



An  
Bord  
Pleanála

## Inspector's Report ABP-305821-19

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<b>Development</b>	Continued operation and deepening of a quarry extraction area and construction of a settlement lagoon
<b>Location</b>	Aghamore Near & Carrownamaddoo, Ballysadare, County Sligo
<b>Planning Authority</b>	Sligo County Council
<b>Planning Authority Reg. Ref.</b>	PL18/345
<b>Applicant(s)</b>	Lagan Bitumen Ltd.
<b>Type of Application</b>	Permission
<b>Planning Authority Decision</b>	Grant
<b>Type of Appeal</b>	Third-Party
<b>Appellant(s)</b>	1. Brendan & Darragh McDonagh 2. Peter Sweetman and on behalf of Wild Ireland CLG
<b>Observer(s)</b>	None
<b>Date of Site Inspection</b>	7 <sup>th</sup> May 2020
<b>Inspector</b>	Colm McLoughlin

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## **1.0 Site Location and Description**

- 1.1.** The appeal site is located approximately 1.4km south of the urban environs to Sligo, in the east of County Sligo and 700m southwest of Lough Gill. It is stated to measure 18ha and currently comprises a limestone quarry extraction area. Vehicular access to the quarry is available from the southeast corner off a local road (L-3603) with an 80km/hr speed limit, which links the R284 and R287 regional roads. The quarry is part of a larger landholding and is associated with a depot, which includes a materials processing and manufacturing area and staff welfare facilities on the opposite east side of the aforementioned local road. The front entrance area features splayed stonewalls with tree cover rising up embankments on both sides of the entrance track.
- 1.2.** The lands adjoining and surrounding the site are largely used for agricultural purposes, interspersed with one-off housing primarily fronting onto the public roads. Recreational playing fields are situated approximately 100m to the north of the site. There are commercial units to the southeast of the site, including a business park area and fuel depot. The perimeter of the quarry void is generally at a level of +30m based on ordnance datum (OD), with the existing quarry floor at -21m OD. The quarry extraction area is situated at the apex of a low hill, with ground levels dropping steadily away from the perimeter of the quarry void in all directions and slightly steeper slopes leading east towards a stream on the opposite side of the local road, referred to as the Aghamore stream in the application. This stream flows northeast for approximately 800m before discharging to Lough Gill.

## **2.0 Proposed Development**

- 2.1.** The proposed development can be summarised as comprising the following:
- the recommencement and operation of the previously permitted quarry under planning register reference (Reg. Ref.) PL02/271;
  - deepening of the extraction area from an existing level of c.-21m OD by a further bench to a final depth of -50m OD with an extraction area of approximately 10.9ha. The previously permitted quarry floor level was c.-34m OD under Reg. Ref. PL02/271;

- the construction of a settlement lagoon with an area of approximately 2,830sq.m.
- aggregate from the quarry would be initially processed in the quarry void before being transported via heavy goods vehicles (HGVs) to the adjacent processing and manufacturing area to the east of the local road;
- restoration of the site to natural habitat area;
- hours of operation 0800 to 1800 hours Monday to Friday and 0900 to 1700 on Saturdays with operation on Sundays and Bank Holidays only during emergency situations;
- all associated site works within an overall application area of 18 hectares and all for a period of 17 years, inclusive of a two-year final restoration phase.

**2.2.** In addition to the standard documentation and drawings, the planning application was accompanied by an Environmental Impact Assessment Report (EIAR), a Planning Report and an Appropriate Assessment (AA) Screening Report. Following a request for further information, additional details were submitted, including a Natura Impact Statement (NIS) and a Construction Environmental Management Plan (CEMP).

## **3.0 Planning Authority Decision**

### **3.1. Decision**

3.1.1. The planning authority decided to grant permission for the proposed development, subject to 23 conditions, the following of which are of note:

- condition 4(a) – extraction and operation to be limited to ten-years or the -50m OD benchmark being reached;
- condition 4(c) – extraction volumes shall not exceed 300,000 tonnes per annum;
- condition 6(b) – blasting operations to be confined to 1100 hours to 1600hours Monday to Friday;
- condition 7(a) to (g) – blasting operations requirements and restrictions;

- condition 12 – macro-invertebrate surveying;
- condition 21 – amendments to the vehicular entrance area;
- condition 24 – archaeological monitoring of topsoil stripping.

## **3.2. Planning Authority Reports**

### **3.2.1. Planning Reports**

The initial report of the planning authority (September 2018) recommended seeking further information with respect to:

- the need for a NIS, as Stage 2 AA is required;
- clarify proposals with respect to the existing quarry discharge licence (ref. DL(W)139);
- provide details of the settlement lagoon, including the proposed lining;
- provide a site specific management plan for the settlement lagoon;
- clarify surface water run-off details relative to the Aghamore stream;
- clarify reasons for the elevated concentrations of biochemical oxygen demand (BOD) and molybdate reactive phosphorous (MRP);
- provide details, including a site layout plan, of the proposals for interception, collection and disposal of sediment-laden run-off from the processing area of the quarry;
- engage with the planning authority regarding the existing discharge licence;
- provide details of wheel-washing facilities;
- provide an environmental monitoring/management plan;
- clarify whether an asphalt plant would be operated on site;
- provide a bat survey;
- provide a breeding bird survey for protected birds;
- provide details of the assimilative capacity of the discharge waters to Aghamore stream;

- provide proposals for fitting of the discharge into Aghamore stream with a turbidity sensor;
- provide details regarding the adequacy of the existing hydrocarbon interceptor to deal with the additional surface water generated;
- provide revised proposals with respect to the vehicular entrance, which features overgrown vegetation on both sides;
- provide details of the upgrading and strengthening needed to the local road;
- provide details of the existing and proposed boundary treatments.

The second report of the planning authority (June 2019) recommended seeking clarification of further information requesting that the applicant:

- provide a full iterative risk assessment with modelled analysis of water levels;
- provide details of the settlement lagoon, including lining;
- provide a site specific environmental monitoring/management plan;
- submit the discharge licence (Ref. DL(W)139) review documentation;
- clarify proposals with respect to the objectives of the Water Framework Directive (WFD);
- provide details of wheel-washing facilities.

The applicant was requested to re-advertise the application in August of 2019. The recommendation within the final planning report (October 2019) reflects the decision of the planning authority and noted that the planning authority was satisfied with the responses submitted, including the following:

- the applicant has outlined several reasons as to why Lough Gill is not sensitive to drawdown from the proposed quarry abstraction;
- the Environment Section is in the process of reviewing the discharge licence issued for the quarry and this will address in greater detail ongoing requirements for the discharge from the proposed settlement lagoon;
- MRP concentrations above 0.035mg/l in the discharge would not be contrary to the objectives of the WFD;

- the incorporation of mitigation measures would ensure that there would be no significant effects, either individually or in combination, on European sites, in view of the sites' conservation objectives.

### 3.2.2. Other Technical Reports

- Area Engineer (Roads) – grant permission, subject to conditions, including conditions requiring alterations to the embankments at the vehicular entrance, strengthening and upgrading of the local road for a 70m stretch west of the site entrance and the use of a dedicated wheel-wash system;
- Heritage Officer – further information was initially requested, including bat and otter surveys, breeding bird survey for peregrine, kestrel and raven, AA to consider cumulative impacts of the processing plant and the need to prepare a NIS. Subsequently, advised no objection, subject to conditions;
- Fire Officer – a fire safety certificate is not required;
- Environment Section – further information was initially requested with respect to details of the processing plant area, the settlement lagoon, fuel and sediment interception, wheel-washing facilities and environmental monitoring, as well as further details addressing the treatment and disposal of trade effluent/surface water run-off for the proposed development, including variances with the associated discharge licence (ref. DL(W)139). Subsequently a grant of planning permission was recommended, subject to 31 conditions.

### 3.3. Prescribed Bodies

- An Taisce – requested that compliance for the existing development should be addressed as a preliminary matter;
- Minister for Culture, Heritage and the Gaeltacht (National Parks & Wildlife Service) – advised that a NIS was required;
- Minister for Culture, Heritage and the Gaeltacht (National Monuments Service) – requested conditions relating to archaeological monitoring of all topsoil stripping;

- Minister for Communications, Marine & Natural Resources – consultation noted;
- Environmental Protection Agency (EPA) - no response;
- Inland Fisheries Ireland (IFI) – the ecology, status and condition of receiving waters was outlined. IFI advised that the discharge to the Aghamore stream should not result in an orthophosphate concentration of above 0.035mg/l. Subsequently conditions were recommended to be attached, including those relating to the recalculation of the assimilative capacity of Aghamore stream and not Lough Gill, the fitting of a turbidity sensor to the discharge to Aghamore stream, compliance with the associated discharge licence, hydrocarbon interception and disposal, lagoon maintenance, details of explosives, the provision of an environmental management plan and measures to prevent the spread of invasive species;
- The Heritage Council – no response;
- ESB (Electric Ireland) – no response;
- Irish Water – noted that Lough Gill is an important water source supplying Sligo town and its environs and requested details of the implementation measures for the EIAR mitigation measures, details of ground and surface water monitoring and an emergency response plan, as well as requiring all waters discharging from the quarry to Aghamore stream to have to pass through the lagoon. Irish Water subsequently advised that they had concerns regarding uncertainty of the proposals in respect of water levels in Lough Gill and the immediate area and more complete modelling was requested to address this. Following the clarification of further information, Irish Water advised that they were satisfied that their concerns regarding potential risk to water supplies had been resolved via engagement with the applicant.

### **3.4. Third-Party Observations**

- 3.4.1. A total of six observations were received during consideration of the application by the planning authority, four of which were from two persons with addresses in the neighbouring Drumaskibole townland, which is approximately 500m to the southwest



of the appeal site, and two of which were from two parties with addresses in Dublin. The following is a collective summary of the issues raised in these observations:

#### Residential & Visual Amenity

- concerns regarding the impact of noise, safety and visual impacts of the development on a house currently under construction approximately 105m from the quarry face (under Planning Reg. Ref. 17/296);
- health and safety concerns;
- boundary treatments should be enhanced and maintained in a secure manner;
- landscaping proposals are required;

#### Environment & Water Quality

- Aghamore crossroads have been subject to flood events in recent years following the filling of wetlands and Lough Nameenbrack upstream of the processing area;
- the existing quarry floor is 200 feet below the natural waterline and the estimated draw-down would impact on the productivity of agricultural lands within 300m to the west of the site with consequences for increased leaching and agricultural pollutants to quarry waters;
- concerns regarding the previous and current discharges of waters from Lough Nameenbrack and from the quarry to Lough Gill and Aghamore stream, as well as the resultant impact on water levels and water quality for Lough Gill SAC, biodiversity and drinking water;
- the existing discharge serving the east side of the overall operations accommodating the processing area is inactive;
- the measuring of potential water quality discharges should be mindful of comparative analysis with existing water quality discharges to Aghamore stream given that the quarry is not in operation and particularly given the water quality concerns arising from previous discharges into Lough Nameenbracken;

- the documentation submitted does not remove all reasonable doubt as to the effects of the works proposed on Lough Gill SAC, therefore the planning authority is legally restricted from granting planning permission;

#### Site Restoration

- the quarry should be reinstated to farmland following completion of extraction and a bond to this effect should be sought;
- recycling of construction materials via the restoration programme should be considered in parallel with the extraction process;
- a condition should be attached controlling the amount of material to be used in the restoration process for the project and this should be linked to the volume of extraction, as this has implications for wider construction costs.

## **4.0 Planning History**

### **4.1. Appeal Site**

4.1.1. Pre-planning discussions under Ref. PPN3261 took place between representatives of the planning authority and the applicant in September 2018 regarding a further 15m-depth to the permitted extraction area of the subject quarry. Planning applications relating to the appeal site include the following:

- Reg. Ref. PL96/172 – permission was granted in December 1996 by the planning authority for an extension of the quarry over an area of 14.7ha until May 2002 and the retention of an unauthorised extension to the quarry over an area of 0.6ha;
- Reg. Ref. PL00/63 – permission was granted in July 2000 by the planning authority for material alterations to the development permitted under Reg. Ref. PL96/172, providing for changes in the phasing of the extraction;
- Reg. Ref. PL02/271 – a ten-year permission was granted in June 2003 by the planning authority for the deepening of the quarry by 30m from the previously permitted base under Reg. Ref. PL96/172, in two 15m-deep lifts for an extraction area of 10.9ha, as well as all associated works, including final

restoration phase. In April 2013 the life of this permission was extended by the planning authority for a further five years until September 2018.

