

Curraghinalt Project County Tyrone

Prepared for Dalradian Gold Limited

Environmental Statement - Volume 3

C12 Socio-economic Impact Assessment

November 2017

DALRADIAN
GOLD



**SOCIO-ECONOMIC IMPACT
ASSESSMENT**

**FOR THE CURRAGHINALT GOLD
PROJECT, COUNTY TYRONE,
NORTHERN IRELAND**

October 2017

Our Ref: Q60106

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1 INTRODUCTION

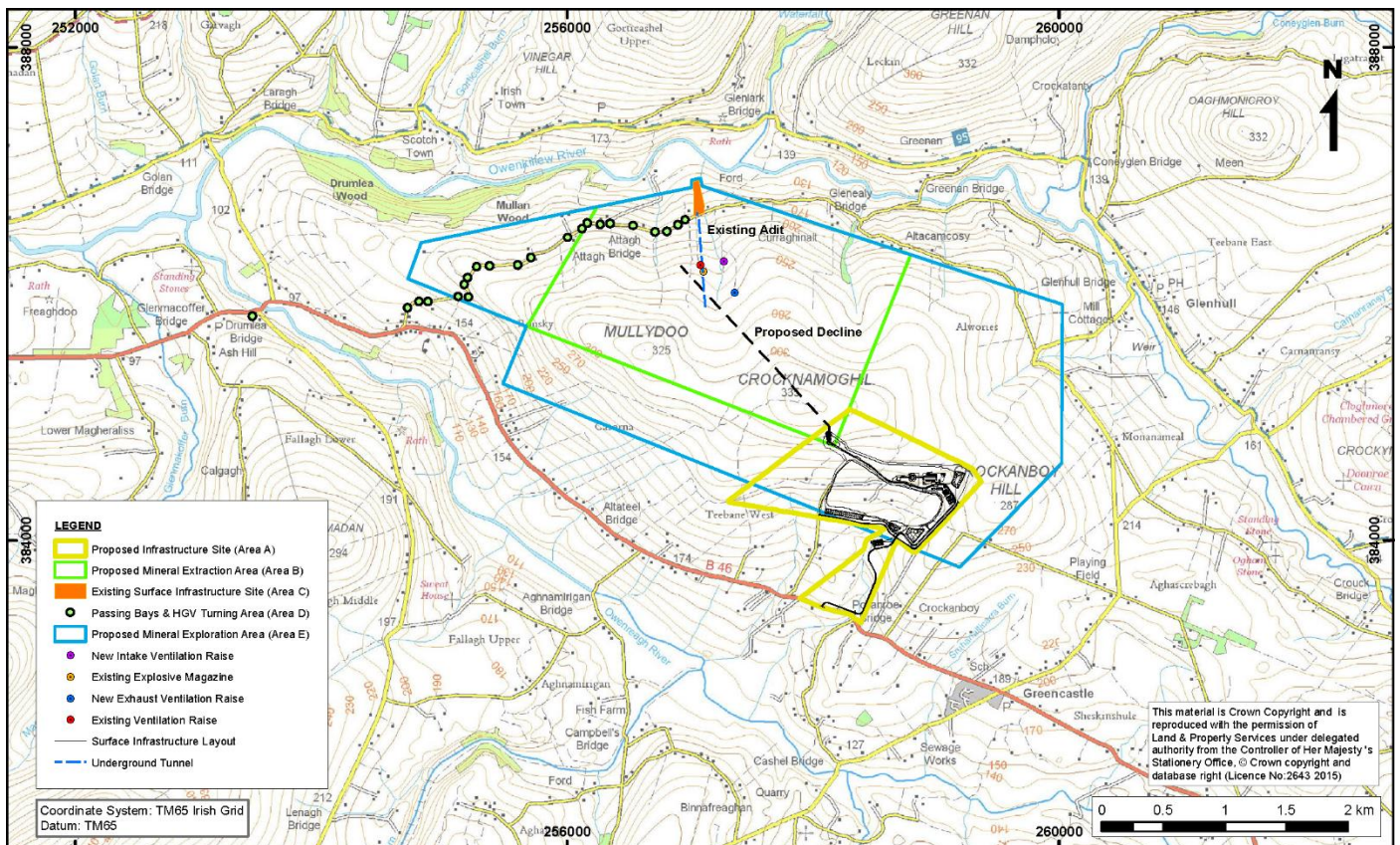
1.1 This Socio-Economic Impact Assessment describes the potential effects of the construction and operation of the Curraghinalt Gold Project which is located within the Local Government District (LGD) of Fermanagh and Omagh; and within County Tyrone in Northern Ireland.

1.2 This Impact Assessment refers specifically to potential social and economic effects of all of the Project Sites in combination. These Sites are:

- The proposed infrastructure site (Area A)
- The proposed mineral extraction area (Area B)
- The existing surface infrastructure site (Area C)
- The passing bays along the Camcosy Road (Area D)
- The proposed mineral exploration area (Area E).

1.3 A description of these Project Sites is set out in Chapter 4 and mapped overleaf in Figure 1.1.

Figure 1.1: Project Site



LEGEND

- Proposed Infrastructure Site (Area A)
- Proposed Mineral Extraction Area (Area B)
- Existing Surface Infrastructure Site (Area C)
- Passing Bays & HGV Turning Area (Area D)
- Proposed Mineral Exploration Area (Area E)
- New Intake Ventilation Raise
- Existing Explosive Magazine
- New Exhaust Ventilation Raise
- Existing Ventilation Raise
- Surface Infrastructure Layout
- Underground Tunnel

1.4 This Assessment sets out the methods and assumptions used to assess the potential effects; and presents a qualitative and quantitative assessment of the potential effects of the proposed Curraghinalt Gold Project, appropriate mitigation measures and the residual effects that could



remain after mitigation. The Planning Policy Context for this Assessment is set out in the Legislation and Approvals Chapter of the Curraghinalt Gold Project Environmental Statement (Chapter 2).

- 1.5 This Assessment should be read alongside *The Curraghinalt Gold Project Socio-Economic Baseline Study*, which presents the potential sensitive receptors which could be affected by socio-economic effects generated by the Curraghinalt Gold Project.
- 1.6 The potential inter-relationships between the social and economic effects of the Curraghinalt Gold Project and other proposed pipeline developments are also considered. These effects are known as Cumulative Effects.
- 1.7 This Impact Assessment has been produced by Quod. Quod is a Socio-Economic, Planning and Environment Consultancy with a strong track record of experience in major infrastructure projects including mines, power stations and transport infrastructure.

2 METHODOLOGY AND CONSULTATION

a) Scope and objectives of assessment

2.1 In the absence of any specific Government guidance setting out a preferred methodology for assessing the socio-economic effects of a major development, the following section outlines the methodologies used to identify the range of potential socio-economic effects. These are in accordance with general guidelines where these exist (and are referenced), and wider professional experience.

2.2 The scope of the assessment has been established by drawing on:

- The scoping process undertaken with the Department for the Environment Northern Ireland (DoE NI), Economics Branch representatives in October 2016;
- Issues raised at Pre-Application Community Consultation (PACC) in November 2016;
- The Department for Infrastructure (Northern Ireland)'s response to a Request for Scoping Opinion, set out in a letter dated the 9th of August 2016 (Reference LA10/2016/0030/DETEIA).

2.3 As a result of this process, the objectives underlying the Socio-Economic Impact Assessment are to provide an assessment of:

- Gross employment opportunities related to the construction and operation at the Curraghinalt Gold Project;
- The potential effect of this gross employment creation in the context of the local labour market;
- The potential effect with respect to demand for accommodation and influence on house prices associated with construction and operation;
- Assessment of the net economic effects, taking into account the extent of deadweight and displacement of economic effects;

- Socio-economic effects arising as a result of other effects (e.g. transport, noise, landscape and visual) during both construction and operation and their likely effect on tourism;
- The wider economic effects including the likely effects of spending, investment, exports, tax, supply chain and multiplier effects and economic effects of national significance; and,
- Mitigation and enhancements.

b) Methodology for determining baseline conditions and sensitive receptors

2.4 In order to assess the potential effects of the proposed scheme, it is essential that the characteristics of the baseline environment are identified and described. Understanding the baseline environment also assists in the identification of appropriate mitigation which could be employed to minimise significant adverse effects. The baseline relevant to this Impact Assessment is set out in the *Curraghinalt Gold Project Socio-Economic Baseline Study*.

2.5 In the Baseline Study, the baseline socio-economic conditions have been established through the interpretation of nationally recognised research and survey information, and work undertaken through other work streams including:

- Northern Ireland Statistics and Research Agency (NISRA)
- 2001 Census (NISRA);
- 2011 Census Data (NISRA);
- Northern Ireland Tourism Board;
- Department of Agriculture and Rural Development; and,
- Ordnance Survey of Northern Ireland Code Point dataset.

