourses along proposed route and in the vicinity of the substation.
- Initial consultation with NIEA Water Management Unit (WMU) to obtain any relevant information.
 - o Assessment of baseline conditions and areas protected under the WFD.
- Impact Assessment
 - o Identify potential impacts (including cumulative/interaction impacts) from the Proposed Development (and other relevant developments) on the achievement of WFD objectives.
 - o Assessment of the significance of potential impacts using a method adopted from the Design Manual for Roads and Bridges (2011).
 - o Screening assessment to determine whether specific components or activities related to the Proposed Development will compromise the attainment of WFD objectives or result in the deterioration in the ecological status of any water body.
- Consideration of mitigation measures
- Assessment of Residual Impacts following mitigation
- Consideration of cumulative impacts, interactions and transboundary issues
- Conclusions.

Potential Effects in Absence of Mitigation

The Foyle catchment is a cross border catchment and therefore a hydrological link extends to areas beyond the international border in Lough Foyle. The project is hydrologically linked to the River Finn SAC via a 5 km downstream pathway. There is potential for effects on water quality at this designated site through the same pathway as for the River Foyle and Tributaries SAC. At the construction stage, there is a possibility that suspended sediments and/or contaminants could enter the aquatic environment during activities associated with the crossing of watercourses. Surface waters could possibly carry those suspended sediments or pollutants downstream into the River Finn SAC.

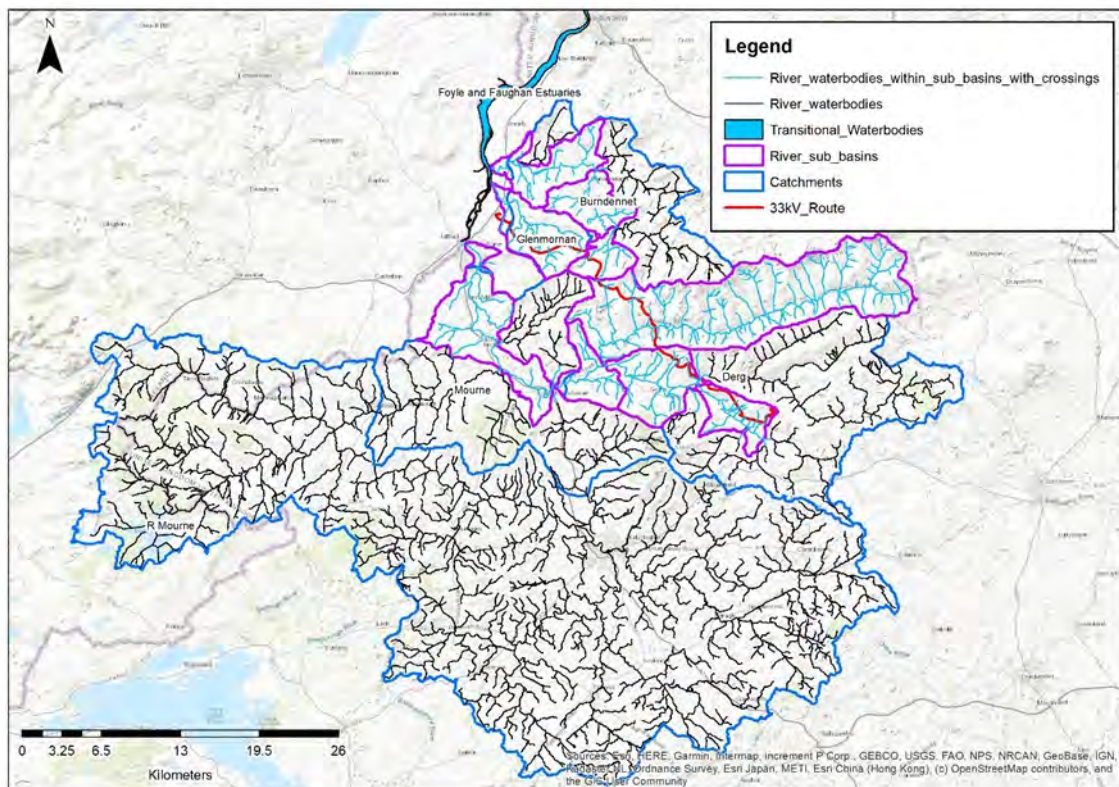


Figure 1: Upper Foyle Catchment

A Fisheries & Aquatic Ecology Assessment was also undertaken. It adopted the following approach:

- Examination of the baseline through mapping of water bodies, use of baseline data for salmonid fisheries, ecological status under the Water Framework Directive (WFD, 2000/60/EC), and relevant conservation designations for river reaches at each test site, WFD classifications and field surveys.
- Assessment of effects was based on test site sensitivity and guidelines on the perceived magnitude of effect as outlined in the Design Manual for Roads and Bridges (DMRB), specifically with regard to Road Drainage and the Water Environment, Volume 11, Section 3, Part 10 HD45/09 (DMRB, 2009). It considered conservation designations including the Foyle & Tributaries SAC.
- Consideration of mitigation measures for the palette of construction options.
- Consideration of residual impacts following mitigation.
- Conclusions

Waterbody crossings along the powerline route will occur in the following river sub-catchments of the River Foyle system:

- Owenkillew/ Owenreagh
- Glenelly
- Glenmoran

The Fisheries & Aquatic Ecology Screening Assessment as part of EIA Screening, outlines the potential effects of the UGC installation on the fish stocks and fish habitats of the receiving watercourses within the Glenmornan and Owenkillew catchments. It also considers potential impacts of the OHL installation at two highly sensitive watercourses, the Glenelly and Owenkillew. It provides relevant baseline information on fisheries and aquatic ecological health enabling the potential effects to be identified and evaluated.

It has been determined that potential impacts are related to sediment release and entrainment and the release of other pollutants to the receiving watercourses with related effects on fish stocks and the wider stream ecosystem. Without mitigation it is considered that these impacts have the potential to be of Major Magnitude and of Very Large Significance depending on the sensitivity of individual watercourses.

An Ecological Impact Assessment (EcIA) was undertaken to inform the EIA screening process. The EcIA was based on information gathered through consultation with NIEA, desk studies and ecological surveys of a wide range of species and habitats. The assessment takes account of the source-pathway-receptor model. The model determines the Zone of Influence (Zoi) over which ecological features may be affected by the biophysical changes caused by the Proposed Development.

The EcIA considered the potential impacts on designated sites within the zone of influence of the Proposed Development. These included the River Foyle and Tributaries SAC/ASSI and the River Finn SAC.

The Proposed Development is hydrologically connected to the River Foyle and Tributaries SAC & ASSI which is 4.5 km downstream of the Owenkillew River. At the construction stage, there is a possibility that suspended sediments and/or contaminants and invasive non-native species could enter the aquatic environment during activities associated with the crossing of watercourses. These impact pathways could give rise to potential effects in relation to water quality and indirect habitat deterioration. Surface waters could possibly carry those suspended sediments or pollutants and invasive species downstream into the River Foyle and Tributaries SAC. Without the application of mitigation measures, it is possible that suspended sediments or contaminants entering surface waters could, albeit temporarily, negatively affect otter, Atlantic salmon and Water courses of *plain to montane* levels with the *Ranunculus fluitans* and *Callitriche-Batrachion* vegetation in the River Foyle and Tributaries SAC & ASSI.

The Proposed Development is likely to have a **Significant Negative Effect (Major Adverse)** on the River Foyle and Tributaries SAC and the River Foyle and Tributaries ASSI in the absence of mitigation measures.

The Proposed Development is hydrologically linked to the River Finn SAC via a 5 km downstream pathway. In the absence of mitigation, potential water quality effects might occur on this designated site through the same pathways described above for the River Foyle and Tributaries SAC. At the construction stage, there is a possibility that suspended sediments and/or contaminants and invasive non-native species may enter the aquatic environment during activities associated with the crossing of watercourses. Surface waters could possibly carry those suspended sediments or pollutants downstream into the River Finn SAC.

Without the application of mitigation measures, it is possible that suspended sediments or contaminants entering surface waters may albeit temporarily, negatively affect Otter, and Atlantic salmon in the River Finn SAC.

The Proposed Development is likely to have a **Significant Negative Effect (Major Adverse)** on the River Finn SAC in the absence of mitigation measures.

Given that mitigation cannot be taken into account in a stage 1 TOLS assessment a shadow Habitats Regulation Assessment (sHRA) Stage 2 Appropriate Assessment was also undertaken as set out further below.

Likely Effects Following Implementation of Mitigation Measures

Extensive mitigation measures to protect watercourses from direct and indirect effects associated with the Proposed Development are detailed in the Water Quality Screening Assessment, the Fisheries & Aquatic Ecology Screening Assessment, EcIA & sHRA and are set out in the OCEMP. The OCEMP will provide a framework from which a final CEMP will be developed and will be adhered to by the appointed contractor. The OCEMP and final CEMP sets out the standards that will be implemented throughout the life of the Proposed Development. The OCEMP provides:

- A description of the project in respect of the construction, operation and de-commissioning of the project.
- Construction method statements at watercourse crossings.

- A description of the environmental management measures that will be put in place to mitigate environmental effects through prevention of sediment release and entrainment and the release of other pollutants to the receiving watercourses as well as providing details of audit procedures.

The screening assessments concluded that with mitigation employed the risk of sediment and other pollutant release from the construction of the Proposed Development is reduced to a low likelihood of occurrence and a negligible magnitude of impact.

The EcIA concluded that implementation of the mitigation measures as set out in the ES Chapters and OCEMP, to protect watercourses from direct and indirect effects associated with the Proposed Development and prevent the spread of invasive non-native species, will reduce the likely significance of effects on the River Foyle and Tributaries SAC and River Finn SAC from a Significant Negative Effect (Major Adverse) to No Significant Effect.

DfI considered the potential for transboundary impacts in the formal EIA screening report as summarised in the extract from Table 1 of the DfI EIA Screening response below:

TABLE 1 Schedule 3 selection criteria as are considered relevant	<u>Potential Impact</u> <u>(Yes/No/N/A)</u> Briefly describe potential impact. If answer NO, the answer in the second column is N/A	<u>Is this likely to result in a</u> <u>significant effect?</u> <u>(Yes/No/N/A)</u> Include measures envisaged to avoid or prevent significant adverse impacts on the environment
TRANSBOUNDARY		
Is the project likely to lead to transboundary effects?	YES The project is hydrologically linked to the River Finn SAC; there is potential for sediments or contaminants to impact this watercourse through surface water run-off. There may be transboundary visual impact from the project	NO Given the distance from the receiving streams it is unlikely that there will be significant transboundary effects. It is considered they may be some transboundary visual impacts at the northern point of the line with County Donegal however given the distance and nature of the proposal it is considered these are unlikely to have a significant transboundary visual impact.

Table 1: Extract of Table 1 Summarising DfI Transboundary Considerations in EIA Screening

A shadow Habitats Regulations Assessment (sHRA) was also prepared to assist the competent authority in fulfilling its duties in accordance with Regulation 43(1) of the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended). The sHRA was submitted as Annex II Shadow Habitats Regulations Assessment and incorporated a Stage 1 and Stage 2 Appropriate Assessment.

An assessment of the implications of the Proposed Development on the River Finn SAC, River Foyle and Tributaries SAC, Owenkilnew River SAC, Lough Foyle SPA, Lough Foyle SPA (ROI) and Lough Foyle Ramsar site in respect of habitat alteration and water quality and habitat deterioration was conducted and the proposed mitigation applied in the Stage 2 AA.

Following the implementation of the proposed mitigation measures in relation to pollution prevention of watercourses and deterioration of downstream aquatic habitats, construction and operation of the Proposed Development will not adversely affect the integrity of River Finn SAC, River Foyle and Tributaries SAC or Owenkilnew River SAC and no reasonable scientific doubt remains as to the absence of such effects. Construction and operation of the Proposed Development will not adversely affect the conservation objectives set for Lough Foyle SPA, Lough Foyle SPA (ROI) or the qualifying criteria for Lough Foyle Ramsar site and no reasonable scientific doubt remains as to the absence of such effects.

Shared Environmental Services (SES) in a consultation response dated 14th October 2021 stated that:

“Following an appropriate assessment in accordance with the Regulations and having considered the nature, scale, timing, duration and location of the project, the draft conclusion is that the project would not have an adverse effect on the integrity of any European site either alone or in combination with other plans or projects.

In reaching this conclusion, SES has assessed the manner in which the project is to be carried out including any mitigation. This conclusion is subject to the following mitigation measures being conditioned in any approval:

- 1. “A Construction Environmental Management Plan (CEMP), agreed with the appointed contractor, must be submitted to and approved by the Planning Authority in advance of intrusive ground investigations. This should reflect all the mitigation and avoidance measures, monitoring and contingency plans as detailed in the Outline CEMP and the additional requirements in the DAERA response of 2/9/21. Additional information must also be specified as follows. Further detail on the prevention of sediment release from haul roads is required. Monitoring of silt fencing and settlement features must be specified to ensure ongoing effective functioning. A separation distance of 20m between refuelling and any watercourse must be specified. A minimum setback distance of 20m between the launch and reception pits, stockpiled material and any watercourse must be specified in Appendix D. Reference to River Foyle and Tributaries SAC must be added at 6.2.1. Details of how fish will be translocated, should they be present at open trench crossings, must be included or referenced in Appendix D. Details of action to be taken in response to encountering contamination during intrusive ground investigation or construction must be added. The approved CEMP shall be adhered to and implemented throughout the intrusive ground investigations, construction and operational maintenance in accordance with the approved details, unless otherwise agreed in writing by the planning authority.*
- 2. A site specific Construction Method Statement, agreed with the appointed contractor, must be submitted to and approved by the Planning Authority in advance of commencement of any underground water crossings. This must identify all potential risks to the watercourse and appropriate mitigation to eliminate these risks. Details of the drilling muds / fluids to be used for horizontal directional drilling and the relevant Material Safety Data Sheets must be included. The works layout and mitigation to include appropriate areas for the storage of construction machinery, fuels/oils, refuelling areas, must be identified on a drawing included in the Construction Method Statement. The approved Construction Method Statement shall be adhered to and implemented throughout the construction period in accordance with the approved details, unless otherwise agreed in writing by the planning authority.*

Reason: To ensure the project will not have an adverse effect on the integrity of any European site.”

Loughs Agency in their consultation response of 9th July 2021 also confirmed that they are satisfied that there will be no significant impacts on their interests:

“Loughs Agency has reviewed the Fisheries Chapter and associated drawings of the accompanying Environmental Statement. Loughs Agency is content with the proposals provided the mitigation as detailed is adhered to. Loughs Agency welcomes the consideration of the downstream sensitivities of the watercourses intersecting the UGC route (including highly sensitive watercourse intersecting the OHL route). Mitigation measures proposed seem appropriate to the nature and scale of the development.”

NIEA in their response dated 2nd September 2021 confirmed:

- Water Management Unit has considered the impacts of the proposal on the surface water environment and on the basis of the information provided are content subject to application of conditions, including CEMP mitigation measures.*
- NED are content with the details and mitigation provided in the Outline Construction Environmental Management Plan, the Environmental Statement (both date received 01/06/2021) and shadow Habitats Regulations Assessment (date stamped 08/06/2021) and unless there is a substantial change to these documents, are content if the measures are implemented they will mitigate against any potential impacts on the protected sites.*

An updated CEMP is provided as part of the SOC which addresses changes in the construction methodology and includes provisions for the mitigation measures identified as being required in the relevant NIEA, SES and Loughs Agency consultation responses.

Landscape & Visual Impacts

The Landscape and Visual Screening Assessment utilised terrain-modelling techniques combined with the Proposed Development specification to create a map which identified areas from which the Proposed Development may theoretically be visible (See Figure 2 below). This Zone of Theoretical Visibility (ZTV) is the area within which views of the Proposed Development can theoretically be obtained, determined by the topography of the area and is representative of a theoretical worst-case scenario in line with current guidance.

The ZTV forms the basis for definition of the study area associated with the Proposed Development for both landscape and visual impact assessment. It is important to note that the ZTV does not take into account local features such as roadside hedgerows, field boundary hedgerows, woodland planting, coniferous forestry or buildings. In practice the actual visibility of the Proposed Development is considerably less in extent than the theoretical one, since individual elements of the proposal are difficult to focus on at long distances and localised changes in topography, hedges, trees and woodland tend to restrict views.

The ZTV was assessed against the elements of the Proposed Development, the footprint of the Proposed Development, the receiving landscape and perceptibility of elements of the Proposed Development particularly when viewed against surrounding topographical changes and vegetation cover. Survey and assessment established that vertical elements associated with the Proposed Development are not easily perceived within the wider landscape due to intervening topographical changes and vegetation cover.

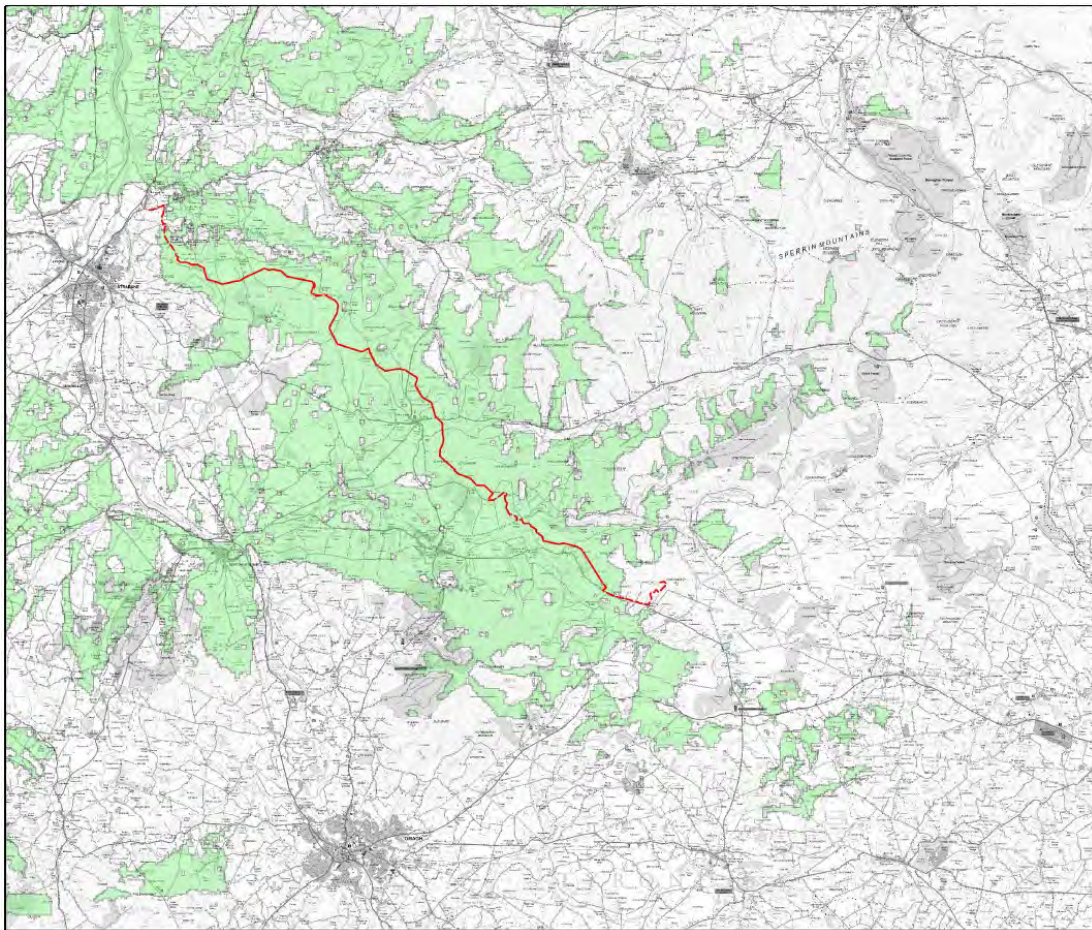


Figure 2: Zone of Theoretical Visibility.

Chapter 5 of the ES – Landscape and Visual confirmed that while, in theory, the study area associated with the Proposed Development as identified in the Zone of Theoretical Influence does extend to areas beyond the international border, to the north of Strabane, the site survey and assessment works have concluded that the Proposed Development will not be apparent or readily perceived within eastern views from County Donegal as the northern portion of the Proposed Development is an underground section and the closest, above ground

element (timber pole) of the Proposed Development is 3.8km from the international boundary. Therefore, the assessment concluded that, due to a combination of that distance and screening effects provided by intervening topographical changes and vegetation (see Technical Note 3 LVIA and Appendix A Photomontages), no significant transboundary landscape or visual effects will occur because of the Proposed Development.

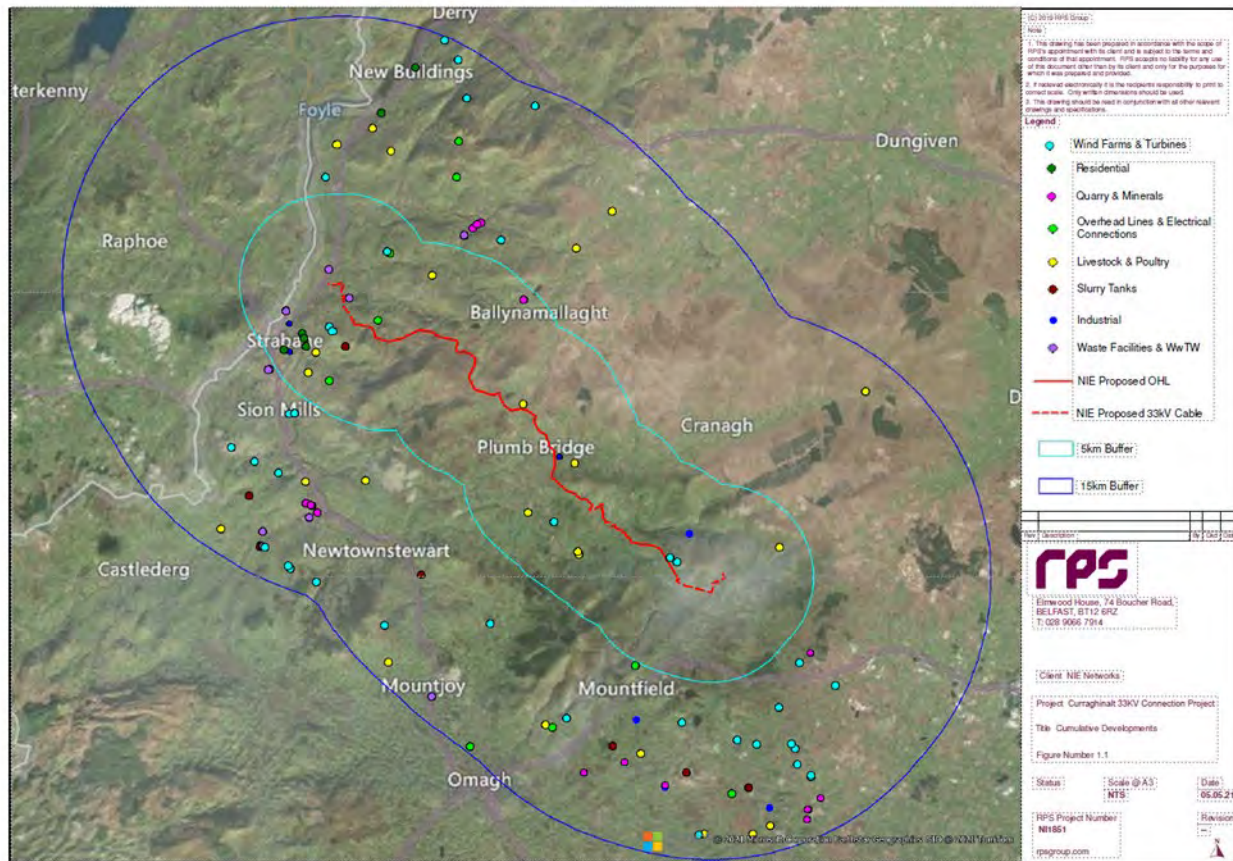


Figure 3: The location of the Proposed Development relative to the Border with RoI.

The Proposed Development commences at Strabane Main Substation and it is proposed that the first section comprising 3.6kms is to be undergrounded. In that context the closest, above ground element (twin wooden pole) of the Proposed Development is approximately 3.8km from the international border; Pole 2001 will be 11m in height. Whilst the ZTV indicates that the Proposed Development will be visible at distances over 3.8km, the assessment concludes that the combination of intervening vegetation, built form and topographical changes screen views and it is assessed that no significant transboundary landscape or visual effects will occur as a result of the Proposed Development.

This prediction was further reinforced by additional assessment undertaken in June 2024. In this assessment 6 critical viewpoints were identified, and photomontages were produced of the Proposed Development from these viewpoints (See Appendix A Photomontages). The photomontages confirm that the Proposed Development will not give rise to any significant landscape or visual effects in the Republic of Ireland due to a combination of the nature of the Proposed Development, the distance to the nearest above ground element of the development and the intervening topography and vegetation.

The DfI consideration of potential transboundary impacts in the formal EIA screening process confirms, as set out in Table 1 above that, while “it is considered there may be some transboundary visual impacts at the northern point of the line with County Donegal, however, given the distance and nature of the proposal it is considered these are unlikely to have a significant transboundary visual impact.”

It is therefore confirmed that no significant transboundary landscape or visual effects will occur as a result of the Proposed Development.

3 CONSULTATION RESPONSES AND SUBMISSIONS

3.1 Relevant Third-Party Representations

No third-party representations make any reference to transboundary impacts.

3.2 Relevant Statutory Consultees Responses

Relevant comments from statutory bodies in respect of potential transboundary impacts have been addressed in Section 2.

4 REVIEW OF NEED FOR AEI – BASELINE DATA, CUMULATIVE/INTERACTION IMPACTS, LEGISLATION/GUIDELINES/POLICY

Further assessment of the potential for landscape and visual impacts in the Republic of Ireland was undertaken in June 2024. The outcome of this assessment is captured in the Landscape & Visual Technical Report as well as in Appendix A to this Technical Report.

All Technical Reports address the issue of potential changes in baseline data as well as potential in-combination and cumulative effects. There are no changes that give rise to any change in the assessment that the Proposed Development will not result in any significant transboundary impacts.

There are no changes in policy or legislation that would result in a change to the predicted transboundary effects since the original EIA was completed in May 2021.