## **4.2. Surrounding Sites**

4.2.1. Planning applications in the surrounding area relate to a variety of development proposals, including those of a residential, commercial and recreational nature. The following recent planning applications are noted:

- Reg. Ref. P18/49– permission was granted in June 2018 by the planning authority for development consisting of the filling of 1 hectare of land with construction and demolition waste amounting to 24,950 tonnes for agricultural use, together with screening berms and all associated ancillary works on a site 450m to the south of the quarry site;
- Reg. Ref. P17/296 – permission was granted in March 2018 by the planning authority for the demolition of a house 105m to the southwest of the quarry site and the construction of a replacement house with a new septic tank and percolation area. This house has now been partly constructed.

## **5.0 Policy & Context**

### **5.1. National & Regional Guidelines**

5.1.1. Project Ireland 2040 - National Planning Framework (NPF) sets out a vision for the future development of the country, including support for the sustainable development of rural areas by encouraging growth. National Policy Objective 23 seeks to facilitate the development of the rural economy.

5.1.2. Various guidance documents are referred to throughout the assessments below in relation to specific subjects and the following guidance documents are of particular relevance to this application and appeal:

- Regional Spatial and Economic Strategy for the Northern and Western Regional Assembly (2020);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018);
- River Basin Management Plan 2018-2021;

- The Planning System and Flood Risk Management: Guidelines for Planning Authorities (including the associated Technical Appendices) (2009);
- EPA Guidelines on Environmental Management in the Extractive Industry (2006);
- Quarries and Ancillary Activities – Guidelines for Planning Authorities (2004).

## **5.2. Sligo County Development Plan 2017-2023**

- 5.2.1. Figure 3.A of the Sligo County Development Plan 2017-2023 illustrates the core development strategy for the county. The appeal site is within an area covered by the Sligo & Environs Development Plan 2010-2016. Appendix A to the Sligo County Development Plan 2017-2023 states that the written statement and the objectives maps, including zoning objectives, pertaining to the Sligo & Environs Development Plan 2010-2016, have been appended to the County Development Plan.

### Zoning Objectives & Landscape

- 5.2.2. The majority of the appeal site area is assigned the land-use zoning 'NR – natural/mineral resource reservation' within the Sligo & Environs Plan, and part of the site is assigned the land-use zoning 'BUF – buffer zone'. Section 6.8 of the appended Sligo & Environs Plan also addresses mineral extraction and natural resources and includes specific objective (O-NR-1) to protect the natural resource reservation and existing quarrying operations at Aghamore Near and Carrownamadoo. Section 7.4 of the Plan addresses Landscape Characterisation and the policies aimed at protecting landscapes and scenic amenities.

### Quarrying Policies & Objectives

- 5.2.3. Section 4.3.4 of the County Development Plan addresses mineral extraction and quarries, and includes policies relating to the following:

P-MEQ-1 - protect all known unworked deposits from development that might limit their scope for extraction (e.g. one-off housing);

P-MEQ-2 - ensure that extraction and associated processes are carried out in a sustainable manner that minimises the impact on residential amenities, the natural environment and water quality, and do not impinge on existing rights-of-way or walking routes;

P-MEQ-3 - seek the reuse of worked out quarries for recreational, industrial, ecological and other uses, following appropriate restoration;

P-MEQ-4 - in respect of development proposals on or in the proximity of quarry sites, the Council will require that appropriate investigations are carried out into the nature and extent of old quarries (where applicable), the nature and extent of soil and groundwater contamination and the risks associated with site development works. Adequate measures to mitigate these risks shall be submitted as part of the planning application.

- 5.2.4. Section 9.5.2 of the County Development Plan states that extractive developments are encouraged to incorporate construction and demolition recycling facilities that could facilitate the use of recovered materials in the restoration of sites, subject to compliance with environmental legislation.

### 5.3. Natural Heritage Designations

- 5.3.1. The distance and direction to the nearest designated sites to the appeal site, including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), are listed in table 1 below.

**Table 1.** Natural Heritage Designations

Site Code	Site Name	Distance	Direction
001976	Lough Gill SAC	500m	northeast
000638	Union Wood SAC	3km	southwest
000622	Ballysadare Bay SAC	3.2km	west
004129	Ballysadare Bay SPA	3.2km	west
001898	Unshin River SAC	3.7km	south
000627	Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC	4.3km	northwest
004035	Cummeen Strand SPA	4.7km	northwest
004187	Sligo/Leitrim Uplands SPA	9.1km	northeast

## 6.0 The Appeal

### 6.1. Grounds of Appeal

- 6.1.1. Two third-party appeals have been lodged and the grounds of appeal can be summarised as follows:

- the appropriate assessment is inadequate as the planning authority cannot rely on the review of the discharge licence in addressing the detailed requirements of the discharge from the quarry;
- reference to protected birds or SPAs is omitted from the AA despite reference to protected bird species known to breed in the quarry;
- the AA is fundamentally flawed, as it is not sufficient for conclusions to be 'adequate', they must not contain lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned;
- the preparation by the same consultant of the AA screening report, which was considered to be fundamentally flawed, and the subsequent NIS, rules out the objectivity of the NIS, in defiance of the Habitats Directive and the Aarhus Convention;
- there has been a lack of enforcement regarding the failure to implement the conditions of a previous permission;
- the proposed quarry is not required given the mineral resources available in a neighbouring Ballysadare quarry, which would also provide the employees for the subject quarry;
- blasting at the site was not previously managed in a safe and healthy manner and would require specific controls and ongoing monitoring at the nearest residence;
- the water in the quarry contains a toxic blue and green algae and this is being pumped untreated to Aghamore stream, which has implications for the local water supply, neighbouring waters and protected species;
- by deepening the quarry this would lower the groundwater table, which would have increased draw-down effects on the viability of local farming that have not been addressed via an agronomic assessment of the proposals;
- there are alternative lands available for extension of the quarry, including those in control of the applicant and lands adjoining to the north and west;

- proposals would have significant implications for the residential amenities of occupants of a new house under construction on a site 75m to the southwest of the quarry, as a result of the proximity to the proposed blasting operations, as well as the impacts arising from excessive dust and noise emissions and the inadequate restoration proposals.

## **6.2. Applicant's Response**

6.2.1. The applicant's responses to the grounds of appeal can be summarised as follows:

- the environment section of the planning authority has stated that the review of the discharge licence would address the ongoing requirements and it is not accurate to state that the licence would only address in greater detail the requirements for the discharge from the proposed quarry;
- review of the existing discharge licence would be completed consistent with the proposed development requirements and the recent assessments undertaken;
- use of the site by breeding peregrine and kestrel, as well as nesting ravens is recognised. Mitigation measures outlined in the EIAR do not relate to a bird holding territory within a SPA. Furthermore, having a negative effect, prior to mitigation, is not the correct test to apply under the EIA Directive and or the Habitats and Birds Directives;
- peregrine falcon are listed as qualifying interests for Sligo/Leitrim Uplands SPA, which is located 11km from the subject quarry. Based on guidance this distance would be outside the 2 to 6 sq.km hunting territory range of peregrine falcon, therefore, any peregrine falcon nesting within the subject quarry would not be connected with Sligo/Leitrim Uplands SPA. Accordingly, the effects would be localised and limited to peregrine falcon solely using the quarry;
- the information supplied during the planning application process was sufficient and satisfactory to allow the planning authority to carry out an appropriate assessment;
- the same consultancy did not carry out the assessments for the stage 1 AA screening and the stage 2 AA, as the responsibility for these assessments

and the conclusions regarding same lies with the competent authority. There is nothing within the Habitats Directive or arising from the Aarhus Convention that precludes the same consultant preparing additional documentation requested by the competent authority, to inform the process required under the Habitats Directive;

- the applicant acquired the quarry in 2014, when the quarry was not operational, and it has not operated since or been subject to enforcement proceedings;
- the subject quarry is well-situated and well-resourced for continued operation, and the existence of another neighbouring quarry is not a valid reason to restrict the subject proposed development;
- adequate and appropriate monitoring of blasting activity relative to neighbouring houses in the vicinity is a condition of the permission following a response on this matter to the planning authority. All future blasts would be within the quarry void;
- the signage in the photograph submitted by the neighbouring appellants, referring to a toxic blue and green algae, was installed as a warning sign for health and safety reasons;
- as addressed in the Water Chapter of the EIAR, any increased drawdown as a result of the proposed development would not have an effect on the surrounding farmland and the footprint of the existing quarry would not change;
- potential impacts on drinking water supplies and water habitats in Lough Gill and the surrounding surface waters have been fully addressed in the application process;
- potential to use alternative lands for the extension of the quarry are limited by land ownership issues and the lack of suitability of land for lateral quarry expansion.



### **6.3. Planning Authority Response**

6.3.1. The planning authority's responses to the grounds of appeal can be summarised as follows:

- details of those parties engaged and consulted by the planning authority, as part of the analysis of the information provided by the developer and in accordance with the EIA Directive, are outlined;
- previous enforcement investigations relating to the site have been closed;
- the proposed extractive development complies with zoning provisions and objectives, and would enable the continuation and extension of an existing established quarry;
- during the construction and operation stages of the development, six persons would be employed according to the EIAR submitted;
- mitigation measures for blasting are outlined in the environmental management system;
- noise surveying was undertaken and noise monitoring measures are incorporated into the conditions of the permission;
- groundwater levels in the vicinity are already lower as a result of the existing quarry, which was granted planning permission for continued use and extension under planning reg. ref. PL02/271;
- given the nature of the proposed development, involving deepening of an existing quarry, the separation distances to European sites and the proposed mitigation measures, the development would not impact on the integrity of European sites;
- at the time of making the decision, the environment section of the planning authority was in the process of reviewing the existing discharge licence for the quarry;
- a suitable restoration plan and proposals to address landscaping and boundary treatments has been submitted;

- section 6.0 of the planning authority's report (October 2019) addresses compliance with the Habitats Directive.

## **6.4. Observations**

6.4.1. None received.

## **7.0 Planning Assessment**

7.1. I consider the substantive issues arising in determining of the appeal to be as follows:

- Planning Assessment;
- Environmental Impact Assessment;
- Appropriate Assessment.

7.2. This initial stage in the assessment of the proposed development, provides a brief review of the history of development on the appeal site and consideration of the proposed development in the context of national, regional and local planning policy. Environmental matters, including the impacts of the proposed development on the residential and visual amenities of the area, traffic, biodiversity, water, noise, air quality, vibration and other matters are all considered as part of the EIA undertaken in section 8 of this report. An appropriate assessment of whether or not the project would be likely to have a significant effect, either individually or in combination with other plans and project, on European sites is undertaken in section 9 of this report.

7.3. The extraction of sand, gravel and limestone from the quarry is stated to have commenced in the 1950s. In 1997 the planning authority granted planning permission to extend extraction from the subject quarry over an area of 14.7ha and to a depth of -4.5m OD until May 2002 and retention permission was also granted for an unauthorised extension to the quarry over an area of 0.6ha (Reg. Ref. PL96/172). Amendments to this permission were granted in July 2000 to provide for changes in the phasing of the extraction (Reg. Ref. PL00/63). Following this, the planning authority granted a ten-year permission for deepening of the quarry by a further 30m depth, in two 15m-deep lifts across an extraction area of 10.9ha (Reg. Ref. PL02/271) allowing for a permitted depth of -34.5m OD. An extension of the duration

of this permission was granted by the planning authority in April 2013 allowing for the operation of the quarry for a further five years until September 2018. The applicant states that the quarry has not been in operation since they acquired it in 2014 and the quarry floor is currently at -21m OD. The proposed development site area primarily contains an extraction area, as well as associated areas for water treatment and storage and vehicular tracks, and does not include the area to the east of the site on the opposite side of the local road within the applicant's landholding, where the applicant states that further processing associated with the extraction activity would take place. Mobile plant would be used within the extraction area as part of the initial processing stages. The adjacent area accommodates a concrete batching plant, block plant, aggregate washing plant, coating plant, settlement lagoons and associated machinery and the applicant states that manufacturing would not take place immediately in this area. I am not aware of the planning history for this adjacent area.