2.6 At a local level (within 2km radius from the centre of the Proposed Infrastructure Site (Area A)), Code Point locations were cross referenced against satellite images and manually checked by the Dalradian field team.

c) **Identification of relevant spatial scale**

2.7 The geographical extent of the study area for this socio-economic assessment includes the full extent of the Curraghinalt Gold Project, including all of the Project sites in combination (as mapped on Figure 1.1).

2.8 The following sections describe the geographic areas which have been used in the baseline studies for each impact topic. This is followed by Figure 2.1, Figure 2.2 and Figure 2.3 which map the relevant spatial scales.

i) **Owenkillew Ward**

2.9 The Curraghinalt Gold Project is located within Owenkillew Super Output Area (SOA) (which has the same boundary as Owenkillew Ward). SOAs represent neighbourhoods or local areas for the purposes of small area statistics¹ and Owenkillew Ward/SOA represents the local area for the purposes of this socio-economic assessment.

ii) **Fermanagh and Omagh Local Government District**

2.10 Fermanagh and Omagh LGD/Fermanagh and Omagh District Council, hereafter “the District” or “FODC” is the spatial level at which local planning policies, including those which relate to local social and economic objectives.

iii) **Regional and National**

2.11 As set out in the letter from the Department of the Environment (Northern Ireland) (dated 26th May 2015; Ref: S26/3/2015), the Curraghinalt Gold Project is “*of regional significance to the whole or a substantial part of Northern Ireland [and/or] will have significant effects outside Northern Ireland.*” Therefore, the potential socio-economic effects are presented and assessed in a Northern Ireland (and where specifically relevant a United Kingdom) context.

¹ Super Output Areas range in size (both area and population) and have between 225 and 1,350 households within them. There are 890 such areas in Northern Ireland. SOAs are also known as Lower Super Output Areas (LSOAs) in the context of the UK-wide Census

iv) Relevant impact areas for inter-related effects

- 2.12 In the case of the secondary socio-economic effects arising from effects from, for example, traffic or landscape and visual effects, the relevant study areas will be defined in accordance with the Impact Area as defined in each Assessment. For example, the effect on the tourism resulting from visual effects will consider the spatial scales set out in the Land and Landscape Impact Assessment.
- 2.13 To provide a socio-economic baseline for these inter-related effects, residential homes, places of work and commercial buildings that are within 2km of the centre of the Proposed Infrastructure Site (Area A) (the 2km Zone) have been considered in detail on a building by building basis. Within this 2km Zone, Code Point (postcode) locations for all buildings were cross referenced against satellite images and manually checked where possible by the DGL field team. 2km from the centre of the Proposed Infrastructure Site (Area A) has been identified to be beyond the maximum extent of any potential for significant adverse effects that may have secondary socio-economic effects, based on the study areas utilised in other technical assessments in the ES.