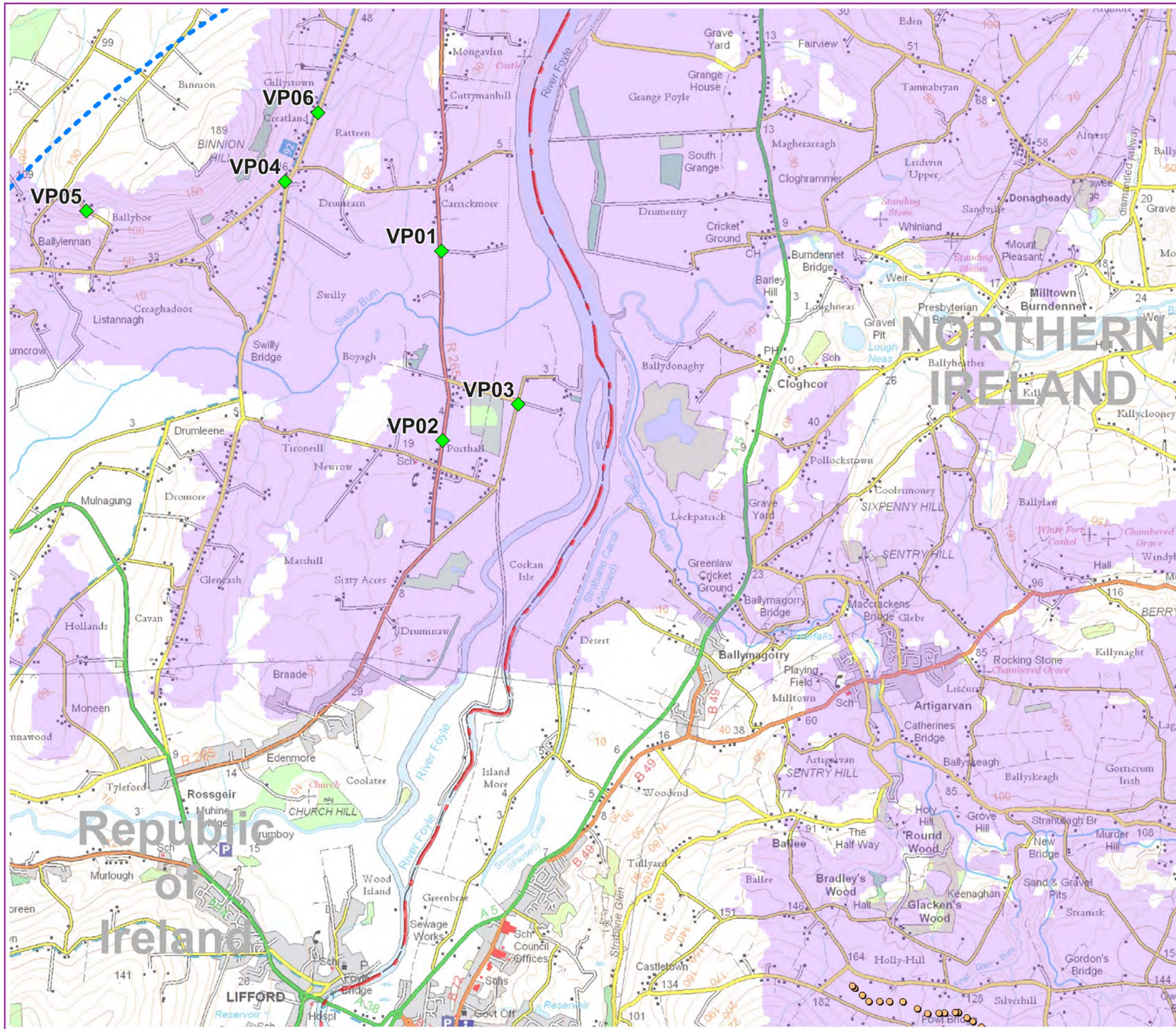
5 CONCLUSIONS

The potential for transboundary impacts arising as a result of the Proposed Development have been assessed by the Applicant in an EIA Screening Report. This report identified potential for transboundary impacts in respect of water quality, fisheries/aquatic ecology, designated sites and with regard to landscape & visual impacts.

Specific screening reports covering these considerations were prepared. The assessments which fed into the EIA screening document concluded that:

- The Proposed Development falls within the Foyle catchment which is a cross border catchment and therefore the hydrological link extends to areas beyond the international border in Lough Foyle. The project is hydrologically linked to the River Finn SAC via a 5 km downstream pathway and the River Foyle and Tributaries SAC & ASSI which is 4.5 km downstream of the Owenkillew River.
- In the absence of mitigation, there is potential for effects on water quality in that there is a possibility that suspended sediments and/or contaminants could enter the aquatic environment during activities associated with the crossing of watercourses. Surface waters could possibly carry those suspended sediments or pollutants downstream into the River Foyle and Tributaries SAC & ASSI and the River Finn SAC.
-
- In respect of fisheries & aquatic ecology and ecology, at the construction stage, there is a possibility that suspended sediments and/or contaminants and invasive non-native species could enter the aquatic environment during activities associated with the crossing of watercourses. These impact pathways could give rise to potential effects in relation to water quality and indirect habitat deterioration. Surface waters could possibly carry those suspended sediments or pollutants and invasive species downstream into the River Foyle and Tributaries SAC and the River Finn SAC. Without the application of mitigation measures, it is possible that suspended sediments or contaminants entering surface waters could, albeit temporarily, negatively affect otter, Atlantic salmon in the River Foyle and Tributaries SAC & ASSI and the River Finn SAC.
- In the context of this identified risk to designated sites a shadow Habitats Regulation Assessment (sHRA) Stage 2 Appropriate Assessment was undertaken.
- The assessments concluded that, following the implementation of the mitigation measures set out in the OCEMP, no significant transboundary impacts will arise.
- The EIA screening report also considered the potential for transboundary landscape and visual impacts given that the ZTV indicated that such impacts could potentially arise. Further assessment, including preparation of photomontages from key viewpoints in Donegal have confirmed that due to a combination of the distance involved to the nearest above ground structure proposed, along with intervening topography and vegetation, no significant transboundary landscape and visual impacts will arise.
- The conclusion that no significant transboundary impacts will arise is supported by the responses received from statutory consultees.

APPENDIX A PHOTOMONTAGES



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Legend

- OHL Pole
- Pole visibility
- 10 km buffer
- Viewpoint
- NI Border

Viewpoints Data

VP01	R265 at Carrickmore	234415	404763
VP02	R265 at Porthall	234425	403131
VP03	Porthall	235077	403445
VP04	Cavanacaw	233068	405361
VP05	Ballyboe hilltop farm	231357	405108
VP06	Whitehill Rd	233352	405955

The ZTV is based on bare-earth 10 m DTM mapping and does not include for vegetation, buildings or other structural features which might screen the view.



Elmwood House, 74 Boucher Road,
BELFAST, BT12 6RZ
T: 028 9066 7914

Client:



Project:

Dalradian Gold
Over Head Line

Title:

Viewpoints in Donegal

Status

Draft

Drawn

PM

Checked

SA

Project Nr

NI 1851

Scale

1:32,000 @ A3

Date

June 2024

Fig No:

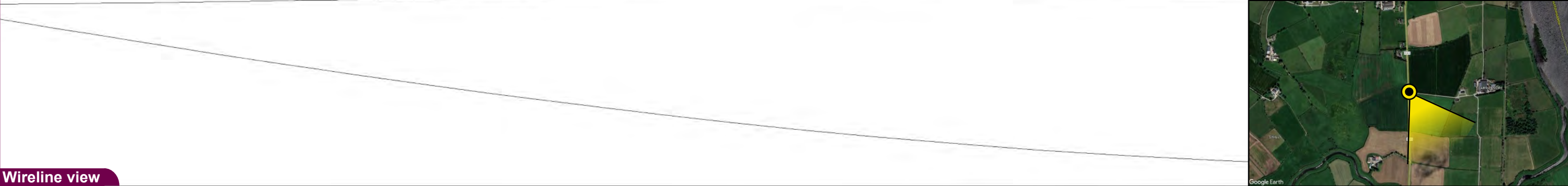
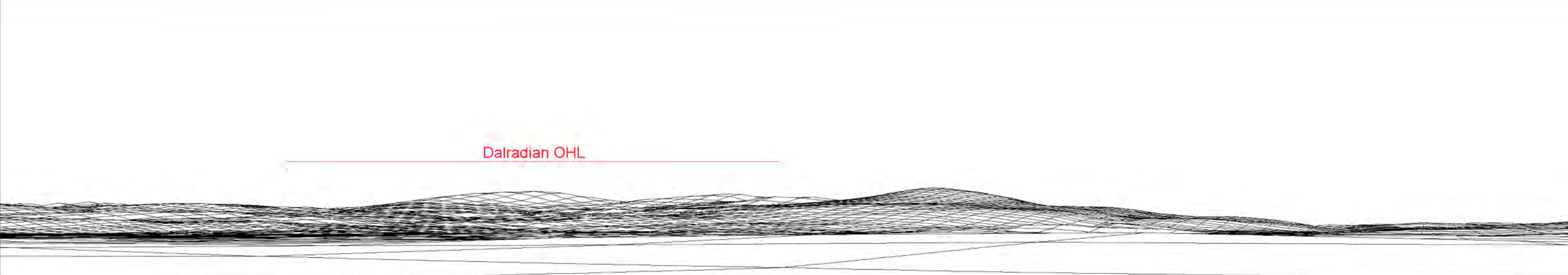


Projection: Irish Grid 1965

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Existing view

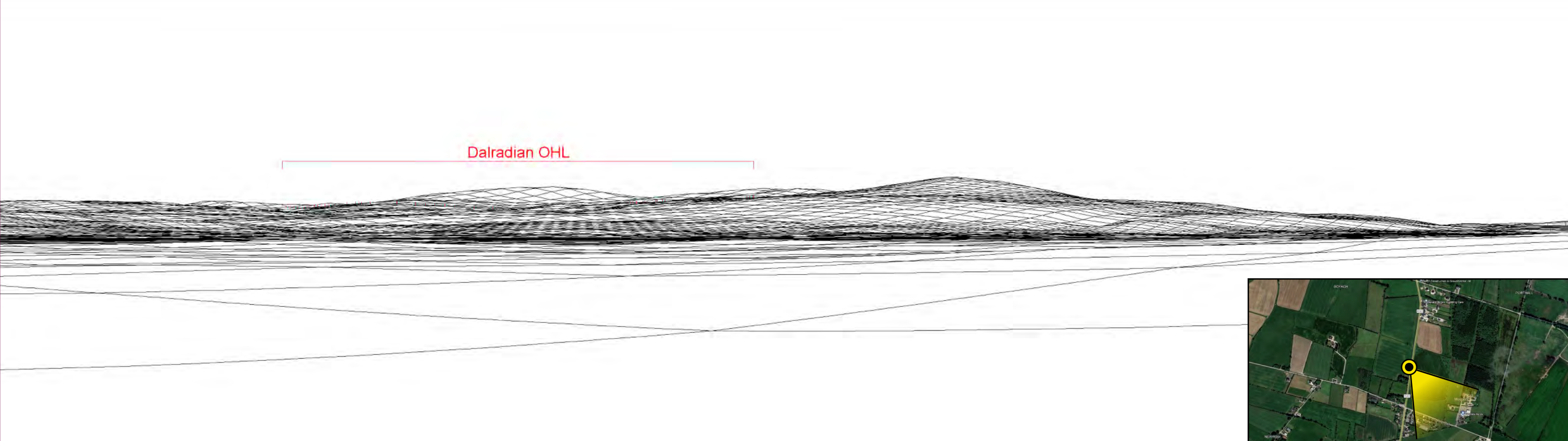


Wireline view

Camera	Nikon D600	Easting	234412	Title: VP01 R265 Near Carrickmore Existing View & Wireline	DETAILS	Drawn by:	PM	Project: Dalradian OHL	Client: 	 Making Complex Easy A TETRA TECH COMPANY Elmwood House, 74 Boucher Road BELFAST, BT12 6RZ 028 9066 7914
Date	02.06.24 12:50	Northing	404761		Projection:	Checked:	SA			
View height	1.65 m AGL	Direction	151°		Data Source:	Job Ref:	NI 01916			
Field of View	75°	Distance	7.2 km		Status:	Date:	June 2024			



Existing view

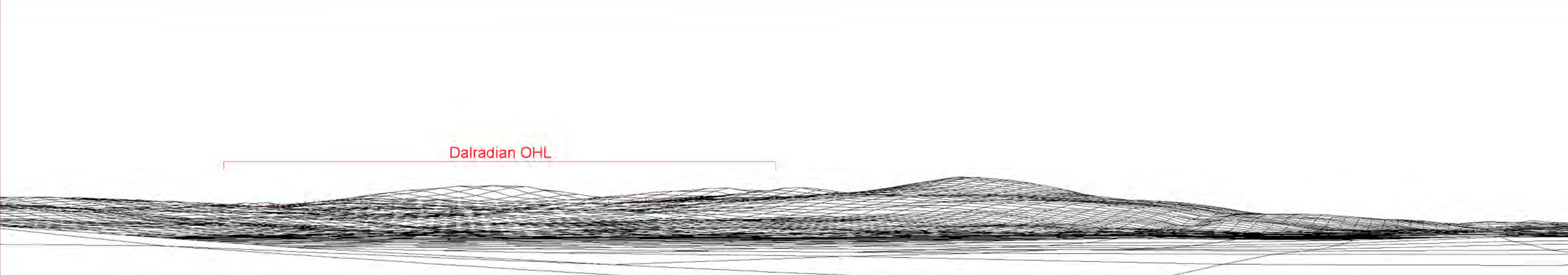


Wireline view

Camera	Nikon D600	Easting	234417	Title: VP02 R265 at Porthall Existing View & Wireline	DETAILS	Drawn by:	PM	Project: Dalradian OHL	Client:  RPS Making Complex Easy A TETRA TECH COMPANY Elmwood House, 74 Boucher Road BELFAST, BT12 6RZ 028 9066 7914
Date	02.06.24 13:05	Northing	404078		Projection: IRISH GRID	Checked:	SA		
View height	1.65 m AGL	Direction	145°		Data Source: RPS 2024	Job Ref:	NI 01916		
Field of View	75°	Distance	5.9 km		Status: Draft	Date:	June 2024		



Existing view

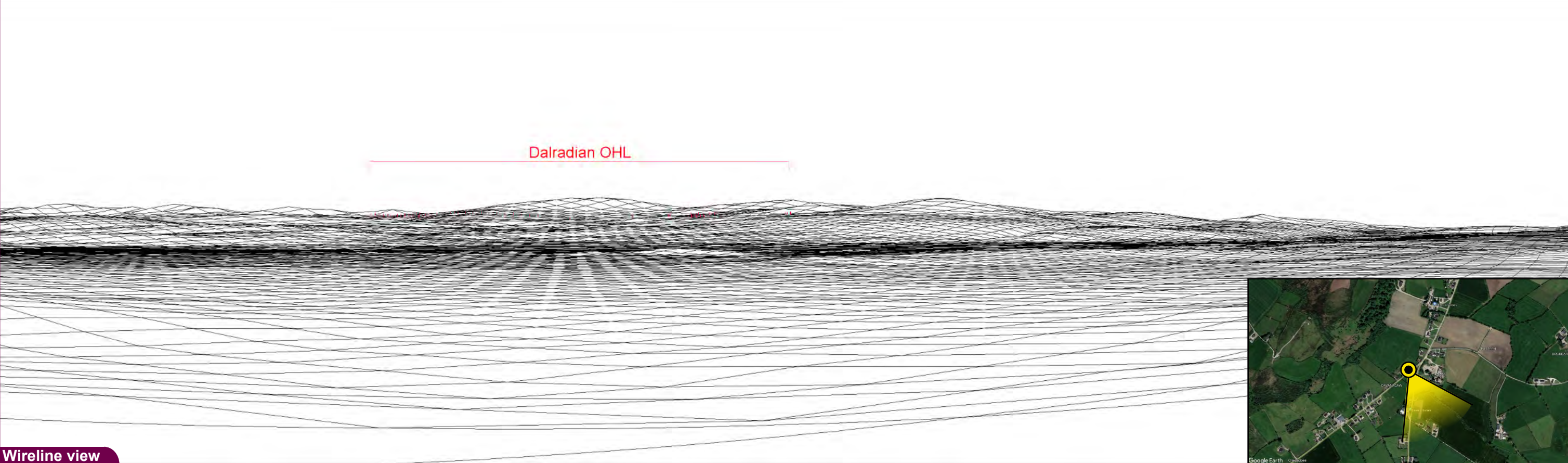


Wireline view				DETAILS				Project:		Client:	
Camera	Nikon D600	Easting	235074	Title: VP03 Minor Road Junction at Porthall Existing View & Wireline	Projection:	IRISH GRID	Drawn by:	PM	Dalradian OHL		 Making Complex Easy
Date	02.06.24 13:18	Northing	403443		Data Source:	RPS 2024	Checked:	SA			
View height	1.65 m AGL	Direction	150°		Status:	Draft	Job Ref:	NI 01916			
Field of View	75°	Distance	5.8 km		Date:	June 2024					

Elmwood House, 74 Boucher Road
BELFAST, BT12 6RZ | 028 9066 7914



Existing view

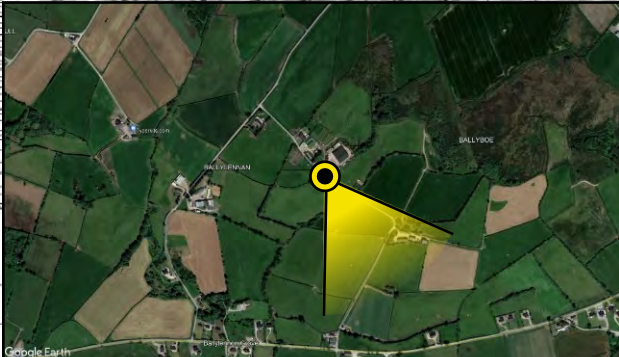
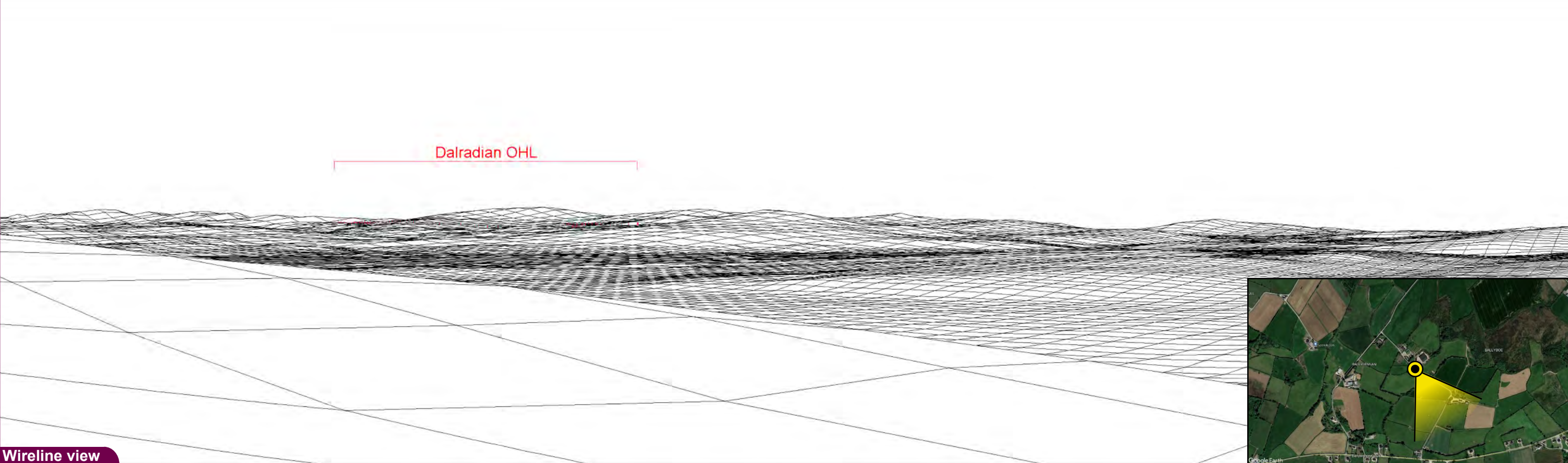


Wireline view

Camera	Nikon D600	Easting	231357	Title: VP04 Junction at Cavanacaw Existing View & Wireline	DETAILS	Drawn by:	PM	Project: Dalradian OHL	Client: 	 Making Complex Easy A TETRA TECH COMPANY Elmwood House, 74 Boucher Road BELFAST, BT12 6RZ 028 9066 7914
Date	02.06.24 14:44	Northing	405106		Projection: IRISH GRID	Checked:	SA			
View height	1.65 m AGL	Direction	145°		Data Source: RPS 2024	Job Ref:	NI 01916			
Field of View	75°	Distance	8.5 km		Status: Draft	Date:	June 2024			



Existing view



Wireline view														
Camera	Nikon D600	Easting	231354	Title: VP05 Ballyboe Hilltop Farm Existing View & Wireline	DETAILS		Drawn by:	PM	Project: Dalradian OHL	Client:  Northern Ireland Electricity Networks	 Making Complex Easy A TETRA TECH COMPANY Elmwood House, 74 Boucher Road BELFAST, BT12 6RZ 028 9066 7914			
Date	02.06.24 14:28	Northing	405106		Projection: IRISH GRID		Checked:	SA						
View height	1.65 m AGL	Direction	142°		Data Source: RPS 2024		Job Ref:	NI 01916						
Field of View	75°	Distance	9.4 km		Status: Draft		Date:	June 2024						



**Council Directive 92/43/EEC on the
conservation of natural habitats and
of wild fauna and flora**

**Information to inform Habitats
Regulation Assessment Pursuant to
Article 6(3): Curraghinalt Gold Project**

**Prepared for:
Dalradian Gold Limited**

**July 2019
Author**





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1 INTRODUCTION

The Curraghinalt Project is an underground gold mining project in County Tyrone, Northern Ireland. Dalradian Gold Limited (DGL) is the project proponent and is the owner of the mineral prospecting licences that comprise the Curraghinalt Project. DGL is based in Northern Ireland and has offices in Omagh and Gortin and site offices at Curraghinalt, the location of an advanced exploration/development programme.

The exploration of the Curraghinalt deposit started in 1983 and work has been undertaken by a number of companies including Ennex International plc (1983 to 1997), Tournigan Gold Corporation (2003 to 2009) and Dalradian (2010 to present). In 1987, planning permission was granted to construct underground exploration tunnels, including a portal entrance on the hillside, an adit tunnel of 411 m and three underground headings. In January 2014, DGL obtained planning permission to extend the underground exploration workings by up to approximately 2000 m in order to access and define the deposit and to sample the mineralized material for off-site metallurgical testing.

If implemented, the construction phase will take approximately two years. The operational life of the mine is expected to be between 20 - 25 years based on the known mineral resources and proposed production rate.

The primary approval that needs to be obtained to proceed with the project is planning permission from the Department for Infrastructure (DfI) in Northern Ireland. However a number of other consents (Discharge Consents etc.) must also be obtained from other statutory agencies. This document is intended to assist any agency in the preparation for Habitats Regulations Assessments required for this project.

An EIA was undertaken provided input to project design decisions. An Environmental Statement (ES) and Addendum has been prepared in support of the application for planning permission and should be read in conjunction with this document. In addition, the SRK Document "Outline Construction Environmental Management Plan" (CEMP) (2019) v0.12, contains details of proposed mitigation strategies proposed for the project and should be read by all parties and statutory undertakers both in full and in conjunction with this document

The location of the site within Northern Ireland and the general assessment site boundaries are indicated within the project ES and planning documents associated with the proposal.



1.1 Remit and Scope of Assessment

It is the responsibility of every competent authority and statutory undertaker (in respect of any and all consents required) to conduct assessments pursuant to Article 6 of the Habitats Directive. This document is intended to assist in that process.

However, it is considered best practice to develop development proposals and potential proposals with regard to this assessment and test potential proposals and mitigation measures prior to the formal submission of applications for consent. To that end, this assessment is intended to:-

- Undertake a review of the environmental baseline;
- Review potential mitigation plans;
- Identify potentially significant ecological impacts;
- Conduct assessment based on this information; and
- Produce a draft Article 6 Appropriate Assessment.

This assessment has a narrow focus. It is protection-led, conducted with due regard to the Precautionary Principle and concerned exclusively with the maintenance of the integrity of Natura 2000 Sites, specifically assessment of the nature and significance of all potential effects on site selection features and conservation objectives of Natura 2000 sites concerned.

During project planning, a number of alternatives were considered for mining, infrastructure location, processing and waste management. These alternatives are described in chapter 5 of the project ES and are not repeated here. In line with best environmental practice and the precautionary principle, various changes were made to project design as a result of the close collaboration between the EIA and engineering design teams.

1.2 Legislative Context

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora, commonly known as the Habitats Directive, is transposed into law in Northern Ireland by the Conservation (Natural Habitats, etc.,) Regulations (Northern Ireland) 1995 (as amended); the Conservation Regulations.

Article 6(3) of the Habitats Directive (transposed by Regulation 43) establishes the requirement that any plan or project likely to have a significant effect on any Natura 2000 Site(s) shall first be subject to an Appropriate Assessment (AA) of the implications for the site(s), and further that competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site(s) concerned:



“Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”

The Natura 2000 network is comprised of sites designated, or in the latter stages of designation, under both the EU Birds Directive and EU Habitats Directive. Specifically:

- Special Areas of Conservation (SAC) designated under the EU Habitats Directive for flora, fauna and habitat interest which have been adopted by the European Commission (EC) and formally designated by the national government;
- Special Protection Areas (SPA) designated under the EU Birds Directive for rare, vulnerable or migratory bird interest which have been adopted by the EC and formally designated by the national government;
- Candidate and proposed sites (cSAC and pSPA), being those that have been submitted to the EC but not yet formally adopted; and
- Sites of Community Importance (SCI), being those that have been adopted by the EC, but not yet formally designated by the national government. Once a site is adopted as an SCI it is subject to Article 6 (2), (3) and (4) of the EC Habitats Directive 92/43/EEC.

Ramsar Sites are listed under the International Convention on Wetlands of International Importance (the Ramsar Convention) and usually share boundaries with SACs and/or SPAs. In Northern Ireland it is established Government policy to afford to Ramsar Sites the same degree of protection as Natura 2000 sites.

2 PROJECT PARAMETERS

The project parameters are described in Section 2.1 of the Addendum to the project ES and should be read in conjunction with this assessment.

Following the 2017 planning application, DGL reviewed the project design taking into account feedback during the planning application process. This has resulted in some refinements to the



detailed project description assessed in the ES. A summary of the proposed changes is listed below. As a result of these changes and recent CJEU case law, the shadow Habitats Regulations Assessment issued in 2017 has been revisited to take account of the project revisions.

Resulting changes to project parameters are presented in Section 2.1 of the ES Addendum.

- Changes in infrastructure linking mine operations to surface operations (Section 2.3):
 - Relocation of primary (first-stage) crushing underground;
 - Introduction of ore-sorting equipment underground;
 - Introduction of a conveyor to be used as the primary method to transport material from the underground mine to surface;
 - Change in the orientation of the portal to accommodate the conveyor system
- Process and product changes (Section 2.4):
 - Simplified ore processing resulting in the removal of cyanide from the process and consequent change in product;
 - Transportation of concentrate off site and out of Northern Ireland;
 - Changes to tailings and paste backfill;
- Changes in the mine waste management (Section 2.5); and
- Changes to construction management (Section 2.6).

In addition to the design modifications, DGL has also committed to delivering the project as carbon neutral over its lifetime. This is further described in Section 3 of the ES Addendum.

For the purposes of this assessment, the project as described in the 2017 Environmental Statement (ES) will be referred to as the “2017 design” and the updated design will be referred to as the “2019 update”.



Table 1: Project parameters comparison of the submitted 2017 design and the 2019 update.

Parameter		2017 design	2019 update
Mineral resource (ore processed)		10 Million tonnes (at 5.0 grams per tonne gold cut-off grade)	8.7 Million tonnes (at 3.0 grams per tonne gold cut-off grade)
Production rates	Ore fed to the plant (run of mine) on average	Between 1,200 and 1,700 tonnes per day	Between 1,200 and 1,500 tonnes per day
	Final product	Total gold production of approximately 3.5 M oz. over the life of the mine.	No change
		N/A	0.45 million tonnes of concentrate
Development life	Construction period	Approximately 2 years (includes construction of infrastructure and initial development of the mine workings)	No change
	Operational period (known as the Life-of-Mine)	20-25 years	No change
	Closure period	It is estimated that it will take 1 year to complete restoration of the mine site. This will be followed by 5 years post closure monitoring and maintenance.	No change.
Operational hours	Mine	365 operating days per year, 24 hours per day.	No change
Staff numbers	Construction phase	300-400 personnel (total employed) Average number of people on site on day shift is approx. 220 and 60 on nightshift	No change
	Operational phase	325-425 personnel in total. Average 156 on dayshift and 90 on nightshift	No change
Mining and processing wastes	Waste rock	12.9 Mt (approximately 79% stored underground as backfill)	15.9 Mt (approximately 71% stored underground as backfill)
	Tailings	10 Mt (approximately 43% stored underground as backfill)	8.25Mt (approximately 57% stored underground as backfill)
Resource use	Water demand	22.5 m ³ /hr fresh make-up water	15.9 m ³ /hr fresh make-up water of which 7.16m ³ is clean water



Parameter		2017 design	2019 update
			(supplied from the site water treatment plant or from the fresh water pond)
	Power demand	Loads will be 7 MW average running load and 54,200,000 kwhr/yr.	Loads will be 7 MW average running load and ~48,000,000 kwhr/yr.
	Fuel (diesel)	4.3 million litres per annum	3.3 million litres per annum

2.1 Rationale for the proposed changes

To reduce the number of vehicle movements between the underground workings and the process plant a system of conveyors has been introduced. This extends the conveyor system to feed the process plant back towards the portal and down the main decline. This will significantly reduce the project diesel consumption To accommodate the conveyor, the portal design has been modified and its orientation changed.