- 7.4.** Within the NPF, National Policy Objective 23 seeks to facilitate the development of the rural economy through supporting, amongst other sectors, a sustainable and economically efficient extractive industry sector, whilst at the same time noting the importance of maintaining and protecting the natural landscape and built heritage, which are recognised as being vital to rural tourism. The RSES for the Northern and Western Regional Assembly supports the implementation of the NPF, for the future physical, economic and social development of the region. Guidelines for Planning Authorities on Quarries and Ancillary Activities acknowledge that extractive industries make an important contribution to economic development in Ireland and the guidelines emphasise the continued need for aggregates. The guidelines also note that such operations can give rise to land use and environmental issues that require mitigation and control through the planning system.
- 7.5.** Policy P-MEQ-2 contained within the Sligo County Development Plan 2017-2023 supports, in principle, the protection of aggregate deposits in the county with specific reference to the subject quarry (objective O-NR-1 of the appended Sligo & Environs Plan), where it can be demonstrated that the development would not impinge on residential amenities, protected views and prospects from scenic routes, the natural environment, water quality and existing rights-of-way or walking routes. Based on the Plan, the majority of the appeal site area is assigned the land-use zoning 'NR –

natural/mineral resource reservation', where it is the stated objective to 'protect all known unworked mineral deposits from development that might limit their scope for extraction. Within the NR zone, only extraction and associated activities will be permitted'. The associated processing area on the opposite side of the local road to the east of the quarry is also assigned this 'NR' zoning objective. Portions of the site, generally according to areas outside of the existing and proposed quarry extraction area, are assigned the land-use zoning 'BUF – buffer zone', where it is the stated objective to 'contain and consolidate the city, while safeguarding land for its future expansion and the provision of strategic infrastructure'. The appended Sligo & Environs Plan states that within the buffer zone, development will generally be limited to agriculture and other rural resource-based activities.

- 7.6.** Having regard to the above, the proposed development is supported in broad terms by current planning policy, however, the overall acceptability or otherwise of the proposed development requires detailed consideration of the environmental impacts and appropriate assessment of the proposed development, including impacts on neighbouring amenities, biodiversity, the landscape and water quality.
- 7.7.** Permission is sought to continue extraction within the existing extraction area for a period of 15 years followed by a two-year restoration phase. The Quarry and Ancillary Activities Guidelines set out circumstances where it would be appropriate to grant permission for a period in excess of five years. The applicant states that based on the estimated available reserve of 2 million tonnes of limestone, this would equate to an annual extraction rate range of 150,000 to 300,000 tonnes or approximately 6 to 13 years of extraction. Due to the remaining mineral resource, the planning authority decided to limit the extraction and operation to ten-years or until the -50m OD benchmark has been reached and the applicant did not contest this. Consequently, I am satisfied that subject to further consideration below, if the Board are minded to grant permission, it would be appropriate to allow for a ten-year permission period. Development contributions would also apply in the event of a grant of permission for the proposed development. Matters raised by appellants in relation to compliance with previous permissions of development are a matter of enforcement that falls under the jurisdiction of the planning authority, who have stated that previous enforcement investigations relating to the site have been closed.

## **8.0 Environmental Impact Assessment**

### **8.1. Introduction and Statutory Provisions**

- 8.1.1. An Environmental Impact Assessment Report (EIAR) accompanied the application. It is laid out in two volumes, including a non-technical summary and a main volume, which contains appendices and a list of references at the end of each associated chapter.
- 8.1.2. Chapter 1 of the main volume provides an introduction and sets out the screening and scoping measures undertaken, the report format, the methodology and an overview of the EIAR chapters. It also includes a table setting out the names of the EIAR study team, while details of their competencies and expertise are outlined generally following the introduction to each chapter. This chapter of the EIAR outlines that no difficulties were encountered in compiling the required information for the EIAR. Any data limitations are detailed in the relevant chapters.
- 8.1.3. Chapter 2 provides a description of the existing site, including monitoring measures currently employed, as well as details of the proposed project, which I have summarised under Section 2 of this report above. It should be highlighted that it is proposed to recommence extraction activity rather than continue extraction, given the stated break in operations and the expiry of permission. Chapter 3 provides information on alternatives that were investigated by the developer, including a do-nothing scenario. Alternative sources of aggregates were addressed, as well as alternative extraction locations, including extensions of the extraction area and the absence of other locations being available to the applicant in County Sligo and adjoining the site. Following examination of various constraints, the current proposal recommending and deepening the existing quarry emerged as the preferred option for the applicant. Rationale for the extraction processes, which include blasting, are based on the expertise and experience of the applicant in dealing with the resource. The appellants assert that there are alternative lands available for extension of the quarry, while the applicant has responded to state that the potential to use other lands for the extension of the quarry are constrained by land ownership issues and their lack of suitability for lateral quarry expansion. The potential for alternative uses of the site at restoration phase has not been addressed in detail by the applicant, however, the depth of the quarry void relative to surrounding groundwater levels

would seriously inhibit options available. Having reviewed the matter of alternatives, I am satisfied that the EIAR and the supplementary information provided by the applicant has adequately identified and described reasonable alternatives that are relevant to the project and the main reasons for the options chosen are clear.

8.1.4. Chapters 4 to 14 inclusive provide a description of the current state of the environment for each relevant environmental factor, together with an outline of the characteristics of the development, an assessment of the predicted impacts and details of the measures intended to mitigate such impacts. Chapter 15 provides consideration of the interactions. Measures envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects of the proposed development, have been set out within the individual chapters of the EIAR.

8.1.5. Having regard to the nature and scale of the proposed development and the nature of the receiving environment, while unplanned events and accidents cannot be ruled out, these would be dealt with in their own right outside of the planning process, including adherence to health and safety requirements and emergency response planning. Otherwise, within the meaning of Directive 2014/52/EU, and considering the effects on the environment, the project is not of a nature that would result in it generating a risk of major accidents and/or natural disasters.

8.1.6. I have carried out an examination of the information presented by the applicant, including the EIAR, and the submissions made during the course of the application and appeal. A summary of the results of the submissions made by the planning authority, prescribed bodies, appellants and other parties, has been set out in Sections 3 and 6 of this report. The main issues raised specific to EIA can be summarised as follows:

- the potential impact of the development on neighbouring ground and surface water bodies, including Aghamore Stream and Lough Gill, and the resultant impacts on human health and biodiversity;
- the impact of the extraction activity, including blasting, on bird species using the existing site;
- the increased drawdown effects arising from the deepening of the quarry on agricultural lands in the immediate area;

- the potential impacts of the development on a house under construction 105m from the quarry face.

8.1.7. These issues are addressed below under the relevant headings, and as appropriate in the reasoned conclusion and recommendation.

8.1.8. I am satisfied that the information provided in the EIAR is sufficiently complete and up-to-date and that the EIAR has been prepared by competent experts to ensure its completeness and quality.

## **8.2. Likely Significant Direct and Indirect Effects on the Environment**

The likely significant direct and indirect effects of the development are considered under the following specific headings, which collectively address the factors set out in Article 3 of the EIA Directive 2014/52/EU:

- Population and human health;
- Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
- Land, soil, water, air and climate;
- Material assets, cultural heritage and the landscape; and
- The interaction between those factors.

## **8.3. Population and Human Health**

8.3.1. In terms of assessing the potential impact of the proposed development on population and human health I note that chapter 4 of the EIAR focuses attention on the wider issues of population, employment, amenities and accidents associated with ground instability, road safety and flooding, with specific references to the impacts on land, soil and geology, water, dust, noise, vibration, traffic and the landscape.

8.3.2. Key populations that have the potential to be impacted upon by the development are identified, including persons residing and engaging in recreational, economic and cultural activities in close proximity to the site. The quarry would directly employ six persons, with additional indirect employment for others involved in haulage, supply and sub-contracting. An increase in people moving to live in the area or a change in population as a result of the quarrying activities would not be likely and the effects on

the economy would be positive, although largely imperceptible, and would be likely over the lifetime of the project.

- 8.3.3. There are various inter-relationships between the effects of the project on human health and the effects on other aspects of the environment, such as via air and water quality. Accordingly, in order to avoid undue repetition I refer the Board to my assessment of the specific implications of the proposals as regards land, soil and geology, water, climate and air quality, noise and vibration and traffic, set out under the respective sections below.
- 8.3.4. The EIAR identifies 12 houses within 105m and 507m of the quarry site and shows their location and the location of other sensitive receptors within 1km of the appeal site. The neighbouring house under construction is not included within the list of receptors, but is considered in the relevant sections of my assessment below. In deepening the extraction area and avoiding extension of this area, the proposed development would not result in reduced separation distances to the nearest sensitive receptors, nor would it increase the number of sensitive receptors.
- 8.3.5. No mitigation measures beyond those put forward in other chapters of the EIAR have been set out. Additional measures are set out within the supporting documentation for the planning application. In response to a further information request, the applicant outlined proposals to reinforce, replace and enhance sections of fencing along the boundaries of the quarry. I am satisfied that these measures would be necessary and would suitably address safety concerns where the quarry face is immediately proximate to third-party lands.

#### Conclusion – Population and Human Health

- 8.3.6. Overall and having regard to the above, I would agree with the conclusion reached in Chapter 4 of the EIAR that the proposal to recommence quarrying activities would not give rise to significant effects on the environment as a result of the impacts on population or human health.

### **8.4. Biodiversity**

- 8.4.1. Biodiversity is examined in chapter 5 of the EIAR and an AA Screening Report and a NIS accompanied the planning application. The applicant's assessment includes a collection of baseline ecological data, a habitat survey, a bat survey and a breeding



raptor survey. Ecological features are evaluated based on a geographical frame of reference of importance including international, national, county, local (higher value) and local (lower value) importance. The zone of influence included all national and EU designated sites located within a 5km radius of the quarry.

- 8.4.2. In total, seven European sites were examined, including those listed in table 1 of Section 5.3 to this report. The closest of these sites is Lough Gill SAC, which is located approximately 520m east and downstream of the quarry. There is a hydrological connection between the quarry via pumped surface water discharge into the Aghamore stream, which flows into Lough Gill. My assessment of the effects on all relevant designated sites is undertaken in section 9 of this report addressing 'Appropriate Assessment'.
- 8.4.3. Slieveward Bog Natural Heritage Area (NHA) (Site Code: 001902), situated 4.6km to the south and upstream, is the closest NHA to the site. Seven proposed Natural Heritage Areas (pNHAs) are situated within 5km of the site, the closest of which and only downstream neighbouring pNHA site is Lough Gill pNHA (Site Code: 000788). I am satisfied that based on information on file, there are no hydrological surface or groundwater pathways between the application site and other neighbouring pNHAs. Impacts that could arise during future quarrying activities on water quality and water regimes in Lough Gill and other downstream pNHA, including Cummen Strand/Drumcliff Bay (Sligo Bay) (Site Code: 000627) and Ballysadare Bay (Site Code: 000622) are largely assessed below under the heading 'water'. Visual impacts on neighbouring landscapes are considered below under the heading 'Landscape and visual impacts'.
- 8.4.4. A summary of habitats recorded on and adjacent to the quarry site is provided in the EIAR, and by reference to the Fossit Code of classification all of these habitats were considered to be of 'site' importance only in terms of habitat evaluation. These habitats include ED1 (active quarries), GA1/GS1 (improved agricultural grassland/dry calcareous grassland), GA1 (improved agricultural grassland), WD1 (mixed broadleaf woodland), WS1 (scrub), WL1 (hedgerows), WL2 (treelines) and BL3 (building and artificial surface). No rare or protected fauna were found during the habitat survey and it was considered that no loss of important habitat for species recorded within a 1km grid of the quarry or recorded in the last 15 years by the National Biodiversity Data Centre (NBDC) (for example, hedgehog, badger, red

squirrel and soprano pipistrelle bat) would arise as a result of the deepening of the quarry floor and the loss of a small area of scrub. No amphibians, suitable aquatic habitat or invasive plant species were found on the quarry site.

- 8.4.5. Potential effects of the development on existing habitats would be imperceptible in the long term, having regard to the low ecological value of the habitat on site and the availability of alternative habitats in the wider area. Potential effects from fugitive dust leaving the site and subsequently becoming deposited on adjoining habitats would be low, as dust levels would be below the standard thresholds (as referred to in Section 8.7.6 below) based on historical monitoring and would potentially only affect areas within 100m of the site. Noise emissions arising from operations to the nearest ecological site at Lough Gill would be below the prescribed noise limits for the protection of wildlife.
- 8.4.6. Given the knowledge that the quarry had previously held breeding peregrine falcon (2013 to 2017) and kestrel, a raptor survey was carried out in May and June 2018, when there would be high detectability of peregrine falcon and kestrel. This survey identified a single adult and a subadult peregrine falcon perching in the quarry in June 2018. Peregrine falcon are a green-listed species within the Birds of Conservation Concern in Ireland (BoCCI), and the applicant concludes that the evidence suggests that peregrine falcon had failed to nest in the site in 2018. The proposed works would not involve lateral expansion of the quarry face, including the area previously used by breeding peregrine. It was noted that peregrine falcon could potentially breed again at the site during future breeding seasons, while studies have observed that even birds unused to the operation of a quarry are not likely to be affected by the resumption of quarrying activity. Further conclusions regarding the impacts of the proposed development on peregrine falcon is provided under the Appropriate Assessment section of this report.
- 8.4.7. A pair of adult kestrels, which are an amber-listed species within the BoCCI, and up to five subadult kestrels were observed during surveys with behaviour indicative of a nesting pair and they appeared to be occupying a used ravens' nest on the south quarry face. Other incidental observations on site, include a pair of breeding ravens (green-listed), two grey wagtails (red-listed), a single common sandpiper (amber-listed) and two non-breeding choughs (amber-listed). With the exception of the raptors and grey wagtail, which were evaluated as important at a townland level, the

green and amber-listed bird species were considered important at a site level only. Potential direct and indirect impacts for bird species considered to be of townland level importance, would arise from noise and vibration disturbance associated with the recommencement of quarrying operations. The restoration of the site to natural habitat would also have a slight positive effect for birds.