Figure 2.1: National Context

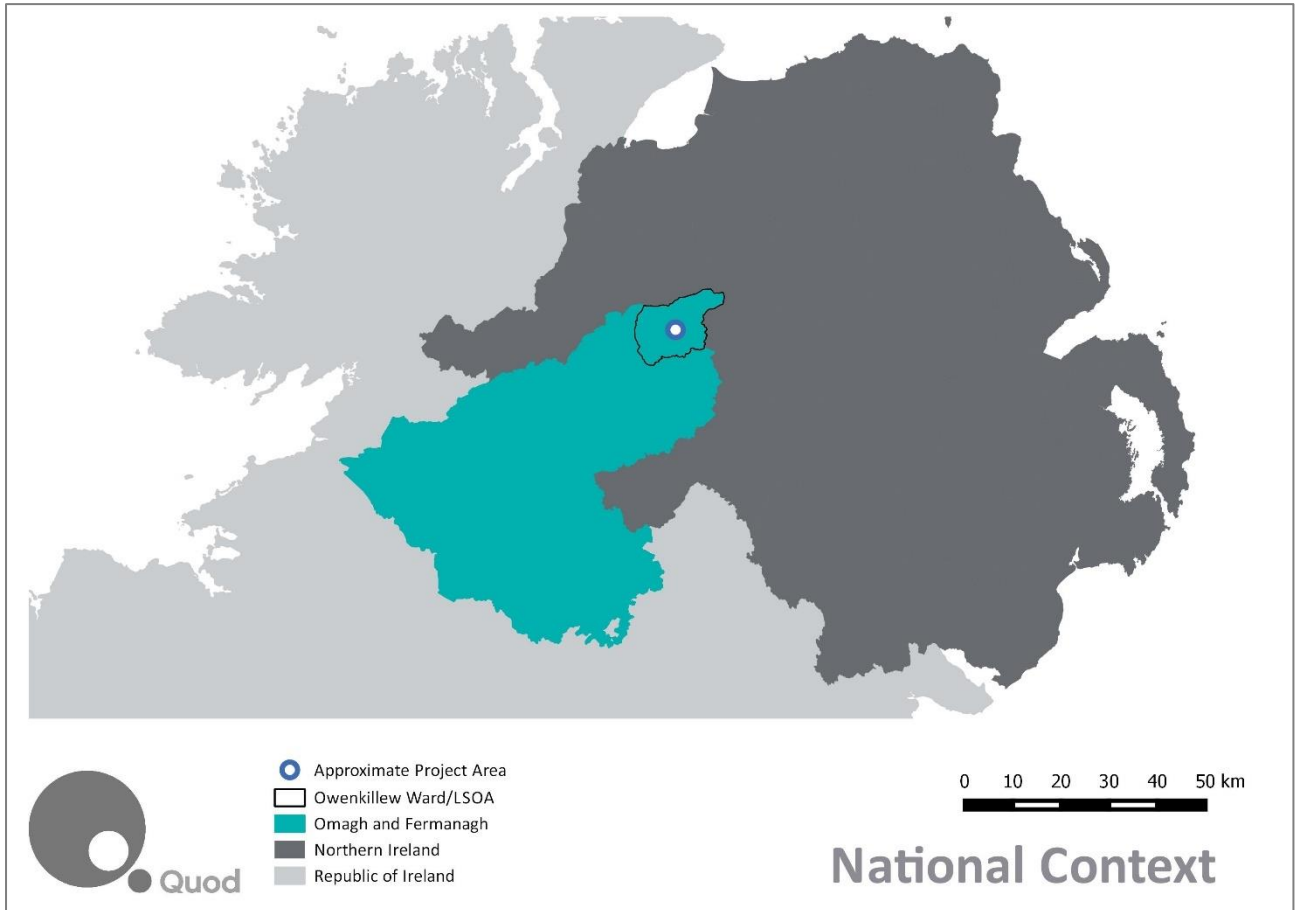


Figure 2.2: Statistical Geography

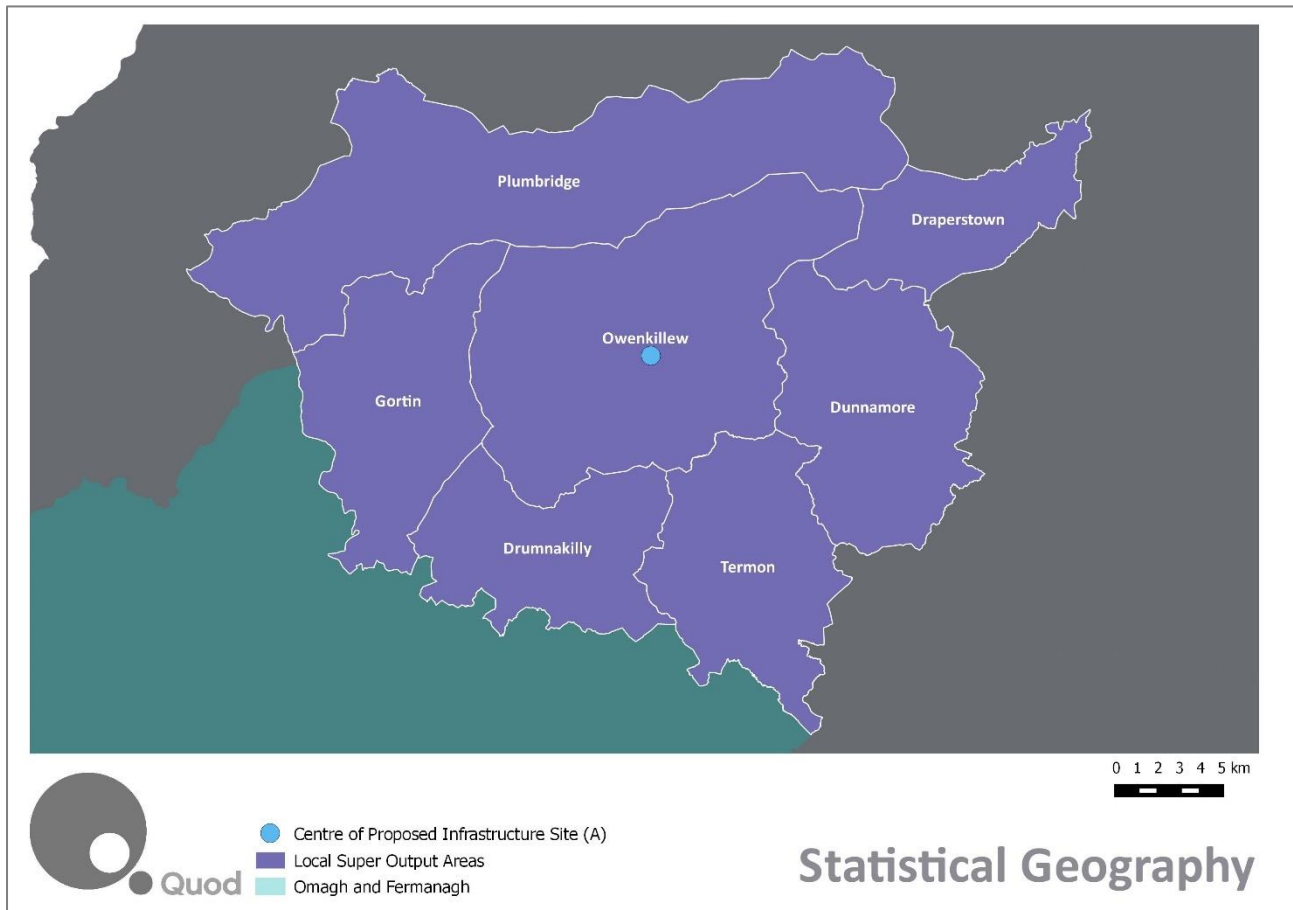
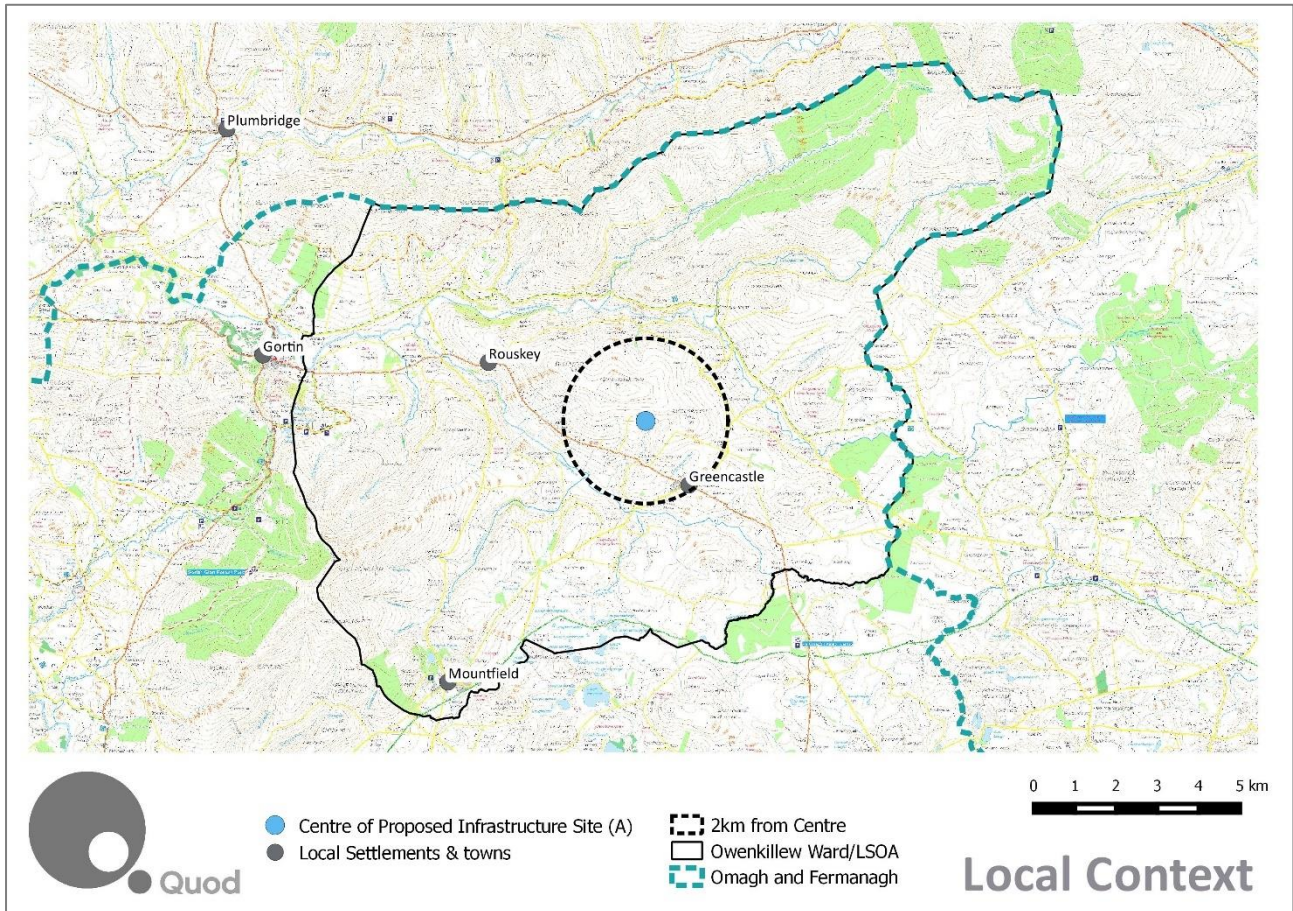


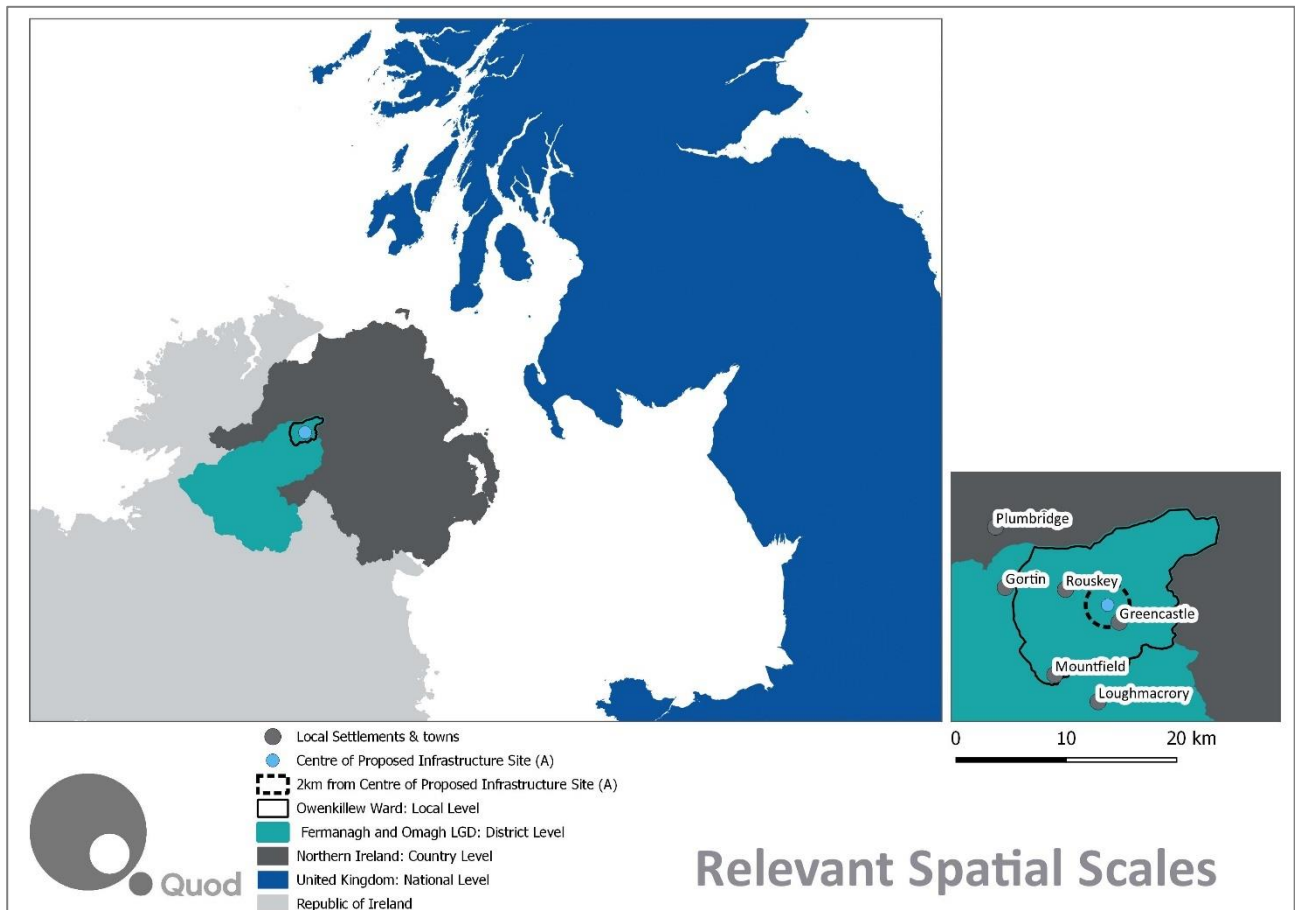
Figure 2.3: 2km Impact Area



d) Identification of sensitive receptors

2.14 The spatial spread of effects will vary depending on the different topic area. The relevant spatial scales are set out in Figure 2.4.