The extension of the conveyor system will result in the relocation of the primary crusher from surface to the underground mine. DGL has also introduced an underground ore sorting process

Although cyanide is used safely in gold mines all over the world, DGL recognised that local communities are strongly opposed to the use of cyanide in the mineral processing operation. DGL has investigated means to remove cyanide from the processing operation and still achieve economic viability of the mine. It has now established this is possible through production of a gold flotation concentrate that will be transported off site for final processing.

Having established this, DGL has removed cyanide-use entirely from the mine design. The removal of the carbon-in-leach circuit, and associated reagent-handling facilities, has resulted in a smaller process plant footprint and removal of several external tanks. The remaining external flotation tanks that were located to the south of the process plant building have been relocated to the north side of this building

The general infrastructure layout for the site, including the newly introduced conveyors is shown in **Error! Reference source not found.** of the ES Addendum.

2.2 Hydrological Context of Proposal

As the proposal site is not located within any area designated as a Natura 2000 site, no direct impacts are likely to arise upon the Natura 2000 network should the proposal proceed. That being so, the primary impact pathway between the proposal site consists of indirect impacts of a hydrological nature.



The Curraghinalt deposit and the infrastructure sites are located within an area comprising a topographic ridge that forms the drainage divide between the Owenkillev River and the Owenreagh River. Much of the higher ground on the Curraghinalt ridge is covered with peat, supporting blanket bog and wet heath habitats. Peat thickness varies from <5 cm to over 3 m that has historically, and continues to be, subject to cutover in some areas.

The Owenkillev River is notable for the physical diversity and naturalness of its banks and channel, and the richness and naturalness of its plant and animal communities, which includes extensive beds of Stream Water Crowfoot (*Ranunculus penicillatus* var. *penicillatus*) and its population of Freshwater Pearl Mussel (*Margaritifera margaritifera*) that is the largest in Northern Ireland.

The river basin management plan (RBMP) for the North Western River Basin (of which all rivers draining the project site form a part) was prepared in accordance with legislation transposed from the EU Water Framework Directive. The RBMP summarises the state of the water environment and define actions to protect and improve the water environment.

The current status of, and future objectives for the rivers are outlined below.

The stretch of the Owenkillev adjacent to the project site is currently of Good status although the 2021 and 2027 objectives reduce to Moderate. This reduction in objective is unexplained.

The stretch of the Owenreagh adjacent to the application site is currently of Good status with upstream waterbodies also of Good status.

The Mourne River is currently of Moderate Ecological Potential with objectives of Good Ecological Potential. The Upper Foyle transitional water is of Moderate status. The receiving Foyle Harbour and Faughan water body is of Moderate Ecological Potential and is termed a heavily modified water body. Finally, Lough Foyle is of Good status.

Overall, the water quality in watercourses downstream of the project sites reflects the natural mineralisation of the project area and the wider effects of peaty soils and agricultural activity in the local catchments. Average pH is circum-neutral and within guideline values although pH of individual samples ranges quite widely, from 5.3 to 8. Electrical conductivity, a reflection of dissolved ions in the water, is fairly consistent at between 100 and 122 $\mu\text{S}/\text{cm}$. Existing nutrient levels in the watercourses often exceed ideal values for freshwater pearl mussels. Total suspended solids are generally low, elevated levels are generally correlated with high flows associated with heavy rainfall. Concentrations of metals are generally below guideline values but concentrations of cadmium, copper, iron, mercury, manganese and selenium sometimes exceed environmental quality standards defined in legislation, specifically the Water Framework Directive (Classification, Priority Substances and Shellfish Waters) Regulations (Northern Ireland) 2015. Watercourses draining the site are detailed within the CEMP at Figure 3.6.



2.3 Hydrogeology

The project is located in the area of the Gortin Groundwater Body, which is characterised as having limited potential for significant abstraction. This groundwater body incorporates the entire catchments of the Owenkillew, Glenelly and Mourne Rivers.

Hydrogeological studies for the Curraghinalt Project have established that fracture flow is the dominant flow mechanism in the bedrock with most flow occurring in the upper, weathered zone (up to approximately 20 m depth). The bedrock aquifer is low-yielding with limited potential for significant abstraction. The superficial alluvial and glaciofluvial deposits in the area are generally localised to river valley and low-lying areas, with the exception of the thin glacial outwash deposits recorded up-slope, at the proposed infrastructure site. Typically, the peat has very low hydraulic conductivity and high storage capacity.

Groundwater levels in the weathered bedrock superficial deposits are close to surface and closely mirror topographic elevation. The hills forming the ridge between the Owenkillew and Owenreagh Rivers therefore comprise a hydraulic divide with groundwater flowing away from the high ground towards the valleys. Groundwater levels in the deeper fresh bedrock are generally similar to shallow deposits, however they do not follow topographical lows. Piezometric groundwater levels in the fresh bedrock in valley areas are greater than shallow units indicating a natural upward gradient and discharge to the river valleys.

Most groundwater flow is shallow, discharging locally and rapidly to surface waters. Within the river valleys some limited discharge from bedrock to glaciofluvial and alluvium aquifers is likely to occur. The water table in intact peatland fluctuates only a little, but is usually close to the surface, naturally either above or below usually by only centimetres. The storage and the runoff behaviour of the peat varies significantly with very small changes in water level. The peat stores water in dryer periods but is prone to flashy high discharges when the water level is higher during wetter periods.

All groundwaters in the area are fresh quality, with bedrock groundwater characterised by a weakly mineralised calcium or sodium bicarbonate signature and low to neutral pH. Sands and gravels groundwater has a similar calcium bicarbonate and low/neutral pH chemistry.

Peat groundwaters typically have a sodium chloride signature and are acidic and oxidising with low total dissolved solids and a high iron content. In general, the groundwater shows an increase in total dissolved solids and electrical conductivity with depth from the superficial sediments, to the weathered bedrock and in-turn the fresh bedrock. Similarly, there is a general increase in many metal concentrations with depth. This is likely a result of the reduced interaction with freshwater recharge to the deeper formations and increased age of the groundwater water at depth (i.e. increased water mineralisation).



The only groundwater abstraction licence in the vicinity of the study area is held by Cemex NI Ltd, approximately 2 km from the project infrastructure area.

Private (non-regulated) groundwater abstractions, including wells and springs, are relatively commonplace across the region and 135 abstraction points were identified from a groundwater user survey undertaken between October 2015 and February 2016 within the project area.



3 METHODOLOGY

Assessments pursuant to the requirements of Article 6 of the Habitats Directive are completed in accordance with the EC recommended methodology, set out in the following documents:

- 'Assessment of plans and projects significantly affecting Natura 2000 sites, Methodological guidance on the provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC'; and
- 'Managing Natura 2000 Sites, The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC'.

The methodology recommends a four-staged approach, where the results obtained upon completion of each stage determines the requirement for and scope of the subsequent stage:

Stage One: Screening or Test of Likely Significance: The process which identifies the likely impacts of a project or plan upon Natura 2000 sites, either alone or in combination with other projects or plans, and determines whether or not these impacts are likely to be significant. A baseline environmental assessment is required to identify potential sources of impact and environmental receptors.

Stage Two: Appropriate Assessment: The consideration of the impact on the integrity of Natura 2000 sites of the likely significant impacts of the plan or project identified in Stage 1. Impacts are assessed alone and in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

Stages Three and Four: They provide a methodology for the further assessment of plans or projects where likely significant effects cannot be excluded on the basis of the first two stages of assessment. These stages are concerned respectively with alternative methods of achieving the objectives of a plan or project which avoids adverse impacts and of assessing and designing compensatory measures for plans or projects which must progress for established Reasons of Overriding Public Interest.

These stages are unlikely to be of relevance to the current assessment.

To permit this assessment process to be followed in the current instance, this assessment reviews and assesses the environmental baseline and identifies potential sources of impact. Where such impacts may exist, a review of mitigation and the scientific literature is carried out to determine whether or not they are likely to be significant.



4 SOURCES OF INFORMATION

The data and information employed in the course of this assessment was sourced from the following documents and publicly available resources:

- Curraghinalt Environmental Statement (SRK for DGL);
- Curraghinalt Environmental Statement Addendum (SRK for DGL);
- Outline Construction Environmental Management Plan (SRK for DGL, 2019)
- Owenkillew SAC: Conservation Objectives (published NIEA);
- Foyle & Tributaries SAC: Conservation Objectives (published NIEA);
- Lough Foyle Ramsar Site: RIS (published NIEA)
- Northern Ireland Environment Agency (NIEA) (www.ni-environment.gov.uk);
- National Biodiversity Network (NBN) gateway (www.searchnbn.net);
- Joint Nature Conservation Committee (JNCC) (www.jncc.gov.uk);

The site and its environs were visited by Corvus Consulting and allied personnel between 2016 & 2017 for the purposes of this assessment.

4.1 Screening of European Sites

The Proposal site is not within, or subject to, any statutory nature conservation designations made under international legislation. The site is indirectly hydrologically and ecologically connected to a variety of Natura 2000 sites.

Where such connections exist, assessment must be made of potential indirect impacts upon receptor sites. The assessment herein has concentrated upon a variety of identified and potential sources of impact. Such assessments are of merit when potential impacts upon designated sites are considered.

Designated sites have been screened for potential impacts (beyond *de minimis*) against relevant standards where they are located within the following set distances from the proposed development:

- Natura 2000 Sites ((Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or Ramsar sites)) within 10km of the installation;

Interrogation of the NIEA (Protected Areas) website yielded the following information regarding Natura 2000 sites situated within a 10km buffer (determined by generation of a 10km buffer surrounding the boundary of the maximum extent of exploration) of the site) and thus potentially implicated in terms of adverse impacts resulting from the proposal:

- Owenkillew River SAC: JNCC Site Code UK0030233;



- Upper Ballinderry River SAC: JNCC Site Code UK0030296
- Black Bog SAC/Ramsar Site: JNCC Site Code UK0016609 / UK Site Code 12003

Interrogation of the NIEA (Protected Areas) website yielded the following information regarding Natura 2000 sites outwith the abovementioned 10km buffer (determined by generation of a 10km buffer surrounding the boundary of the maximum extent of exploration) of the site but hydrologically linked to the proposal site and thus potentially implicated in terms of adverse impacts resulting from the proposal:

- River Foyle & Tributaries SAC: JNCC Site Code UK0030320
- Lough Foyle SPA: JNCC Site Code UK9020031
- Lough Foyle Ramsar Site: UK Site Code UK12014
- The potential for potential transboundary impact upon sites in the Republic of Ireland is also considered^{1,2}. However it is noted that as the UK sites above are upstream of all potentially connected ROI sites, should it be established that no impact will arise upon the UK Natura 2000 sites, then a corollary of that statement is that not impact will arise upon the ROI Natura 2000 Sites.

4.2 Rationale for Screening

The proposal site is not situated within any Natura 2000 site. It is situated adjacent to Owenkillev SAC and several watercourses draining the site drain into the SAC. Therefore, should the project give rise to sources of adverse environmental impact, there is the potential for such sources to give rise to indirect impacts on The Owenkillev SAC and upon sites located further downstream.

Ecological impact assessment of potential indirect impacts on Natura 2000 sites is conducted utilising a standard source-pathway-receptor- model where, in order for an indirect impact to be established, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential impact is not of any relevance or significance.

In the current instance it is accepted that the project includes potentially impacting activities, or SOURCES of potential impacts. In addition, a review of the project ES and Addendum, a document detailing all relevant sources of environmental information, indicates that PATHWAYS are extant connecting the project site with downstream designated sites.

That review has indicated that the sole likely significant pathway for indirect impacts is through the water environment which forms an environmental continuum between the proposal site and the designated sites. No other pathways (airborne deposition, noise, visual disturbance etc.) are

¹ Lough Foyle SPA (ROI) Site Code: 004087, Donegal.

² River Finn SAC (ROI) Site code: 002301, Donegal



likely (within the proper meaning of the word in an environmental assessment context³) to represent significant impact pathways.

The site selection features of Owenkilley River SAC, River Foyle & Tributaries SAC and Lough Foyle Ramsar Site and the related conservation objectives, represent valuable ecological RECEPTORS.

It has been concluded that the source-pathway-receptor mechanism cannot be established for any additional Natura 2000 sites as those sites are distant from, upstream or not hydrologically or ecologically connected to the proposal site. Therefore, the only Natura 2000 sites potentially implicated in terms of indirect impacts as a result of the project are Owenkilley River SAC, River Foyle & Tributaries SAC and Lough Foyle Ramsar Site.

³ That is, with a genuine probability of occurrence.



4.3 Brief Description of the Natura 2000 Sites

4.3.1 Owenkillew River SAC

Country	Northern Ireland
Unitary Authority	Northern Ireland
Centroid*	H559870
Latitude	54.72777778
Longitude	-7.132222222
SAC EU code	UK0030233
Status	Designated Special Area of Conservation (SAC)
Area (ha)	213.84

4.3.1.1 Summary Site Description

The SAC includes the river (42 km stretch) and its associated riverine flora and fauna and adjacent semi-natural vegetation, primarily woodland flora and fauna.

The river rises at an altitude of 415m and flows into the Strule at an altitude of 35m. It is a fast-flowing spate river; notable for the physical diversity and naturalness of the bank and channel, the richness and naturalness of its plant and animal communities, which includes extensive beds of Stream Water Crowfoot *Ranunculus penicillatus* var. *penicillatus* and the largest Northern Ireland population of the now rare Fresh Water Pearl Mussel *Margaritifera margaritifera*. In addition, the river is important for Otter *Lutra lutra* and Atlantic Salmon *Salmo salar*.

The adjacent woodlands include Drumlea and Mullan Woods ASSI and the Owenkillew and Glenelly Woods ASSI, two of the largest stands of Oak woodland in Northern Ireland. An area of localised waterlogging in the former woodland has resulted in the development of Bog Woodland.

4.3.1.2 BOUNDARY RATIONALE

Defining the extent of site boundaries for rivers is variable across the UK. The four options currently in use are:-

- (1) whole catchments;
- (2) main river stem from source to mouth, tributaries and upland catchment;
- (3) main river stem from source to mouth and tributaries ;
- (4) main river stem from source to mouth only.

The option used is dependent on the qualifying features for that site and the current knowledge of distribution of that feature. In the case of the Owenkillew River the main SAC qualifying



features are *Margaritifera margaritifera* and *Ranunculus communities*, which are confined to the main channel. The upper limits of the site have been determined by the restricted size of the channel. Downstream limit is at the confluence with the Strule.

The lateral boundary beyond the river channel follows the same guidelines as that for all ASSIs, which is dependent on the type and quality of adjacent habitat. Much of the SAC has limited adjacent habitat. Therefore, the boundary is frequently restricted to the top of the riverbank. However, in places, there is significant adjoining woodland interest, and this is generally included. In addition, the SAC includes both Drumlea and Mullan Woods ASSI and the Owenkillew and Glenelly Woods ASSI. The boundary uses permanent man-made features where possible. however, along some stretches of the river and woodland edge, such boundaries were absent and recognisable topographical or physical features such as breaks in slope, scrub or tree line were used.

4.3.1.3 Annex I habitats that are a primary reason for selection of this site (Reference Numbers refer to habitat codes utilised in Designations)

3260 Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation

The Owenkillew River rises in the Sperrin Mountains in Northern Ireland and flows westwards, forming part of the Lough Foyle system. It is a large river, being ultra-oligotrophic in its upland reaches, and then gradually becoming oligotrophic and oligo-mesotrophic through its middle and lower reaches. The Owenkillew River is notable for the physical diversity and naturalness of the bank and channel, and the richness and naturalness of its plant and animal communities. Beds of stream water-crowfoot *Ranunculus penicillatus* ssp. *penicillatus* occur throughout its middle and lower reaches, typically in association with intermediate water-starwort *Callitriche hamulata* and large-leaved pondweeds such as broad-leaved pondweed *Potamogeton natans* and shining pondweed *P. lucens*.

91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

The Owenkillew River is associated with several woodlands which in combination represent one of the best examples of old sessile oak wood in Northern Ireland. The woods contain a number of associated physical features, including waterfalls, gorges, cliffs and scattered boulder scree, which contribute to the diversity of the woodland communities. The woodland canopy is variable, but is generally dominated by sessile oak *Quercus petraea* with frequent downy birch *Betula pubescens*. The shrub layer consists of rowan *Sorbus aucuparia* and holly *Ilex aquifolium*, with hazel *Corylus avellana* locally frequent and occasional goat willow *Salix caprea*. In places, the ground flora is dominated by grasses, including wavy hair-grass *Deschampsia flexuosa*, and calcifuge mosses such as *Rhytidiadelphus loreus*. Where grazing is absent, bilberry *Vaccinium myrtillus*, great wood-rush *Luzula sylvatica* and bluebell *Hyacinthoides non-scripta* are dominant in the ground flora.



4.3.1.4 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

91D0 Bog woodland * Priority feature

4.3.1.5 Annex II species that are a primary reason for selection of this site

1029 Freshwater pearl mussel *Margaritifera margaritifera*

The Owenkillew River rises in the eastern Sperrin Mountains in Northern Ireland and flows westwards, forming part of the Lough Foyle system. It is a large river, being ultra-oligotrophic in its upland reaches, and then becoming oligotrophic and oligo-mesotrophic through its middle and lower reaches. The freshwater pearl mussel *Margaritifera margaritifera* population, which is estimated to have a minimum number of 10,000 individuals, is confined to 4 km of undisturbed river channel in its upper reaches. It is the largest known population surviving in Northern Ireland.

4.3.1.6 Annex II species present as a qualifying feature, but not a primary reason for site selection

1106 Atlantic salmon *Salmo salar*

1355 Otter *Lutra lutra*

4.3.2 Conservation Objectives

The Conservation Objectives for this site are:

“To maintain (or restore where appropriate) the:-

- Fresh Water Pearl Mussel *Margaritifera margaritifera*;
- Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitriche-Batrachion* vegetation;
- Old Sessile Oak woods with *Ilex* and *Blechnum* in the British Isles;
- Bog Woodland;
- Otter *Lutra lutra*; and,
- Atlantic Salmon *Salmo salar*

to favourable condition”

For each feature there are a number of component objectives which are outlined in the conservation objectives document appended to this assessment. These include a series of attributes, measures and targets which form the basis of Condition Assessment to determine



whether the feature is in favourable condition or not. The component objectives for the SAC are detailed below (reproduced from the Owenkillew Conservation Objectives, appended to this assessment),

4.3.3 SAC Selection Feature Objectives

Table 1.2: SAC Selection Features Grades⁴ & Conservation Objectives

Feature	Grade	Objective
Freshwater Pearl Mussel <i>Margaritifera margaritifera</i>	B	Maintain and if feasible enhance population numbers through natural recruitment.
		Improve age structure of population.
		Improve water quality.
		Improve channel substrate quality by reducing siltation.
		Ensure host fish population is adequate for recruitment.
		Increase the amount of shading through marginal tree cover along those sections of river currently supporting this species.

⁴ The global status is an expert judgement of the overall value of the site for the conservation of the relevant Annex I habitat. Sites have been graded A, B or C - in the UK these gradings have been interpreted as follows: A - Sites holding outstanding examples of the habitat in a European context. B - Sites holding excellent stands of the habitat, significantly above the threshold for SSSI/ASSI notification but of somewhat lower value than grade A sites. C - Examples of the habitat which are of at least national interest (i.e. usually above the threshold for ASSI/ASSI notification on terrestrial sites) but not significantly above this. These habitats are not the primary reason for SACs being selected. D – Habitat present but not of sufficient extent or quality to merit listing as SAC feature. There is therefore a distinction between the principal features for which sites have been selected (those graded A or B) and those which are only of secondary interest (those graded C). This is a useful distinction but it is important to note that all three grades are qualifying SAC interest features.



Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation	B	Maintain and if feasible enhance extent and composition of community.
		Improve water quality
		Improve channel substrate quality by reducing siltation.
		Maintain and if feasible enhance the river morphology
Old Sessile Oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	B	Maintain and <u>expand</u> the extent of existing oak woodland. (There is an area of degraded bog, wetland and damp grassland which have the potential to develop into oak woodland
		Maintain and enhance Oak woodland species diversity and structural diversity.
		Maintain the diversity and quality of habitats associated with the Oak woodland, e.g. fen, swamp, grasslands, scrub, especially where these exhibit natural transition to Oak woodland
		Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
		Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.
Bog Woodland	C	Maintain and expand the extent of existing bog woodland. (There is an area of degraded bog, wetland and damp grassland that have the potential to develop into bog woodland.
		Maintain and enhance bog woodland species diversity and structural diversity.
		Maintain the diversity and quality of habitats associated with the bog woodland, e.g. fen, swamp, especially where these exhibit natural transition to swamp woodland.



		Seek nature conservation management over adjacent forested areas outside the ASSI where there may be potential for woodland rehabilitation.
		Seek nature conservation management over suitable areas immediately outside the ASSI where there may be potential for woodland expansion.
Otter <i>Lutra lutra</i>	C	Population numbers and distribution to be maintained and if possible, expanded.
		Maintain the extent and quality of suitable Otter habitat, in particular the chemical and biological quality of the water, and all associated wetland habitats
Atlantic Salmon <i>Salmo salar</i>	C	Maintain and if possible, expand existing population numbers and distribution
		Maintain and where possible, enhance the extent and quality of suitable Salmon habitat, in particular the chemical and biological quality of the water

The SAC Natura 2000 Standard Data Form is appended to this document

4.3.4 River Foyle & Tributaries SAC

Country	Northern Ireland
Unitary Authority	Northern Ireland
Centroid*	H353876
Latitude	54.73611111
Longitude	-7.451666667
SAC EU code	UK0030320
Status	Designated Special Area of Conservation (SAC)
Area (ha)	771.8

4.3.5 Summary Site Description



The SAC includes the River Foyle and its tributaries i.e. that part of the River Finn which lies within Northern Ireland, the River Mourne and its tributary the River Strule (up to its confluence with the Owenkillew River) and the River Derg, along with two of its sub-tributaries, the Mourne Beg River and the Glendergan River. In total, the area encompasses 120km of watercourse and is notable for the physical diversity and naturalness of the banks and channels, especially in the upper reaches, and the richness and naturalness of its plant and animal communities. Of particular importance is the population of Atlantic Salmon *Salmo salar*, which is one of the largest in Europe. Research has indicated that each sub-catchment within the system supports genetically distinct populations.

The area is also important as a river habitat. In their upper catchments, the rivers are all fast-flowing spate rivers with dynamic flow regimes characterised by sequences of rapid, riffle and run. Although the banks may have been modified in the past, the channels are natural and composed of large cobble substrate with scattered boulders and sandy marginal deposits, while cobble side and point bars and discrete sand deposits are common features. At the top end of the River Derg and its two tributaries, the aquatic flora reflect the highly acidic character of the water, with mosses and liverworts dominant. Beds of Stream Water Crowfoot *Ranunculus penicillatus* var. *penicillatus* occur where the flow is less dynamic.

The River Foyle below Strabane is slow-flowing and is influenced by a tidal regime, rising and falling with the tidal cycle. Aquatic plants in the channel are extremely limited, particularly in the more saline areas; here, fucoids make up the main component. Otter *Lutra lutra* is found throughout the system.

A small population of the now rare Freshwater Pearl Mussel *Margaritifera margaritifera* was still present in the Mourne River in the mid-nineties.

4.3.6 Boundary Rationale

In the case of the Foyle, the qualifying features are its internationally important population of Atlantic Salmon and its *Ranunculus* community, which is found in lower sections of the River Derg and Mourne Beg River and along the Strule and Mourne Rivers down to Strabane. The River Foyle is included downstream to provide a linkage to the sea.

Much of the River Finn system occurs within the Republic of Ireland and will be included within the Republic of Ireland SAC series. Within Northern Ireland, the upper limits for all the tributaries and sub-tributaries are determined by the international border, except for the Strule where it joins with the Owenkillew River SAC. The downstream limit of the site is largely determined by the limit of saline influence (Directive refers to Salmon in freshwater only), but includes a small part of the migration corridor on the Rivers Foyle and Finn SACs.

The lateral boundary beyond the river channel follows the same guidelines as that for all ASSIs, which is dependent on the type and quality of adjacent habitat. Much of the SAC has limited adjacent habitat. Therefore, the boundary is frequently restricted to the top of the riverbank. Due



to the size of the area, the boundary was largely derived from video footage acquired during a helicopter flight. Some information on adjacent habitats was derived from previous surveys. The boundary uses permanent man-made features where possible. However, along some stretches of the river and woodland edge, such boundaries were absent and recognisable topographical or physical features such as breaks in slope, scrub or tree line were used.

4.3.6.1 Annex I habitats that are a primary reason for selection of this site

3260 Water courses of plain to montane levels with *Ranunculon fluitantis* and *Callitricho-Batrachion* vegetation

4.3.6.2 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Not applicable.

4.3.6.3 Annex II species that are a primary reason for selection of this site

1106 Atlantic salmon *Salmo salar*

The River Foyle and Tributaries is a large, cross-border river in the north-west of Britain and Ireland. The river is notable for the physical diversity and naturalness of the banks and channels, especially in the upper reaches, and the richness and naturalness of its plant and animal communities.

The river has the largest population of Atlantic salmon *Salmo salar* in Northern Ireland, with around 15% of the estimated spawning numbers. The majority of the salmon returning are grilse (single wintering salmon), with a smaller but important number of spring salmon (multi-wintering salmon) also occurring. Research has indicated that individual sub-catchments within the system support genetically distinct salmon populations.

4.3.6.4 Annex II species present as a qualifying feature, but not a primary reason for site selection

1355 Otter *Lutra lutra*

4.3.7 Conservation Objectives

The Conservation Objectives for this site are:



“To maintain (or restore where appropriate) the:-

- o Atlantic Salmon *Salmo salar*
- o Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitricho-Batrachion* vegetation
- o Otter *Lutra lutra*

to favourable condition”

For each feature there are a number of component objectives which are outlined in the conservation objectives document appended to this assessment. These include a series of attributes, measures and targets which form the basis of Condition Assessment to determine whether the feature is in favourable condition or not. The component objectives for the SAC are detailed below (reproduced from the Foyle & Tributaries SAC Conservation Objectives, appended to this assessment).

4.3.8 SAC Selection Feature Objectives

Table 4.5: SAC Selection Feature Objectives

Feature	Grade	Objective
Atlantic Salmon <i>Salmo salar</i>	B	Maintain and if possible expand existing population numbers and distribution (preferably through natural recruitment), and improve age structure of population.
		Maintain and if possible enhance the extent and quality of suitable Salmon habitat - particularly the chemical and biological quality of the water and the condition of the river channel and substrate.
Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitricho-Batrachion</i> vegetation	B	Maintain and if possible enhance extent and composition of community.
		Improve water quality
		Improve channel substrate quality by reducing siltation.
		Maintain and if feasible enhance the river morphology
Otter <i>Lutra lutra</i>	C	Maintain and if possible increase population numbers and distribution.
		Maintain the extent and quality of suitable Otter habitat, in particular the chemical and biological quality of the water and all associated wetland habitats



The SAC Natura 2000 Standard Data Form is appended to this document

4.3.9 Lough Foyle Ramsar Site

Lough Foyle is situated on the north coast of Northern Ireland immediately downstream and extending to the north-east of the city of Londonderry. The site is comprised of a large shallow sea lough which includes the estuaries of the rivers Foyle, Faughan and Roe. The site contains extensive intertidal areas of mudflats and sandflats, saltmarsh and associated brackish ditches. It is designated as a Wetland of International Importance under the following criteria of the Ramsar Convention; 1, 2, 3, & 6.