- 8.4.8. Mammals observed within the site were limited to pine marten. The site is of limited ecological value for non-volant mammals and the existing area, including a latrine area used by pine marten, would not be altered. Potential for impacts via disturbance or displacement of pine marten would not arise and negative effects would not arise either. Bolstering of hedgerows and woodland areas with native species was considered by the applicant to have positive effects for pine marten.
- 8.4.9. Following desktop and field surveys for bats, it was concluded that the loss of features for roosting bats, or the loss or reduction of habitat for foraging or commuting bats would not arise. Accordingly, potential for impacts from disturbance or displacement as a result of the operations would not be significant. Following the submission of a bat survey as part of a further information response, the Heritage Officer in the planning authority did not object to the proposed development.
- 8.4.10. It is submitted that there is no suitable breeding and foraging habitat for amphibians and reptiles on the site and, accordingly, I am satisfied that there would not be perceptible long-term effects on amphibians.
- 8.4.11. Details of invertebrates are not addressed in the EIAR. While the site provides potential habitat for a range of invertebrates, it is unlikely to be important or critical to any particular species or taxonomic group.
- 8.4.12. Potential effects on aquatic ecology are not specifically addressed within the EIAR, although the measures to address potential changes to water quality and the water regime are addressed under chapter 7 of the EIAR, which addresses water, the NIS and the support documentation for the application and appeal, all of which are considered further below.
- 8.4.13. Limited flora was observed on site and notwithstanding this, I am satisfied that flora would be generally adapted to the level of disturbance arising from the quarry.
- 8.4.14. Measures to address potential impacts on birds, include the minimisation of blasting and extraction in the vicinity of nests or breeding colonies during the breeding

season (1<sup>st</sup> March to 31<sup>st</sup> August). A breeding bird survey would be carried out during the first breeding season prior to recommencement of quarrying activities. Survey results would also be used to manage operations within the quarry, including avoiding or reducing effects on birds that are likely to be affected by quarry operations. No excavations or blasts would take place within areas immediate to nest sites during their breeding season.

- 8.4.15. Noise levels arising from operations relative to the prescribed noise limits for the protection of wildlife have not been addressed for the kestrel and grey wagtail nest sites identified. Based on measured noise levels at receptors neighbouring the site, noise levels at the nest sites within the quarry would be likely to exceed prescribed levels ( $L_{Aeq,1hr}$  80dB[A]), which the applicant states are set by the Habitats Directive for designated species. I am satisfied that disturbance would be a potential ongoing indirect impact for the grey wagtails and kestrels during the operational phase of the project. However, given the limited numbers of these birds on the site, the availability of other habitats in the area and the scale of local ecological importance assigned relative to their wider populations, the residual impacts arising for these bird species would not be significant.
- 8.4.16. Following the adoption of mitigation measures, the predicted residual impact arising from proposed quarrying activities is not anticipated to be significant. I note the recommendation that the proposed operational works should be monitored periodically, particularly during the bird breeding season, to ensure that the mitigation measures proposed are implemented and effective.
- 8.4.17. The applicant intends to reuse and re-establish the adjacent processing area that was previously used in conjunction with the subject quarry. The cumulative effects of the proposed development on biodiversity, in recommencing operations in the processing area have not been fully described and cannot be comprehensively assessed without further information regarding this part of the project site. While I recognise that much of the processing area consists of artificial ground, there is scope for this area providing habitat for flora and fauna, particularly along the boundary with Aghamore stream. Bats, badgers or other mammals could also be using the area and there is potential for invasive species to occupy part of this area and measures to address the protection or management of species have not been set out. Furthermore, to comprehensively assess the impact on aquatic ecology,

including the downstream ecology within Lough Gill, specific proposals of how the processing area would be set out and operated is necessary. Water quality and its implications for aquatic ecology is considered further under the heading 'Water'.

#### Conclusion - Biodiversity

8.4.18. While quarrying activities can clearly impact on ecological habitats, with the adoption of mitigation measures outlined and subject to further consideration under the heading 'Appropriate Assessment', I am satisfied that the proposed quarry extraction element of the development alone would not have any significant residual effects. However, the overall impact of the proposed development on biodiversity has not been adequately addressed in the EIAR submitted, given the failure to adequately describe and consider the potential impacts of reusing the processing area of the overall operations. This matter is addressed further and in more detail below under the headings 'Water' and 'Interactions and Cumulative Impacts'.

### **8.5. Land, Soils and Geology**

8.5.1. Land, soil and geological environmental factors are examined in chapter 6 of the EIAR. Reference is made to the Teagasc soil maps, which indicate that the extraction area was originally underlain by renzinas and lithosols, with the adjacent areas underlain by lithosols, regosols and surface water gleys. Few areas of the original soils remain on site. Superficial deposits in the extraction area are indicated on the Teagasc subsoil mapping to consist of surface and glacial tills derived from metamorphic rocks, while the adjacent processing area consists of made ground or sands derived from carboniferous limestones. Previous drilling in unextracted adjoining areas indicated 3m to 6m depths of soils and superficial (subsoil) deposits. According to the Geological Survey of Ireland (GSI) mapping, the quarry site is underlain by the Darty Limestone Formation and extraction would only occur from this. The site is situated on the northwest side of a major fault forming part of the Ox Mountains fault complex.

8.5.2. The GSI database holds no records of geotechnical boreholes at the appeal site, with the nearest identified as those associated with the N4 road upgrade project to the west of the site. Results of drilling samples taken from locations adjacent to the quarry extraction area are included in Appendix 7.2 of the EIAR. Variable results are

shown within eight of the boreholes tested to a depth of 80m below ground levels and largely consisting of grey rock of varying densities. No known karst-related features are identifiable in the vicinity of the site according to the GSI records. The site is not located within a geological heritage area and the closest such area is Sliswood Gap (Side Code: SO019), featuring rock exposures in a narrow valley cutting through the Ox Mountains, approximately 4.5km to the southeast of the appeal site.

- 8.5.3. Corine landcover maps identify the quarry and associated processing area, as largely comprising 'artificial surfaces', which accommodate uses such as 'construction sites' and 'mineral extraction sites'.
- 8.5.4. The development would not involve lateral expansions of quarrying, and therefore would not result in the loss of agricultural land. The implications of increased water drawdown from the surrounding areas, including agricultural land, is addressed under the heading 'Water'. A substantial volume of soil and subsoil (42,500m<sup>3</sup> of overburden) materials would be removed from alongside the quarry access track to enable the construction of the proposed settlement lagoon. Recommencement of the extraction of crushed rock would result in the loss of a geological resource. However, the extraction of this resource for onward supply to the construction industry would bring a beneficial impact to the local and regional economy, as broadly supported by planning policy.
- 8.5.5. Mitigation measures have been outlined and would primarily include a restoration plan for the extraction area, which addresses the instability of exposed rock faces, and the placing of any overburden materials, in permanent or temporary locations at safe angles and involving limited handling of these materials.
- 8.5.6. The applicant asserts that should permission not be granted for the recommencement of extraction on site and the deepening of the quarry, the site would remain in its current state, with no appropriate restoration plan and the probable development of instability of exposed and unmanaged rock faces. In this regard I note that planning permission granted under PL02/271 included a condition (no.4) requiring final restoration of the quarry not less than six months after operation of the quarry, in accordance with drawings and details submitted with that application.

- 8.5.7. Procedural measures for the safe storage and management of fuel oil, bitumen and chemicals are outlined in the Environmental Management Plan (EMP), as submitted as part of the applicant's further information response. Storage of fuel and chemicals required for extraction activities would occur in the processing area outside the extraction site subject of this application.

#### Conclusion – Land, Soils and Geology

- 8.5.8. The quarrying activities in the site would result in the permanent and irreversible loss of a geological resource, but such losses would not be unacceptable, having regard to the primary function of the quarrying activities to harness the natural resource which would lead to benefits to the construction industries. Beyond these identified impacts, I am satisfied that the quarrying activities are unlikely to result in significant impacts on land, soils and geological environmental factors.

### **8.6. Water**

- 8.6.1. Surface and groundwater are considered together in chapter 8 of the EIAR and further information regarding aspects of the impacts of the proposals on water are provided with the planning application documentation.
- 8.6.2. By reference to the closest Met Éireann weather station at Markree Castle, 6km to the south of the site, an average annual rainfall of 1,260mm per year is recorded. The average potential evapotranspiration and evaporation for the site, based on neighbouring synoptic weather station readings is estimated at 499mm/year and 722mm/year respectively.
- 8.6.3. The quarry site is situated at the apex of a low hill at 30m OD, straddling two river sub-catchments, the Carrowgubbadagh to the west and the Bonet to the east, and two groundwater bodies, Carrowmore West and Carrowmore East. Lands along the east side of the quarry slope gradually eastwards into a shallow valley leading northeast to Lough Gill, while lands to the west slope westwards through gently undulating topography to the coast. Aghamore stream draining a relatively small catchment of 2.7sq.km, including Lough Nameenbrack 450m to the southwest of the quarry site, flows northeast to Lough Gill between the quarry extraction area and its associated processing area. According to the applicant, during prolonged dry weather there is very little flow in the stream. There was a reasonable flow of water

in the stream at the time of my site visit during a period of prolonged dry weather. At this time it also appeared that works were being undertaken 450m upstream of the processing area in the area subject to a grant of planning permission in 2018 for the infilling of land under Reg. Ref. P18/49. Other than the above surface water features, there are few surface water bodies of note in the immediate area of the site, which makes it particularly difficult to fully understand drainage flows from the western side of the quarry and their ultimate coastal discharge point.

- 8.6.4. The site is underlain by a regionally-important karstified limestone bedrock aquifer dominated by conduit flow (Rkc). The area of the quarry void, where rock has been exposed at the surface, is categorised as 'extremely vulnerable' with no protection from potential pollution. Other areas are categorised as 'highly vulnerable' due to the thin cover of moderately permeable soils, which the applicant states measured 2.5m to 4m in depth based on site investigations. The processing and manufacturing area is also within a 'high' vulnerability zone.
- 8.6.5. The EU Water Framework Directive (2000/60/EC)(WFD) risk classification for the underlying groundwater bodies identifies Carrowmore East as being 'at risk' and Carrowmore West as being subject to 'review', while the water quality status of both waterbodies is assigned as 'good'. The WFD risk classification of the Aghamore stream is 'at risk' with a 'poor' water quality status. Lough Gill WFD risk classification is identified as being 'at risk' with a 'moderate' water quality status also assigned.
- 8.6.6. Investigations of the aquifer, including drilling of two rotary boreholes on the north and east side of the quarry to the depth of the proposed quarry floor, is stated to have indicated that the dominant structural element influencing groundwater flow in the bedrock was the orientation of the bedding planes with a consistent low dip of 8 to 18 degrees. A single linear fault zone running northwest to southeast on the northeast side of the quarry was found by the applicant, but folding was not in evidence.
- 8.6.7. Yield test results on seven boreholes along the north, east and southeast side of the quarry indicated groundwater flows with average yields of 3 to 49m<sup>3</sup>/day. Yields of 400m<sup>3</sup>/day were estimated from the results of testing a borehole (MW3) approximately 100m to the east of the quarry void, which was considered by the applicant to relate to groundwater inflows from a collapsing fracture zone.



- 8.6.8. No enhanced flows due to karst features were identified within the bedrock in the quarry itself. The closest recorded karst features to the site are at Tobernalt spring, a holy well located approximately 1km to the northeast of the quarry, and a spring located 1.3km to the west of the quarry with a traced underground connection from a swallow hole 1.5km further north of this.
- 8.6.9. The applicant asserts that site investigations confirm a diffuse radial flow through an unconfined fractured rock aquifer that acts like an equivalent porous medium at the large scale and that permeability within the underlying bedrock is not related to a single flow-zone. Testing of water level recovery rates, including packer tests at different intervals carried out to estimate the permeability of the limestone, identified that the area is underlain by a limestone of low permeability with poor well yields, despite being classified by the GSI as being underlain by a 'regionally-important aquifer'.
- 8.6.10. Appendix 7.7 of the EIAR provides a record of groundwater levels along the perimeter of the quarry void. The two rotary boreholes and ten monitoring wells, indicated groundwater levels varying on average by 4m to 8m within the boreholes and with the water table sitting between -2m OD to -8m OD with variations in the permeability of the limestone evident. The existing quarry floor at -21m OD is well below the water table, therefore, groundwater flows by gravity into the quarry void and groundwater levels in the vicinity of the quarry are lowered due to the presence of the quarry. A steep increase in the groundwater table level moving away from the quarry face was identified based on monitoring during prolonged dry weather (see figure 7-19 of the EIAR).
- 8.6.11. The potential impacts that may arise from the proposed quarrying activities on the hydrological and hydrogeological environment are presented in Tables 7-3 to 7-4 of the EIAR, the significance of which are rated by the applicant to be between negligible and medium. These potential impacts comprise:
- accidental spillages of fuel during initial construction stage;
  - release of suspended solids to groundwater during initial construction;
  - drawdown from dewatering impacting on a currently disused well;

- impacts on groundwater quality from blasting, accidental spillages of fuel and suspended solids;
- increased risk of flooding due to discharge;
- impact of discharge on surface water quality, particularly in Lough Gill;
- impact of abstraction on groundwater bodies.