Figure 2.4: Relevant Spatial Scales for Socio-Economic Impact Assessment



2.15 As agreed as part of the scoping process outlined above, the sensitive receptors against which effects have been assessed are as follows.

- The effect of construction employment on the labour market has been assessed within the District and within Northern Ireland as a whole² as this is the area from which home-based construction workers are likely to travel.

² Northern Ireland can be termed variously as a Province, Region or County of the United Kingdom. There is no confirmed terminology. The term country has been used here as it is the chosen nomenclature used by the Office of National Statistics and the Northern Ireland Statistical Authority.

- The effect of construction employment on demand for temporary accommodation has been assessed within the District as this is the area in which non-home-based³ construction workers are likely to seek accommodation.
- The effects of construction with respect to expenditure and investment in the supply chain, and the indirect and induced effects (GVA, indirect and induced employment) that would result, would occur at a Northern Ireland and UK wide-level. Interventions by DGL could maximise the beneficial effects at a District level, so this spatial scale has also been considered.
- The effects with respect to the creation of operational employment have been assessed within the Owenkillew, the District area and within Northern Ireland as a whole, as the operational workforce is likely to be resident within these areas (they will likely either be existing residents of this area or would move to within this area for the job. This is considered in more detail in the *Employment Effects During Operation* Section.)
- The effects of operation with respect to expenditure and investment in the supply chain, and the indirect and induced effects (GVA, indirect and induced employment) and exports that would result, would occur at a Northern Ireland and a UK wide-level. Interventions by DGL could maximise the beneficial effects at a District level, so this spatial scale has also been considered.
- The secondary effects of construction and operation on tourism (resulting from primary effects such as noise and traffic) have been assessed at the spatial scales used to assess the primary effect e.g. the radius from the Project Sites specified as the Local Impact Area in the relevant Impact Assessment. There is no potential for significant adverse secondary effects to extend beyond 2km radius from the centre of the Proposed Infrastructure Site (Area A)) based on the study areas set out in the other technical assessments in this ES.

³ Non-home-based workers are those specialist construction workers who may come from beyond the local area and could therefore seek temporary local accommodation for example in rental properties, hotels, B&Bs etc.

- Contributions to tax and exports would be considered at a Northern Ireland and UK wide level Assessment. Local payments, including local taxes and royalties will be considered at the District and Northern Ireland levels.

e) Receptor sensitivity

2.16 The main sensitive receptors for the socio-economic assessment are the accommodation and labour markets, businesses and communities at a number of spatial levels. It is not possible to ascribe specific 'values' to socio-economic sensitive receptors due to their diversity in nature and scale. There has therefore been a focus on the qualitative (rather than quantitative) "sensitivity" of each receptor, and, in particular on their ability to respond to change based on recent rates of change and turnover.

2.17 The socio-economic environment is a dynamic and adaptive one with constant background change and turnover, for example people moving into and out of the area and changing jobs. This is a particular feature of the construction sector. This method of assessment ascribes low sensitivity to those receptors that are easily adaptive to change and high sensitivity to those receptors that are not easily adaptive to change.

f) Magnitude and significance

2.18 Predicted significance levels therefore combine an assessment of the overall magnitude or scale of the effect, and compare this to the ability of each receptor to respond to change. Potential effects have been considered in terms of long term or temporary, adverse (negative) or beneficial (positive) and cumulative.

2.19 Some effects cannot be quantitatively assessed; in such cases a qualitative assessment has been used. In addition, the magnitude of the effect does not necessarily correlate with the effect significance. The key influences on the determination of effect significance include:

- The magnitude of the potential effect.
- The geographical extent of the effect.
- The duration and reversibility of the effect; the capacity of the relevant area to absorb the effect.

- Recent rates of change in the locality.

2.20 The duration of the effect has been assessed to be either temporary or long term:

- Temporary (e.g. construction phase, < 2 years).
- Short term (<2 years).
- Medium term (2-10 years).
- Long term (>10 years).

2.21 The assessment process is objective and quantifies effects as far as possible. However, some effects can only be evaluated on a qualitative basis. Effects are defined as follows:

- **Beneficial** classifications of significance indicate an advantageous or beneficial effects which may be minor, moderate, or major in magnitude.
- **Neutral** classifications of significance indicate no significant beneficial or adverse effect.
- **Adverse** classifications of significance indicate disadvantageous or adverse effects, which may be minor, moderate or major in magnitude.

2.22 Where adverse or beneficial effects have been identified these have been assessed against the following scale:

- Negligible.
- Minor.
- Moderate.
- Major.

2.23 The level of significance is derived by a combination of the magnitude of the effect and the sensitivity of the receptor. Thus, for example, a key (major or moderate) significant effect (in either construction

or operation) would be likely to be of major or at least moderate magnitude, affect a wide area, be long term or irreversible and difficult to absorb in the relevant area.

2.24 Most of the temporary assessments focus on the “peak” of the construction period. This enables it to demonstrate the maximum scale of effects and ensure mitigation measures meet the worst case for adverse effects.

2.25 The magnitude and significance of these effects are assessed within the geographical contexts as set out above.

g) Acknowledging a degree of uncertainty

2.26 It is necessary to acknowledge that there is a degree of uncertainty in the accuracy of the baseline characterisation, the prediction of the magnitude and significance of effects and the vulnerability of receptors.

2.27 Wherever possible, baseline characterisation and projections in this Assessment are supported by appropriate, robust and up-to-date data and high level technical expertise of the author and DGL.

2.28 Where a range of potential outcome is considered likely, this assessment presents a “worst case scenario”.

h) Assumptions and limitations

2.29 It has been assumed that, should the Curraghinalt Gold Project not come forward, the development site would remain as they currently are at the time of Application. This “no development scenario” would not result in any significant socio-economic effects.

2.30 There are no further assumptions regarding the assessment methodology or available data, over and above those set in above in this *Methodology* section.

3 ASSESSMENT OF EFFECTS

i) Introduction

3.1 The section presents an assessment of the likely scenario with respect to Socio-Economics. The likely scenario is based upon project-specific information obtained from DGL and its consultants and meetings with Department for the Environment (Northern Ireland). (See also the *Scope and Objectives of Assessment* section of this Assessment.)

j) Assessment of effects during construction

i) Peak construction employment

3.2 The construction of the Proposed Development at the Curraghinalt Gold Project would generate construction employment, the level of which has been forecast using information produced by DGL using detailed information on the construction schedule and the skills/occupation profile of the required workforce. The total of 500 “person years” of construction employment are expected to be required to deliver the project. The peak headcount on-site over the 18-24 month construction period would be 260.

3.3 Table 3-1 sets out the projected construction employment required by skill/occupation.

Table 3-1: Peak Construction Employment by Skill/Occupation

Job Type	Projected Person Years of Employment Created
Total construction person years of employment	500
Job Type	Projected Peak headcount over 18-24 construction period
Mine Management	4
Construction Management	124
Mine Operations – Production e.g. blaster, scooptram operators, bolter operators etc	80
Mine Operations – Services e.g. backfill helper, electrician	8

Job Type	Projected Person Years of Employment Created
Total construction person years of employment	500
Job Type	Projected Peak headcount over 18-24 construction period
Mine Maintenance e.g. welders and mechanics, maintenance planners	18
Technical Services e.g. engineers, geologists	119
Processing (processing positions required during construction) – mill operations, water treatment operations, metallurgical engineer	6
Administration inc. logistics, health and safety, environment, facilities management, accounts, HR	19
Maximum Peak at any one time (does not equal the sum of categories above, as peak does not occur simultaneously for the different occupations)	260

- 3.4 There is a significant pool of potential local labour as set out the *Socio-Economic Baseline Study*. There are 230 construction workers living in Owenkillew, 5,500 living in The District and 65,000 living in Northern Ireland.
- 3.5 Specialist contractors would be required to undertake the construction of certain elements of the Curraghinalt Gold Project; for some tasks, these contractors would bring with them specialist skilled and experienced labour which can come from elsewhere in the United Kingdom, from the Republic of Ireland or beyond. Construction labour is highly mobile. Construction employees working on the Curraghinalt Gold Project could be expected to travel at least 50 miles from their permanent home. 57% of Northern Ireland construction workers travelled at least 50 miles to a job in 2015. From the Curraghinalt Project, this distance covers the entirety of Northern Ireland⁴.
- 3.6 However, local labour would be used where this exists within the local skills base. DGL is already working in the local community to maximise local residents' access to employment opportunities at the Curraghinalt Gold Project, including in construction. Promoting local employment is priority for

⁴ CITB, 2015. Workforce Mobility and Skills in the UK Construction Sector 2015. p.51

DGL, in line with local and Northern Ireland planning and economic development policies. This is set out in more detail in the *Statement of Economic Impacts* submitted with the Application. At the time of Planning Application, c.60% of DGL's employees come from within County Tyrone. DGL is facilitating local employment through a range of measures set out in detail in the *Statement of Economic Impacts*.