4.3.9.1 Justification for the application of each Criterion listed above.

Ramsar criterion 1

This is a particularly good representative example of a wetland complex including intertidal sand and mudflats with extensive seagrass beds, saltmarsh, estuaries and associated brackish ditches. This is a particularly good representative example of a wetland, which plays a substantial hydrological, biological and ecological system role in the natural functioning of a major river basin which is located in a trans-border position.

Ramsar criterion 2

The site supports an appreciable assemblage of rare, vulnerable or endangered species or sub-species of plant and animal. A range of notable fish species have been recorded for the Lough Foyle estuary and the lower reaches of some of its tributary rivers. These include allis shad *Alosa alosa*, twaite shad *A. fallax fallax*, smelt *Osmerus eperlanus* and sea lamprey *Petromyzon marinus*, all of which are Irish Red Data Book species. In addition, important populations of Atlantic salmon *Salmo salar* migrate through the system to and from their spawning grounds.

Ramsar criterion 3

The site supports a diverse assemblage of wintering waterfowl which are indicative of wetland values, productivity and diversity. These include internationally important populations of Whooper Swan *Cygnus cygnus*, Light-bellied Brent Goose *Branta bernicla hrota* and Bar-tailed Godwit *Limosa lapponica*.

Additional wildfowl species which are nationally important in an all-Ireland context are Red-throated Diver *Gavia stellata*, Great crested Grebe *Podiceps cristatus*, mute swan *Cygnus olor*,



Bewick's Swan *C. columbianus*, Greylag Geese *Anser anser*, Shelduck *Tadorna tadorna*, Teal *Anas crecca*, Mallard *Anas platyrhynchos*, Wigeon *A. penelope*, Eider *Somateria mollissima*, and Red-breasted Merganser *Mergus serrator*.

Nationally important wader species are Oystercatcher *Haematopus ostralegus*. Golden Plover *Pluvialis apricaria*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Dunlin *C. aplina*, Curlew *Numenius arquata*, Redshank *Tringa tetanus* and Greenshank *T. nebilaria*.

Ramsar criterion 6 species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species with peak counts in spring/autumn:

Whooper swan , *Cygnus cygnus*
Iceland/UK/Ireland

882 individuals, representing an average of 4.2% of the population (5 year peak mean 1998/9-2002/3)

Light-bellied brent goose, *Branta bernicla hrota*,
East Canada/Ireland

2270 individuals, representing an average of 11.3% of the population (5 year peak mean 1998/9-2002/3)

Species with peak counts in winter:

Bar-tailed godwit , *Limosa lapponica lapponica*,
W Palearctic

2028 individuals representing an average of 1.6% of the population (5 year peak mean 1998/9-2002/3)

5 DIRECT IMPACTS: SOURCE-PATHWAY-RECEPTOR ANALYSIS

The project site is outwith all Natura 2000 sites. In consequence no direct impact pathway exists and no direct impacts will arise.



6 INDIRECT IMPACTS: SOURCE-PATHWAY-RECEPTOR ANALYSIS

It is noted that indirect hydrological impact pathways exist between the proposal site and the implicated Natura 2000 sites and thence the project may give rise to indirect impacts. Where adverse impacts are likely to arise, it must be determined whether such impacts are likely to be significant.

7 POTENTIAL SOURCES OF IMPACT

Potential Sources of impact, whether direct or indirect, must be considered in respect of all phases of the project (construction, operation & closure) .

Construction

The ES and Addendum has considered the interventions in the natural environment which are associated with the construction, operation and decommissioning of the project and which may result in effects upon the receiving environment.

8 IMPACT ASSESSMENT

8.1 Test of Likely Significance

The project assessed is as defined in the ES and Addendum. As with any proposal, assessment under Article 6 of the Habitats Directive requires assessment of potential impacts associated with the construction, operation and decommissioning of the project. For each phase, all likely significant sources of potential impacts upon valued ecological receptors are detailed within Chapter 8 (Impact Assessment) of the project ES, with further detail provided in Technical Appendix C8 (Ecology). Readers, particularly competent authorities, should refer to the project ES and accompanying Appendices to gain a full understanding of the potential sources of impact, impact pathways, and specific interactions with and impacts upon the implicated Natura 2000 sites.

An outline Construction Environment Management Plan (CEMP) has been prepared in respect of the proposal and identifies potential impacts upon the natural environment and the specific measures to be taken to eliminate or mitigate each likely significant impact identified.

The objectives of the CEMP are to:



- Ensure that construction activities do not adversely significantly impact amenity, surrounding receptors, traffic, or the environment in the surrounding area.
- Provide a mechanism for ensuring that measures to prevent, reduce and offset the potentially adverse environmental impacts during the construction phase, that have been identified in the ES, are implemented;
- Provide a mechanism to ensure that good construction practices are adopted and maintained throughout the construction phase; and
- Provide a framework against which to monitor and audit environmental performance during the construction phase.

The CEMP also outlines the roles and responsibilities of personnel involved with all aspects of the construction activities. Monitoring programmes required to provide assurance as to the effectiveness of the mitigation measures are described in Chapter 10 of the ES.

The CEMP should be read in full and in conjunction with this document.

Full details of the project site are contained within Section 2 of the CEMP. While the general layout of infrastructure at the proposed infrastructure site is shown at Figure 2.2 of the CEMP.

The operational phase of the mine will be the extraction of ore below ground and its transportation to and processing on the surface within the infrastructure site. Waste rock and past tailings will be used for backfill within the mine workings or deposited at the DSF.

The closure phase and restoration of the mine site will proceed in accordance with the closure plan following the cessation of processing operations.

It is assumed that the land will be restored to productive use for farming and/or benefits for wildlife, but alternative land uses will be considered during the closure planning process and discussed with regulatory authorities.

The closure phase will include:

- the plugging and securing of underground openings to allow the flooding of the underground workings to minimise future oxidation and metal release from any potentially acid generating waste rock;
- restoration of the DSF;
- removal of surface infrastructure, buildings, utilities, plant and machinery;
- removal of hazardous and contaminated materials and disposal at a suitably licenced waste facility; and
- rehabilitation of the site using stockpiled topsoil.



Table 15 of Appendix C8 details the assessment of predicted effects on the identified and relevant VERs where any impact interactions have the potential to be significant during the construction operation and closure of the mine development. The full table is not reproduced here however as not all impacts concern potential impacts upon Natura 2000 sites. The ecological consultants (SLR) consider that the potential ecological impacts arising from the proposed gold mine development fall into three main categories:

- impacts arising during the construction phase;
- impacts arising during the operational phase; and
- impacts arising during the closure phase.

The processes and potential impacts associated with each phase (as detailed by SLR) are reproduced below for convenience in respect of potential impacts acting upon or arising from:-

Potential impacts identified are detailed below in Table 8.1. Consideration is then given to whether each identified impact is likely (that is a source, pathway and receptor are present in each case) to have a likely significant impact (direct or indirect) upon the conservation objectives of the designated sites.

Table 8.1 Impacts Identified

Stage one of Habitats Regulations Assessment (The Test of Likely Significance. ToLS) requires that Likely Significant Effects (LSE) upon Natura 2000 sites are identified. In the event that LSEs exist, HRA requires that stage 2 Appropriate Assessment is carried out. Unlike Stage 1 ToLS, Stage 2 Appropriate Assessment takes into account the various mitigation measures included in the scheme design to determine whether they are sufficient to eliminate impacts upon the designated sites.

The table below (Reproduced from Table 15 from The SLR EclA) considers whether Likely Significant Impacts may arise in respect of the impacts identified. Should such impacts arise, Stage 2 Appropriate Assessment will be required in respect of each impact identified.



Impact Source	Nature of Impact	Natura 2000 Sites Potentially Affected
Habitat loss, damage and fragmentation	Habitat loss involves the direct destruction or physical take-up of vegetation, or the removal of other features or structures with conservation interest. Habitat loss may also occur indirectly as a result of a change in land-use or water management, for instance the drying-up of ponds or through induced successional events leading to a change in habitat type. Habitat fragmentation is concerned with spatial processes, such as negative edge effects (e.g. colonisation by 'aggressive' species or successional changes), and dispersal problems that can become increasingly severe as habitats are lost and the remaining habitat is divided into smaller units. Fragmented habitats are likely to be more vulnerable to external factors that may have a negative effect upon them; e.g. disturbance, and may be less resilient to change (including climate and management change) than connected habitats because colonising species may be unable to reach the habitat to re-colonise in the event of species loss. Habitat loss can have a direct impact on individual populations and assemblages of species resulting in the direct loss of individuals or populations of animal species, or indirectly by increasing levels of stress placed upon populations of some species through negative edge effects (e.g. predation pressure) and dispersal problems that can become increasingly severe as habitat lost and remaining habitat is divided into smaller units. The zone of influence of the construction phase is assessed to be restricted to areas of above ground development that includes the new gold mine infrastructure at the proposed infrastructure site and the site of the proposed ventilation raises.	Construction Phase: • Owenkillew River SAC
Disturbance from human activity (noise and visual disturbance)	Short-term increases in disturbance levels as a direct result of construction activities can have a range of impacts depending upon the sensitivity of the ecological feature, the nature and duration of the disturbance and its timing. Long-term increases in noise generated and continuous level of disturbance through the operation of the gold mine and its associated infrastructure as well as on and off site traffic movements can affect sensitive receptors remaining within the localised area post construction activities. The response of individual species to increased levels of human disturbance will depend upon a number of factors including: sensitivity, reproductive status, previous exposure to human disturbance, behaviour during the event, species tolerance to disturbance, location in relation to the source, availability of alternative nearby habitat, and environmental factors (i.e. topography, vegetation and atmospheric conditions which can influence noise levels). The level of disturbance will also be dependent upon the existing ambient noise levels and maximum noise levels. It is generally accepted that for noise, certain species or groups of species can be impacted upon up to a distance of up to 300 m from its source for high level and discontinuous disturbance, with these distances reducing for low level and/or continuous disturbance levels. Under AQTAG09⁵, where specific noise from industry measured at the habitat/nest site is below an average levels of 55 dB $L_{Aeq,1hr}$ and maximum noise 80 dB $L_{Amax, F}$ it is considered unlikely that it	Construction Phase: • Owenkillew River SAC

⁵ Ormerod, L., Goodlad, N. and Horton, K. (2005) AQTAG09 – *Guidance on the Effects of Industrial Noise on Wildlife*. Air Quality Technical Advisory Group.



Impact Source	Nature of Impact	Natura 2000 Sites Potentially Affected
	will have an adverse impact on wildlife. The zone of influence of both the construction and the operational phases is assessed to be up to a 300 m radius of the proposed infrastructure site, the sites of the proposed ventilation raises, the site of the existing exploration adit and of the access routes along the Camcosy and Crockanboy Roads.	
Light	Construction lighting can provoke short-term behavioural changes in sensitive species, especially but not limited nocturnal animals, but the level of impact will be dependent upon the type and intensity of lighting and its timing. Permanent fixed on-site lighting could provoke long-term behaviour changes in sensitive species, especially but not limited nocturnal animals that may have remained on and continue to use the site, or parts of the site and its immediate surrounding area. The zone of influence is assessed to be confined within the proposed infrastructure site.	Construction Phase: • Badger • Bats Operational Phase: • Bats
Dust deposition	All phases of the development have the potential to generate fugitive dust: • construction phase from the movement of vehicles, stripping, movement and storage of vegetation, soils and overburden, cut and fill earthworks, loading/unloading of heavy goods vehicles, the deposition of waste rock at the DSF have the potential to generate fugitive dust; • operational phase from the movement and loading/unloading of heavy goods vehicles, the deposition of waste rock and dry stack tailings at the DSF, crushing / milling of rock as part of the processing of this material and from a variety of other sources that could affect sensitive receptors within the localised area post construction activities; and • closure phase from the removal of infrastructure, movement of vehicles, movement and spreading of soils during the remediation of the site. Literature suggests that the most sensitive species are only likely to be affected by dust deposition at levels above 1000 mg/m²/day⁶ which is five times greater than the level at which most dust deposition may start to cause a perceptible nuisance to humans. Fugitive dust from construction sites is typically deposited within 100-200m of the source; the greatest proportion of which, comprising larger particles (greater than 30 microns) is deposited within 100m⁷. Where large amounts of dust are deposited on vegetation over a long time-scale (a full growing season for example) there may be some adverse effects upon plants, restricting photosynthesis, respiration and transpiration. Furthermore it can lead to phytotoxic gaseous pollutants penetrating the plants. The overall effect would be a decline in plant productivity, which may then have indirect effects on the quality of the surrounding habitats and associated fauna. The amounts of dust deposited and its effects are also dependent upon weather conditions as in wet weather less dust will be	Construction Phase: • Owenkillow River SAC

⁶ Farmer, A.M. (1993). *The Effects of Dust on Vegetation – A Review*. Environmental Pollution Vol.79, Issue 1, Pages 63-75.

⁷ Department of the Environment (1995). *The Environmental Effects of Dust from Surface Mineral Workings*. Volume 1: Summary Report & Best Practice Guides. HMSO.



Impact Source	Nature of Impact	Natura 2000 Sites Potentially Affected
	generated and that which has been deposited upon foliage is likely to be washed off. In accordance with guidance produced by the UK Institute of Air Quality Management (IAQM)⁸ an assessment of the effects of dust will normally only be required where an ecological receptor occurs within 50m boundary of the site or 50m of routes used by construction vehicles on public highways up to 500m from the site entrance.	
Changes in air quality (traffic emissions)	The main pollutants from traffic emissions of primary concern for ecology are from nitrogen oxides (NOx) and eutrophication associated nitrogen deposition upon sensitive ecosystems that can occur when these substances are deposited to land at high rates. Although environmental standards for the protection of vegetation and ecosystems include sulphur dioxide (SO₂), this parameter from traffic emissions is negligible and not of concern near roads⁹. High rates of nitrogen deposition upon sensitive ecosystems can increase the eutrophication of soils and water that can have a detrimental effect on species-rich plant communities and semi-natural habitats that are often associated with a low nutrient status. Eutrophication can decrease species diversity and the dominant plant species can change to those better to respond to increased nitrogen levels. Under the Highways Agency's 2007 Design Manual for Roads and Bridges (DMRB)¹⁰ only where there is an annual average daily total of 200 or more heavy duty vehicles and a designated site within 200 m of the affected road(s) will there be a requirement to undertake further air quality assessment in respect to traffic emissions unless there are likely to be significant changes in environmental baseline conditions as a result of the proposed development.	Construction Phase: • Owenkillew River SAC
Alterations to hydrogeological regime	Dewatering operations during the mine development and production activities can result in the drawdown of groundwaters. The extent of the effects of drawdown can be influenced upon the local geology, soils, topography and climate. The cessation of mining operations and the plugging and securing of underground openings to allow the flooding of the underground workings will potentially alter localised groundwater levels where dewatering operations have occurred over a long period of time. Changes in localised groundwater levels or in aquifers as a result of extraction of rock as part of the mine development can have direct and indirect ecological impacts on groundwater dependent terrestrial ecosystems (GWDTE) and associated habitats / species as well as on surface waters that may also be reliant upon groundwater inputs.	Construction Phase: • Owenkillew River SAC Operational Phase: • Owenkillew River SAC Closure Phase: • Owenkillew River SAC

⁸ Holman et al (2014). *IAQM Guidance on the Assessment of Dust from Demolition and Construction*. Institute of Air Quality Management, London.

⁹ Highways Agency (2005). *Guidance for the Undertaking Environmental Assessment of Air Quality for Sensitive Ecosystems in Internationally Designated Nature Conservation Sites and SSSIs (Supplement to DMRB 11.3.1)*. Interim Advice Note 61.05. Highways Agency.

¹⁰ Highways Agency (2007). *Design Manual for Roads and Bridges Volume 11, Section 2, Part 1 HA207/7 Air Quality*. Highways Agency.



Impact Source	Nature of Impact	Natura 2000 Sites Potentially Affected
Alterations to hydrological regime	The development of land through the inclusion of impermeable surfaces has the potential to alter the local hydrological regime, in particular flow regimes within watercourses/waterbodies which could in turn impact on aquatic and riparian species of flora and fauna. Improved drainage and impeded drainage through development can result in the alterations of surface and sub-surface water flows particularly in areas of peatland, which by their nature are controlled by hydrological processes. The level of impact can vary widely depending upon the physical nature of the peat, topography, the vegetation communities present, vegetation structure and coverage, management pressures and other external pressures.	Construction Phase: - Owenkillew River SAC Operational Phase: - Owenkillew River SAC
Changes in water quality (groundwater and surface waters)	Contamination of groundwater can occur through the direct recharge of groundwaters close to the ground surface or of deeper aquifers through percolation and other hydrological pathways that may affect surface waters where there is a potential ground and surface water hydraulic connectivity. Surface water discharges and diffuse pollution from surface water run-off can contribute to a reduction in water quality through a net contribution of nutrients or contamination from a wide range of organic and inorganic compounds. All construction works near water have an associated risk of pollution as a result of fuel spillages, oil leakages and other accidents that could lead to a serious impact on water quality and consequently the habitats and species present in any such affected watercourse. The stripping of vegetation, ground disturbance and improper storage of stripped soils near to a watercourse increases the risk of large volumes of material being washed into watercourses during periods of heavy and prolonged rainfall, or flood events. This indirectly affects water quality through increased turbidity levels and sedimentation, as well as the potential mobilisation of a variety of substances that may be contained within the soils. The four main hazards identified from the proposed gold mine development with the potential to result in changes in water quality include acidification from Acid Rock Drainage (ARD), toxic contamination from the mobilisation of naturally occurring heavy metals, eutrophication from residual nitrates through the use of explosives and from increase rates of sedimentation. Acid Rock Drainage (ARD) ARD is the formation of sulphuric acid through the oxidation of sulphide materials. In most cases, this acid comes primarily from oxidation of iron sulphide (FeS₂, iron pyrite or "<i>fool's gold</i>"), which is often found in conjunction with valuable metals and in the case of Curraghinalt the gold deposits. ARD is particularly a major problem with many hardrock areas where the where the metal ore is bound up with sulphur. The metals dissolved by the acid drainage can be highly toxic for most living organisms with potential significant impacts on aquatic ecosystems from sulphuric acid and heavy metals, including arsenic, copper, and lead. Once acid-generating rock is exposed to oxygen and the surface environment, acid generation is very difficult to contain and can continue for very long periods of time. The process of extracting minerals allows these acid and heavy metal generating reactions to occur at much higher rates than those that occur naturally. The increased acidity caused by ARD has a range of negative effects depending on the severity of the pH change. Acidification	Construction Phase: - Owenkillew River SAC Operational Phase: - Owenkillew River SAC Closure Phase: - Owenkillew River SAC - Owenkillew River ASSI - Owenreagh River pASSI



Impact Source	Nature of Impact	Natura 2000 Sites Potentially Affected
	of waters can lead to the leaching of toxic heavy metals such as arsenic from river bed sediments into the water and reduces the ability of streams to buffer against further chemical changes. In addition to the direct negative effects of increased acidity and the increased release of toxic metals, an additional problem can also be created when the acid reacts with the rock that neutralizes it. As the water becomes less acidic, metals and other solids can come out of solution and can form a layer of precipitate on river beds. At pH 8 bicarbonate is the predominant form of carbonate. Below pH 6 carbon dioxide predominates, resulting in reduced calcification with consequently effects on shell formation in molluscs for example the Freshwater Pearl Mussel. Toxic Contamination from Heavy Metals Heavy metals is a general collective term that applies to the group of metals and metalloids naturally occurring in rocks and soils with an atomic density greater than 4 g/cm³, for example Arsenic (As), Copper (Cu), Iron (Fe) and Zinc (Zn). The exploration works have the potential to mobilisation of heavy metals in the environment resulting in an increase in background concentrations in aquatic and terrestrial ecosystems. High concentrations of heavy metals can be toxic to living organisms directly killing or damaging organisms or result in changes of behaviour. The effects on species may be direct on a particular species or indirectly on a supporting species i.e. on a food source of a particular species. An effect on a food source may cause a reduction in abundance of prey, change in the composition of prey species, or the palatability of prey through tainting. Nutrient and Organic Enrichment The use of explosives may leave behind residual nitrates that have the potential to lead to nutrient enrichment of receiving waters, whether surface or ground. Rivers are highly individual environments with a range of physical, chemical and biological characteristics that alter their respective vulnerability and response to nutrient enrichment. Nutrients stimulate the growth of benthic and microscopic plants. Excessive algal growth can cause oxygen depletion and reduce water clarity which may result in changes in community structures. Organic enrichment can also result in reduced oxygen and produce anoxic sediments. Sedimentation Whilst the effects of increases in sedimentation of riverine habitats is widely known, it can be difficult to quantify the impact of sediment on the ecology of a riverine system with often other factors also likely to contributing to a decline in any ecological status of a particular species or habitat-type. Usually it is only when there is a significant sedimentation that an ecological impact can be measurable. Different types of river can show variable sensitivity to increased sediment loadings and is dependent upon topography, geology and soils and the local climate all of which can interact to influence the transport of sediments. The amount of sediment, the particle sizes and whether it is organic or inorganic in nature will interact with the sensitivity of the receiving water to determine the potential for ecological impacts.	



8.2 Test of Likely Significance: Conclusions

The stage 1 Test of Likely Significance has identified that a range of Likely Significant Effects are extant. The Stage 1 test has concluded that all such effects are indirect, and that no direct effects are likely upon designated sites should the proposal proceed.

Stage 2 Appropriate Assessment is required in respect of the effects identified in Stage 1.



8.3 Stage 2 Appropriate Assessment

This section comprises Stage 2 Appropriate Assessment of the Likely Significant Effects identified in Stage 1. In Stage 2, Appropriate Assessment takes into account the various mitigation measures included in the scheme design to determine whether they are sufficient to eliminate impacts upon the designated sites.

Each impact identified above is assessed below, by reference to the Project ES and to published standards and guidelines as appropriate.

Changes in water quality (groundwater and surface waters)

The Stage 1 ToLS has identified changes in surface and groundwater water quality as having likely significant effects upon the Natura 2000 Network. The project CEMP details [at 3.2] the following measures to be taken to sever the potential impact pathway between the proposal site and the implicated Natura 2000 sites. The CEMP states: -

'Water Pollution Prevention, Vegetation Clearing and Soil Conservation Controls

The main risks to the water environment during the construction phase of the development include increased potential for sediment loading in runoff water due to ground disturbance, discharge of high pH wash water from cement truck deliveries, blast residues leaching to water, and/or accidental spillage of oils and other substances from on-site use. These risks predominantly apply to the proposed infrastructure site.

The key environmental guidance that will be adhered to during all construction activities, as described in Section 3.4, will include the following:

- *PPG1: Understanding Your Environmental Responsibilities – good environmental practices;*
- *PPG6: Works at Construction and Demolition Sites;*
- *GPP5: Works and Maintenance in or near Water;*
- *CIRIA Report C532 Control of Water Pollution from Construction Sites;*
- *CIRIA Report C649 Control of Water Pollution from Linear Construction Projects. Site Guide.*
- *CIRIA Handbook C651 Environmental Good Practice on site checklist*
- *CIRIA Report C692 Environmental Good Practice on site 3rd Edition*
- *CIRIA Report C697 – The SuDS Manual*
- *CIRIA Report C689 – Culvert Design and operation guide.*
- *On the basis of this guidance, and in recognition of the catchment sensitivity, ground disturbance will be undertaken at the proposed infrastructure site only following incorporation of the following minimum requirements or principles.*



Detailed procedures and methods covering the planning, design, management and monitoring of silt control measures, explosives management, and spill mitigation/prevention/response measures will be agreed in advance with the Northern Ireland Environment Agency Water Management Unit (NIEA WMU);

Exposure of bare ground will be undertaken in essential areas only and in a controlled and phased manner in line with the 2-year construction period described;

Management of surface water runoff, with the aim of mimicking pre-development runoff conditions, will be undertaken;

Filter strips of ≥ 20 m will be left in place between surface water features and temporary or permanent stockpiled material. Silt fencing will be Hy-Tex Terrastop or equivalent and will be placed within this area in accordance with the supplier's guidelines for installation (see Appendix B).

Site drainage will be managed using sustainable drainage techniques to provide conveyance and treatment of runoff at or close to the source;

High flow velocities from working area will be avoided and silt mitigation measures will be positioned so that clean runoff water is diverted from the working area and no potentially silt laden water or pollution is permitted to enter a watercourse. This approach will require full control of flow rate, quantity and quality; and

Works likely to generate silt, and works adjacent to water courses, will be timed to avoid spells of extreme wet weather.'

Figure 3- 5 of the CEMP provides a detailed overview of the locations of mitigation measures to be undertaken as part of the Drainage Management Plan for the Construction Phase. The CEMP indicates that the proposals, and the technical specification of the measures to be utilised in mitigation, derived from a detailed review of impacts identified within the project ES and Addendum, are sufficient to sever hydrological impact pathways between the proposal site and the implicated Natura 2000 sites

The ES Addendum states [at 4.2.2 and 4.2.3]

'4.2.2: Surface water'

Based on the changes to the mine aspects outlined above the following have the potential to further impact on surface water flow and water quality in addition to those impacts identified in the ES in relation to the 2017 design:

Removal of cyanide from the process - this is a positive change in two ways:



- *it will remove any risk associated with cyanide impacting the water environment;*
- *it results in lower make-up water requirements in the processing of ore, resulting in lower fresh water inputs to the mine and lower risk of water shortages during drought.*

Further optimisation of the mine design (described in the Mine Design Parameters document at Appendix B1): this will impact on the rate of dewatering of the underground workings with a likely increase in dewatering rates as the mine expands (see next section; “Groundwater”). There is the potential to negatively impact baseflows and water quality in small watercourses close to the existing infrastructure area during operations and closure, including the Curraghinalt Burn and Attagh Burn.

Potential changes to the baseflows in small watercourses close to the existing infrastructure site were assessed in detail through groundwater modelling for the ES based on the 2017 design. The watercourses potentially impacted by changes in baseflow are small and the changes in flow were predicted to be minor to negligible. Based on a qualitative assessment, changes to baseflows due to the 2019 update are not anticipated to change the conclusions of the surface water impact assessments for these streams and no additional mitigation measures are required.

There are no changes to the spatial extent of the proposed infrastructure site, or the DSF and water management infrastructure therein. As the mine site water balance is dominated by runoff from the DSF and other mine site infrastructure, the changes will not impact the conclusions of the water balance and surface water hydrology impact assessment for the proposed infrastructure site. Any additional contributions from the mine dewatering will also be minor compared to the overall water balance at the site.

The sizing of water management ponds for storm water is based on surface water runoff from the mine site area. As there are no changes to the mine site area, there are no changes to the design conditions for the ponds.

No change is proposed to how contact water will be captured and treated before discharge to the Pollanroe Burn. The proposed water treatment facility is designed to be able to achieve the proposed water discharge criteria for the mine. The surface water quality impact assessment for the proposed infrastructure site considered discharges from the mine at the proposed water discharge criteria limits. With the exception of the removal of cyanide these will not change and therefore the conclusion of no significant impact remains unchanged.

As described in the Mine Design Parameters Statement (Appendix B1), predicted impacts to surface water flow and quality will be reviewed and updated during operations as mining progresses.

4.2.3 Groundwater



Based on the changes to the mine aspects outlined above the following aspects have the potential to further impact on groundwater resources in addition to those impacts identified in the ES in relation to the 2017 design:

Removal of cyanide from the process - the removal of cyanide leaching tanks from the process removes any risk of cyanide impact to groundwater. This is a positive change for the project.

Reduction of sulphide and finer grind size of tailings reporting to paste plant – there is an overall reduction of total sulphide content in the tailings, which is a positive change that will reduce the potential for generation of low pH water and metal mobilisation.. Although the finer grind size is potentially a negative change, as this will increase surface area of particles available to contact water and leach metals, the sulphides will be better locked into the paste such that environmental leaching is not expected to be any worse than previous predictions. The modifications to the production process are therefore not expected to significantly affect the water quality source term used in the groundwater impact assessment s.

Further optimisation of the mine design (described in the Mine Design Parameters document at Appendix B: - the shallower and more laterally extensive underground mine workings will have a negative impact on the dewatering rates of the underground workings. This is expected to lead to a minor increase in dewatering rates from those previously predicted by the end of mine life and there is potential for a minor increase in the impact of changes to groundwater baseflows to nearby watercourses, such as the Attagh Burn.