8.6.12. The applicant states that a trade effluent discharge licence (TEDL) was granted in 2011, subject to conditions, to allow the discharge of water from the quarry to the Aghamore stream (SCC Ref. DL[W]139) and an updated application to transfer the discharge licence to the applicant was submitted to Sligo County Council in April 2019. The Environment Section of the planning authority was stated to be in the process of reviewing this licence in October 2019. Water discharge from the site is ongoing, but this is stated to only contain waters that are not associated with quarrying activities.

8.6.13. An Environmental Management Plan (EMP) for the quarry and associated operations was submitted as part of the applicant's response to a further information request and this included containment and control measures to address the potential for chemical, oil or fuel spills, including various avoidance measures and actions to address potential contamination to groundwater. A separate Construction Environmental Management Plan (CEMP) was also submitted as part of the applicant's clarification of further information and this included preventative measures and monitoring proposals with respect to storage and use of chemicals and hazardous substances during the initial recommencement phase, including the excavation and construction of the settlement lagoon.

8.6.14. Groundwater would initially be intercepted into a system of drains along the toe of the excavation faces and would drain towards a clean water sump on the northeast side of the quarry floor. Stormwater and surface water on the quarry floor would be directed to a separate sump on the southside of the quarry floor. Suspended sediments in stormwater and surface water would settle out over the quarry floor before reaching the sump. Should sediment-laden waters enter the quarry floor and sump, the applicant states that the sump pump would be switched off until the sediment has settled to prevent direct discharge to the Aghamore Stream.

- 8.6.15. As noted above, the existing quarry floor is well below the water table, requiring surface water and groundwater to be pumped from the quarry to the Aghamore stream, 350m to the east of the quarry. The previous permission (SCC Ref. PL02/271) allowed for deepening of the quarry to a maximum of -34.5m OD and the proposed deepening of the quarry to -50m OD would therefore result in a continued and increased requirement for dewatering.
- 8.6.16. Drinking water for Sligo and its environs is sourced from Lough Gill. There are no GSI groundwater source protection zones immediate to the site and four private wells are identified by the applicant within 500m of the quarry (see figure 7-16), the nearest of which serves farm buildings located 60m to the southwest of the quarry and understood to not be in use. Other wells potentially in use in the area are located 300m to the west of the site along the local road (L7602) and a 60m to 90m-deep drilled well, stated to have previously been used as a non-potable water supply in the processing area for the quarry. Two pumphouses located 200m to the east and 360m to the northeast are asserted to not be in use. Public water supply in the area is provided by mains and Irish Water have advised that the quarry development would not impact on public water supplies.
- 8.6.17. Based on site characteristics and a combination of scientific formulae, the zone of influence for the proposed quarry with a maximum floor depth at -50m OD, is calculated as extending for a radius of 286m from the quarry face. Final groundwater inflows of 12.2l/s (or 1,054m<sup>3</sup> per day) from the drawdown area are expected for the quarry when at -50m OD. Based on the results of the modelling presented by the applicant, which identify the estimated change in water levels moving away from the quarry's edge, the cone of drawdown would be steep, which would limit the zone of groundwater influence and the soils that the quarry would impact on in neighbouring agricultural lands, particularly when compared with the existing surveyed situation. Future increase in drawdown for the nearest well to the southwest of the quarry is estimated to be in the region of 12 to 18m from the existing water level. The applicant states that groundwater levels would be monitored in this third-party disused farm well and if levels drop significantly to affect water supply, a replacement well would be provided. According to the results presented, the anticipated expanded drawdown area would not extend far enough to

dewater neighbouring surface water bodies, including the bed of the Aghamore stream and Lough Gill.

- 8.6.18. All storm and surface waters would be pumped up to a settlement lagoon that would be lined with an impermeable high-density polyethylene, located in a forced depression along the quarry access track above the quarry floor. All waters, including groundwater, would pass through a silt chamber prior to discharge by gravity to Aghamore stream. Maintenance and monitoring details for the lagoon are specified in the applicant's further information response, including the CEMP. Discharge of waters from the quarry void would be undertaken in compliance with the emission limit values specified for the discharge licence. A closed-loop wheel-wash facility would also be installed along the quarry access track and the road leading from this to the local road would be resurfaced with asphalt. Measures similar to those proposed for the construction stage of the project to prevent and address accidental spillages of fuel and hazardous chemicals are contained in the EIAR. Hydrocarbon interceptors would be installed in areas of risk prior to discharge. Servicing of mobile plant and machinery would not take place in the quarry area and various measures are outlined with respect to the use of the processing area for activities associated with the quarry operations and the control of pollutants. Quarry blasting procedures are included as part of the applicant's further information response. The applicant has set out site-specific protocols for blasting with Kemex 70, a waterproof explosive designed for wet conditions, and all blasting materials would be fully consumed according to the applicant.
- 8.6.19. With the retained water level at +14m OD, water from the settlement lagoon would discharge via gravity connection to the Aghamore stream (+8.4m OD), which in turn discharges to Lough Gill (+3.3m OD), 800m downstream of the quarry discharge point, according Figure 7.26 of the EIAR. The maximum discharge rate under the TEDL is stated as being 40.5l/s, which would equate to 3,500m<sup>3</sup> per day. Previously installed submersible pumps, operating to a maximum of 32l/s to 35l/s, could not keep the quarry floor dry during wet months and pumping of discharge water from the inactive quarry is stated to be occurring at 36l/s, which would equate to 3,110m<sup>3</sup>/day. With the construction of a settlement lagoon and based on the estimated inflow and required outflow rates, including evaporation, the discharge volumes would not exceed the licence discharge volume limits.

8.6.20. The preliminary flood risk assessment for the area indicated the potential fluvial flood extents along the Aghamore stream from Lough Nameenbrack to Lough Gill during a 1% annual exceedance probability (AEP) flood event. Previous flood events along the Aghamore stream, leading towards Lough Gill are outlined by the applicant. These include a flood event in 2005 associated with increased water levels in Lough Gill and another event in 2009 at the Aghamore crossroads junction, when roads were passable. A channel survey of the Aghamore stream identified areas at risk of flooding. The applicant states that any increase in discharge to the stream from the quarry would be negligible and in extreme flood events, when historical problems have previously occurred at a culvert 400m downstream of the discharge point close to the Aghamore crossroads, shallow flooding of the quarry floor would be undertaken. Ground levels along the entry of the stream to Lough Gill and long term water level records reveal the existing potential for flooding in this area. As the quarry straddles two river sub-catchments and two groundwater bodies an increase of 0.18sq.km in the sub-catchment draining to Lough Gill would be expected to arise and in return a reduced flow to the coastal sub-catchment. The applicant's assessment indicates that the increase in groundwater as a result of the deepening of the quarry, would not significantly impact on water levels in Lough Gill, particularly considering the overall area of the sub-catchment (126sq.km), the area of the lake (8km x 3km), the distance to the lake and the results of testing and I am satisfied that this would be the case.

8.6.21. According to the applicant, levels of biological oxygen demand (BOD) and molybdate reactive phosphorous (MRP) above desirable levels were identified in water discharge samples taken between 2010 and 2011, as part of the associated discharge licence application, which lead to additional water treatment infrastructure being installed. Additional sampling of the water discharge in 2016 revealed concentrations of BOD elevated above the TEDL emission limit values. Testing of groundwater samples from 11 monitoring wells in early 2018 indicated elevated faecal coliforms on occasions. Occasional exceedances for total ammonia, orthophosphate, total nitrogen, sulphate and chloride, as well as dissolved nickel, manganese and iron were identified in samples taken. Further groundwater sampling for BOD and MRP in August 2018 and February 2019, revealed a similar pattern of temporary and spatially variable exceedances in these parameters, which

are asserted to arise from agricultural activities, including animals grazing, land spreading and use of fertiliser on adjoining lands, as while the quarry was inactive.

8.6.22. To test a range of parameters in the receiving surface waters, water samples were taken from five locations, including the discharge point, one upstream point along the Aghamore stream, two downstream points and one along the shore to Lough Gill. The levels of faecal bacteria and ammonia were higher in the upstream samples, than in the downstream samples. Slightly elevated conductivity, calcium and sulphate was noted in samples downstream of the discharge point. Sampling of the discharge from the quarry in 2016-2019 is stated to show compliance with oxygenation (BOD) and nutrient conditions (MRP) to allow 'good' ecological status of surface waters to be achieved. The chemical loading in the discharge waters from the quarry was low and the quantitative impact of the loading on Lough Gill was considered negligible based on the sampling results. The assimilative capacity of the Aghamore stream and Lough Gill was assessed in relation to the discharge with trace and occasional elevations in mercury and nickel above the relevant standards identified within the stream, asserted to be associated with background criteria and not the quarry. The calculated mean and 95<sup>th</sup> percentile concentration of MRP would not be expected to cause a deterioration in water quality within the Aghamore stream, based on relevant standards and as the discharge quality of the water is better overall than the upstream water quality. No further additional means of managing or treating the discharge from the quarry are proposed. Turbidity sensors for continuous monitoring of water to be discharged to the Aghamore stream would be installed and the discharge licence would be reviewed prior to the recommencement of activities at the site. In conclusion, subject to the mitigation measures, I am satisfied that the water resulting from quarry dewatering has characteristics that are appropriate for discharge to the surface water feature and would not result in a deterioration in ecological status of local waterbodies and would not result in the waterbodies being unable to achieve the relevant target ecological status.

8.6.23. Following completion of quarrying activities, it is intended to cease pumping and allow a surface water body to be established within the quarry void, as a natural feature. Water levels would be allowed to rebound to 3m to 6m OD, similar to the

monitored groundwater levels, which would result in a net increase in water storage at the quarry site.

8.6.24. Dewatering can result in artificially reduced or increased flows in groundwater and the shift in groundwater divide arising from the final quarry level amounting to 0.18sq.km is illustrated in modified Figure 7-22 of the applicant's further information response. The applicant accepts that the proposed development would be expected to increase groundwater flows from the Carrowmore West groundwater body feeding into Lough Gill, which in turn would reduce flows draining via Carrowgobbadagh sub-catchment to the coast, approximately 3km to 4km to the west, including areas designated as European sites for a host of important maritime and inter-tidal habitats and species. While I am satisfied that the applicant has addressed the impacts of increased flows to Aghamore stream and Lough Gill, the impacts of reduced flows to Carrowgobbadagh sub-catchment have not been addressed in the application or appeal. However, considering the area of the Carrowgobbadagh sub-catchment, including the Ballysadare with a 640km<sup>2</sup> catchment, and the separation distances to the coast, significant effects on hydrology and hydrogeology are not anticipated. I address the ecological impacts of reduced flows to designated European sites under the heading Appropriate Assessment.

8.6.25. The operational phase for a quarry project has two main components; extraction and processing. The applicant has confirmed that the processing area to the east would be used for purposes ancillary to the operation of the quarry, including storage and staff welfare facilities, as expanded upon in the EIAR, and that concrete manufacturing, including use of the asphalt plant would not operate immediately. A closed-loop wheelwash would be installed and a suite of surface water management measures would be undertaken within this adjacent area. Stormwater from the processing area would percolate to ground. Should concrete production activities recommence, the applicant outlines that this would not occur in advance of a review of the discharge licence and various measures would be undertaken to address the control of waters, including the treatment of washwaters, the installation of French drains and the monitoring of waters.

8.6.26. As noted with regard to biodiversity, there is a functional interdependence between the quarry site and the adjoining processing site, with various supporting facilities for the quarry located within the processing area, as identified in the further information

Drawing FI 3, and the cumulative impact of this interdependence has not been fully addressed by the applicant in preparing the EIA report and the additional documentation. I am not satisfied that the applicant has provided sufficient justification for only considering elements of the cumulative effects of the ancillary activities on the adjoining site, as part of the overall project.