3.7 In the context of this labour market, the total peak construction employment at the Curraghinalt Gold Project would result in a **temporary major beneficial** effect at the **Owenkillew** level, a **moderate beneficial effect** at a **District** level, and a **minor beneficial to negligible effect** at a **Northern Ireland** level.

ii) *Effect on temporary accommodation supply*

3.8 In the context of the supply of construction labour living within a reasonable travelling distance and the initiatives undertaken by DGL to promote access to jobs for local people, it is unlikely that there would be a substantial non-home-based construction workforce at any one time. i.e. there will not be a substantial pressure on local rental properties or tourist accommodation created by non-home-based construction workers.

3.9 The estimated number of private rented dwellings within the District is 5,770. The District also has an estimated 280 hotel, bed and breakfast and self-catering bedspaces. In this context, the peak 260 construction employees could demand up to a maximum of 4.4% of the total private rented or tourist accommodation within the District. However, in reality, the majority will be home-based and will not require any temporary accommodation.

3.10 In this context, the likely significant effect with respect to non-home-based construction employee demand for temporary accommodation would be **temporary, short term, minor and beneficial** at a District level in terms of increase in business for the owners of accommodation facilities, who would otherwise be operating below capacity.

iii) *Effect of construction employees on demand for social and community infrastructure*

3.11 As stated above, the majority of construction workers would be home-based and would therefore not create additional pressure on social or community infrastructure.

3.12 Any non-home-based construction workers are likely to be disbursed within the District (and potentially beyond). They may take temporary accommodation at any available tourist or private rented temporary accommodation within the district or county. This will disburse any effect on social infrastructure such as health or leisure activities over a wide area. As set out above, the addition of this number of people is negligible in the context of the population of the District as a whole. Taking these two factors in mind, the effect with respect to increased demand for community infrastructure would be **negligible** at all spatial scales.

iv) Indirect employment effects resulting from construction expenditure

3.13 Expenditure by DGL on construction of the Curraghinalt Gold Project would result in indirect beneficial economic effects in the wider supply chain.

3.14 Indirect employment has been estimated using a breakdown of construction spending provided by DGL and drawing on the ONS Input-Output tables for the United Kingdom. These show that 60% of construction spending goes on materials and other parts of the supply chain – the remaining 40% is the Value Added. Most of the purchases (nearly 50%) remain within the construction supply chain with a further 35% going to manufacturing companies and the remainder split between energy, transport and logistics and business and financial services. This methodology is set out in the *Statement of Economic Impacts*.

3.15 Table 3-2 sets out the expected indirect effects resulting from construction expenditure.

Table 3-2: Construction Spending Indirect Effects

Effect	Total over 18-24 months construction
Investment	£160m
Supply Chain Expenditure	£107m
Multiplier effects: additional 1 year induced jobs	720

Figures have been rounded

3.16 The Curraghinalt Gold Project would result in an investment of £160m and supply chain expenditure of an estimated £107m. Through the supply chain, this would result in an estimated 720 indirect 1

year jobs in the economy. In the context the economy of the Northern Ireland as whole, this expenditure and job creation would be beneficial but **negligible** in magnitude.

3.17 However, DGL is committed to maximising the number of firms within the District and within Northern Ireland that are able to access and succeed in tendering for opportunities. This is set out in more detail in the *Statement of Economic Impacts* that accompanies this Application. In the context of the District economy, the indirect effects of investment and job creation could therefore be **temporary, short term, minor to moderate beneficial at a District level.**

v) *Induced employment effects resulting from construction expenditure*

3.18 The additional construction employees would be expected to spend some of their increased incomes and thereby increase employment in local shops and services. In some cases, workers would move directly from unemployment to employment at the Curraghinalt Gold Project. In other cases, they would move from existing jobs, thereby creating vacancies that other residents can fill. The overall result is that more people would have a job and there will be an overall increase in wages and in spending. This spending would then support more employment and economic activity at other local businesses. This is set out in the *Statement of Economic Impacts* that accompanies this Application.

3.19 Induced employment resulting from increased local expenditure is estimated to be 170 jobs (one year). The geographical distribution of this expenditure cannot be accurately estimated but a significant proportion could be within the District. This would result in a **temporary, short term, negligible to minor beneficial effect** at a District level.

vi) *Increase in GVA resulting from construction expenditure*

3.20 The ONS estimates that approximately 40% of spending on construction is “value added,” which is the sub-national measure of GDP. This is set out in the *Statement of Economic Impacts* that accompanies this Application. For a £160m of construction investment the direct GVA would therefore be approximately £64m. This should be assessed in the context of annual GVA for Northern Ireland of £34.4bn (equating to 0.15% of Northern Ireland’s annual GVA).

3.21 This would result in a **temporary, short term, major beneficial effect at District level and District level.**

- 3.22 As with employment, this would result in indirect and induced GVA effects via the supply chain and labour market. These would result in a total of £47m. of additional GVA in the wider economy as set out in Table 3-3.
- 3.23 The geographical distribution of this indirect and induced increase may be wide-spread although DGL commits to engaging with suppliers which maximise local benefits.

Table 3-3: Construction GVA Effects

Effect	Total over 18-24 months construction
Direct GVA	£64m
Indirect GVA	£39m
Induced GVA	£8m
Total GVA	£112
GVA per year over 24 months	£56m

Figures have been rounded

- vii) Indirect effects of construction on the local economy resulting from construction: tourism effects

- 3.24 Tourism is driven by the key local characteristics of an area. The Curraghinalt Gold Project is located within the Sperrins Area of Outstanding Natural Beauty (AONB). The elements that have led to its designation as such are set out by the Department of Agriculture, Environment and Rural Affairs (Northern Ireland) as:

“The Sperrin AONB encompasses a largely mountainous area of great geological complexity. Stretching from the Strule Valley in the west to the perimeter of the Lough Neagh lowlands in the east this area presents vast expanses of moorland penetrated by narrow glens and deep valleys. In its south, the Burren area is noted for its

lakes, sandy eskers and other glacial features. The area is rich in historic and archaeological heritage and folklore⁵.

- 3.25 These attributes are amongst the key reasons why tourists visit the AONB and it is possible that any damage to these qualities, perceived or otherwise, could reduce visitor numbers.
- 3.26 It is possible that the Curraghinalt Gold Project could affect tourism through the following pathways:
- **Noise and Vibration** - relevant to effects on visitor amenity caused by construction and operational noise/vibration; effects on tranquillity;
 - **Traffic and Transportation** - relevant to effects on traffic disruption on visitors and businesses;
 - **Landscape and Landscape** - relevant to effects on visitor amenity caused by adverse effects on views and local landscape/townscape character; effects on feelings of remoteness; diversity of landscape;
 - **Water Resources and Waste** – relevant to effects on rivers and lakes that may be used for recreational uses including recreational fishing.
 - **Releases to Air** - relevant to effects on visitor amenity caused by dust and air pollution; and,
 - **Socio-Economics** - relevant to effects on the economy and employment in tourist sectors including effects on tourist accommodation arising from temporary construction workforce
 - **Cultural Heritage** – relevant to any architectural, archaeological and historical features, or local traditions, that may attract tourists.
- 3.27 In the context of the diversity and breadth of the Sperrins AONB tourism offer and the extent of the geographic area, the effects are expected to affect a small area of the AONB and be limited in their nature.
- 3.28 The Owenkillew Ward is not a significant tourist destination within the AONB. As set out in the *Socio-Economic Baseline Study*, there are only two tourist accommodation establishments within

⁵ Department of Agriculture, Environment and Rural Affairs (Northern Ireland), Sperrin AONB, <https://www.daera-ni.gov.uk/articles/sperrin-aonb> accessed 04.01.17

Owenkillew. These are two small self-catering cottages with four bedspaces each. Whilst there are local attractions, namely national cycle routes, rivers and lakes used for fishing and water sports, these are not in the immediate vicinity of the Project Site. A map and description of local tourist attractions is included in Section 5 and Figure 5.1 of the *Socio-Economic Baseline Study*.