Greater drawdown in shallow abstractions nearer the new mine workings is predicted, with reduced drawdown in deeper abstractions. As a result, a shallow well and a spring located in close proximity to the western extension of the 2019 mine design workings are expected to have increased drawdown impacts. It is possible that these sources could be impacted to the point where compensation and/or replacement of supply would be offered.

Changes in the underground mine backfill in upper mine levels, resulting in coarser material which will promote drainage in the upper part of the mine, is expected to have an overall positive impact to groundwater quality. Following mine water rebound after mine closure, a greater proportion of contact water is expected to migrate to the existing adit control point due to the increased connectivity that the coarser backfill material would provide. The remaining proportion migrating via the groundwater pathway towards local rivers and streams will be reduced.

In respect of groundwater flow, baseflow and groundwater level, impacts are anticipated to increase for certain streams and private groundwater supplies in the west of the mine extraction area. As described in the Mine Design Parameters Statement (Appendix B1), predicted impacts to groundwater flows and quality will be reviewed and updated during operations as mining progresses'



8.3.1 Habitat loss, damage and fragmentation.

The Project ES considers this potential impact in detail. The ES states:- (at Table 16)

“The proposed works and activities associated with the construction phase of the mine development will not result in any direct loss, damage or disturbance to any habitats within the defined boundaries of the Owenkillev River SAC. The site of the existing exploration adit and infrastructure site do not support any Annex I habitats, as cited for the Owenkillev River SAC, that will be lost and which could be considered to contribute to those qualifying habitats within the SAC.

The retention of the existing exploration adit and its associated infrastructure will not result in any fragmentation of habitats within the Owenkillev River SAC which would directly or indirectly impact upon any of the Annex II qualifying species as a result of the proposed works and activities associated with the construction phase of the mine development.”

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise in respect of habitat loss, damage and fragmentation is required or proposed.

8.3.2 Disturbance from human activity (noise and visual disturbance)

The Project ES considers this potential impact in detail. The ES Addendum has noted [at 4.2.7]

‘Based on the 2019 update, the following areas may influence the conclusions of the 2017 noise impact assessment:

- *Marginal increase in construction traffic;*
- *The transport of ore - Blasted waste rock (un-mineralised material) and ore (mineralised material) from the underground mining activities will be conveyed to surface on covered conveyors to the designated covered storage and the process building on surface. On average, approximately 1,200 to 1,500 tonnes of ore and waste will be conveyed to surface daily. The conveyors will replace the previously proposed use of haul trucks;*
- *Crushing - Crushing of the ore will now take place underground. Crushed ore from the mine will be delivered to surface on covered conveyors to the designated covered storage and the process building prior to grinding in the SAG Mill and Ball Mill. Ore sorter reject material will also be conveyed to surface via the covered conveyor;*
- *The haulage of waste on trucks to the DSF - Waste rock will be placed in the DSF from the ore rejects area using haul trucks. The DSF will contain both waste rock and filtered tailings from the process building.*



Based on the above changes, the noise impact assessment was updated, and the methodology and results are presented in the Noise Impact Assessment Addendum (Appendix C18 Addendum to Noise Impact Assessment).

Construction

The appropriate construction noise mitigation measures which should be implemented as part of a site-specific Construction Site Management Plan are outlined in Section 8 of the Noise Impact Assessment report and will remain unchanged from the 2017 ES (See Section 8.1 Construction Mitigation Measures).

In terms of the perceived change and loudness, the increase in daily construction traffic flows on the surrounding roads will result in a 'moderate short-term impact' along Camcosy Road and a 'minor short-term impact' along Crockanboy Road. It is therefore considered that the change in traffic flows during the construction phase is considered to be insignificant.

Operations

The increase in daily and peak hour operational traffic flows will result in a 'negligible' increase in noise levels along Crockanboy Road. It is therefore considered that the change in traffic flows during the operation phase is considered to be insignificant.

The operational noise impact has also been updated from the 2017 ES. The updated assessment has focussed on the following changes to the proposed Curraghinalt Project:

- The use of a covered conveyor will replace the previously proposed use of haul trucks to convey waste rock and ore from the underground mining activities to surface.*
- The crushing process has been moved underground.*
- The conveyor towers building envelope design.*
- Noise berms – the haul route 5m noise attenuation berm remains unchanged. An additional waste rock berm around the proposed 'ore rejects to drystack' area will also be constructed to reduce noise from the truck movements taking waste ore from the conveyor to the DSF.*
- The DSF and ventilation raise design remain unchanged from the previous noise assessment.*

In summary, when compared to the measured baseline noise levels in the area of the proposed Curraghinalt Project, the increased noise level at nearby properties will cause a minor noise impact at the nearest noise sensitive receptors throughout the lifetime of the gold mine and processing operations. At all locations in excess of 1,000m from the proposed Curraghinalt Project the noise impacts will be negligible.'

8.3.3 Disturbance from Vibration

The Project ES considers this potential impact in detail. The ES Addendum states [at 4.2.8]



'Construction and operation vibration impacts for the project remain unchanged from the 2017 ES. As such, the proposed Construction and Operational Mitigation Measures outlined in Section 6 of the Vibration Impact Assessment for the project remain unchanged from the 2017 ES.'

Consistent with the findings of the 2017 ES, no significant residual adverse vibration impacts will occur during operation of the Curraghinalt Project. Continuous monitoring of vibration in proximity to the nearest residential properties will ensure that the recommended vibration thresholds and the relevant Planning Condition vibration limits are not exceeded. '

The Vibration Impact Assessment Report Addendum can be found in Appendix C.11.

8.3.4 Dust Deposition

The Project ES considers this potential impact in detail. The ES Addendum states: -

'In summary, there is no change from the predicted residual impacts and conclusions as outlined in Section 8 in the 2017 ES. However, additional mitigation measures will apply. The air quality and dust levels from the construction and operation of the proposed Curraghinalt Project are predicted to be lower than the relevant air quality and dust standards and guideline limit values. When compared to the measured baseline Air Quality & Dust levels in the area of the proposed Curraghinalt Project, the increased air quality and dust levels at nearby properties to the proposed infrastructure site will be negligible and at the nearest air quality and dust sensitive receptors throughout the lifetime of the gold mine and processing operations.'

The levels of dust deposition is not predicted to result in any significant increase in sedimentation rates within the channel of the Owenkillev River where there would be a likely measurable impact on any freshwater pearl mussels (primary reason for site selection) within the localised area of the existing surface infrastructure site, or on Atlantic salmon (secondary reason) and especially in terms of damaging potential spawning gravels.

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise and no mitigation in respect of dust deposition is required or proposed.

8.3.5 Changes in air quality (traffic emissions)

The Project ES Addendum considers this potential impact in detail. The ES Addendum states [at 4.2.14]

'Following a review of changes to air quality predictive modelling outputs, detailed within the Air Quality Impact Assessment addendum, it is concluded that changes in concentration contributions for a range of pollutants (PM10, PM2.5 and NO2) would remain well within air quality objectives set to protect the environment and health, and would not be of a magnitude sufficient to quantify



any measurable adverse health outcome during construction and operation of the proposed project. This conclusion is consistent with the original HIA.'

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise and no mitigation is required or proposed.

8.3.6 Alterations to hydrogeological regime

The Project ES considers this potential impact in detail. The ES states :-

'Assessment of Effects:

Hydrogeological studies would suggest that there is some hydraulic connection between groundwater and the Owenkillew River in the upper layers of weathered bedrock and alluvium deposits. However, given the low transmissivity of the upper layers of weathered bedrock it is considered not likely that the flows in this river are dependent upon any groundwater contributions.

Modelling predicts that during the construction phase, the impacts of the mine development and any dewatering is not likely to have any significant effects on groundwater levels, or on the localised hydrogeological regime. Therefore the mine development and any dewatering operations is not predicted to result in any significant effects on groundwater contributions, either directly to the Owenkillew River, or via its smaller tributaries that includes the Curraghinalt and Attagh Burns, during the construction phase and where there would be any significant alterations to base flows in this river. Consequently no significant effects are predicted on the qualifying Annex I habitats and/or Annex II species for which the Owenkillew River SAC is of European importance from any alterations to the hydrogeological regime during the construction phase of the gold mine development.

During the construction phase, water will continue to be pumped from the underground mine workings and treated at the existing surface infrastructure site before being discharged to the Curraghinalt Burn. This will continue until such time as the decline is in place and water can be pumped to the surface water system at the proposed infrastructure site.

The retention and continuance of use of the existing surface infrastructure site are not anticipated to significantly increase any surface water run-off contribution to the Curraghinalt Burn and where there would be any measurable effects or alterations to base flows in the Owenkillew River.

All wastewater generated from dewatering operations during the mine development will be discharged to the Owenkillew River via the existing water treatment system in operation at the existing surface infrastructure site. The current rate of discharge of treated wastewater from the existing surface infrastructure site is on average 3.5 litres per second (l/s) with a maximum



capacity of 11 litres per second (L/s). As the mine is developed it is anticipated that the rate of any discharge will increase to 7 L /s and up to 10.3 L /s during high flow conditions leaving some freeboard to the maximum capacity of the water treatment plant. However, any increase in the rate of discharge up to the maximum of 10.3 L/s is not anticipated to result in any significant alterations to the base flows in the Owenkillev River. Consequently no effects are predicted on the qualifying Annex I habitats and/or Annex II species for which the Owenkillev River SAC is of European importance.'

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise.

8.3.7 Changes in water quality

The Project ES considers this potential impact in detail. The ES states:-

'Assessment of Effects:

The Owenkillev is assessed as being of 'moderate' quality status upstream of Glenhull Bridge improving to 'good' downstream of this structure and to the Drumlea Bridge before being assessed as moderate downstream of this point under the Water Framework Directive (WFD) .

Monitoring of baseline water quality in the Owenkillev River and its tributaries would indicate that for a number of parameters the mean values recorded for Biochemical Oxygen Demand (BOD), free ammonia (NH₃), nitrate (NO₃), phosphate (PO₄) and total suspended solids (TSS) are elevated above the defined water quality guidance criteria as set for freshwater pearl mussels in a draft sub-basin management strategy for freshwater pearl mussel based on a catchment wide scale for the Owenkillev , and subsequently by a new standard for freshwater pearl mussel catchments developed by a working group of European freshwater pearl mussel experts, under the auspices of the European Committee for Standardization (CEN). The standard was published in December 2016, as EN 16859:2017, and was implemented in the UK in February 2017 in the form of a British Standard (BS), as BS EN 16859:2017 . This new standard focuses on methods for monitoring freshwater pearl mussel populations, the fish populations that provide hosts for glochidia, physical habitat structure, flow regimes, and aspects of water quality (but not any prescribed limit values) known to be important for sustaining fresh pearl mussel populations.

For other parameters, monitoring would indicate mean exceedances in WFD Environmental Standards for cyanide (CN Free), Copper (Cu) and iron (Fe) but with maximum values for a number of other metals above WFD environmental standards thresholds levels (please refer to SRK's Hydrology Baseline Report).



An assessment of biological water quality would indicate that the Owenkillew River is typically 'good' to 'very good', as presented in Annex P.

A water treatment plant currently operates at the existing surface infrastructure site for the treatment water emanating from the exploration adit (groundwater) and surface water run-off from the waste rock storage area before being discharged under licence to the Curraghinalt Burn. Monitoring of the quality of the water discharged to the Curraghinalt Burn would indicate that all parameters fall within the discharge consent limits.

The current discharge limits have been set to take into account the mixing effect and assimilative capacity (AC) of the Owenkillew River where possible. Whilst baseline levels for a number of parameters are in exceedance of environmental standards, it is considered that the water discharged from the existing surface infrastructure site is not a contributing factor to these standards not being met within the Owenkillew River but rather a number of factors and pressures are responsible throughout the catchment of this river.

It is proposed that the water treatment system will be upgraded to a reverse osmosis system that will treat any wastewater to an agreed and acceptable standard by NIEA (drinking water standards) to and ensure compliance with any new discharge consent.

The retention and continuance of use of the existing surface infrastructure site and continued discharge of treated wastewater will continue to be within any consented parameters and is not likely to result in any changes in baseline water quality in the Owenkillew River and where there would be any significant direct or indirect effects on freshwater pearl mussels downstream of the confluence of the Curraghinalt Burn, or on the secondary Annex II species of Atlantic salmon and otter, until such time as the new portal and infrastructure have been constructed and water is pumped from the mine to the proposed infrastructure site"

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise.

8.4 Impact Assessment:- Operation

8.4.1 Disturbance from vibration

The Project ES considers this potential impact in detail. The ES states at Table 17}

'Assessment of Effects:



Any below ground blasting operations required during the mine production activities will be underground, relatively small and would be similar to the blasting operations historically carried out as part of the exploration activities and during the mine development. All blasting events are anticipated to be below a PPV of 1 mm/second with an estimated number of two blasts per day during the lifetime of the mine.

No blasting will take place directly below the Owenkillev River SAC. At predicted levels below 1 mm/second, it is considered that there would be no discernible surface vibration or noise from any such blasting event and is not likely to have any significant effects on the freshwater pearl mussel or the other the Annex II qualifying species present but not a primary reason for site selection, namely Atlantic salmon and otter for which the Owenkillev River SAC is of European importance, or any other species of importance for which the Owenkillev River ASSI and the Drumlea and Mullan Woods ASSI are of conservation importance.'

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise and no mitigation in respect of dust deposition is required or proposed.

8.4.2 Alterations to hydrogeological regime

The Project ES considers this potential impact in detail. The ES states:-

'Groundwater levels are close to the surface in the unconsolidated alluvial material of the Owenkillev river valley up to 10m in depth and in the weathered bedrock up to depths of 50 to 70m.

Groundwater flows to the Owenkillev River are typically in the unconsolidated alluvial material with little input from the weathered bedrock.

The mine will be dewatered throughout its operational life. Modelling of dewatering operations predicts a change in groundwater levels when the mine is deepest and dewatering activities are at their peak towards the end of the operational life of the mine.

Dewatering operations are predicted to result in a reduction in surface base flow of 0.50 L/s (<1% change to mean summer flow) in the Owenkillev River as well in the two tributaries flowing to this river where the mine is proposed namely: the Attagh Burn with a loss of 0.02 L/s (<1 % change to mean summer flow); and the Curraghinalt Burn with a loss of 0.4 L/s (<3 % change to mean summer flow).

During the operational phase all wastewater generated during dewatering operations will be pumped to the west pond at the proposed infrastructure site where it will be treated before being discharged to the Pollanroe Burn. The discharge from the existing surface infrastructure site will cease with a predicted reduction of flow in the Curraghinalt Burn, in-combination with the



reduction in groundwater contribution, from 6.9 L/s to 5.3 L/s representing a 23 % change in its 95 %ile annual low flows. Surface water run-off from the existing surface infrastructure site will continue to be treated and discharged to the Curraghinalt Burn at an average rate of 0.4 L/s.

The Curraghinalt Burn is a minor watercourse and any reduction in base flows from the cessation of the discharge of water generated from dewatering operations is considered negligible and not likely to decrease the base flow in the Curraghinalt Burn.

Based on the figures above, any reduction of groundwater contribution to the surface base flows in the Owenkillew River is not likely to result in any significant changes in the hydrological regime of this river. Therefore it is assessed that the below ground mine development and associated drawdown in groundwaters is not likely to have any significant effects on freshwater pearl mussels within the river sections downstream of the Curraghinalt Burn, or on the different habitats required by salmon to including holding, spawning and nursery areas for which the SAC is of European importance, or on any other species for which the Owenkillew River ASSI and the Drumlea and Mullan Woods ASSI are of conservation importance.'

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise.

8.4.3 Changes in water quality

The Project ES considers this potential impact in detail. The ES Addendum states [4.2.14]

'Surface Water

On the basis that cyanide will no longer be used in the process and no change is proposed to how contact water will be captured and treated before being discharged into nearby surface water bodies, it is predicted that the proposed water discharge criteria for the mine will still be achieved. As a result, there will be no change to the original surface water quality impact assessment conclusion and therefore no measurable risk to health.

Groundwater

The overall impact on groundwater quality will be positive on the basis that cyanide will no longer be used in the process, there will be a reduction in sulphide content in the rougher tailings and the use of coarser material in the upper part of the mine will increase the proportion of contact water that is expected to migrate to the existing adit control point, promoting drainage away from local rivers and streams. The only negative impact on groundwater quality would be associated with use of finer grind size as there will be increased surface area of particles available to contact water



and leach metals; however, this change is not expected to significantly affect the groundwater quality assessment outcomes. As such, the conclusion of the original HIA is still valid and there would be no measurable risk to health.'

8.5 Impact Assessment:- Closure

The project EclA [at 5.6] considers that potential impacts on habitats and species during the closure phase are considered likely to be similar to those arising during the operational phase but are likely to have a positive effects through the restoration of the site providing new habitats and increase in carrying capacity of the site for various individual and groups of species.

Table 18 of the project EclA details the assessment of predicted effects on the identified and relevant important ecological features where any impact interactions have the potential to be most significant during the closure phase of the mine development; and the mitigation measures to prevent, reduce or offset any potential effects.

8.5.1 Alterations to hydrogeological and hydrological regime

Table 18 of the EclA states:-

'The cessation of dewatering will result in a rebound of groundwater levels during the mine closure phase and which are expected to return to near natural conditions approximately 100 years post-closure. Hydraulic bulkheads will be installed at close to contain any mine water by reducing the inflow of shallow groundwater to the deeper mine workings and allow a slow recharge from depth. This is estimated to take between 80 to 95 years. This rebounding of groundwater is not predicted to result in any significant increase in base flow rates in the Owenkillew River.

Following the closure of the mine, flows of groundwater will re-commence from the existing adit to the Curraghinalt Burn. The rate of flow is anticipated to be 7.4 L/s increasing base flows in the Curraghinalt Burn by 25%. However, at this predicted flow rate no significant changes in surface base flow rates are predicted in the Owenkillew River.

No significant effects are predicted on habitat or species associated with the Owenkillew River from the proposed closure of the mine'.

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise.

8.5.2 Changes in water quality

In respect of this issue Table 18 of the EclA states:-



'The interaction between groundwater, as it rebounds, with the mine walls and stored paste backfill and waste rock has the potential to cause the leaching and mobilisation of various substances into the mine water. Dilution calculations predict that at year 100 the concentrations of hazardous substances in the mine water and localised groundwater will be discernible based on background groundwater concentrations, with the exception of very minor exceedance of mercury.

Dilution calculations for the Owenkillev River taking into account any recommencement of adit flows to the Curraghinalt Burn and groundwater contributions show no exceedance of current water quality standards in the Owenkillev river with the exception of the parameters that are currently exceeded in the baseline conditions. Concentrations are not predicted to exceed baseline conditions plus 10% of the water quality standards for the Owenkillev River or 3% for parameters where baseline levels exceed a standards or guideline.

It is therefore assessed that post-closure the mine is highly unlikely to have a significant effect on water quality in the Owenkillev River.

No significant effects are predicted on habitat or species associated with the Owenkillev River from the proposed closure of the mine.'

As a consequence of this finding, supported by comprehensive assessment, no significant impacts will arise.



9 CUMULATIVE IMPACT ASSESSMENTS

Section 53.7.1 of the project EclA has considered all potential impacts with the potential to give rise to cumulation within 5km of the proposal sites, with the exception of major projects, where a 15km radius was considered appropriate. NO projects with the potential to give rise to cumulative impacts were identified during this process.

10 STAGE 2 APPROPRIATE ASSESSMENT: CONCLUSIONS

This review of the project has concluded that no significant ecological impacts upon Natura 2000 Sites are likely to arise should the project proceed with current committed mitigation.

All current, recently consented and proposed planning applications within the area ecologically linked to the implicated site have been considered for the purposes of this assessment. A list of such proposals can be found at Chapter 8 of the environmental statement.

As no significant or perceptible impacts are predicted as a result of the 'project' it is reasonable to assume that impacts are *de minimis* and that no cumulative or synergistic impacts will arise.

The preceding Stage 2 Appropriate Assessment has demonstrated that the project:

- Will have no direct adverse impacts on Owenkilley SAC, Foyle & Tributaries SAC; and, Lough Foyle Ramsar Site.
- Will have no indirect adverse impacts Owenkilley SAC, Foyle & Tributaries SAC; and, Lough Foyle Ramsar Site; provided the mitigation strategies proposed are fully implemented.
- Will have no transboundary impacts; provided the mitigation strategies proposed are fully implemented.

Proposed Ballyshannon battery storage facility refused permission by council

Chris McNulty
news@donegalive.ie

Planning permission has been refused for the development of a controversial battery storage facility in Ballyshannon.

The plans for a grid services

facility at Tully and Raheen, Ballyshannon were strongly opposed by locals. Donegal County Council has refused permission for the proposed development, the operational lifetime for which was said to be 35 years, by Shoreman Limited.

The development was proposed to be located on lands owned by Gerard Campbell and Brian Campbell, who confirmed their consent to the application.

Having requested further information from the developer on its plans earlier this year, the

local authority told the developer that it still was not satisfied that the development would not constitute a hazard to road users.

"Having regard to the limited capacity of the local road serving the site and details of the information submitted to date," cited the council in the decision conveyed to Shoreman Limited.

The local authority said it had regard particularly for the proposed use of private space to the front of the existing dwellings as passing bays without third party consent; the proposed use of the existing carriageway as passing bays without appropriate widening or strengthening measures; and an absence of constricted passing bays of a scale required to facilitate HGV movements from the N3 junction to the site entrance.

"The planning authority was not satisfied that the development could provide for the safety of road users in accordance with the necessary standards and guidelines," the decision document said.

"To permit the proposed development would endanger public safety by reason of a traffic hazard, would be contrary to the County Donegal Development Plan 2024-2030 and would thereby be contrary to the proper planning and sustainable development of the area."

The company had sought a ten-year permission for a grid services facility comprising of: an enclosed battery energy storage system compound containing battery energy storage containers, electrical inverters, transformers and power control centres; an enclosed synchronous condenser compound containing a horizontal synchronous generator housed within a synchronous condenser building and ancillary infrastructure including a flywheel, transformer, circuit breaker and cooling equipment; and underground electrical and communications cabling.

The proposed development included

a site entrance from the 17965-1 local road, an on-site access track and security fencing and security gates.

Pole-mounted security cameras were proposed as part of the application and all associated and ancillary site development, landscaping and reinstatement works were included.

An online petition against the proposed development was signed by 342 people while over 20 submissions against the application were lodged with Donegal County Council.

"This beautiful town regarded as Ireland's oldest town does not need this monstrosity on the edge of it," one objector wrote.

"This massive park is to be shoe-horned in between a number of houses by a virtually anonymous company who didn't even have the courtesy to discuss the project with anybody in the community. The size of this park is outrageous."

Another person pointed to the visual impact of 40-foot synchronous condenser units close to their residence and raised concerns over the potential environmental impact during both construction and operation.

One of the submissions was signed by 18 people while another had 3 signatures.

OBJECTORS

Among the objectors were Ern Enterprise Development Company Limited and Wild Ireland Defense CLG.

Some local residents expressed fear over potential emergency situations at such a site with reference made to fire at similar developments in Liverpool and Viviez in France.

"The idea that an application would be granted to uproot, destroy, and obliterate the current landscape to install a major industrial site with major construction and potential hazardous consequences is quite shocking," remarked one person.

Shoreman Limited could take an appeal on the decision to An Bord Pleanála.



Comhairle Contae
Dhún na nGall
Donegal County Council

TRANSBOUNDARY NOTIFICATION PUBLIC NOTICE. (In accordance with Article 132 of the Planning and Development Regulations 2001 (as amended))

Environmental information has been received by Donegal County Council from the Department for Infrastructure, Northern Ireland in relation to 3 no. planning applications located primarily in the County Tyrone area. The Department of Infrastructure (NI) has advised that it is intended that the applications will now be determined through an independent public local inquiry by the Planning Appeals Commission which is due to commence in January 2025. The 3 no. planning applications the subject of the public local inquiry are:

(i) N.I. Ref No: LA10/2017/1249/F -

Proposal: Underground valuable minerals mining and exploration, surface level development including processing plant and other associated development and ancillary works, Greencastle, County Tyrone.

Location: lands NW of Greencastle, E of Rouskey, N of Crockanboy Rd, W of Mullydoo Road, N & S of Camcosy Rd, including lands 165m W of No. 45 Camcosy Road to the junction of Camcosy Rd and Crockanboy Rd, and lands 47m to the SE of 73 Crockanboy Rd.

(ii) LA10/2019/1386/F -

Proposal: 33kV power line involving both construction of above ground 33kV overhead line supported by wooden poles and underground 33kV cable laid below ground level in ducts, to serve Curraghinalt mine (currently under consideration planning application LA10/2017/1249/F). 33kV connection is c37.9 km in length, comprising of c26.9 km of overhead line supported by single and double wooden pole sets and c11 km of underground cabling.

c15.1 km of the powerline is within the Fermanagh & Omagh District Council area comprising of c8.2 km of overhead line supported by single and double wooden pole sets and c6.9 km of underground cabling.

Location: 737m NW of 56 Mullydoo Road Greencastle, through townlands of Crockanboy, Teebane West, Casorna, Rousky, Drumlea, Garvagh, Meenadoo, Trinamadan and Culvacullion ending at 785m NW of 24 Meenadoo Road Culvacullion Gortin.

(iii) LA11/2019/1000/F -

Proposal: 33kV power line involving both construction of above ground 33kV overhead line supported by wooden poles and underground 33kV cable laid below ground level in ducts, to serve Curraghinalt mine (currently under consideration planning application LA10/2017/1249/F). 33kV connection is c37.9 km in length, comprising of c26.9 km of overhead line supported by single and double wooden pole sets and c11 km of underground cabling.

c22.8 km of the powerline is within the Derry City & Strabane District Council area comprising of c18.7 km of overhead line supported by single and double wooden pole sets and c4.1 km of underground cabling.

Location: Adjoining 89 Woodend Road Ballymagorry, through townlands of Ballymagorry, Woodend, Milltown, Ballee, Holly-hill, Kennaghan, Owenreagh, Knockanbrack, Lagvittal, Knockharvoer, Craignagapple, Lagavadder, Ballykeery, Craigatuke, Meendampf, Balix Upper, Letterbrat, Glencoppogagh (Main Portion), Aghalane and Lisnacraight ending at 681m NW of 24 Meenadoo Road Culvacullion.

The Environment Information received by Donegal County Council, consisting of an Environmental Statement and an Ecology Statement, are being made available by the Council to view online at the following link:

<https://www.donegalcoco.ie/en/services/planning/development-management/publications-notifications-and-planning-registers/publications-notifications/>

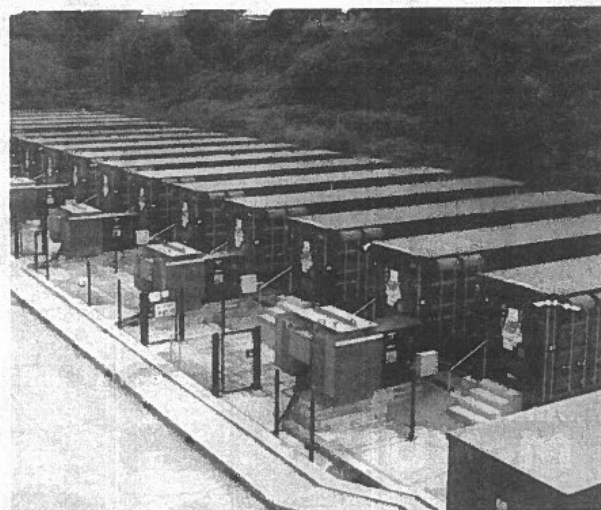
An electronic version of the 3 no. planning applications listed above, including the Environmental and Ecological Statements, can be viewed by members of the public on the NI Planning Portal at

<https://planningregister.planningsystemni.gov.uk/simple-search>

The Environmental and Ecological Statements received by Donegal County Council are available for inspection (by appointment) or purchase at a fee not exceeding the reasonable costs of making a copy from 28th November 2024 to 6th January 2025 (both dates inclusive) between the hours of 9am-12.30pm and 1pm-4.30pm (excluding Bank/Public Holidays) at the following location: Planning Office, County House, Lifford, Co. Donegal.