8.6.27. Notwithstanding that significantly smaller quantities of water are likely to be involved in the operation of the processing area when compared with the operation of the extraction area, the potential impact on local water resources needs to be comprehensively assessed. For example, sediment-laden washwater to be re-circulated within the processing area is a potential source of water contamination. Buffer zones from sensitive locations, such as Aghamore stream, should also be provided. During my visit to the site I noted various plant and storage area elements of the processing area were in situ, including open piled materials, in areas close to the channel of the Aghamore stream. The fact that a surface water discharge licence governed and being reviewed by Sligo County Council would address surface water discharges from this area, does not justify exclusion of this area from the EIA process. I recognise that some details have been provided in relation to management of water in the processing area, including reference to mitigation measures to be installed, and that Irish Water has stated that the proposed development would not impact on public water supplies sourced from Lough Gill, however, in the absence of details to comprehensively describe and assess the cumulative impacts of the project, I am not satisfied that such a conclusion can reasonably be arrived at.

8.6.28. In accordance with the WFD, proposals that have the potential to impact 'waterbodies' are required to demonstrate that actions would not result in a deterioration in 'ecological status' and would not result in the relevant waterbodies being unable to achieve the relevant target ecological status. The River Basin Management Plan 2018-2021 require improvements to the existing 'at risk' waterbodies in the catchment to 'good' status and I am not satisfied that the proposed development would not lead to a deterioration in ecological status of local waterbodies and the achievement of the relevant target ecological status, based upon the observations and findings set out above.



## Conclusion - Water

8.6.29. I consider that it is reasonable to conclude that with the mitigation measures in place, the proposed quarry extraction activities alone would be unlikely to result in significant impacts on surface waters and groundwater. However, there is uncertainty regarding the significance of the effects on surface waters and groundwater as a result of the impacts arising from the recommencement of operations in the adjacent processing area and the cumulative impacts of this on receiving waters, which would be to the detriment of aquatic ecology, public water supplies and the ecological status of local waterbodies, including the achievement of the relevant target ecological status under the WFD.

## **8.7. Climate and Air Quality**

8.7.1. Climate and air quality are addressed in chapters 9 and 8 respectively of the EIAR. An overview of the climate by reference to the Markree weather station is included, with supplementary information regarding wind acquired from Met Éireann data for their weather station at Belmullet, located 120km to the west of the site.

8.7.2. It is not proposed to increase the annual rate of extraction (300,000 tonnes) of crushed limestone above that experienced in the past when the quarry was operated. Emissions associated with the development arising from plant and machinery, including exhaust emissions (e.g. CO<sub>2</sub> and N<sub>2</sub>O) are stated as not making a significant contribution to greenhouse gases. An assessment of the vulnerability of the quarry development to climate hazards is undertaken by the applicant with some measures required to improve resilience.

8.7.3. Mitigation measures for the quarry development, including the adjacent processing area, comprise the development of adaptive measures for the quarry operations to increase resilience to climate change and the adoption of a greenhouse gas emissions monitoring programme, setting out good practice to minimise energy and air emissions. Post mitigation, no residual impacts on climate are anticipated. I am satisfied that based on the information available, the proposed development would have a relatively slight effect on climate over the project operational phase.

8.7.4. Figure 8.1 appended to chapter 8 of the EIAR identifies the nearest houses to the quarry site and the processing area. The main emission to air arising from the

quarry would be from dust, the impact of which can be measured based on the amount of particulate matter in the air in micrograms. The Air Quality Standards Regulations 2011, as amended, set specific limits for pollutants, including PM<sub>10</sub>, which are fine particles with a diameter of 10 micrometres (10µm). Deposits of less than 350 micrograms per sq.m per day of non-hazardous dusts averaged over a 30-day period and subject to criteria, are allowed for based on thresholds set out in the Quarries & Ancillary Activities: Guidelines for Planning Authorities (DOELG 2004). Below these thresholds dust problems are considered less likely. Condition 19 of the previous permission for quarrying operations on site (PL02/271) set a dust deposition limit of 130 mg/m<sup>2</sup>/day and the applicant asserts that this limit is now outdated.

8.7.5. Background air quality monitoring has been collated based on EPA data for the nearest monitoring locations at Castlebar, County Mayo, and also based on dust monitoring carried out at three locations at the quarry boundary between February 2018 and April 2018. This revealed that the baseline conditions are below emission limit values. Dust monitoring was carried out at five locations (D1 to D5) between December 2008 and February 2014 when the quarry was operational, including locations along the perimeter of the extraction area, the quarry access road and three locations along the perimeter of the processing area. The results of the monitoring undertaken are set out in Table 8-4 of the EIAR and show a range of dust deposition of between <1/mg/sq.m/day and 918mg/sq.m/day. No exceedances were recorded at the southeastern perimeter of the processing area (D3), while the percentage of exceedances at the other processing area locations (D4 & D5) was between 2% and 14%, and between 2% and 5% at the extraction area (D1 & D2). The applicant asserts that the reasons for exceedances was down to a number of factors, such as extraordinarily dry weather or contamination of samples.

8.7.6. The applicant's modelling examined the potential impacts on human and ecological receptors arising from deposition and concentration of dust and emissions from traffic during the operation and restoration phases of the project. No significant impacts on ecological receptors from the deposition of fugitive dust would arise based on UK standards (Design Manual for Roads and Bridges HA207/07) and an acceptable to moderate adverse risk arising from dust deposition would arise for sensitive human receptors within 500m of the dust-generating activities. The

applicant stated that when operational the existing asphalt plant in the processing area would be operated in accordance with the requirements of the associated air emissions license (Ref. AP56).

- 8.7.7. A suite of mitigation measures based on the earthworks, processing, storage and trackout movement activities are set out in Table 8.16 of the EIAR, which are comparable to those found in other quarry developments. The implementation of the measures outlined, coupled with the additional screening that would be provided by the deepening of the quarry floor and the installation of wheel-wash facilities in both the quarry area and before the weighbridge in the processing area, as detailed in the further information submission, would also assist in limiting dust emissions. Based on a review of the applicant's surveying results during previous monitoring, I am satisfied that the PM<sub>10</sub> concentration levels at sensitive receptors would be well below the annual mean limit for the protection of human health, which is 40 µg/m<sup>3</sup>.
- 8.7.8. It is expected that the emissions from the deepening of the quarry would be comparable to those already recorded. Whilst I note a number of exceedances in monitoring records and the new house to the southwest, given the prevailing south-westerly winds, the increased depth of the quarry and the additional mitigation measures set out, sensitive receptors are unlikely to be significantly affected by the proposals. Dust monitoring is proposed every quarter, with ten monitoring locations surrounding the quarry and processing area. Post mitigation, it is not anticipated that there would be any adverse impact on air quality in the vicinity of the application site.

#### Conclusion – Air quality and climate

Based upon the observations and findings set out above, I am satisfied that it is reasonable to conclude that the proposed development would not result in significant impacts on air quality or climate throughout the lifetime of the quarry.

### **8.8. Noise and Vibration**

- 8.8.1. Chapter 10 of the EIAR addresses noise and vibration. The applicant states that when the quarry was in operation previously with similar extraction levels, noise monitoring was carried out, in accordance with condition no.20 of planning ref. PL02/271, which outlined the need for annual monitoring and a restriction of noise

levels off site at any sensitive location below 55dB(A) during the daytime and 45dB(A) during the night time.

- 8.8.2. There is no published national guidance relating to the maximum permissible noise levels that may be generated specifically for a project of this nature. The applicant refers to standards within the following; BS 5228: 2009+A1:2014 - Code of Practice for Noise Control on Construction and Open Sites (Part 1: Noise), the Guidelines for Noise Impact Assessment prepared by the Institute of Environmental Management and Assessment (IEMA), Quarries and Ancillary Activities - Guidelines for Planning Authorities and the EPA Environmental Management Guidelines for the Extractive Industry. In relation to quarry developments and ancillary activities, the EPA guidelines recommend that noise levels from the activities on site should not exceed LAeq(1 hour) = 55dBA during daytimes and and LAeq(1 hour) = 45dBA during night time at the nearest noise-sensitive receptor. With regards to health impacts of noise on humans, the applicant refers to guidance prepared by the World Health Organisation (WHO) and the Good Practise Guide on Noise Exposure and Potential Health Effects, as prepared by the European Environment Agency (EEA) in 2010.
- 8.8.3. Baseline noise monitoring was undertaken from five residences close to the site boundaries, as a representative sample of sensitive receptors in the immediate area, with road traffic the dominate aspect of background noise levels at each location. The sources of noise associated with the proposed development and within the planning application area are listed as those primarily relating to machinery and plant operation, including drilling rig, excavator, dumper/heavy goods vehicle (HGV) and crusher. Drill rigs constitute a potentially significant source of noise, as they are typically operated on higher ground, however, given the existing quarry depth, the potential noise to neighbouring areas from the proposed rig would benefit from a position below surrounding ground levels. Furthermore, the extraction activity via blasting would be likely to be less intrusive than other extraction methods such as rock breaking and ripping.
- 8.8.4. Predicted operational noise levels arising from stone extraction activities are presented in Table 10-11 of the EIAR and this anticipates that daytime noise limits arising at the nearest sensitive receptors would not be exceeded. During operation, predicted noise levels for all such activities are stated as falling within the limits recommended by the EPA. The cumulative noise levels arising from stone

extraction alongside the ambient noise levels are presented in Table 10-12 of the EIAR, where it is predicted that there would be a minor short-term noise impact at four of the 12 nearest receptors (no greater than 1dBA) and the long term noise effects would be negligible for all receptors. I consider the noise assessment is sufficiently representative to account for the impact on the new house, based on the location of receptors that were assessed at a similar distance from the quarry.

8.8.5. The applicant concludes that human health effects arising from the operational noise would be compliant with the health effects thresholds and no specific mitigation measures would be required. It is proposed to follow the previously permitted quarry working hours set out under condition 14(b) of Ref. PL02/271; 08:00 to 18:00 hours Monday to Friday inclusive, and 09:00 to 17:00 hours on Saturdays, with no quarry works on Sundays or Bank Holidays, with the exception of emergency situations. Outside of regulating the times of operations and despite the applicant's conclusions that no significant impacts would arise, further mitigation measures to reduce noise are set out, including maintaining existing berm screening, good-housekeeping measures such as regular maintenance, powering off and the meeting of compliance standards for machinery, as well as locating of mobile crushing and screening plant within the quarry void. Noise monitoring is proposed to be carried out quarterly at seven locations bordering the extraction and processing areas. The applicant does not anticipate that there would be any adverse impacts arising from noise emissions in the vicinity of the overall operations with mitigation measures and best practice applied.

8.8.6. The applicant states that there would be no cumulative impacts arising from the proposed development and that noise levels arising from the proposed activities would not have potential to significantly increase the existing noise levels in the vicinity of the quarry. The processing area was not in operation during the noise monitoring undertaken or during my site visit. Based on the extraction rates, an estimated average of 53 HGV movements would occur daily over and back between the extraction area and the adjacent processing area, and there would be a further estimated 16 return vehicular movements associated with staff and miscellaneous trips. Noise levels associated with non-manufacturing activities in the processing area would be likely to be relatively low. I am satisfied that given the distance from plant areas within the operations area to residential receptors, the buffer provided by

vegetation around the processing area and the mitigation measures and monitoring proposed, the cumulative impact of the development on noise levels in the area would not be significant and would not result in unnecessary nuisance for human health.

- 8.8.7. The potential for elevated levels of vibration at neighbouring sensitive locations during construction and operation is typically limited to rock-breaking, blasting operations and lorry movements on uneven road surfaces. The more significant of these activities is the vibration from blasting operations. The applicant refers to British Standards (BS) 6472:2008 with regards to an evaluation of satisfactory magnitudes of vibration on human health and BS 7385-2:1990 outlining guidance on vibration limits to prevent building damage. The EPA guidance for environmental management in the extraction industry sets acceptable limits for air overpressure at 125dB (Lin) peak value with a 95% confidence limit and a peak particle velocity of 12mm/s. Monitoring of blasts within the quarry is stated to have been undertaken between 2010 and 2014 with the results included in table 10-14 of the EIAR. The applicant asserts that blasting was previously undertaken below the threshold limits and the planning authority does not contest these results.
- 8.8.8. The EPA guidelines recommend blasting is only carried out during 09:00 to 18:00 hours, Monday to Friday inclusive and the applicant's mitigation measures state that these hours would be complied with. A condition limiting blasting on site to daytime hours (11:00 to 16:00 Monday to Friday) was attached by the planning authority, the applicant did not contest this and I consider these hours to be appropriate given the nature of the operation and proximity to residential properties. Further detailed mitigation measures are included in Section 10.12 of the EIAR, including the design and methodology for the blasting operations to be optimised to continue to be within recommended limits, with notification of residents in advance of all proposed blasting schedules through various means, including a warning siren. Blasting procedures, including measures to address potential for flyrock, were outlined as part of the applicant's further information response to the planning authority, and I am satisfied that these would adhere to standard practise in ensuring safety during blasting activities.
- 8.8.9. The applicant states that there would be typically eight to ten blast events per annum, dependent on market demands. These blasts would be of short term

duration and would be transient in nature. The potential for elevated levels of vibration at the neighbouring sensitive locations arising from plant associated with the processing activities would not be likely to be significant. I am satisfied that the significance of effects on human health that would arise from adverse impacts as a result of blasting operations, based on the anticipated blast numbers and following the various detailed mitigation measures, would be no greater than 'slight' and confined to an area immediate to the quarry site, where the blast operations would be most audible.