- 3.29 The Curraghinalt Gold Project would not create any significant adverse effects during construction with respect to surface water runoff and water quality in local rivers and burns, dust, car and HGV emissions, ventilation raise and stack emissions, vibration. The Site is not currently visited by any tourists for its ecological value. The wider area is used by local and visiting fisherman and the effect on fish and water courses is not found to be significant, and will be monitored. The sections below set out in more detail how key factors with the potential to affect tourism will not have a significant adverse effect.

Visual Effects

- 3.30 Despite the identification of localised landscape effects upon constituent Local Landscape Character Areas which define the Sperrins AONB and some significant effects on views experienced by receptors from within a relatively confined area of the AONB (to the south-east, south and south-west of the Proposed Infrastructure Site), the introduction of the Curraghinalt Gold Project will not compromise the designation of the Sperrins AONB or enjoyment of its use for tourism or recreation.
- 3.31 Significant landscape and visual effects that could arise will be concentrated within a very localised and relatively visually contained area of the Sperrins AONB. The wider scenic qualities of the AONB will be largely unaffected by the presence of the development and the effects are therefore not judged to reduce the overall integrity of the AONB.

Traffic and Transport

- 3.32 Only administration staff traffic would impact the road network at peak hours due to the non-peak shift patterns proposed by DGL. DGL and their subcontractors will use multi person vehicles and car shares resulting in an average of 4 persons per vehicle during the construction phase. The total number of staff vehicle trips generated per day is 104 (88 when 15% trip discount applied) during the construction phase.

- 3.33 Minimal driver delay (less than 3.5 seconds) is expected all approaches to the junction during both morning and evening peak periods during the construction phase. The existing junction is considered fit for purpose and has a minimum 129% residual network capacity, meaning the junction could readily accept the increase in traffic and the potential impact of the project is considered low. Therefore, there is no significant impact from the proposed development on driver delay or network capacity during the construction phase.
- 3.34 The impacts to road safety as a result of increased traffic during construction are deemed to be negligible. There are limited pedestrian amenities or activity within the subject area. Based on the anticipated volumes of traffic levels during the construction phase, pedestrians would not experience delays, impacts on their amenities or cause them fear or intimidation.

Noise

- 3.35 At the proposed surface infrastructure site, the main sources of noise during the construction phase will be from earth movement, excavations, blasting, foundation works, building construction and access road construction. Noise from the works will be perceptible at nearby properties but are expected to be intermittent and temporary. Blasting will result in a very short term and instantaneous noise impact and will not constitute a significant noise impact. The highest blasting effects would only be heard within 1km, an area within which very limited (or no) tourism is expected.

Fishing and water habitats

- 3.36 The potential dewatering effects on flow in the Owenkillew River are not expected to have significant effects on the freshwater pearl mussel or on the different habitats required by salmon - including holding, spawning and nursery areas for which the Owenkillew SAC is of European importance. Neither are they expected to impact on any other species for which the Owenkillew River Area of Special Scientific Interest (ASSI) and the Drumlea and Mullan Woods ASSI area of conservation importance. No significant impacts are projected on the fisheries interest of this river. The Pollanroe Burn is a minor watercourse and increases in surface flows are unlikely adversely affect the ecology of the river.
- 3.37 The water management system for the collection and treatment of water prior to discharge from the Proposed Infrastructure Site would be constructed at the initial phase of construction activities and

would be in operation at the onset of any large scale vegetation / soil / peat stripping and major earthworks associated with the construction phase.

- 3.38 The retention and continuation of use of the existing surface infrastructure site and continued discharge of treated water is not likely to result in any changes in baseline water quality in the Owenkillew River that would impact on freshwater pearl mussels downstream of the confluence of the Curraghinalt Burn or - impact on the secondary Annex II species of Atlantic salmon.
- 3.39 Therefore no effect on fishing opportunities and associated tourism are expected during construction.

Cultural heritage

- 3.40 The Proposed Infrastructure Site is in an area of limited archaeological significance, but is surrounded by an area of much greater interest. In the wider landscape, 34 archaeological monuments, 32 industrial heritage sites and two historic buildings were identified within 3 km of the Proposed Infrastructure Site. We do not have data on if and how often – if at all - these sites are visited by tourists. None have any official tourism infrastructure associated with them, based on our research.
- 3.41 Most of these sites are unlikely to be impacted at all by the project. The only assets that will be impacted by the Project are actually on the Project Site, including Pollan Rua Cottage, some poorly preserved building remains/roof structures and the 19th century field system and a trackway. Pollan Rua cottage used to be an operational holiday rental home, but is owned by DGL Ltd and has not operated as such for several years. The overall effect of this loss on the local visitor economy is very limited.

Overall effect

- 3.42 Based on these assessments, it is very unlikely that a tourist visiting the Sperrins would experience any effects at all from the Project. If any are, these effects would only be experienced by any visitors for a very small portion of the duration of their visit, without any significant impact on their trip overall. A typical visitor would not be interrupted by the activities at all.
- 3.43** The residual effect on tourism is therefore assessed to be **negligible at all spatial levels.**

4 ASSESSMENT OF EFFECTS DURING OPERATION

a) Employment effects during operation

- 4.1 The operation of the Curraghinalt Gold Project would result in long term employment creation. There would be an at least 350 employees on average at operation. Further detail about the labour force requirements is set out in the *Statement of Economic Impacts*.
- 4.2 A third of all residents of the District travel 10km or less to work. From the Centre of the Site Area A, this broadly covers the area of Owenkillew. As with construction, DGL will put in place initiatives to maximise access to new employment opportunities for local people; c. 60% of DGL's current employees (as of Quarter 4 2016) currently come from within County Tyrone. In general in Northern Ireland, over 60% of employees travel less than 60km to work (a further 15% work from home). This would bring the majority of the district within daily commuting distance of the Curraghinalt Gold Project.
- 4.3 The operational jobs created by the Curraghinalt Gold Project represent a 130% increase in the total number of non-agricultural jobs in Owenkillew⁶. Including farmers and agricultural labourers, this would amount to a 56% increase in jobs⁷. This should be seen in the context of unemployment in Owenkillew of 5.2% (c. 100 people) and 4.8% (3,900 people) in the District. There are also 27,000 economically inactive residents in the District and 760 in Owenkillew. Some of these residents may have dropped out of the workforce due to lack of suitable jobs available and could return to the workforce if provided with appropriate opportunities.
- 4.4 In addition to those who are unemployed or inactive, some local residents may be underemployed, working in agricultural jobs that are not full time. 83% of farms in the District do not require a full-time employee⁸.
- 4.5 Public consultation responses obtained by DGL in November 2016 indicate that shift work that could employ local people who are currently underemployed in agriculture would be locally beneficial.

⁶ Department for the Economy Northern Ireland, 2015, Census of Employment.

⁷ Department for the Economy Northern Ireland, 2015, Census of Employment. And Northern Ireland Farm Census 2015

⁸ Fermanagh and Omagh District Council, 2015, Presentation: A New Community Plan Workshop 1: Economic Theme

These jobs would help achieve Northern Ireland’s objectives set out in the Programme for Government, such as target for “an increased proportion of people working in better jobs” and “reduced economic inactivity⁹”.

4.6 This would result in a **major beneficial effect** at an **Owenkillew and District level** and a **minor beneficial effect** at a **Northern Ireland level**.

b) Demand for accommodation by operational employees

4.7 It is expected that all of the operational workforce would be home-based once they are employed at The Curraghinalt Gold Project and there would be no demand for tourist accommodation resulting from its operation. Operational employees would be distributed within the District, and some may commute from beyond the District from elsewhere in Northern Ireland. There are 44,900 dwellings within the District and 750,000 within Northern Ireland. In the context of this many homes, and the natural churn of the housing market, the likely significant effect with respect to demand for accommodation during operation would be **negligible at all spatial levels**.

c) Potential effects on house prices

4.8 It is very difficult to isolate the effects of any one variable on house prices, as changes in house price are affected by numerous local, national and international influences. A major construction project has the potential to increase or decrease house prices – or to have no net significant effect on house prices at all.

4.9 As set out above, there is expected to be minimal increase in demand for housing generated by employees moving to the area in the context of the size of the local housing stock and the natural churn of the housing market.