Submissions or Observations in relation to the abovementioned development may be made in writing to the Planning Authority, Donegal County Council, County House, Lifford, Co. Donegal on or before 4.30pm on the 6th January 2025.

Liam Ward,
Director of Services,
Community Development & Planning Services.



An example of 16 skids while 48 were planned for the Ballyshannon development

From: [DFI Regional Planning](#)
To: [REDACTED]
Subject: DfIPG 031/25 FW: Consultation update - Kelly
Date: 18 February 2025 13:55:00
Attachments: [image001.png](#)
Importance: High

I acknowledge receipt of your e-mail which has been forwarded to officials.
A response will issue in due course.

Thank You

[REDACTED]
Planning Service HQ Inbox

From: [REDACTED]
Sent: 07 February 2025 14:45
To: Beggs, Alistair [REDACTED]
Cc: [REDACTED]
Subject: RE: Consultation update
Importance: High

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Good afternoon Alistair,

Thank you for your email.

Can you please confirm that the body receiving the consultation/letter is now able to proceed and when we might see the advert being placed. We are already some 3-weeks post suspension.

Kind regards,

[REDACTED]

From: Beggs, Alistair [REDACTED]
Sent: 03 February 2025 14:50
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Consultation update

Apologies that I am only getting to your e-mails now, but I believe you have been advised that the consultation issued at the end of last week.

Kind Regards

Alistair



This email and any files transmitted with it are private in nature and intended solely for the use of the individual or entity to whom they are addressed. If you are not the intended recipient, you must not disclose, copy or take any action in reliance of this transmission. If you have received this email in error, please reply, advising the sender accordingly. Recipients should note that all email correspondence on NICS systems is subject to auditing and monitoring. Nothing in this email message amounts to a contractual, or other, legal commitment on the part of the Department or Government.

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From: [REDACTED]
Sent: 29 January 2025 10:42
To: Beggs, Alistair [REDACTED]
Subject: RE: Consultation update
Importance: High

Good morning Alistair,

Can you please advise.

Kind regards,

From: [REDACTED]
Sent: 27 January 2025 12:35
To: Beggs, Alistair [REDACTED]
Subject: Consultation update
Importance: High

Good afternoon Alistair,

Can you please advise as to the current status of the Transboundary consultation process.

I have left a voicemail for you too and can be contacted on 07436 287196 if of convenience.

Kind regards,

[REDACTED]

[REDACTED]

Managing Director

Dalradian

[REDACTED]

[REDACTED]

www.dalradian.com

Investors in People and Carbon Neutral



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Registered Office:

Dalradian Gold Limited, 3 Killybrack Road, Killybrack Business Park, Omagh, County Tyrone, Northern

Ireland, BT79 7DG
NI008465

Investors in People and Carbon Neutral



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Registered Office:

Dalradian Gold Limited, 3 Killybrack Road, Killybrack Business Park, Omagh, County Tyrone, Northern Ireland, BT79 7DG
NI008465

From: [DfI PG Secretariat](#)
To: [REDACTED]
Cc: [REDACTED]
Subject: DFIPG 036/25: Clarification requested - [REDACTED]
Date: 25 February 2025 11:26:00

Folks

Please see query below – DFIPG 036/25 refers
Response due by 18 March, please copy PG Sec into response
Steven has already ack

IN1-25-564

Thanks

[REDACTED]

PG Sec

From: CAM 2022 <communitiesagainstmining@outlook.com>
Sent: 25 February 2025 10:07
To: DfI Regional Planning <Planning@infrastructure-ni.gov.uk>
Cc: PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>
Subject: Clarification requested

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sir/Madam,

I write to seek immediate clarification regarding a statement made by your legal counsel, [REDACTED], during the recent public inquiry into the Dalradian Gold planning application concerning the Department for Infrastructure's (DFI) position on the issue of turbary rights held by numerous local families in the affected community.

During the proceedings, [REDACTED] publicly stated that it was the intention of DfI Planning to vest the turbary rights of those whose lands fall within the proposed Dalradian site in Greencastle. This statement has raised significant concerns within the community regarding the potential expropriation of legally protected and culturally significant rights.

Considering this, I request the following:

1. Confirmation of DFI's Position: Can you confirm whether [REDACTED] statement accurately reflects the official stance of DFI? If so, please provide the legal basis under which DFI intends to vest these rights, including references to any relevant statutory provisions or precedents.

2. Disclosure of Supporting Documents: Kindly provide copies of any documents, policies, or legal frameworks that DFI intends to rely upon in seeking to vest these turbary rights.

3. Due Diligence on Existing Turbary Rights: Has the Department undertaken due diligence to assess and verify the turbary rights currently held by families within the proposed site? If so, please provide the findings of any assessments conducted.

4. Developer's Disclosure Obligations:

Was the presence of turbary rights disclosed by the developer in its planning application?

If not, has the developer failed in its legal duty to fully disclose all encumbrances and existing land rights under relevant planning and environmental regulations?

Turbary rights are not merely customary privileges but legally protected entitlements, recognized both in common law and statutory frameworks. In Northern Ireland, such rights are considered property rights, and any proposed interference would necessitate clear legal justification and due process, potentially engaging the European Convention on Human Rights (ECHR), Article 1 of Protocol 1, which protects the right to peaceful enjoyment of possessions.

Furthermore, if the developer knowingly failed to disclose the existence of legally recognized turbary rights on the proposed site in order to facilitate their own interests, this raises serious questions about the legitimacy of the planning application as it stands. A failure to fully disclose material land rights could constitute a misrepresentation or omission under planning law, potentially rendering the application procedurally defective or unlawful. I request that the Department investigate whether such an omission has occurred and clarify what legal consequences may follow if it is found that the developer has intentionally withheld this information.

Given the gravity of this matter and its implications for long-standing community rights, I request a prompt response with the requested information. If this issue has not been adequately considered within the planning process, we may need to

escalate the matter further.

I look forward to your urgent clarification.

Yours sincerely,

 (Environment and cultural officer)

Communities Against Mining

Regional Planning Policy & Casework



[REDACTED]
Environment and Cultural Officer
Communities Against Mining

James House
Gasworks Site
2 - 4 Cromac Avenue
Belfast
BT7 2JA
Tel: 0300 200 7830

Ref: DfI PG 036/24

Email: planning@infrastructure-ni.gov.uk

11 March 2025

Dear [REDACTED]

Clarification requested – Dalradian Public Local Inquiry

Thank you for your email of 25 February 2025.

As you may be aware the Planning Appeals Commission did not permit recording of the proceedings, so there is no official record of the hearing sessions which have taken place so far. Therefore, for clarity it is advised that the Department's Counsel **did not** state that it was the intention of DfI Planning to vest the turbary rights of those whose lands fall within the proposed Dalradian, nor is it the Departments intention to vest any turbary rights.

Turbary rights on land is not a matter that falls to be considered or be notified upon under the Planning Act (NI) 2011 or other current planning legislation.

I trust this is of assistance is providing clarification.

Regional Planning Policy & Casework

From: [REDACTED]
To: [REDACTED]
Cc: [FRANK SWEENEY \(PLANNING\)](#)
Subject: RE: Transboundary EIA Public Consultation – Dalradian Gold Mine Project development
Date: 31 March 2025 15:29:00
Attachments: [REDACTED]

Dear [REDACTED]

Please find attached a response that's issued to Department of Housing, Local Government and Heritage today which should assist you – the same queries were posed to that Department.

If you require anything else, please do not hesitate to contact me.

Regards

[REDACTED]

From: [REDACTED] **On Behalf Of** planning mailbox
Sent: 10 March 2025 08:35
To: [REDACTED]
[REDACTED]
Subject: FW: Transboundary EIA Public Consultation – Dalradian Gold Mine Project development
Importance: High

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Good morning [REDACTED]

See below query regarding various documents.

Can you provide any clarification or assistance on this to enable the third party make their submission ?

Thank you

Kind regards

[REDACTED]

From: [REDACTED]
Sent: 10 March 2025 08:00
To: planning mailbox <Planning@Donegalcoco.ie>
Subject: Transboundary EIA Public Consultation – Dalradian Gold Mine Project development

You don't often get email from [REDACTED]. [Learn why this is important](#)

CAUTION: This email originated from outside of Donegal County Council. Do not click links or open attachments unless you

recognise the sender and are sure that the content is safe.

Dear Donegal County Council,

I would like to make a submission in relation to the transboundary impacts of the Dalradian Gold Mine project for Greencastle, Co. Tyrone, but the following documents are not available on the Dept. for Infrastructure (NI) links provided on Donegal County Council's website:

1. Transboundary Screening for the main mine application, mine waste facility, water abstraction and discharge applications.

2. Habitats Regulations Assessment: this is particularly important for the Owenkillev River, Foyle catchment area and River Finn SAC, the latter of which we are obliged under EU law (Habitats Directive) to properly assess.

Shared Environmental Services normally conduct these types of assessment, so they should exist. However, the only SES transboundary screening available at the links is the one for the powerline application.

These documents are required in order for citizens and relevant bodies in the Republic to be able to assess and comment on the transboundary implications of this planning application and ancillary developments, as well as the impact they could potentially have for protected habitats and water quality downstream. Unless they are provided, the participation process will be considered legally flawed.

I would be grateful if you would please source these documents from the Department of Infrastructure (NI) and make same available on the Donegal County Council website, or ensure that the DfI make them available at the links provided.

Thank you and kind regards,

[Redacted Signature]

--

[Redacted Address Line]

UCD Sutherland School of Law, Belfield, Dublin 4

[Redacted Email Address] | W: [Redacted Phone Number]

[Email Disclaimer](#)

[Clásal Séanta Ríomhphoist](#)

From: [DFI Regional Planning](#)
To: [REDACTED]
[REDACTED] FW: DfIPG 049/25 Subject: Request for Detailed Information on Explosive Usage at Curraghinalt Gold Project - [REDACTED] response
Date: 22 May 2025 15:49:33
Attachments: [REDACTED]

Dear [REDACTED]

Please see the attached response to your correspondence of 10 March 2025 and follow-up of 19 May 2025.

Regards,

DfI Planning
Regional Planning Policy & Casework

From: [REDACTED]
Sent: 10 March 2025 09:04
To: DfI Regional Planning <Planning@infrastructure-ni.gov.uk>; DfI Regional Planning <Planning@infrastructure-ni.gov.uk>; NIEA Dalradian Project <NIEADalradianProject@daera-ni.gov.uk>; DfI Information Management Unit <DFIIMU@infrastructure-ni.gov.uk>
Cc: PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; [REDACTED]
[REDACTED] DoH CMO Office <cmooffice@health-ni.gov.uk>
Subject: Subject: Request for Detailed Information on Explosive Usage at Curraghinalt Gold Project

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sir/Madam

I am writing to request further details regarding the type and quantity of explosives that Dalradian Gold Limited intends to use at the Curraghinalt Gold Project. While the planning application states an estimated expenditure of \$5 million per year on explosives, it does not provide a precise breakdown of:

The specific types of explosives to be used

The exact quantities to be used on a daily, weekly, or monthly basis

The frequency and method of their application

This information is essential for the local community and relevant authorities to accurately assess potential environmental impacts, particularly concerning:

1. Groundwater Contamination – Understanding the chemical composition and volume of explosives used is crucial for evaluating potential leaching into groundwater.
2. Airborne Pollutants – Residual byproducts from blasting may pose risks to air quality, including particulate matter and chemical emissions.
3. Ore Residue Contamination – Blasting residues may remain on extracted ore, requiring clarification on potential processing implications.

Could you confirm whether this information is included within the planning application? If so, please provide a reference to the relevant document and section. If it is not available, I would appreciate clarification on which specific planning regulations or environmental legislation would require Dalradian to disclose this level of detail.

Given the significance of this matter for environmental assessment and public interest, I would be grateful for a timely response.

Can you please confirm receipt of email by return!

Signed

A solid black rectangular box used to redact the signature of the sender.

Sent from [Outlook for Android](#)

From: [DFI Regional Planning](#)
To: [REDACTED]
Bcc: [REDACTED]
Subject: FW: DfIPG 049/25 Subject: Request for Detailed Information on Explosive Usage at Curraghinalt Gold Project - [REDACTED] response
Date: 22 May 2025 15:49:00
Attachments: [REDACTED]

Dear [REDACTED]

Please see the attached response to your correspondence of 10 March 2025 and follow-up of 19 May 2025.

Regards,

DfI Planning
Regional Planning Policy & Casework

From: [REDACTED]
Sent: 10 March 2025 09:04
To: DfI Regional Planning <Planning@infrastructure-ni.gov.uk>; DfI Regional Planning <Planning@infrastructure-ni.gov.uk>; NIEA Dalradian Project <NIEADalradianProject@daera-ni.gov.uk>; DfI Information Management Unit <DFIIMU@infrastructure-ni.gov.uk>
Cc: PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; [REDACTED]; [REDACTED]; DoH CMO Office <cmooffice@health-ni.gov.uk>
Subject: Subject: Request for Detailed Information on Explosive Usage at Curraghinalt Gold Project

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sir/Madam

I am writing to request further details regarding the type and quantity of explosives that Dalradian Gold Limited intends to use at the Curraghinalt Gold Project. While the planning application states an estimated expenditure of \$5 million per year on explosives, it does not provide a precise breakdown of:

The specific types of explosives to be used

The exact quantities to be used on a daily, weekly, or monthly basis

The frequency and method of their application

This information is essential for the local community and relevant authorities to accurately assess potential environmental impacts, particularly concerning:

1. Groundwater Contamination – Understanding the chemical composition and volume of explosives used is crucial for evaluating potential leaching into groundwater.
2. Airborne Pollutants – Residual byproducts from blasting may pose risks to air quality, including particulate matter and chemical emissions.
3. Ore Residue Contamination – Blasting residues may remain on extracted ore, requiring clarification on potential processing implications.

Could you confirm whether this information is included within the planning application? If so, please provide a reference to the relevant document and section. If it is not available, I would appreciate clarification on which specific planning regulations or environmental legislation would require Dalradian to disclose this level of detail.

Given the significance of this matter for environmental assessment and public interest, I would be grateful for a timely response.

Can you please confirm receipt of email by return!

Signed

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Sent from [Outlook for Android](#)

Regional Planning Policy & Casework



██████████
Email: ██████████

James House
Gasworks Site
2 - 4 Cromac Avenue
Belfast
BT7 2JA
Tel: 0300 200 7830

Email: planning@infrastructure-ni.gov.uk

Our Ref: DfIPG 049/25

22 May 2025

Dear Mr ██████████

Explosive Usage at Curraghinalt Gold Project- planning application LA10/2017/1249/F

Thank you for your email of 10 March 2025 and follow-up of 19 May 2025.

Sincere apologies for the delay in not providing a timely response to your original correspondence.

The details you seek with regard the type and quantity of explosives that Dalradian Gold Limited intends to use at the Curraghinalt Gold Project, including a breakdown of: The specific types of explosives to be used; the exact quantities to be used on a daily, weekly, or monthly basis and the frequency and method of their application, are matters for consideration by the Department of Justice as part of the details of any explosives license, which is a consenting regime outside of planning.

Therefore, the Department does not hold the information on the specific details you seek.

I hope this is of assistance.

Regional Planning Policy & Casework

From: [DFI Regional Planning](#)
To: [CAM 2022](#)
Subject: DFIPG 050/25 RE: Dalradian Mining Project – Inclusion of River Foyle in Environmental Assessments and Transboundary Consultation - [REDACTED]
Date: 27 May 2025 10:19:48
Attachments: [REDACTED]

Dear Mr [REDACTED]

Please see the attached response to your correspondence of 10 March 2025.

Regards,

DfI Planning
Regional Planning Policy & Casework



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From: CAM 2022 <communitiesagainstmining@outlook.com>
Sent: 10 March 2025 10:31
To: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>
Subject: Dalradian Mining Project – Inclusion of River Foyle in Environmental Assessments and Transboundary Consultation

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sir/Madam,

I am writing to request official confirmation on whether the River Foyle has been fully included in all environmental impact assessments and transboundary consultations related to the proposed Dalradian mining project. In particular, we seek clarification that the River Foyle and its entire catchment were comprehensively considered when evaluating potential cross-border environmental impacts under the Espoo

Convention framework for this project. Additionally, I request access to all documents and correspondence produced after the initiation of the Espoo transboundary consultation process for the Dalradian project. This should encompass any reports, assessments, meeting records, or consultation materials generated once transboundary consultation requirements were enacted.

These inquiries are prompted by concerns that the potential impacts on the River Foyle system may not have been adequately assessed to date. Given the River Foyle's ecological significance and the fact that it is a transboundary waterway between Northern Ireland and the Republic of Ireland, it is crucial that any effects of the Dalradian project on this river and its connected ecosystems are thoroughly evaluated. We want to ensure that the environmental assessments duly considered downstream water quality, aquatic habitats, and any other cross-border implications on the Foyle system, and that the required consultations with the Republic of Ireland under the Espoo Convention have been fully and properly conducted.

We wish to emphasize the importance of transparency in assessing transboundary environmental impacts. Full disclosure of information and diligent evaluation of cross-border effects are essential for maintaining public confidence and for upholding international obligations. By providing the requested confirmation and documentation, the Department will help demonstrate a commitment to an open and thorough environmental assessment process for this project.

Thank you for your attention to this matter. We appreciate your prompt response to the above requests and the effort to ensure all transboundary environmental considerations are transparently addressed.

Yours faithfully,

A solid black rectangular box used to redact a signature.

Sent from [Outlook for Android](#)

Regional Planning Policy & Casework



James House
Gasworks Site
2 - 4 Cromac Avenue
Belfast
BT7 2JA
Tel: 0300 200 7830

Ref: DFIPG 050/25

27 May 2025

Dear Mr [REDACTED]

Dalradian Mining Project – Inclusion of River Foyle in Environmental Assessments and Transboundary Consultation

I refer to your email of 10 March 2025 in relation to the above. Sincere apologies for the delay in not providing a timely response to your correspondence.

The Environmental Impact Assessment (“EIA”), produced by the applicant, has been made publicly available for comment. It has also been sent to the statutory and competent bodies in Northern Ireland for consideration. Additionally, it has been provided to the EEA state (Republic of Ireland) as part of a transboundary consultation. The Republic of Ireland has since publicised the EIA and consulted with its statutory and competent bodies.

Environmental impacts of the projects whether identified by parties in Northern Ireland or in the EEA state can be discussed at the public local inquiry sessions. The Department will then consider the subsequent report before making a reasoned conclusion of the significant environmental effects of the development and reaching a decision.

In relation to your request for documents and correspondence produced after the initiation of the transboundary consultation process with the Republic of Ireland, I would inform you that these can be found at the following link:

<https://www.infrastructure-ni.gov.uk/articles/dalradian-project-transboundary-consultation>

I trust this is of assistance.

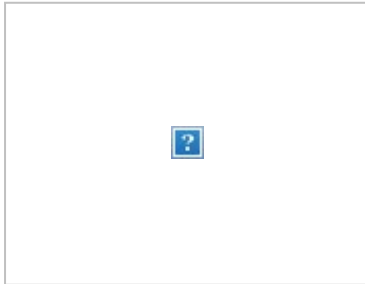
Regional Planning Policy and Casework

From: [DFI Regional Planning](#)
To: [REDACTED]
Subject: FW: DfIPG 051/25 FW: Irish Government request for Transboundary EIA Consultation - Dalradian Gold Mine project - [REDACTED]
Date: 31 March 2025 14:49:53
[REDACTED]

Please see attached response for your records.

Thank you,

DfI Planning
Regional Planning Policy & Casework



From: [REDACTED]
Sent: 12 March 2025 12:50
[REDACTED]
[REDACTED]
Beggs, Alistair [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Subject: FW: Irish Government request for Transboundary EIA Consultation - Dalradian Gold Mine project

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

[REDACTED],

We received the communication below from a member of the public. I'd be very grateful for your views in relation to the documentation referred to below.

Can you let me know as soon as possible if this information is available ?

Kind regards,

[REDACTED]

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Dear Minister of State [REDACTED],

Thank you for your letter dated 4th March.

I am currently preparing a submission on the legal issues pertaining to transboundary EIA and the Dalradian Gold Mine project for Greencastle, Co. Tyrone, but the following documents are not available on the Dept. for Infrastructure (NI) links provided on the government and County Council websites:

1. Transboundary Screening for the main mine application, mine waste facility, water abstraction and discharge applications.
2. Habitats Regulations Assessment: this is particularly important for the Foyle catchment area and River Finn SAC, the latter of which we are obliged under EU law (Habitats Directive) to properly assess.

These documents are required in order for citizens and relevant bodies in the Republic to be able to review and comment on the transboundary implications of this planning application and ancillary developments, and the impact they could potentially have for protected habitats and water quality in the Republic. Shared Environmental Services normally conduct these types of assessment, so they should exist. However, the only SES transboundary screening available at the link is the one for the powerline application.

I would be grateful if you would please source these documents from the Department for Infrastructure (NI) and make same available on the government and Donegal County Council websites, or ensure at the very least that the DfI make them available at the links provided. Without them, the participation process will be considered procedurally flawed.

[If it is the case that these documents do not exist, then the transboundary consultation would have to be paused until such a time that these assessments are carried out and made available in Republic.]

This is a most serious matter given the magnitude of the project and its implications for habitats and water quality in ROI. I trust our government will follow up with our NI counterparts to make sure all procedures are properly followed.

Kind regards,



Department for

Infrastructure

An Roinn

Bonneagair

Department for

Infrastructure

www.infrastructure-ni.gov.uk

[REDACTED]
Climate and Environmental Planning Policy
Department of Housing, Local Government
and Heritage Ireland
Custom House
DUBLIN 1
D01 W6X0

[REDACTED]
transboundaryeia@housing.gov.ie

James House
2-4 Cromac Avenue
The Gasworks
BELFAST
BT7 2JA
Tel: 0300 200 7830

Email: [REDACTED]

Our ref: LA10/2017/1249/F
(Planning portal refs: LA10/2017/1249/F
and SPD/2017/1249/F),
LA10/2019/1386/F and
LA11/2019/1000/F

31 March 2025

Dear [REDACTED]

Re: Dalradian Gold Mine Project Transboundary Consultation

I refer to your email of 12 March 2025 requesting:

“1. Transboundary Screening for the main mine application, mine waste facility, water abstraction and discharge applications.

2. Habitats Regulations Assessment”

Transboundary screening

The planning application for the mine (LA10/2017/1249/F) was accompanied by an Environmental Statement. As such, this application was not subject to a screening determination.

The provisions relating to screening found in regulation 8 of The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017 do not apply to applications for discharge and abstraction consents. In practice, transboundary effects will be identified through the steps that NIEA have undertaken in relation to the required Habitats Regulation

Email: planning@infrastructure-ni.gov.uk

Website: www.infrastructure-ni.gov.uk/topics/planning

Assessment (which are governed by The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995). Those steps include the consultation that has taken place with the statutory nature conservation body in Ireland in respect of the draft test of likely significant effects, as explained below.

Habitats Regulations Assessment (“HRA”) for mine application

The Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995 require the Department for Infrastructure as competent authority to carry out an appropriate assessment prior to giving any consent, permission or any other authorisation for a plan or project.

Shared Environmental Service (“SES”), on behalf of the Department, will produce a draft HRA in relation to the planning applications for the mine and powerlines proposals following the inquiry and receipt of the PAC’s report. This will identify and assess (in so far as possible) risks to the designated sites. The draft (shadow) HRA is not a final HRA nor is it the competent authority’s HRA and is submitted by the applicant further to consideration, consequent upon information submitted to the Commission during the public local inquiry (“PLI”), any relevant evidence presented at the PLI by interested persons (including members of the public), and any recommendations from the Commission. At that stage all available interested views will have been submitted and then can be considered in the competent authority’s HRA. This is explained in para. 77 of the Department’s Statement of Case for the mine planning application (October 2024) and is suggested as a topic for discussion at the inquiry in para. 76. A similar explanation is given in the powerlines Statement of Case (October) at para. 73.

HRA for discharge consent and abstraction applications

Under the Conservation (Natural Habitats etc.) Regulations (NI) 1995, Northern Ireland Environment Agency (“NIEA”), as the competent authority, is required to undertake a HRA before a final determination is made in respect of the proposed discharge consent and abstraction applications in connection with the Dalradian Goldmine proposals. Information about the work undertaken by NIEA is available on the Department of Agriculture, Environment and Rural Affairs of Northern Ireland’s website at the following link:

<https://www.daera-ni.gov.uk/articles/public-inquiry-dalradian-goldmine-applications-discharge-consent-and-abstraction-impoundment-licence>

NIEA has identified a potential transboundary issue arising from the potential impacts on the features of River Foyle and Tributaries SAC and the fact that the River Finn SAC in County Donegal (RoI) is hydrologically and functionally linked to the River Foyle and Tributaries SAC. NIEA has consulted with the statutory nature conservation body in Ireland, National Wildlife and Parks Service on this basis. See link below for details:

https://www.daera-ni.gov.uk/sites/default/files/2025-03/AIL20240008%20%26%20AIL20240009%20-%20Dalradian%20Gold%20-%20Teebane%20West%20%28%20Mine%20%26%20Surface%20Water%29%20-%20Letter%20to%20NPWS%20on%20DG%20%20Transboundary%20Issues%20Habs%20Regs_Redacted.pdf

Appropriate assessments in relation to the discharge consent and abstraction applications have not been completed. They will be undertaken by the competent authority for the decisions following receipt of the report from the Planning Appeals Commission and the Water Appeals Commission, which have been directed to conduct PLIs to consider representations made in respect of the applications by DGL, including the discharge consent and abstraction applications, and to report on their recommendations.

Yours sincerely

A solid black rectangular box used to redact the signature of the sender.

ALISTAIR BEGGS
Director Regional Planning Projects

Cc Donegal County Council

From: [DFI Regional Planning](#)
To: [REDACTED]
Subject: DfIPG 058/25: Ref: Dalradian Gold Public Inquiry: Zambia river poisoned by mine acid spill - Africa Briefing - [REDACTED] response
Date: 28 May 2025 06:56:21
Attachments: [REDACTED]

Dear [REDACTED]

Please see the attached response to your correspondence of 20 March 2025.

Regards,

DfI Planning
Regional Planning Policy & Casework



This email and any files transmitted with it are private in nature and intended solely for the use of the individual or entity to whom they are addressed. If you are not the intended recipient, you must not disclose, copy or take any action in reliance of this transmission. If you have received this email in error, please reply, advising the sender accordingly. Recipients should note that all email correspondence on NICS systems is subject to auditing and monitoring. Nothing in this email message amounts to a contractual, or other, legal commitment on the part of the Department or Government.

 **To help promote the use of Electronic Documents and to be kinder to the environment, please consider whether you need to print this e-mail.**

-----Original Message-----

From: [REDACTED]
Sent: 20 March 2025 21:37
To: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>; PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; Planning <planning@fermanaghmagh.com>
Subject: Ref: Dalradian Gold Public Inquiry: Zambia river poisoned by mine acid spill - Africa Briefing

CAUTION ? This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

FAO:

Head of Regional Planning Policy & Casework & Head of Strategic Planning Division Department for Infrastructure NI Dear Sir / Madam

I note that the Public Inquiry on the regionally significant planning applications by Dalradian Gold has been delayed. Meantime new environmental information continues to emerge at international level that can better inform the Public Inquiry and those with decision making responsibilities. At community level there is clarity that it would be remiss of us all if decision-makers and others with responsibilities on this planning application were not afforded the

benefit of information on new lessons in this intervening period. Goldmining is a new industry for Northern Ireland so the knowledge and experience of accountable planning and environmental protection officials is lacking. Please advise me how important new information on these matters, such as that attached, can be made available to the Public Inquiry?