- 8.8.10. The applicant outlines that monitoring would be submitted on a regular basis to the planning authority for record purposes and I am satisfied that this would be necessary at locations to be agreed with the planning authority and for each blast, to ensure that impacts would not be adverse, would be within the prescribed limitations and would be in accordance with the provisions of the Quarry and Ancillary Activities Guidelines for Planning Authorities. The house under construction to the southwest would be closer to the quarry face than any of the other identified sensitive receptors. The applicant does not outline whether vibration monitoring would take place at this house. Nevertheless, given the proximity of this new house to the blast zone at the quarry face and the scientific information provided by the applicant, including the air pressure monitoring results often identified to be at the upper limits set within the EPA guidelines, it would appear reasonable and necessary for a property condition survey to be undertaken for this new house. This requirement should be secured by the attachment of a planning condition in the event of a grant of permission.

#### Conclusion – Noise and Vibration

- 8.8.11. Overall, it is reasonable to conclude that the proposed quarrying activities would not result in any significant noise impacts and no significant adverse impacts on sensitive receptors would result from the proposed operations. I am satisfied that significant vibration impacts can be avoided, managed and mitigated to be within suitable limits, by the measures that form part of the proposed development, the proposed mitigation measures and via conditions in the event of a grant of planning permission.

## **8.9. Traffic**

- 8.9.1. The applicant's examination of the traffic impacts are set out in chapter 14 of the EIAR, including traffic survey data (appendix 14-B) and quarry access sightline visibility drawings (appendix 14-D). It is submitted that there would be approximately 53 HGV movements in and out of the quarry site via the processing area in any working day, similar to traffic movements that occurred during past quarrying activities. A total of 12 trips by the six employees working at the site and an additional ten miscellaneous trips, based on site inspections, operations and maintenance, are also anticipated arising from the recommencement of the operations.
- 8.9.2. It is stated that the most likely route for trips to and from the existing processing area of the quarry would be primarily from the east direction via the R287 regional road (Aghamore crossroads). This would involve left and right turns at the existing junction with the L3603/L36025, travelling west for 250m along the L3603 before turning left at the main access to the processing area. As the quarry and processing areas are on opposite sides of the local road, a separate access to the processing area would be provided for quarry HGV traffic only. Traffic would also use the western stretch of the L3603 leading to the junction with the R284 regional road. Junction locations are identified in Figure 14.1 of the EIAR. Concerns regarding visibility or manoeuvrability for HGVs at the regional road junctions are not outlined in the EIAR or by the planning authority, while all three vehicular accesses to the quarry and processing area require some improvements.
- 8.9.3. Traffic likely to be generated from the proposed development is based on the maximum of 300,000 tonnes of material extracted per annum, with 24 tonnes per truck load resulting in 6,000 truck movements per annum, over 288 working days. The impact that the proposed development is forecast to have on link flows on the surrounding road network during the AM and PM peak traffic hours, and all day, for both the opening year 2019 and the future operational years of 2024 and 2034, is set out in Tables 14-7, 14-8 and 14-9 of the applicant's EIAR. The maximum increase in traffic volumes on the R287 regional road due to the proposed development is forecast to amount to 5.9% in 2019 and 5.6% in 2024 and the maximum increase in traffic volumes on the R284 regional road due to the proposed development is



forecast to amount to 0.3% in 2019 and 2024. The proposed development is forecast to increase traffic volumes by a maximum of 26.4% on the L3603 in 2019 and 25.2% in 2024. It is submitted that the link roads would operate within capacity.

- 8.9.4. Capacity assessments were undertaken for three junctions using PICADY (Priority Intersection capacity and delay) computer software (see Tables 14-10 to 14-12 of the EIAR). For the R287/L3603/L36025 Aghamore crossroads junction, the quarry access junction over the L3603 and the junction at the Drumaskibole intersection of the R284/L3603, the results indicate that the junctions would continue to operate a maximum ratio of flow to capacity (RFC) well below the 85% standard capacity threshold. I am satisfied that the traffic generated by the proposed development would have a negligible impact on the capacity of these road junctions.
- 8.9.5. Having reviewed the Road Safety Authority (RSA) collision database, there were three recorded minor collisions at the R284/L3603 Drumaskibole junction between 2005 and 2016, none of which would have occurred during operation hours of the quarry. A minor collision was also recorded at the R287/L3603 junction in 2005 associated with car traffic.
- 8.9.6. Mitigation measures to address traffic impacts are proposed, including the erection of warning signs on both approaches along the L3603 and the carrying out of improvements to the existing junctions that provide the access to the processing area, including resurfacing where required and cutting back of existing hedgerows to provide improved visibility. In response to a further information request from the planning authority, additional proposals were submitted to reduce the verge height for a 75m stretch to the west of the entrance to the quarry along the L3603. Other relevant mitigation measures include wheel wash facilities to prevent debris being deposited onto the local road network and resurfacing along the initial stretch of the track within the quarry site and along the immediate stretch of local road.

#### Conclusion - Traffic

- 8.9.7. It can be concluded that given the relatively low volumes of traffic that would be likely to be generated from the extraction and processing operations, the proposed development would have a slight impact on the existing local and regional road network in terms of traffic flow, with junctions forecast to operate well within capacity

during the lifetime of the project. The road network in the area is capable of carrying the additional traffic that would be generated.

## **8.10. Landscape and Visual Impacts**

- 8.10.1. Chapter 13 of the EIAR deals with the associated landscape and visual impact factors. In relation to landscape, reference and categorisation is drawn from the landscape characterisation map included in the Sligo County Development Plan 2017-2023, together with the Guidelines for Landscape and Visual Impact Assessment. The neighbouring R284 and R287 regional roads are identified as scenic routes in the Development Plan. Relevant policies for consideration in the Development Plan include P-TOU-1, which aims to protect views and prospects from scenic routes of certain visually-vulnerable features. The quarry and associated processing area are located within a 'normal rural landscape', and according to the Development Plan, such areas generally have capacity to absorb a wide range of new development forms, although some areas may be more sensitive to development.
- 8.10.2. According to the applicant, sensitive rural landscapes that could be impacted are identified as the scenic routes within 3km of the quarry, as listed in table 13-1 of the EIAR, the upland areas of Slieve Dargan and Slieve Daeane approximately 2km to the south, designated sites and visually-vulnerable areas along the shore of Lough Gill. The site is located in a rural area where agriculture is the predominant land use, while there is an existing quarry on site and an expansive associated processing area adjacent to this. There are numerous single houses and commercial buildings interspersed within the local landscape. The zone of theoretical visibility is illustrated in figure 13.2 of the EIAR.
- 8.10.3. The magnitude of change in the immediate normal rural landscape as a result of the proposed development has been assessed as 'negligible' and the significance of landscape impacts of the development is assessed as not being significant given the limited elevated views of the quarry void. The quarry would not be visible from the shoreline of Lough Gill due to the wooded landcover in this neighbouring area and other features within the 500m separation distance. The site would be visible from neighbouring upland areas at Slieve Dargan and Slieve Daeane, however, the magnitude of change when viewed from these sensitive rural landscapes would be

'slight' and the significance of this impact is assessed as being 'moderate' to 'not significant'.

- 8.10.4. The visual impact assessment includes five viewpoints. Topography and screening by mature deciduous trees and hedgerows restrict views of the site from the wider and immediate areas. On inspection of the site and the surrounding environs, and noting the location of the processing and quarry areas off the local road, I am satisfied that the findings of the visual impact assessment are reasonable and that the significance of the visual impacts arising would result in negligible change in the landscape with some benefits from all five selected viewpoints arising from the additional native woodland and hedgerow planting on the quarry boundaries, as identified on Drawing 5 submitted with the planning application.
- 8.10.5. The proposed landscaping and restoration works would further reduce the visibility of the application site from the receiving environment and would offset the impact associated with the rock extraction activities. At restoration stage the steep side slopes would be allowed to regenerate naturally and the flat bare ground would be reseeded. Should the Board be minded to grant permission, a phased or progressive restoration plan for the processing part of the quarry operations, which are in control of the applicant, should be sought by way of a planning condition. Hedgerow removal and trimming back would be required along the access to the quarry and processing areas along the local road, however, there would be sufficient depth of vegetative screening to the rear of these areas to continue to restrict views into the operational areas from the local road.

#### Conclusion – Landscape and Visual Impacts

- 8.10.6. The quarrying activities would not have a significant impact on the landscape at a local level and the proposed operation within the existing void would have negligible impact where visible from sensitive upland areas in the wider environs, noting the additional screen planting and the restoration plan proposed. The impacts of the proposed development on the landscape are considered to be acceptable.

### **8.11. Material Assets**

- 8.11.1. Material assets are examined in chapter 11 of the EIAR. The material assets that have been identified include residential buildings, neighbouring amenities and

facilities, roads and traffic, public utilities, groundwater and waste. Material assets such as the geological resource, land resources, scenic routes and archaeology have not been referenced by the applicant under the heading of 'Material Assets', but have been assessed under other headings of this EIA.

8.11.2. The processing area of the operations has an electricity connection, while telecommunications connections are provided via mobile networks. A potable water supply is available from a private well in the processing area and there is an existing effluent treatment system in the processing area, which I note would not be required to deal with substantial wastewater volumes. Section 7.92 of the EIAR also refers to a well previously used in the processing area for non-potable water. An existing 100mm piped potable water supply runs along the local road adjoining the site (see figure 7-15). In their final submission to the planning authority, Irish Water have stated that the development would not present concerns of a potential risk to their water supply infrastructure and I have specifically addressed the issue of water quality and Lough Gill public water supplies separately above. The applicant states that waste management arrangements would be implemented to deal with extractive and operational waste. Following consultation in relation to the application, the ESB (Electric Ireland) and the Minister for Communications, Marine & Natural Resources did not raise any specific concerns in relation to the project.

8.11.3. Traffic increase is not envisaged to be significant onto the local road network and measures would be undertaken to reduce dust emissions in the surrounding area. No mitigation beyond that put forward in other chapters has been set out.

#### Conclusion – Material Assets

8.11.4. Having regard to the above assessment, it can reasonably be concluded that quarrying activities within the site and alongside the processing operations would have largely imperceptible impacts on the material assets of the local environment, but that impacts for public water supplies in Lough Gill may have significant impacts on the materials assets of the wider environment.

### **8.12. Cultural Heritage**

8.12.1. Cultural Heritage is considered in chapter 12 of the EIAR and the applicant's study area covers an area that includes both the quarry and processing areas, as well as

the immediate areas. There is a Recorded Monument and Place (RMP) situated within the quarry site, but no RMPs are identified in the processing area. RMP Ref. SL020-094) relating to an enclosure, is identified as being located along the east side of the quarry site, close to the location of the existing access leading into the quarry. According to records, the RMP was removed by quarrying prior to 1995. In addition, RMP SL020-093 relating to a 'ringfort or rath' that is overgrown with vegetation, is located 40m to the northeast of the quarry site, with its area of notification slightly within the quarry site. Other additional RMPs in the area, are considered to be of sufficient distance from the quarry site, not to be impacted directly or indirectly by the proposed development.

8.12.2. During previous monitoring of ground disturbance within the site between 2000 and 2002 and in 2011, and also during a geophysical investigation within the study area, nothing of archaeological significance was encountered. There are no buildings on the application site or in the immediate study area that are listed in the Record of Protected Structures appended to the Development Plan, nor is the site within an Architectural Conservation Area. No structures listed in the National Inventory of Architectural Heritage (NIAH) are sufficiently close to be impacted by the quarrying activities.

8.12.3. Due to the possibility of the survival of previously unknown sub-surface archaeological deposits or finds within new areas that have not been subject to extensive extraction, as a mitigation measure, any topsoil-stripping should be monitored by a qualified archaeologist. Such areas are expected to be very much limited to the settlement lagoon proposals and the suggested mitigation measure has been requested by the Department of Culture, Heritage and the Gaeltacht (National Monuments Service). In the event of a grant of permission, this measure should be secured by way of the attachment of a suitable archaeological-monitoring planning condition.