4.10 A review of international evidence¹⁰ indicates that that property price reductions that result from the construction of mines are as result of the externalities resulting from mining activities. Research

⁹ Northern Ireland Executive, 2016, Programme for Government Consultation Document

¹⁰ Prasad Neelawala, Clevo Wilson and Wasantha Athukorala (2012). “The impact of mining and smelting activities on property values: a study of Mount Isa city, Queensland, Australia”. The Australian Journal of Agricultural and Resource Economics, Vol. 57, pp. 60–78; A. M. Williams (2011), “The impact of surface coal mining on residential property values: a hedonic price analysis”. University of

indicates that that lower property prices from proximity to mines or quarries are a reflection of adverse effects (perceived or actual) on quality of life. The Curraghinalt Gold Project will utilise “best-in-class” technology to reduce any potential negative effects that could arise as a result of mining activities and will support environmental sustainability. DGL has undertaken extensive local engagement to inform residents and land owners of the proposals, including the mitigation measures that will be put in place to ensure that any potential effects on local households is minimised. This should reduce both actual and perceived negative effects on quality of life.

4.11 Given these factors the net effect on house prices at a Ward or District level is not expected to be significant.

d) Effect of operational employees on demand for social and community infrastructure

4.12 The operation of the Curraghinalt Gold Project would result in long term employment creation. There would be at least 350 operational employees. In the context of DGL’s commitment to employment and training of local people, the supply of residents with relevant skills and supply of residents who are currently unemployed, it is expected that some employees will already be living within commuting distance - and will therefore create no net increase in demand for social and community infrastructure. Employees who may move closer to the area to take up new jobs will be geographically disbursed within the District and beyond, which will disburse any effect on social infrastructure such as health or leisure activities over a wide area. Even if the new residents were concentrated in the District, the addition of this number of new residents in the context of the size of the existing population would be **negligible** at all spatial scales.

e) Project wide economic effects: indirect and induced employment, GVA, tax and exports

4.13 This section addresses the macro-economic effects of the Curraghinalt Gold Project. The magnitude and significance of the effects is assessed as a whole in the concluding paragraph this assessment (See *Conclusion: project wide macroeconomic effects during operation*).

Tennessee thesis; Diana Hite, 2006, “Summary Analysis: Impact of Operation Gravel Pit on House Values, Delaware County, Ohio,” Auburn University; Centre for Spatial Economics (2009), “The Potential Financial Impacts of the Proposed Rockfort Quarry”

f) Indirect employment effects resulting from operational expenditure

- 4.14 Expenditure by DGL on the operation of the Curraghinalt Gold Project would result in indirect beneficial economic effects in the wider supply chain and these effects would generate indirect employment.
- 4.15 Indirect employment has been estimated using a breakdown of purchases provided by DGL and drawing on the ONS Input-Output tables. This methodology is set out in the *Statement of Economic Impacts* that accompanies this Application. The results are summarised in Table 4-1.

Table 4-1: Operational Expenditure Indirect and induced Effects

Effect	Annual operational effect
Total Supply Chain Expenditure per annum	£66m
Indirect Jobs	520
Induced Jobs (1 year)	100

Figures have been rounded

- 4.16 The Curraghinalt Gold Project would result in supply chain expenditure of £66m on average annually during operation. Through the supply chain, this would result in 520 indirect jobs in the economy (1 year jobs). Induced jobs would amount to 100 (1 year jobs). In the context the economy of Northern Ireland, this expenditure and job creation would result in **a beneficial but negligible effect at a Northern Ireland level.**
- 4.17 DGL is in the process of identifying and supporting local suppliers and promoting local supply chain opportunities to maximise the proportion of expenditure – and therefore indirect jobs – that is capture locally.
- 4.18 DGL is committed to maximising the number of firms within Northern Ireland and the District in particular that are able to access and succeed in tendering for opportunities and is working with local suppliers towards this goal. In the context of the District economy, the indirect effects of investment and job creation could therefore be **long term, major beneficial at a District level.**

i) Increase in GVA resulting from operation expenditure

4.19 The operation of the Curraghinalt Gold Project would generate a significant amount of GVA, making a substantial contribution to Northern Ireland's GDP, and generating indirect and induced GVA effects as well. The projected operational GVA effects are set out in Table 4-2 below.

Table 4-2: Operational GVA Effects

Effect	Annual operational effect
Direct	£120m
Indirect	£24m
Induced	£5m
Total	£150

Figures have been rounded

ii) Tax effects resulting from operation

4.20 The project will make a significant contribution to the national exchequer. The Government will collect income tax from the workers' salaries (both direct and indirect), from shareholders (on their dividends) and from landowners who receive royalties. They will also receive Capital Gains Tax, National Insurance, Corporation Tax and VAT (on domestic sales). DGL would also pay local taxes and duties, including business rates and royalties. Of these, Corporation Tax is likely to be the most significant. Total projected tax gains for local and national government would equate to an average of £15.4m per year.

4.21 Further payments would include land royalties, dividends (some of which may go to local shareholders living in the District) and Business Rates. Business Rates revenue will be retained entirely within Northern Ireland, with c. 20 pence in the pound of Rateable Value (RV) retained within the District and c. 32 pence in the pound of RV retained by the Northern Ireland government¹¹.

iii) Export effects resulting from operation

4.22 As well as boosting GDP, the proposed Curraghinalt Gold Project would help reduce the Northern Ireland trade deficit, which was £6,100m in 2012. 100% of production is expected to be exported

¹¹ Northern Ireland Assembly, 2016, Research and Information Service Briefing Paper: Non-Domestic Business Rates in the United Kingdom

and this would equate to over £180m of exports each year. This would reduce the Northern Ireland trade deficit by c.3%.

iv) Conclusion: project wide macroeconomic effects during operation

- 4.23 The Curraghinalt Gold Project would make substantial contributions to direct, indirect and induced employment, GVA and National Government tax.
- 4.24 The Curraghinalt Gold Project would have substantial and positive economic benefits, directly, through employment and output and, indirectly, through the supply chain and employee expenditure. It would result in an increase in GDP; a nationally significant reduction in the Northern Ireland trade deficit of 3%; c.500 person years of construction employment (a peak of 260 on-site) and at least 350 direct operational jobs - and many more in the supply chain, boosting the employment rate and spending power; corporate and income tax receipts; and royalty payments. The Curraghinalt Gold Project would be effective in contributing to substantially strengthen the Northern Ireland economy.
- 4.25 The *Statement of Economic Impacts* that submitted with the Application sets out the economic effects in detail, set in the context of national policy considerations and the national significance of the proposals.
- 4.26 The in-combination macro-economic effects at Northern Ireland level with respect to exports will be **major beneficial and long term**. The combined economic macro-effects at a local and District level are **major beneficial and long term**.

v) Indirect effects on the local economy resulting from operation: tourism effects

- 4.27 As set out in the *Indirect effects of construction on the local economy resulting from construction: tourism effects* section, the Curraghinalt Gold Project is located within the Sperrins AONB, which has specific natural and historical attributes which may attract tourists. It is possible that any damage to these qualities, perceived or otherwise, could reduce visitor numbers.
- 4.28 However, the Owenkillew Ward is not a significant tourist destination within the AONB. In the context of the diversity and breadth of the Sperrins AONB tourism offer and the extent of the

geographic area, the effects are expected to affect a limited area of the AONB and be limited in their nature.

- 4.29 The Curraghinalt Gold Project would not create any significant adverse effects with respect to surface water runoff and water quality in local rivers and burns, dust, car and HGV emissions, ventilation raise and stack emissions, vibration, during construction or operation. The Site is not currently visited by any tourists for its ecological value. The wider area is used by local and visiting fisherman and the effect on fish and water courses is not found to be significant, and will be monitored. The sections below set out in more detail how key factors with the potential to affect tourism will not have a significant adverse effect.

Visual Effects

- 4.30 Despite the identification of localised landscape effects upon constituent Local Landscape Character Areas which define the Sperrins AONB and some significant effects on views experienced by receptors from within a relatively confined area of the AONB (to the south-east, south and south-west of the Proposed Infrastructure Site), the introduction of the Curraghinalt Gold Project will not compromise the designation of the Sperrins AONB or enjoyment of its use for tourism or recreation.
- 4.31 Significant landscape and visual effects that could arise will be concentrated within a very localised and relatively visually contained area of the Sperrins AONB. The wider scenic qualities of the AONB will be largely unaffected by the presence of the development and the effects are therefore not judged to reduce the overall integrity of the AONB.

Traffic and Transport

- 4.32 There is no significant impacts on driver delay or network capacity expected to arise during the operation phase, even when assessing the worst case scenario.
- 4.33 The impacts to road safety as a result of increased traffic during operation are deemed to be negligible. There are limited pedestrian amenities or activity within the subject area. Based on the anticipated volumes of traffic levels during the construction phase, pedestrians would not experience delays, impacts on their amenities or cause them fear or intimidation.

Noise

- 4.34 At the proposed surface infrastructure site, the main sources of noise during the operational phase would be ventilation fans, blasting and traffic.
- 4.35 The ventilation fans will not be audible at ground level in the operational phase. Traffic noise effects would be isolated and not significant. Extraction and processing of gold, treatment activities and site would have very low noise levels that will not affect enjoyment outdoor amenity areas or sleep disturbance even at the closest property. Noise from the works will be perceptible at nearby properties but are expected to be intermittent and temporary. Blasting will result in a very short term and instantaneous noise impact and will not constitute a significant noise impact. The WHO guideline noise levels will not be exceeded at any nearby residential properties.