See attached link on a February 2025 toxic pollution incident involving acid mine drainage in Zambia:

[https://eu-west-1.protection.sophos.com?](https://eu-west-1.protection.sophos.com?d=africabriefing.com&u=aHR0cHM6Ly9hZnJpY2FicmlIZmluZy5jb20vemFtYmlhLXJpdmVyLXBvaXNvbWVklWJ5LW1pbmUtYWNPZC1zcGlscC8=&i=NjU1NTQ1Y2Y2MjBmMmMyMzA0ZGUxYmNj&t=K1NmK056WjJSbzBmNXJIM0RoWG5ONjJQNzhRTkxZUVWbWR0NEUyM3NtZz0=&h=0c56fd2868db43f290d9c68938d20536&s=AVNPUEhUT0NFTkNSWVBUSVbUtXe87eeP4zogiuMBuCWumYkUd5YHBDNkJ2ChHuzzg)

[d=africabriefing.com&u=aHR0cHM6Ly9hZnJpY2FicmlIZmluZy5jb20vemFtYmlhLXJpdmVyLXBvaXNvbWVklWJ5LW1pbmUtYWNPZC1zcGlscC8=&i=NjU1NTQ1Y2Y2MjBmMmMyMzA0ZGUxYmNj&t=K1NmK056WjJSbzBmNXJIM0RoWG5ONjJQNzhRTkxZUVWbWR0NEUyM3NtZz0=&h=0c56fd2868db43f290d9c68938d20536&s=AVNPUEhUT0NFTkNSWVBUSVbUtXe87eeP4zogiuMBuCWumYkUd5YHBDNkJ2ChHuzzg](https://eu-west-1.protection.sophos.com?d=africabriefing.com&u=aHR0cHM6Ly9hZnJpY2FicmlIZmluZy5jb20vemFtYmlhLXJpdmVyLXBvaXNvbWVklWJ5LW1pbmUtYWNPZC1zcGlscC8=&i=NjU1NTQ1Y2Y2MjBmMmMyMzA0ZGUxYmNj&t=K1NmK056WjJSbzBmNXJIM0RoWG5ONjJQNzhRTkxZUVWbWR0NEUyM3NtZz0=&h=0c56fd2868db43f290d9c68938d20536&s=AVNPUEhUT0NFTkNSWVBUSVbUtXe87eeP4zogiuMBuCWumYkUd5YHBDNkJ2ChHuzzg)

Yours sincerely



Sent from my iPad

Regional Planning Policy & Casework



James House
Gasworks Site
2 - 4 Cromac Avenue
Belfast
BT7 2JA
Tel: 0300 200 7830

Ref: - DFIPG 058/25

27 May 2025

Dear [REDACTED]

Re: Dalradian Gold Public Inquiry

Thank you for your email of 20 March 2025 in relation to the above. Sincere apologies for the delay in not providing a timely response to your correspondence.

In terms of new or additional information you may wish to raise at the public local inquiry, this will be a matter for the Planning Appeals Commission (PAC") to consider as the conduct of the inquiry, including procedural matters, are for the PAC to manage. It is noted you have also sent your email to the PAC.

I hope this is of assistance.

Regional Planning Policy and Casework

From: [REDACTED]
Subject: Subject: Concerns Regarding Legal Deficiency of Transboundary Consultation – Dalradian Gold Planning Application
Date: 01 April 2025 12:09:00
Attachments: [REDACTED]

Dear [REDACTED]

As [REDACTED] has directed his requests to the Irish Government, Donegal County Council and the Department of Housing, Local Government and Heritage, the Department for Infrastructure Northern Ireland does not propose to respond to the email of 26 March 2025. You may wish to contact the other parties referred to.

The letter sent you to you yesterday, 31.3.25, (attached) may assist in a response to Mr [REDACTED]

Regards
[REDACTED]

[REDACTED] n
Department for Infrastructure
Regional Planning Policy and Casework Team
James House
2 - 4 Cromac Street
Belfast
BT7 2JA
[REDACTED]

From: [REDACTED] **On Behalf Of** planning mailbox
Sent: 27 March 2025 08:25
To: [REDACTED]
Subject: FW: Subject: Concerns Regarding Legal Deficiency of Transboundary Consultation – Dalradian Gold Planning Application

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Good morning [REDACTED]

See correspondence & attachment for your attention.

Can you confirm that you will be arranging to acknowledge same and there is no action required on the part of the Planning Authority here in Donegal County Council.

Thank you

[REDACTED]

From: [REDACTED]
Sent: 26 March 2025 22:23
To: natura@housing.gov.ie; planning mailbox <Planning@Donegalcoco.ie>
Cc: eiaconsult@housing.gov.ie; minister@housing.gov.ie; oei@oei.ie; [REDACTED]
[REDACTED]
Subject: Subject: Concerns Regarding Legal Deficiency of Transboundary Consultation – Dalradian Gold Planning Application

CAUTION: This email originated from outside of Donegal County Council. Do not click links or open attachments unless you recognise the sender and are sure that the content is safe.

Dear Sir/Madam,

I am writing to formally raise concerns regarding the legality and adequacy of the current transboundary consultation process relating to the Dalradian Gold Ltd planning application (Ref: LA10/2017/1249/F) in County Tyrone, Northern Ireland.

It is my understanding that the Irish Government has initiated or is participating in a consultation process concerning potential transboundary environmental impacts from this application—particularly in relation to European and internationally designated sites such as the River Finn SAC (Site Code: IE0000386) in County Donegal.

However, it has been confirmed via correspondence from Shared Environmental Services (EIR/085/2425, dated 26 March 2025) that the Habitats Regulations Assessment (HRA) for this application remains in draft and has not been completed by the competent authority in Northern Ireland. No final HRA document has been made available to the public or to affected states.

Legal Basis for Concern -

Under the following legal frameworks, the absence of a completed HRA renders any ongoing or concluded consultation process potentially unlawful or procedurally flawed:

1. EU Habitats Directive (92/43/EEC), Article 6(3)

Requires a competent authority to carry out an appropriate assessment of any plan or project likely to significantly affect a Natura 2000 site.

The assessment must be complete, based on scientific evidence, and must inform decisions prior to consent or consultation outcomes.

The River Finn SAC is a protected site likely to be affected by cumulative or hydrological impacts from the proposed mining operations.

2. Espoo Convention on Environmental Impact Assessment in a Transboundary Context (1991)

Requires the Party of origin (UK) to notify and consult the affected Party (Ireland) with full and sufficient environmental documentation.

This includes assessment of transboundary impacts, which cannot be completed in the absence of a final HRA.

3. Environmental Impact Assessment Directive (2014/52/EU) and Irish Planning and Development Regulations 2001–2023

Require that affected states and the public have access to full environmental information, including assessments of likely significant effects on Natura 2000 sites, before any position is taken on the acceptability of the project.

4. Aarhus Convention (UNECE, 1998)

Guarantees public rights to information, participation, and access to justice in environmental matters. A consultation process without a final HRA breaches these rights by depriving the public and affected parties of the opportunity to respond meaningfully.

Request for Action-

In light of the above, I respectfully request that:

1. The Irish Government formally suspends or reconsiders participation in the current transboundary consultation process until such time as the competent Northern Ireland authority provides a completed HRA.

2. Donegal County Council ensures that no conclusions are reached, or submissions finalised on this matter without access to a valid HRA.

3. The Department of Housing, Local Government and Heritage seeks clarification from the Department for Infrastructure (NI) and the Planning Appeals Commission regarding the timeline and status of the HRA.

Failure to act on this matter could undermine the legal standing of Ireland's participation in the consultation process and could expose the process to potential legal challenge under both Irish and EU law.

I would be grateful for your acknowledgment of this correspondence and your views on the issues raised.

Signed

[Redacted signature]

Sent from [Outlook for Android](#)



[Email Disclaimer](#)
[Clásal Séanta Ríomhphoist](#)



Department for

Infrastructure

An Roinn

Bonneagair

Department for

Infrastructure

www.infrastructure-ni.gov.uk

[REDACTED]
Climate and Environmental Planning Policy
Department of Housing, Local Government
and Heritage Ireland
Custom House
DUBLIN 1
D01 W6X0

[REDACTED]
transboundaryeia@housing.gov.ie

James House
2-4 Cromac Avenue
The Gasworks
BELFAST
BT7 2JA
Tel: 0300 200 7830

Email: alastair.beggs@infrastructure-ni.gov.uk

Our ref: LA10/2017/1249/F
(Planning portal refs: LA10/2017/1249/F
and SPD/2017/1249/F),
LA10/2019/1386/F and
LA11/2019/1000/F

31 March 2025

Dear [REDACTED]

Re: Dalradian Gold Mine Project Transboundary Consultation

I refer to your email of 12 March 2025 requesting:

“1. Transboundary Screening for the main mine application, mine waste facility, water abstraction and discharge applications.

2. Habitats Regulations Assessment”

Transboundary screening

The planning application for the mine (LA10/2017/1249/F) was accompanied by an Environmental Statement. As such, this application was not subject to a screening determination.

The provisions relating to screening found in regulation 8 of The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017 do not apply to applications for discharge and abstraction consents. In practice, transboundary effects will be identified through the steps that NIEA have undertaken in relation to the required Habitats Regulation

Email: planning@infrastructure-ni.gov.uk

Website: www.infrastructure-ni.gov.uk/topics/planning

Assessment (which are governed by The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995). Those steps include the consultation that has taken place with the statutory nature conservation body in Ireland in respect of the draft test of likely significant effects, as explained below.

Habitats Regulations Assessment (“HRA”) for mine application

The Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995 require the Department for Infrastructure as competent authority to carry out an appropriate assessment prior to giving any consent, permission or any other authorisation for a plan or project.

Shared Environmental Service (“SES”), on behalf of the Department, will produce a draft HRA in relation to the planning applications for the mine and powerlines proposals following the inquiry and receipt of the PAC’s report. This will identify and assess (in so far as possible) risks to the designated sites. The draft (shadow) HRA is not a final HRA nor is it the competent authority’s HRA and is submitted by the applicant further to consideration, consequent upon information submitted to the Commission during the public local inquiry (“PLI”), any relevant evidence presented at the PLI by interested persons (including members of the public), and any recommendations from the Commission. At that stage all available interested views will have been submitted and then can be considered in the competent authority’s HRA. This is explained in para. 77 of the Department’s Statement of Case for the mine planning application (October 2024) and is suggested as a topic for discussion at the inquiry in para. 76. A similar explanation is given in the powerlines Statement of Case (October) at para. 73.

HRA for discharge consent and abstraction applications

Under the Conservation (Natural Habitats etc.) Regulations (NI) 1995, Northern Ireland Environment Agency (“NIEA”), as the competent authority, is required to undertake a HRA before a final determination is made in respect of the proposed discharge consent and abstraction applications in connection with the Dalradian Goldmine proposals. Information about the work undertaken by NIEA is available on the Department of Agriculture, Environment and Rural Affairs of Northern Ireland’s website at the following link:

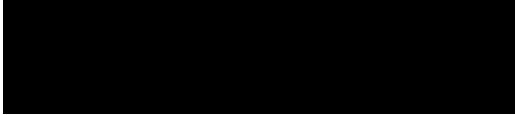
<https://www.daera-ni.gov.uk/articles/public-inquiry-dalradian-goldmine-applications-discharge-consent-and-abstraction-impoundment-licence>

NIEA has identified a potential transboundary issue arising from the potential impacts on the features of River Foyle and Tributaries SAC and the fact that the River Finn SAC in County Donegal (RoI) is hydrologically and functionally linked to the River Foyle and Tributaries SAC. NIEA has consulted with the statutory nature conservation body in Ireland, National Wildlife and Parks Service on this basis. See link below for details:

https://www.daera-ni.gov.uk/sites/default/files/2025-03/AIL20240008%20%26%20AIL20240009%20-%20Dalradian%20Gold%20-%20Teebane%20West%20%28%20Mine%20%26%20Surface%20Water%29%20-%20Letter%20to%20NPWS%20on%20DG%20%20Transboundary%20Issues%20Habs%20Regs_Redacted.pdf

Appropriate assessments in relation to the discharge consent and abstraction applications have not been completed. They will be undertaken by the competent authority for the decisions following receipt of the report from the Planning Appeals Commission and the Water Appeals Commission, which have been directed to conduct PLIs to consider representations made in respect of the applications by DGL, including the discharge consent and abstraction applications, and to report on their recommendations.

Yours sincerely

A solid black rectangular box used to redact the signature of the sender.

ALISTAIR BEGGS
Director Regional Planning Projects

Cc Donegal County Council

From: [DFI Regional Planning](#)
To: [REDACTED]
[REDACTED] RE: Subject: Formal Objection – Failure to Recognise Material Changes in Dalradian Application (LA10/2017/1249/F)
Date: 07 April 2025 08:43:00

I acknowledge receipt of your e-mail which has been forwarded to officials.

Thank You

[REDACTED]
Planning Service HQ Inbox

From: [REDACTED]
Sent: 06 April 2025 15:18
To: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>
Cc: [REDACTED]; DFI Regional Planning <Planning@infrastructure-ni.gov.uk>; planning mailbox <planning@donegalcoco.ie>
Subject: Subject: Formal Objection – Failure to Recognise Material Changes in Dalradian Application (LA10/2017/1249/F)

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

To Whom It May Concern,

I submit this formal objection in relation to the handling of planning application LA10/2017/1249/F, submitted by Dalradian Gold Ltd for a proposed gold mining development in the Sperrin Mountains near Greencastle, County Tyrone. This objection concerns the Department's continuing failure to recognise and respond to two material changes in the application:

1. The removal of cyanide from the proposed extraction and processing method
2. The change in end product from on-site dore bar production to the export of ore concentrate for overseas smelting

1. Legal Duties Under Planning and Environmental Law

The Department has a statutory obligation under Article 40 of the Planning Act (Northern Ireland) 2011 to assess whether changes to a planning application constitute a material

change. Where a material change has occurred, the Department must require:

A revised application, or

An updated Environmental Impact Assessment (EIA), and

Fresh public consultation.

These obligations are reinforced by the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017, which require, under Regulation 21, that any significant new information or alteration to the project be subject to new assessment and public disclosure.

Both changes cited above satisfy the legal test for materiality, as confirmed by UK case law (Powergen, Henry Boot, Hillside) and by the principles underpinning EIA and Aarhus Convention law.

2. Failure to Act Has Contributed to the Suspension of the Public Inquiry

The Planning Appeals Commission (PAC) has now suspended the public inquiry into the Dalradian application due to unresolved transboundary environmental issues.

It is reasonable to conclude that these issues arise in part from the change in processing method — specifically, the decision to export ore concentrate to a third country for final smelting, rather than completing processing on-site as originally proposed.

This change engages the UK's legal obligations under the Espoo Convention and significantly alters the project's transboundary risk profile.

Had the Department fulfilled its statutory duty to:

Recognise this change as material

Require an amended application or EIA

Initiate fresh public consultation

— then the legal and procedural breakdown that led to the PAC's suspension may have been avoided.

This failure has not only compromised the legality of the process — it has also resulted in unnecessary delay, wasted public funds, and avoidable harm to the affected communities.

3. Ongoing Procedural Injustice and Community Impact

By allowing this application to proceed unamended, the Department has denied the Greencastle community and wider public:

A fair opportunity to respond to the current, actual proposal

Access to updated environmental information

A process grounded in transparency, lawfulness, and procedural integrity

The Department's inaction has fuelled the perception of a protected process, where regulatory obligations are subordinated to political or economic considerations.

Community members have engaged in good faith, only to be excluded, marginalised, and left to navigate an increasingly opaque and shifting process — contrary to both public service principles and environmental justice standards.

4. Request for Immediate Action

I therefore formally request that the Department:

Acknowledge both the removal of cyanide and the export model as material changes under Article 40 of the Planning Act (NI) 2011

Require Dalradian to submit either a new planning application or a substantial amendment to the current proposal

Reinitiate public consultation and a revised EIA process to reflect the project as currently proposed

Take formal steps to review the procedural failures that have contributed to the current suspension and the breakdown of public confidence

5. Consequences of Continued Inaction

Should the Department fail to act, I reserve the right to pursue the matter through:

Judicial review

A formal complaint to the Northern Ireland Public Services Ombudsman (NIPSO)

Communications with the Aarhus Convention Compliance Committee

Engagement with oversight bodies and elected representatives

The time for silence and procedural avoidance has passed. The Department must now act in accordance with the law and its duty to the public.

Can you please confirm receipt of email by return!

Signed

A solid black rectangular box used to redact a signature.

Sent from [Outlook for Android](#)

Regional Planning Policy & Casework



James House
Gasworks Site
2 - 4 Cromac Avenue
Belfast
BT7 2JA
Tel: 0300 200 7830

Email: planning@infrastructure-ni.gov.uk

Our Ref: DfIPG 074/25

02 June 2025

Dear [REDACTED]

Formal Objection – Failure to Recognise Material Changes in Dalradian Application (LA10/2017/1249/F)

Thank you for your email of 06 April 2025 regarding the amended proposal for application LA10/2017/1249/F in 2019.

The department accepted the changes to the proposal as an amendment to the application. In doing so the department considered that the changes did not amount in substance to a different application. It was also not considered to be prejudicial to any party, given that the amended proposal would be publicised and consulted upon, and any interested party could make further representations. This happened, and so the Department does not consider that there has been any prejudice to any third party as a result of the amendment. As you will be aware, members of the public will have an opportunity to attend and participate in the public local inquiry at which the application as amended will be considered.

I hope this is of assistance.

Regional Planning Policy & Casework

From: [DfI PG Secretariat](#)
To: [REDACTED]
Cc: [REDACTED]
Subject: DFIPG 078/25: Subject: Ongoing Planning Enforcement Failures by FODC – Dalradian Camcosy Road Compound - [REDACTED]
Date: 11 April 2025 14:28:00
Attachments: [REDACTED]

[REDACTED]

DFIPG 078/25 refers
Response du by 05 May, please copy PG Sec into response
I have acknowledged

IN1-25-564

Thanks

[REDACTED]
PG Sec

From: [REDACTED]
Sent: 11 April 2025 13:24
To: DfI Regional Planning <Planning@infrastructure-ni.gov.uk>
Cc: minister.infrastructure@executiveoffice-ni.gov.uk; PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; [REDACTED]
Subject: Subject: Ongoing Planning Enforcement Failures by FODC – Dalradian Camcosy Road Compound

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sir/Madam,

I am writing to formally raise serious concerns about the persistent and demonstrable failures of Fermanagh and Omagh District Council's Planning Department (FODC) to properly exercise its statutory enforcement functions in relation to the unauthorised Dalradian compound at Camcosy Road, near the Curraghinalt gold mine site.

Despite this compound being identified as unauthorised since at least 2019, and FODC having two open enforcement files relating to breaches of planning control, ongoing development and site activity has been repeatedly observed — most recently on 10 and 11 April 2025. Video evidence recorded on these dates shows personnel actively engaging in staff training and/or site works on the compound.

This activity is not minor or incidental. It reflects a pattern of sustained operational use of an unlawful site, while FODC continues to claim that enforcement remains "under review." The latest round of activity has occurred in full public view, and the Council's failure to take action is eroding trust in the integrity of the planning system.

The withdrawal of the Breach of Condition Notice (BOCN) in January 2023 — following a legal threat by Dalradian's solicitors Cleaver Fulton Rankin — has further compounded public concern. That decision was based on oral legal advice, never disclosed, and was made without apparent public interest balancing. Since then, despite the Council acknowledging breaches have occurred, no substantive action has followed.

Given these facts, I respectfully ask the Department to urgently consider the following:

1. Whether FODC has complied with its statutory duties under the Planning Act (NI) 2011 in relation to this compound.
2. Whether the Department intends to intervene, monitor, or direct FODC to exercise its powers in light of continued unauthorised use of the site.
3. What recourse exists where corporate legal pressure may have deterred local enforcement action, in contradiction of the public interest and environmental protections.
4. Whether the Department will request a full and transparent disclosure of all internal and external communications relating to the Camcosy Road compound enforcement investigations.

I am prepared to share video evidence and relevant documentation with the Department upon request. I have attached a short extract from just one of a number of videos taken to document the matter. I trust that the Department recognises the seriousness of these concerns and the growing perception of regulatory paralysis in the face of well-resourced corporate actors.

I would be grateful for your acknowledgement of this letter and a clear indication of how the Department intends to respond.

Yours faithfully,



Sent from [Outlook for Android](#)

Regional Planning Policy & Casework



Email: [REDACTED]

James House
Gasworks Site
2 - 4 Cromac Avenue
Belfast
BT7 2JA
Tel: 0300 200 7830

Email: planning@infrastructure-ni.gov.uk

Our Ref: DfIPG 078/25

04 June 2025

Dear [REDACTED]

Ongoing Planning Enforcement Failures by FODC – Dalradian Camcosy Road Compound

Thank you for your email of 11 April 2025 regarding Dalradian's site on Camcosy Road.

The Department would advise that, one of the key objectives of the two-tier planning system is that local councils be responsible for planning control, including enforcement action, in their own areas.

Councils have the primary responsibility for enforcement regarding planning permission and have a range of enforcement powers available to them. Accordingly, it is considered Fermanagh and Omagh District Council is the appropriate authority for investigating any alleged unauthorised works.

I hope this is of assistance.

Regional Planning Policy & Casework

From: [DFI Regional Planning](#)
To: [REDACTED] [k](#)
Subject: DfIPG 080/25 : Dalradian Gold Limited - Transboundary Consultation [ID=48638-1] - [REDACTED]
Date: 15 April 2025 15:47:00

I acknowledge receipt of your e-mail which has been forwarded to officials. A response will issue in due course.

Thank You

[REDACTED]
Planning Service HQ Inbox

From: [REDACTED]
Sent: 15 April 2025 15:24
To: [REDACTED]
Subject: Dalradian Gold Limited - Transboundary Consultation [ID=48638-1]

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear [REDACTED]

Our client: Dalradian Gold Limited

We have seen social media coverage relating to the location of the international boundary and an alleged 'minor omission' by the Department for Infrastructure (link here [Tyrone goldmine proposal could trigger 'constitutional crisis' - by Catherine McGinty - Jude Collins](#)). Please confirm that the Department is satisfied that the transboundary consultation exercise being carried out is compliant with all legal requirements.

We understand that you will be contacting the PAC to confirm your position on the completion of transboundary consultation and the next steps to resume the inquiry process. We would be grateful if you could confirm that position to us in reply to this correspondence as soon as practicable. You will appreciate that our client wishes to avoid any further delay to the inquiry process.

Kind regards

[REDACTED]
[REDACTED]
Cleaver Fulton Rankin

[REDACTED] [k](#)
50 Bedford Street, Belfast, BT2 7FW | www.cleaverfultonrankin.co.uk | @CFR_Law

At Cleaver Fulton Rankin we support blended flexible working, which means that whilst it suits me to email you now, we appreciate that you will respond during your own working hours.

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Cleaver Fulton Rankin Limited is a company registered in Northern Ireland with Company Number NI031078 with its registered office at 50 Bedford Street, Belfast, BT2 7FW, Tel: +44 028 9024 3141, Fax: +44 028 9024 9096, Email: info@cfrlaw.co.uk, <https://www.cleaverfultonrankin.co.uk>.

19 May 2025


DfI Planning
Regional Planning Policy & Casework
James House
Gasworks Site
2-4 Cromac Avenue
Belfast
BT7 2JA

Dear 

CURRAGHINALT PROJECT
DALB3001

We note the recent correspondence between the Department and the PAC regarding the nature and format of the transboundary information to be shared with the PAC.

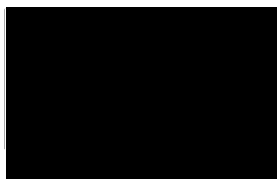
On 15 January 2025, the PAC paused the public inquiry to allow the Department to undertake the appropriate transboundary consultation. On 26 February 2025 the transboundary consultation with the Irish Government commenced, running until 23rd April. Following the closure of the consultation period DfI wrote to the PAC on 7 May confirming that the following information would be provided to the PAC by 16 May 2025:-

1. Electronic copies of the circa 1500 responses received;
2. A list of names and addresses (if provided);
3. A submission highlighting any issues raised in the responses.

Although we note that the PAC has also requested hard copies of the representations, this should not delay the delivery of the material specified above being forwarded and would ask for these materials to be progressed immediately. In particular the first two items should be prioritised to ensure that the PAC is able to reconvene the Inquiry without further delay. We fail to understand how these further issues and delays have arisen in the context of a known deadline, and the unreasonable delays which have already occurred.

Please confirm when the material will be provided to the PAC.

Yours sincerely



Hamilton House
3 Joy St
Belfast
BT2 8LE

T 028 9072 3900 [turley.co.uk](https://www.turley.co.uk)

[REDACTED]
Director

[REDACTED]

Regional Planning Policy & Casework



Director
Turley

Email:

James House
Gasworks Site
2 - 4 Cromac Avenue
Belfast
BT7 2JA
Tel: 0300 200 7830

Email: planning@infrastructure-ni.gov.uk

Your Ref: DALB3001

Our Ref: DfIPG 105/25

20 May 2025

Dear Ms [REDACTED]

Curraghinalt Project- planning application LA10/2017/1249/F

Thank you for your email of 19 March 2025.

As you will be aware the Department offered to send the Planning Appeals Commission ("PAC") electronic copies of the transboundary representations received with regard the above proposal by the 16 May 2025, however the PAC have insisted on additional requirements which necessitate additional resources and time to deliver.

The Department is keen that the Public Local Inquiry ("PLI") reconvenes as soon as possible and has liaised with the PAC in correspondence of 15 May 2025 on these additional requirements in an attempt to expedite the scheduling. However, the organisation and future timetabling of the PLI is a matter for the PAC.

You and your client can be reassured that the planning casework team is prioritising the collation of the requested information and have diverted additional resources to this piece of work.

I hope this is of assistance.

Regional Planning Policy & Casework

From: [DFI Regional Planning](#)
To: [REDACTED]
[REDACTED] DfIPG 106/25 RE: Subject: Failure to Address Explosives Use under EIA Regulations – Curraghinalt Planning Application (LA10/2017/1249/F) - [REDACTED]
Date: 23 May 2025 09:05:00

I acknowledge receipt of your e-mail which has been forwarded to officials. A response will issue in due course.

Thank You

[REDACTED]
Planning Service HQ Inbox

From: [REDACTED]
Sent: 22 May 2025 16:47
To: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>
Cc: PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; [REDACTED]
[REDACTED] ACNI Info <info@pacni.gov.uk>
Subject: Subject: Failure to Address Explosives Use under EIA Regulations – Curraghinalt Planning Application (LA10/2017/1249/F)

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sir/Madam,

Thank you for your response to my correspondence of 10 March and 19 May 2025 regarding the scale and nature of explosive usage proposed by Dalradian Gold Ltd at the Curraghinalt site.

However, I must formally register my deep concern at the Department's position that it "does not hold the information" and considers the matter solely under the remit of the Department of Justice, citing the explosives licence as a "consenting regime outside of planning." This position is inconsistent with the Department's statutory duties under environmental legislation and risks undermining the lawfulness of both the planning assessment and the associated public inquiry.

1. Failure to Assess Environmental Impact of Explosives Under EIA Regulations

The use of high-explosive materials—typically ammonium nitrate-fuel oil (ANFO) or similar nitrate-based compounds—has significant environmental implications, including:

Nitrate leaching into groundwater and surface water.

Generation of residual toxic by-products, such as nitrous oxides, heavy metals, and explosive residues on ore stockpiles.

Potential impacts on designated habitats and drinking water catchments.

Under the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017, Schedule 4, Part 1, Paragraph 4 requires the planning authority to ensure the “description of the likely significant effects on the environment” includes impacts from “the use of natural resources” and “the emission of pollutants.”

The routine use of bulk explosives falls squarely within this requirement. By deferring to the Department of Justice and failing to obtain or integrate explosives-related data, DfI has failed to discharge its duties under the EIA Regulations, resulting in a potentially unlawful EIA process.

2. Failure to Assess Cumulative Effects and Mitigation Measures

In its current form, the planning application and associated Environmental Statement appear not to include:

The volume and frequency of explosives to be used.