Fishing and water habitats

- 4.36 Mitigation measures would be carried over from the construction to the operational phase. As with the construction phase, no effect on fishing opportunities and associated tourism are expected during operation.

Cultural heritage

- 4.37 The project application site represents an area of limited archaeological significance surrounded by an area of much greater interest. Effects of the operation of the Curraghinalt Gold Project on cultural heritage would be in line with the effects of construction. The overall effect of this loss on the local visitor economy would very limited.

Overall effect

- 4.38 Based on these assessments, it is very unlikely that a tourist visiting the Sperrins would experience any effects at all from the Project. If any are, these effects would only be experienced by any visitors for a very small portion of the time, without any significant impact on their trip overall. A typical visitor would not be interrupted by the activities at all.
- 4.39** The residual effect on tourism is therefore assessed to be **negligible at all spatial levels.**

5 CUMULATIVE EFFECTS

5.1 Determining a local impact area for cumulative socio-economic assessment is inappropriate. Socio-economic effects arise through labour and product markets which are not confined to a very local area. Therefore, cumulative socio-economic assessment takes into account a wider area, which will have a greater ability to cope with change. As a result, the effects are typically positive; primarily increasing employment. The cumulative impact assessment for socio-economic effects, therefore, takes a different approach to other topics in that it utilises broader “macro” projections of cumulative influences relevant to particular potential effects (e.g. the effect on local and regional labour market), rather than focusing on potential cumulative effects of specific developments on individual receptors.

5.2 The key potential cumulative effects for assessment are:

- the effects on the labour market and demand for labour;
- the effects of the non-home-based workforce on demand for accommodation in the identified areas where potential effects may occur; and,
- the environmental effects that could affect the tourism economy.

g) **Labour market**

Construction

5.3 The Curraghinalt Gold Project, together with the cumulative schemes, would be expected to generate employment opportunities during demolition and construction.

5.4 When considered at a Northern Ireland level (as is relevant to consider given the mobility of the construction workforce), this demand for construction labour would be part of the general trend of activity in the construction industry. The Construction Industry Training Board produces regional analyses of construction industry supply and demand. These take into account projected construction output by sector including commercial, infrastructure and housing. They also take into

account known large scale “one-off” developments such as major infrastructure or regeneration sites.

- 5.5 The Northern Ireland construction industry output is expected to grow by an annual average of 1.8%, equating to a change in total employment in the sector of 1,540 additional employees. To account for employees leaving the sector (retiring, migrating) this would require an additional 1,380 construction employees every year between 2016-2020.
- 5.6 The CITB forecasts feed into local, regional and national policy on construction skills and labour force strategies. The cumulative schemes would be part of this forecast trend of construction activity. Therefore, there are no net additional construction employment effects to be considered for the specific cumulative scheme.
- 5.7 Labour demand for the cumulative schemes will be a small part of the wider Northern Ireland construction labour market, with smaller individual schemes forming part of an overall background trend in demand. Within the District, this background trend consists mainly of small-scale residential developments and wind farm developments, many of which are small scale, delivering a single turbine for individual farm use. These schemes will be considered as part of the CITB forecasts.
- 5.8 Whilst most developments are taken to be included in this background trend, which can be accommodated by the natural fluctuations in labour market demand and labour and residential mobility (jobs and housing churn), those developments which are considered to be exceptional to the background trend of development in the area are:
- Proposed shale mineral extraction associated storage phased restoration concrete batching plant and associated storage silos (I/2012/0446/F)
 - Extension of existing mineral extraction site (K/2015/0143/F)
 - Retrospective extraction of sand and gravel (1.2ha) and proposed restoration (4ha) by way of infilling with inert material, including inert waste to return the land to agricultural use. (K/2013/0507/F)
 - Doraville Wind Farm (LA10/2015/0292/F)

- Lisnahrney Wind Farm (K/2013/0181/F)

- 5.9 These proposals could significant effects on labour demand and therefore need to be considered individually.
- 5.10 For the labour market assessment, the demand for construction and operational labour for the exceptional developments (as outlined) is considered in total and in the context of the supply of labour within the wider Northern Ireland labour market.
- 5.11 Based on publicly available information, these cumulative schemes would create at least 350 person years of construction employment. From the available data, it is not possible to estimate what this would equate to in terms of on-site peak employment, as this is dependent on detailed construction methodologies and timescales, although a simultaneous peak in labour demand is unlikely.
- 5.12 Given the mobility of the construction workforce, these jobs would be drawn from a wide local and national labour pool. Considering that the effect would be disbursed and peak at different times and there is not expected to be any significant adverse cumulative effects generated with respect to the construction labour force.
- 5.13 On an individual site basis, planning conditions, on-site provision and off-site payments would ensure that any adverse effects of these cumulative schemes are mitigated. Where appropriate and necessary, Applicants could commit to employing local people, which could maximise the local benefit of demolition and construction which could help to capture a larger proportion of the benefit locally.
- 5.14 Given the size and mobility of the Northern Ireland demolition/construction labour market and the trend growth as set out by the CITB, it is not expected that demolition and construction of the cumulative schemes would generate any adverse effects with respect to socio-economics. The overall effects would be beneficial.
- 5.15 The cumulative effect of this employment creation would be **moderate beneficial** within the District and **negligible to minor beneficial** for the wider Northern Ireland economy.

Operation

5.16 The cumulative schemes are expected to generate approximately 15 operational jobs. Together with the Curraghinalt Gold Project, this would equate to at least 365 operational jobs. There would be no significant socio-economic effects generated by the cumulative schemes over and above the effect of the Curraghinalt Project alone. The cumulative effect due to operational employment is therefore **major beneficial effect** at an **Owenkillew and District level** and a **minor beneficial effect** at a **Northern Ireland level**.

h) Housing growth and population demand

5.17 In the case of overall population and household change and growth, the cumulative developments under consideration include small residential schemes. These homes (predominantly single units) amount to a total of 21 schemes within 15km of Project Sites. In the context of the existing population and size of the existing housing stock, development at this scale is not expected to have any significant effects with respect to socio-economics.

i) Indirect effects on the local economy resulting from cumulative developments: tourism effects

5.18 As set out earlier in this Assessment, the Curraghinalt Gold Project is located within the Sperrins AONB, which has specific natural and historical attributes which may attract tourists. It is possible that any damage to these qualities, perceived or otherwise, could reduce visitor numbers. However this particular area is not an established tourism or visitor destination, with the exception of fishing on local watercourses.

5.19 The planning applications for the cumulative schemes have not undertaken tourism assessments. However, based on the publicly available information about the proposals and the mitigation proposed, it is not expected that any of the developments would have a significant adverse effect on tourism.

6 ASSESSMENT OF EFFECTS DURING DECOMMISSIONING

- 6.1 The Curraghinalt Gold Project is expected to be decommissioned within 20-25 years of operation beginning (depending upon processing rate).
- 6.2 Wherever practical the site will be returned to farming land compatible with site conditions and the local environment. Specific closure commitments are linked to the final land use for the project area, which have been defined in collaboration with local communities, government and other project stakeholders.
- 6.3 At present, the plan is that the land will be restored to productive use for farming and/or heathlands. The chosen land use will aim to be consistent with the landscape character and scenic value of the Sperrin Mountains AONB.
- 6.4 In addition, the Applicant would seek to minimise and mitigate any adverse effects due to job losses.
- 6.5 Employee severance provided for in the operational costs should include everyone except staff required for the closure stage. Employees who will not be required in the closure stage should be made redundant in accordance with a retrenchment plan that will be developed by the company.
- 6.6 This plan will be prepared to meet Northern Ireland legislative requirements and may include prior retraining. Human Resources (HR) policies during operation will be developed to ensure that sustainable certifications and professional development are integral in the HR training to assist employees in finding future work post-closure.
- 6.7 Further detail is set out in the *Conceptual Rehabilitation and Closure Plan for the Curraghinalt Gold Project*.
- 6.8 Loss of direct and indirect employment at end of operation and following completion of decommissioning is inevitable and would result in adverse effects. However, as set out in *HM Treasury Green Book: Appraisal and Evaluation in Central Government (2011)*, due to Social Time Preference, which attaches a greater value to present, rather than future consumption, a discount rate should be applied to future benefits and costs. Under this methodology, after 25 years of operation, benefits of the Curraghinalt Gold Project, including employment, should be discounted to



0.4231 of their value at the start of operation¹² i.e. the equivalent of a loss of 148 jobs. In this context, the effects are expected to **be Minor to Moderate Adverse but Short Term at a local, District and National level.**

¹² HM Treasury, 2011, The Green Book, Long Term Discount Factors, p. 100