Any nitrate loading model for local aquifers and streams.

A site-specific strategy for pollution prevention, especially relating to run-off from blasting areas or stockpiles.

A proper cumulative impact assessment of explosive residues and their interaction with naturally elevated arsenic and sulphide levels already present at the site.

This omission constitutes a breach of Regulation 4(2)(e) and 4(2)(f) of the EIA Regulations, which require the competent authority to assess “cumulative effects with other existing and/or approved projects” and “mitigation measures envisaged to avoid or reduce significant adverse effects.”

3. Misapplication of Planning vs. Consenting Regime Distinction

While the Department of Justice may grant a separate explosives licence, this does not absolve DfI of its obligation to ensure a complete and legally robust EIA. The Court of Appeal in *R (Blewett) v Derbyshire CC* [2003] held that material environmental effects cannot be excused or deferred to other regimes when they form part of the foreseeable development impacts.

By failing to request or incorporate this critical data, the Department may have acted in procedural breach of the EIA Regulations, potentially rendering the planning determination vulnerable to legal challenge.

4. Implications for the Ongoing Public Inquiry

Given that the Planning Appeals Commission (PAC) is proceeding with the public inquiry, it is alarming that the Department has not ensured this vital class of information has been made available for scrutiny. These risks undermining the integrity of the inquiry process and may contravene obligations under Article 6 and 7 of the Aarhus Convention, particularly the right to effective public participation in environmental decision-making.

Request for Urgent Clarification

Accordingly, I request a formal response to the following:

1. What justification does DfI rely upon for excluding explosive usage data from its EIA assessment?
2. Has the Department sought or received any nitrate pollution modelling or explosives data from Dalradian Gold Ltd or its consultants?
3. Will the Department now request and publish the relevant data, or integrate it into a revised EIA addendum and make it available to the PAC?

Please treat this matter with urgency. If I do not receive a satisfactory response, I will be forced to consider a formal complaint to the Information Commissioner's Office (ICO), the Northern Ireland Public Services Ombudsman (NIPSO), and, if necessary, legal representation to challenge the adequacy of the Department's environmental review.

Can you please confirm receipt of email by return.

Yours sincerely,

[REDACTED]

Sent from [Outlook for Android](#)

From: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>

Sent: Thursday, May 22, 2025 3:49:30 PM

[REDACTED]
Subject: FW: DfIPG 049/25 Subject: Request for Detailed Information on Explosive Usage at Curraghinalt Gold Project - [REDACTED]

Dear [REDACTED]

Please see the attached response to your correspondence of 10 March 2025 and follow-up of 19 May 2025.

Regards,

DfI Planning
Regional Planning Policy & Casework

From: [REDACTED]

Sent: 10 March 2025 09:04

To: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>; DFI Regional Planning <Planning@infrastructure-ni.gov.uk>; NIEA Dalradian Project <NIEADalradianProject@daera-ni.gov.uk>; DfI Information Management Unit <DFIIMU@infrastructure-ni.gov.uk>

Cc: PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; Cathal Mullan <cmullan@hartecoylecollins.com>; DoH CMO Office <cmooffice@health-ni.gov.uk>

Subject: Subject: Request for Detailed Information on Explosive Usage at Curraghinalt Gold Project

Dear Sir/Madam

I am writing to request further details regarding the type and quantity of explosives that Dalradian Gold Limited intends to use at the Curraghinalt Gold Project. While the planning application states an estimated expenditure of \$5 million per year on explosives, it does not provide a precise breakdown of:

The specific types of explosives to be used

The exact quantities to be used on a daily, weekly, or monthly basis

The frequency and method of their application

This information is essential for the local community and relevant authorities to accurately assess potential environmental impacts, particularly concerning:

1. Groundwater Contamination – Understanding the chemical composition and volume of explosives used is crucial for evaluating potential leaching into groundwater.
2. Airborne Pollutants – Residual byproducts from blasting may pose risks to air quality, including particulate matter and chemical emissions.
3. Ore Residue Contamination – Blasting residues may remain on extracted ore, requiring clarification on potential processing implications.

Could you confirm whether this information is included within the planning application? If so, please provide a reference to the relevant document and section. If it is not available, I would appreciate clarification on which specific planning regulations or environmental legislation would require Dalradian to disclose this level of detail.

Given the significance of this matter for environmental assessment and public interest, I would be grateful for a timely response.

Can you please confirm receipt of email by return!

Signed

A solid black rectangular box used to redact the signature.

Sent from [Outlook for Android](#)

[REDACTED]
[REDACTED]
[REDACTED]

James House
Gasworks Site
2 - 4 Cromac Avenue
Belfast
BT7 2JA
Tel: 0300 200 7830

Email: planning@infrastructure-ni.gov.uk

Our Ref: DfIPG 106/25

19 June 2025

Dear Mr [REDACTED]

**Explosive Usage at Curraghinalt Gold Project- planning application
LA10/2017/1249/F**

Thank you for your further email of 22 May 2025 regarding explosive usage at proposed Curraghinalt Gold Project

In order to provide some clarity and assist you in directing your concerns to the appropriate government department, it is reiterated that the permitting of an explosives licence is determined by the Department of Justice, while the Department for Infrastructure will consider the impacts and effects of the use of explosives through the planning process and in particular under the Planning (Environmental Impact Assessment) (EIA) Regulations (Northern Ireland) 2015.

The EIA regulations provide a framework within which the main likely significant environmental effects of proposed developments are considered, which can include the use of explosives. Where effects, including those associated with the use of explosives are not considered likely significant, such effects can of course still be considered through the normal processing of the planning application.

As you are aware, the Department has caused a public local inquiry, wherein likely effects on the environment, including those outlined in your email can be raised and adequately assessed in an informed and transparent manner. You may of course seek to raise these and others issues personally at the PLI this and this will be a matter for the PAC to consider as the organisation of the inquiry is for the PAC to manage. It is noted you have also sent your email to the PAC.

Notwithstanding that an Environmental Statement accompanies the application, should it be identified as necessary by the planning appeals commission, additional information and indeed further environmental information can be requested by the

Department during the PLI and further examined by the planning appeals commission.

Hopefully this provides you with the necessary assurance that your concerns can be subject to examination and consideration.

Regional Planning Policy & Casework

From: [DFI Regional Planning](#)
To: [REDACTED]
Subject: DfIPG 125/25 Dalradian and RES Planning Applications – Radiological Omissions and Regulatory Breach - [REDACTED]
Date: 01 July 2025 12:57:09
Attachments: [REDACTED]

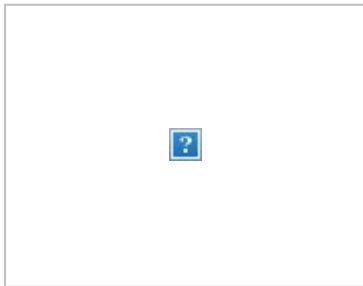
Dear [REDACTED]

Further to your email below, please find attached the Department's response. I would be grateful if you could acknowledge receipt.

Kind Regards

DfI Planning

Regional Planning Policy & Casework



From: [REDACTED]
Sent: 02 June 2025 01:16
To: DfI Regional Planning <Planning@infrastructure-ni.gov.uk>
Cc: [REDACTED] Save The Moat <savethemoat@gmail.com>; PACNI Info <info@pacni.gov.uk>
Subject: Subject: Dalradian and [REDACTED] Planning Applications – Radiological Omissions and Regulatory Breach

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Permanent Secretary,

I write in connection with two regionally significant applications:

Dalradian Mine (Ref: K/2013/0072/F)

[REDACTED]

Both developments involve significant peat disturbance in areas known to contain Cs-137

fallout (Tellus survey) and high radon gas emissions (UKHSA). There is no radiological baseline testing, no REPIR or IRRNI screening, and no public health consultation in either planning file.

This oversight breaches legal obligations under:

The Planning (EIA) Regulations (NI) 2017

The Radioactive Substances Act 1993 (as amended)

REPIR 2019

The Espoo Convention (as confirmed in the 2017 NI State Report)

The 2023 DAERA Regulation 19(7) Notice further confirms NI Water has suspended routine monitoring of radon, tritium, and indicative dose at sources near both developments. This exemption is conditional on environmental stability — which excavation and blasting may compromise.

I therefore request:

1. That DfI issue a screening direction under Reg. 6 requiring updated EIA submissions.
2. That coordination with DoH and PHA be initiated for public health oversight.
3. That the precautionary principle under Reg. 4(4) be applied.

Failure to do so risks rendering any future decisions legally unsound or possible legal action!

Can you please confirm receipt of email by return. Thank you.

Signed



Sent from [Outlook for Android](#)

Regional Planning Policy & Casework



Department for

Infrastructure

An Roinn

Bonneagair

Department for

Infrastructure

www.infrastructure-ni.gov.uk

James House
2-4 Cromac Avenue
The Gasworks
BELFAST
BT7 2JA

Tel: 0300 200 7830

Email: planning@infrastructure-ni.gov.uk

Our Ref: DfIPG 125/25

01 July 2025

Dear Mr. [REDACTED]

Dalradian and [REDACTED] Planning Applications – Radiological omissions and alleged regulatory breach.

Thank you for your correspondence of 02 June 2025 in respect of the above-mentioned matter.

Having reviewed your email it is noted that you have outlined concerns regarding; peat disturbance and radon gas emissions and how such matters have been or are being considered with respect to planning applications K/2013/0072/F and [REDACTED].

Regarding K/2013/0072/F, this application was processed by the former Department of the Environment and decided on 22 January 2014. As such, it no longer requires a determination.

The Planning (Environmental Impact Assessment) Regulations (NI) 2017, which transpose the requirements of the Environmental Impact Assessment (EIA) Directive in Northern Ireland, contain provisions for pre-application determination as to the need for environmental impact assessment and an opinion as to the content of any environmental statement; confirmation on receipt of an application as to the need for environmental impact assessment; and procedures to facilitate the preparation of environmental statements.

Provisions also mandate publicity where an environmental statement is submitted, the availability of copies of environmental statements; and consultation where an environmental statement is submitted.

The above procedures provide the regulatory framework within which proposed developments such as [REDACTED] are subject to assessment for significant environmental effects, including radiological hazards and potential peat disturbance. Where effects are not considered likely significant, such effects can be taken into account through the normal processing of a planning application. As such, effects are assessed against prevailing policy, informed by expert input from statutory consultees.

Accordingly, the above provisions provide that likely effects on the environment, including those outlined in your email can be adequately assessed in an informed and transparent manner.

[REDACTED]

I trust this you find this response helpful.

Yours sincerely,

Regional Planning Policy & Casework

From: [DFI Regional Planning](#)
To: [REDACTED]
Subject: RE: Subject: Warning Against Procedural Misuse of Regulation 23 in Respect of Application LA10/2017/1249/F (Dalradian Gold Ltd)
Date: 25 June 2025 12:42:00

Good afternoon

I acknowledge receipt of your email which was also received in Planning Group, a response will issue in due course

Thankyou

[REDACTED]
Business Support
DFI Planning

From: [REDACTED]
Sent: 25 June 2025 12:15
To: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>; PACNI Info <info@pacni.gov.uk>; PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; DfI Information Management Unit <DFIIMU@infrastructure-ni.gov.uk>; DFI Planning Group <DFIPlanninggroup@infrastructure-ni.gov.uk>
Cc: [REDACTED]
Subject: Subject: Warning Against Procedural Misuse of Regulation 23 in Respect of Application LA10/2017/1249/F (Dalradian Gold Ltd)

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Commissioners and Department Officials,

This is a formal legal and procedural warning in respect of any intention to invoke Regulation 23 of the EIA Regulations (NI) 2017 to seek further environmental information (FEI) from Dalradian Gold Ltd concerning its stalled planning application LA10/2017/1249/F.

As the PAC letter dated 19 June 2025 makes clear, the Department must reply by 2pm on 26 June as to whether it intends to request FEI. We strongly urge the Department to refuse this route.

The use of Regulation 23 is procedurally and legally inappropriate for the following reasons:

The existing Environmental Statement is so outdated and incomplete as to be unfit for purpose.

The missing material (climate compatibility, radiological, and health risk assessments) cannot be remedied by "further" information, only by an entirely new application.

There has been a procedural collapse of the CPLI due to structural defects identified by the PAC and consultees.

The Department's own Issues Paper confirms breaches of Espoo and Aarhus obligations that cannot be cured retroactively.

We therefore request urgent confirmation that Regulation 23 will not be used in this case.

To proceed otherwise would constitute an abuse of process and we reserve all rights to challenge any such decision.

Can you please confirm receipt of email by return. Thank you.

Signed

A solid black rectangular box used to redact a signature.

Sent from [Outlook for Android](#)

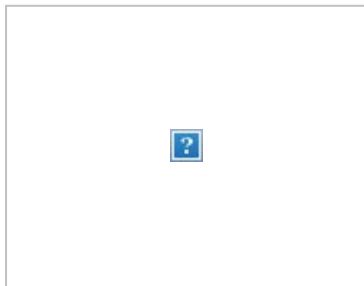
From: [DFI Regional Planning](#)
To: [REDACTED]
[REDACTED] DFIPG 157/25 - Subject: RE: Dalradian and RES Planning Applications – Radiological Omissions and Regulatory Breach (DfIPG 125/25) [REDACTED]
Date: 30 July 2025 07:24:25
Attachments: [REDACTED]

Dear [REDACTED]

Further to your email below, please find attached the Department's response. I would be grateful if you could acknowledge receipt.

Kind Regards

DfI Planning
Regional Planning Policy & Casework



From: [REDACTED]
Sent: 01 July 2025 13:36
To: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>
Cc: [REDACTED] >; Save The Moat <savethemoat@gmail.com>; PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; PACNI Info <info@pacni.gov.uk>
Subject: Subject: RE: Dalradian and RES Planning Applications – Radiological Omissions and Regulatory Breach (DfIPG 125/25)

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Regional Planning Policy & Casework Team,

Thank you for your reply dated 1 July 2025 (Ref: DfIPG 125/25). I acknowledge receipt of the Department's letter.

However, I must formally reject the adequacy of your response. While the letter outlines standard provisions under the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017, it fails to address the substantive legal and procedural concerns

raised in my correspondence of 2 June 2025, namely:

1. Failure to Address Radiological and Public Health Risks

Your response omits any meaningful engagement with the specific omissions in both the Dalradian (K/2013/0072/F) and RES Wind Farm (SPD/2025/0011/F) applications, including:

Lack of baseline data on Caesium-137 and radon exposure (Tellus Survey; UKHSA Radon Maps).

No REPPIR 2019, IRR17, or Radiation Risk Assessment screening.

Absence of a Health Impact Assessment (HIA) despite peat disturbance in high radon zones;

Suspension of routine radiological water monitoring by NI Water under the 2023 DAERA Regulation 19(7) exemption—rendering the assumption of environmental “stability” unsound.

These failures undermine the legal integrity of both planning processes, in breach of:

The Planning (EIA) Regulations (NI) 2017 (Regulations 4, 6, 18 and 23).

The Ionising Radiations Regulations 2017.

REPPIR 2019.

Directive 2013/59/Euratom (particularly Article 8).

The Espoo and Aarhus Conventions.

2. Misrepresentation of Public Health Agency Consultation

Your letter states that “the Public Health Agency has been consulted” on SPD/2025/0011/F. This is materially misleading.

According to the Department of Health’s Chief Environmental Health Officer, in correspondence dated 30 June 2025 (Ref: CMOTOF-0016-2025):

“The Department of Health has not been consulted on either application.”

“The Public Health Agency has recently been consulted on the RES wind farm project (SPD/2025/0011/F) and has not yet responded.”

This directly contradicts the implication in your 1 July letter that consultation had already occurred and informed the assessment process. No expert public health advice is presently available, and no documentation or assessment from PHA has been placed on the planning file or disclosed to the public. This misrepresentation may constitute a breach of your duty of candour under public law, and it renders your assurances procedurally and legally unsound.

3. Improper Dismissal of K/2013/0072/F Review

You assert that application K/2013/0072/F, having been determined in 2014, “no longer requires a determination.” That statement evades the central issue: whether material omissions—particularly on radiological hazards—invalidate the original Environmental Statement or trigger the Department’s power and duty to request a revised submission under Regulation 23.

Where evidence now exists that significant environmental effects were not identified or assessed (e.g. Cs-137 mobilisation, radon pathways, radiological exposure), the Department cannot lawfully rely on the 2014 determination without reassessment.

This is consistent with UK Supreme Court precedent in *R (Finch) v Surrey CC* [2023] UKSC 46, which reaffirmed that downstream and indirect environmental effects must be assessed at the earliest possible stage.

4. Formal Action Requested

In light of these concerns, I now formally request:

1. That the Department issue a screening direction under Regulation 6 of the 2017 EIA Regulations requiring updated Environmental Statements for both applications, inclusive of radiological risk.
2. That coordination with the Department of Health and Public Health Agency be initiated for an independent public health review.
3. That the precautionary principle under Regulation 4(4) be applied, given the cumulative and irreversible risks from peat excavation in radiologically active areas.
4. That DfI immediately disclose all consultation records with PHA or DoH relating to either application, under Regulation 5 of the Environmental Information Regulations 2004.

5. Escalation if No Remedy

Failure to take corrective action or provide a legally robust response within 20 working days will result in:

Referral of this matter to the Northern Ireland Public Services Ombudsman (NIPSO).

A complaint to the Espoo and Aarhus Convention Compliance Committees.

Preparation of a Pre-Action Protocol letter for Judicial Review, supported by evidence of systemic regulatory failure and breach of statutory duties.

This matter concerns not only procedural compliance but the right of affected communities to be protected from hidden radiological and environmental health risks—rights which are neither waivable nor extinguished by time.

Can you please confirm receipt of email by return. Thank you!

Signed

[Redacted Signature]

[Redacted Title]

From: DfI Regional Planning <Planning@infrastructure-ni.gov.uk>

Sent: Tuesday, July 1, 2025 12:57:07 PM

To: [Redacted]

Subject: DfIPG 125/25 Dalradian and RES Planning Applications – Radiological Omissions and Regulatory Breach [Redacted]

Dear Mr [Redacted]

Further to your email below, please find attached the Department's response. I would be grateful if you could acknowledge receipt.

Kind Regards

DfI Planning

Regional Planning Policy & Casework

Regional Planning Policy & Casework



James House
2-4 Cromac Avenue
The Gasworks
BELFAST
BT7 2JA

Tel: 0300 200 7830

Email: planning@infrastructure-ni.gov.uk

Our Ref: DFI 157/25

30 July 2025

Dear [REDACTED]

Dalradian and RES Planning Applications – Radiological omissions and alleged regulatory breach.

Thank you for your correspondence of 01 July 2025 in respect of the above-mentioned matter. In relation to your comments, the Department would advise as follows:

‘1. Failure to Address Radiological and Public Health Risks’

Application SPD/2025/0011/F was subject to environmental impact assessment by the applicant and the application was accompanied by an environmental statement. This statement purported to include an assessment of the main likely significant effects of the proposed development on the environment. It was subsequently subject to publicity in accordance with the applicable statutory provisions and has been subject to consultation with the public and relevant authorities.

The purpose of that consultation process is to identify any additional areas for assessment. Consequently, the Department may request additional evidence, clarification or assessments. Where additional likely significant environmental effects are identified, the Department may seek further environmental information from the applicant to supplement the original environmental statement.

‘2. Misrepresentation of Public Health Agency Consultation’

In the Department’s letter of 1 July 2025, it was stated that;

You may wish to note, with respect to application SPD/2025/0011/F, the Public Health Agency has been consulted on the planning application as part of the assessment process. You can track the progress of this application at - <https://planningregister.planningsystemni.gov.uk/application/699169>

The consultation with the PHA is available on the Planning Portal and evinces that consultation took place on 28 May 2025. This is entirely consistent with the above statement and the response provided by the Department of Health. There was no assertion that the PHA had responded to the consultation at the time of writing or that any public health advice was available on the Portal as a result. To be clear, the Department for Infrastructure still awaits a consultation response from the Public Health Agency.

‘3. Improper Dismissal of K/2013/0072/F Review’

K/2013/0072/F does not relate to a live / current application for planning permission. This application was decided on 22 January 2014 and a decision notice issued. The current live application for the proposed underground mine by Dalradian is LA04/2017/1249/F. If it is determined that further environmental information under regulation 23 of the 2015 EIA Regulations is required, including in relation to those concerns that you have raised, this can be requested by the Department under application LA04/2017/1249/F and as part of the public local inquiry process.

In response to your request for the Department to immediately disclose all consultation records with PHA or DoH relating to either application, you will be able to locate these on the Planning Portal using the above reference numbers.

Hopefully this is helpful.

Yours sincerely,

Regional Planning Policy & Casework

From: [DfI PG Secretariat](#)
To: [REDACTED]
Subject: DFIPG 158/25 - Subject: Resubmission & Legal Reinforcement – Regulation 23 Opposition (Dalradian LA10/2017/1249/F) - [REDACTED]
Date: 02 July 2025 10:03:00

[REDACTED]

Please see email below – DFIPG 158/25 refers
Response due by 24 July, please copy PG Sec
An automatic response has already issued

IN1-25-564 P002

Thanks

[REDACTED]
PG Sec

From: [REDACTED]
Sent: 01 July 2025 23:52
To: DfI Regional Planning <Planning@infrastructure-ni.gov.uk>; PACNI Info <info@pacni.gov.uk>
Cc: Andrews, Judith [REDACTED]
[REDACTED]
Subject: Subject: Resubmission & Legal Reinforcement – Regulation 23 Opposition (Dalradian LA10/2017/1249/F)

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Commissioners and Department Officials,

This is a formal resubmission and legal reinforcement of my representation initially submitted and acknowledged on 25 June 2025, regarding any proposed invocation of Regulation 23 of the Environmental Impact Assessment Regulations (Northern Ireland) 2017 in relation to Dalradian Gold Ltd's stalled planning application LA10/2017/1249/F.

In light of the correspondence dated 26 June 2025 (DfI) and 1 July 2025 (PAC) — which confirm both parties are now in dialogue on the adequacy of the environmental information — I must emphasise that this objection constitutes a material legal submission. It must be formally considered and addressed prior to any action or determination concerning further environmental information (FEI).

Procedural and Legal Objections to Regulation 23 Invocation

1. The Environmental Statement is Irredeemably Deficient

The ES fails to account for critical impact areas:

Downstream emissions (Finch v Surrey CC [2024] UKSC 20),

Radiological and public health risk (with no updated baseline data),

Peatland disturbance and transboundary effects (Espoo Convention).

These defects cannot lawfully be addressed by Regulation 23. They require a new application and EIA process.

2. The Inquiry Has Collapsed Procedurally

The Public Local Inquiry has been suspended twice and is no longer a legally valid forum.

The PAC has refused to assess the adequacy of the evidence, and DfI has deferred responsibility, creating a regulatory vacuum with no lawful path forward under the current application.

3. Espoo and Aarhus Convention Breaches Are Unratifiable via Regulation 23

Espoo (Article 2(6)) and Aarhus (Articles 6 & 7) require early and effective public participation, particularly for transboundary stakeholders.

The Department's own Issues Paper (17 June 2025) confirms breaches that cannot be retrospectively cured.

Legal Constraints and Precedent

To proceed without directly addressing these defects would risk:

Breach of Regulation 3(3) – failure to reach a reasoned conclusion on likely significant effects.

Breach of Regulation 26(2) – prohibition on granting permission or making recommendations without having taken all environmental information into account.

Violation of common law fairness – for failure to consider a material representation.

Unlawful delegation of statutory discretion – per R v Somerset CC ex parte Fewings [1995] 1 WLR 1037.

Exposure to judicial review – for unlawfully attempting to rehabilitate a procedurally collapsed process.

These are now compounded by established case law:

Finch v Surrey CC (UKSC 2024) – downstream emissions must be assessed.

Derry & Strabane JR (NIQB 2023) – improper screening invalidates entire licensing regime.

A5 JR (NI High Court, 2025) – reliance on outdated environmental information renders decisions unlawful.

Strategic Implications for Both PAC and DfI

Any attempt by either the Department or the Commission to defer or disclaim responsibility for assessing the adequacy of the Environmental Statement — in full knowledge of its structural defects — would risk a finding of:

Unlawful procedural avoidance.

Regulatory failure under the 2017 EIA Regulations.

And breach of the UK's obligations under international environmental law.

Requests

Accordingly, I now formally request:

1. That this representation be formally recorded as part of the PAC and DfI's joint decision-making process.
2. That the Department's forthcoming statement (due 7 July 2025) includes a substantive response to this representation.
3. That I be provided with a copy of the Department's reply to the PAC, under the

Environmental Information Regulations 2004.

I reserve all rights, including the right to initiate judicial proceedings without further notice.

Please confirm receipt of this correspondence without delay.

Signed

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From: [DFI Regional Planning](#)
To: [REDACTED]
Subject: DFIPG 178/25: Subject: Procedural Invalidity of Dalradian Public Inquiry – Regulation 23 Unlawful; Inquiry Process Legally Compromised
Date: 17 July 2025 11:04:00

Folks

Please see email below – DFIPG 178/25 refers

Response due by 08 August, please copy PG Sec into response

I will acknowledge

IN1-25-564P002

Thanks

[REDACTED]

PG Sec

From: [REDACTED]
Sent: 17 July 2025 00:35
To: DFI Regional Planning <Planning@infrastructure-ni.gov.uk>
Cc: PACNI Info <info@pacni.gov.uk>; PACNI Dalradian CPI <Dalradian.CPI@pacni.gov.uk>; [REDACTED]
Subject: Subject: Procedural Invalidity of Dalradian Public Inquiry – Regulation 23 Unlawful; Inquiry Process Legally Compromised

CAUTION – This email has been received from outside the NICS network. If you have any concerns, please report for investigation.

Dear Sir/Madam,

Re: Curraghinalt Project (Dalradian Gold) – Public Local Inquiry

Planning References: LA10/2017/1249/F, LA10/2019/1386/F, LA11/2019/1000/F

PAC Ref: 2021/C005 – 2021/C007

I write further to your Department's letter to the Planning Appeals Commission (PAC) dated 11 July 2025, indicating that a review is underway to determine the adequacy of the environmental information supporting the above applications.

I must formally notify the Department that any attempt to now invoke Regulation 23 of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017 would constitute a serious breach of statutory and procedural duties, as well as international obligations under the Aarhus Convention.

1. Regulation 23 Action Now Ultra Vires

DfI has already referred the applications to inquiry under Section 26(10) of the Planning Act (NI) 2011. It has done so without publicly issuing a Regulation 26 “reasoned conclusion”.

Under Regulation 23(1), the competent authority may only request further environmental information if it has not yet progressed the application beyond the point where full public participation rights can be meaningfully exercised. As PAC has now begun formal inquiry scheduling, any Regulation 23 request issued at this stage would amount to an unlawful post-facto correction.

This is expressly prohibited by:

Regulation 26 EIA Regs (requiring prior examination and conclusion).

Regulation 28 (duty to publicly consult on any new environmental information).

Article 6(4), Aarhus Convention (no consultation where all options are no longer open).

2. Inquiry Now Invalid Ab Initio

In light of the PAC’s clear refusal (1 July and 8 July 2025) to assess the adequacy of environmental information, and the Department’s failure to issue a Regulation 26 determination prior to referral, the entire inquiry process is now procedurally tainted. This mirrors findings in:

Friends of the Earth v DfI (A5) [2023] NICA

R (Finch) v Surrey CC [2023] UKSC 50

Re Derry & Strabane District Council JR [2022] NIQB 50

Each held that failure to consider adequate baseline environmental information prior to a planning milestone invalidates the process.

3. Requested Action

The only lawful outcome is for the Department to:

1. Confirm that no Regulation 23 request will be issued.

2. Declare that it cannot lawfully determine the environmental information to be adequate.
3. Suspend or withdraw the current public inquiry process.
4. Require submission of a new, complete Environmental Statement.
5. Publish all relevant documentation under the Environmental Information Regulations 2004.

Failure to act will expose the Department to immediate legal challenge.

Can you please confirm receipt of email by return, thank you!

Signed

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Sent from [Outlook for Android](#)