#### Conclusion – Cultural Heritage

8.12.4. I am satisfied that subject to archaeological monitoring, no direct or indirect impacts on known items of cultural heritage, archaeology or buildings of heritage interest in the application site or in the immediate vicinity would arise as a result of the proposed development.

### **8.13. Interactions and Cumulative Impacts**

- 8.13.1. Table 15-1 of chapter 15 provides a summary of the interactions and interrelationships of potential effects assessed for this project. Quarrying can give rise to inevitable and unavoidable impacts on the environment and many of these impacts interact with each other. The main area of concern relates to the effects of the associated processing works on biodiversity, particularly via alterations in water quality, which can impact on aquatic ecology, designated sites and public water supplies.
- 8.13.2. Cumulative impacts have been addressed to an extent, where applicable, under the relevant chapters within the EIAR. Sufficient details for the project are not provided, including details regarding the operation of the extraction area in conjunction with the processing area. Concerns have been raised above in relation to the potential for cumulative impacts of the project on biodiversity and water quality. The processing area cannot be reasonably viewed as a separate and independent operation to the adjoining quarry with which it has been closely associated over an extended period of time. It is considered inappropriate to consider a grant of permission in such circumstances as to do so would militate against proper overall consideration of all operations at this location in terms of environmental impact assessment. In light of the assessment above, the information contained in the EIAR and the supplementary information provided by the developer, does not adequately identify and describe the direct, indirect and cumulative effects of the proposed development on the environment.

#### Conclusion – Interactions and Cumulative Impacts

- 8.13.3. While the Board has the opportunity to request further information in this regard, I am satisfied that the applicant had ample and reasonable opportunity to fully address details with respect to the processing area as part of the application, including the further information requests, and they failed to comprehensively address same. While recognising the consistency of the proposals with broad planning policy, it is clear that more comprehensive details are required with respect to the impacts of the proposed development and that the proposed development, in this instance, would constitute haphazard and disorderly development and would, therefore, be contrary to the proper planning and sustainable development of the area.

## **8.14. Reasoned Conclusion**

8.14.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the applicant and the submissions received from the planning authority and prescribed bodies in the course of the application and appeal, the main significant effects of the proposed development on the environment are those arising from the impacts listed below.

- impacts on human health through excessive emissions of dust, noise and vibrations during operation, with potential for nuisance to sensitive residential receptors proximate to the site. Such impacts are proposed to be mitigated by measures to reduce and control the emissions in the first instance and thereafter by the adoption of specific measures, including those forming part of the operation of the development and adherence to a Construction and Environmental Management Plan, including monitoring proposals.

8.14.2. Having regard to the examination of environmental information contained above, it is considered that the developer has failed to identify or describe adequately all of the direct and indirect significant effects of the proposed development on the environment individually, or cumulatively with the adjacent processing area, including measures to avoid, prevent or reduce such effects, as follows:

- impacts on water quality and materials assets, through surface water containing sediment and/or pollutants, with potential for degradation of aquatic ecology within Aghamore stream and Lough Gill and with potential for deterioration of public water supplies sourced from Lough Gill. Such impacts would result in these waterbodies being unable to achieve the relevant target ecological status set by the River Basin Management Plan 2018-2021, would be prejudicial to public health and would not be adequately mitigated by adherence to measures outlined or additional planning conditions during the operation and restoration phases of the project in the absence of specific proposals for the functionally-interdependent processing area of the development;
- impacts on biodiversity, through loss or disturbance of habitat, with potential impacts for sensitive species using the processing area and immediately adjoining areas. Such impacts would not be satisfactorily mitigated by

adherence to measures outlined or additional planning conditions during the operation and restoration phases in the absence of specific details and proposals for the functionally-interdependent processing area of the development.

## **9.0 Appropriate Assessment**

### **9.1. Stage 1 - Screening**

- 9.1.1. The site location is described in section 1 of this report above. A description of the proposed development is provided in section 2 of this report and expanded upon below where relevant. A report screening for appropriate assessment was submitted with the application and following a request for further information a NIS was submitted to the planning authority.

### **9.2. Relevant European Sites**

- 9.2.1. Relevant European sites proximate to the quarry site and in the wider area are listed in section 5.3 above.

### **9.3. Is the Project necessary to the Management of European sites?**

- 9.3.1. The project is not necessary to the management of a European site.

### **9.4. Potential Direct, Indirect or Secondary Impacts**

- 9.4.1. The potential direct, indirect and secondary impacts that could arise as a result of the proposed works and which could have a negative effect on the qualifying interests of European sites, include the following:
- alterations to water quality, for example, through accidental spills or the release of suspended solids to ground and surface water;
  - alterations to the hydrological regime and hydromorphology;
  - loss, disturbance or fragmentation of habitat and/or species.



9.4.2. Ground and surface waters from the quarry drain into the Aghamore stream, which discharges to Lough Gill, which in turn discharges to Sligo harbour via the Garvogue river. Lough Gill and the Garvogue river form part of Lough Gill SAC (Site Code: 001976), while Sligo harbour is within the area designated for Cummeen Strand SPA (Site Code: 4035) and Cummeen Strand/Drumcliff Bay SAC (Site Code: 000627). There is a hydrological connection from the subject quarry site and the processing site area to these sites. The conservation objectives for these sites are listed in tables 2, 3 and 4 below.

**Table 2.** Conservation Objectives for Lough Gill SAC

To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:		
Code	Description	
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* (priority habitat)	
Code	Common Name	Scientific Name
1092	White-clawed Crayfish	Austropotamobius pallipes
1095	Sea Lamprey	Petromyzon marinus
1096	Brook Lamprey	Lampetra planeri
1099	River Lamprey	Lampetra fluviatilis
1106	Salmon	Salmo salar
1355	Otter	Lutra lutra

**Table 3.** Conservation Objectives for Cummeen Strand SPA

To maintain the favourable conservation condition of Light-bellied Brent Goose;
To maintain the favourable conservation condition of Oystercatcher;
To maintain the favourable conservation condition of Redshank;
To maintain the favourable conservation condition of the wetland habitat in Cummeen Strand SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

**Table 4.** Conservation Objectives for Cummeen Strand/Drumcliff Bay SAC

To maintain the favourable conservation condition of Estuaries
To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide
To maintain the favourable conservation condition of Embryonic shifting dunes
To restore the favourable conservation condition of Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes')
To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes')
To restore the favourable conservation condition of <i>Juniperus communis</i> formations on heaths or calcareous grasslands
To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion)
To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail
To restore the favourable conservation condition of Sea Lamprey
To maintain the favourable conservation condition of River Lamprey
To maintain the favourable conservation condition of Harbour Seal

- 9.4.3. Based on the source-pathway-receptor model, there is potential for indirect effects via ground and surface water discharge from the quarry and processing area on downstream waters in the Bonet river sub-catchment, including those forming part of the Lough Gill SAC (Site Code: 001976), Cummeen Strand SPA (Site Code: 4035) and Cummeen Strand/Drumcliff Bay SAC (Site Code: 000627).
- 9.4.4. By deepening the quarry further, increasing the drawdown, thereby extending the zone of influence for the quarry and transferring the additional drawdown waters from one sub-catchment (Carrowgobbadagh) via pumped discharge to an alternative sub-catchment (Bonet), the proposed development would have potential impacts on downstream European sites that are hydrologically linked with the quarry and its immediate area (i.e the zone of influence) via reduced flows to Carrowgobbadagh sub-catchment and increased flows to the Bonet river sub-catchment. This issue has been referred to above in section 8.6.24 of this EIA under the heading 'Water'. Connectivity between the site and four European sites in the Bonet sub-catchment has been identified above. There is uncertainty regarding the flow routes and coastal discharge locations for waters draining from the western side of the quarry,

as there is limited surface water flows in the area, although it is most likely that these waters would ultimately discharge at Ballysadare Bay. Consequently, based on the source-pathway-receptor model, there is potential for indirect effects via a reduction in groundwater flows to the west and connectivity between the quarry site and Ballysadare Bay SPA (Site Code: 004129) and Ballysadare Bay SAC (Site Code: 000622) cannot be ruled out. Conservation objectives for these sites are listed in tables 5 and 6 below.

**Table 5.** Conservation Objectives for Ballysadare Bay SPA

To maintain the favourable conservation condition of Light-bellied Brent Goose;
To maintain the favourable conservation condition of Grey Plover;
To maintain the favourable conservation condition of Dunlin;
To maintain the favourable conservation condition of Bar-tailed Godwit;
To maintain the favourable conservation condition of Redshank;
To maintain the favourable conservation condition of the wetland habitat in Ballysadare Bay SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

**Table 6.** Conservation Objectives for Ballysadare Bay SAC

To maintain the favourable conservation condition of Estuaries;
To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide;
To maintain the favourable conservation condition of Embryonic shifting dunes;
To restore the favourable conservation condition of Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes');
To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation ('grey dunes');
To restore the favourable conservation condition of Humid dune slacks;
To maintain the favourable conservation condition of Narrow-mouthed Whorl Snail;
To maintain the favourable conservation condition of Harbour Seal.

- 9.4.5. The applicant's bird survey lists the various species identified within the quarry and its environs, and whether or not these species were nesting. The Scottish Natural Heritage (SNH) guidelines 'Assessing Connectivity with Special Protection Areas (SPAs)' outlines foraging ranges from nest sites during breeding season for selected birds, including peregrine falcon.

**Table 7.** Conservation Objectives for Sligo / Leitrim Uplands SPA

To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
Code	Common Name	Scientific Name
A103	Peregrine	Falco peregrinus
A346	Chough	Pyrrhocorax pyrrhocorax

- 9.4.6. Chough were not identified during surveys of the site and the site would not provide suitable foraging or wintering habitat for this bird species. Peregrine falcons are often found to nest in quarries and records indicate peregrine falcon had previously nested in the quarry site between 2013 and 2017, while also being identified perching on the site in 2018 and there is potential for peregrine to use the site in future. The SNH guide notes that the foraging range from a nest site during breeding season for peregrine falcon to be within a core range of 2km, but with a maximum recorded distance in Britain of 18km. Sligo/Leitrim Uplands SPA (Site Code: 004187) is located outside the typical foraging range but within this maximum range from the quarry site. Given the survey results, the nature of the site, the potential for peregrine falcon to reuse the quarry site for nesting and the proximity of the works site to Sligo / Leitrim Uplands SPA, connectivity between the sites by peregrine falcon, but not chough, cannot be ruled out.
- 9.4.7. There is no connectivity between Unshin River SAC (Site Code: 001898), Union Wood SAC (Site Code: 000638) and the proposed works site, as they are upstream of the proposed works and a substantial distance over ground from the appeal site.

## **9.5. Stage 1 – Screening Conclusion**

- 9.5.1. It is reasonable to conclude on the basis of the information on the file, which I consider to be satisfactory in order to issue a screening determination, that the proposed development, individually or in combination with other plans or projects, would not be likely to have a significant effect on Unshin River SAC (Site Code: 001898) and Union Wood SAC (Site Code: 000638) given the absence of any link between these sites and the appeal site. Potential for significant indirect effects on the features of interest of the Lough Gill SAC (Site Code: 001976), Cummeen Strand SPA (Site Code: 4035), Cummeen Strand/Drumcliff Bay SAC (Site Code: 000627),

Ballysadare Bay SPA (Site Code: 004129) and Ballysadare Bay SAC (Site Code: 000622) arising from impacts on water quality and alterations to the hydrological regime during the operational phase cannot be screened out and the and the potential for significant indirect effects on a feature of interest of the Sligo/Leitrim Uplands SPA (Site Code: 004187) arising from impacts to peregrine falcon during the operational phase cannot be screened out. Accordingly a Stage 2 Appropriate Assessment is required to determine the potential of the proposed development to adversely affect the integrity of these sites.

## **9.6. Stage 2 - Appropriate Assessment**

- 9.6.1. The conservation objectives for Lough Gill SAC, Cummeen Strand SPA, Cummeen Strand/Drumcliff Bay SAC, Ballysadare Bay SPA, Ballysadare Bay SAC and Sligo/Leitrim Uplands SPA are detailed in the stage 1 assessment directly above.

## **9.7. Potential Effects**

- 9.7.1. Lough Gill SAC is of importance for four habitats listed on Annex I of the Habitats Directive, including two with priority status. It is also a noted site for a high number of rare or scarce animal and plant species. In terms of indirect effects of the project, the key elements are the potential for emissions to surface water and the downstream potential for water pollution principally from sediment and pollutant runoff from the extraction and processing works, including during possible flood events. Increased water arising from the proposed development would have the potential to alter the hydromorphology of the lake.
- 9.7.2. The applicant states that the proposed mitigation measures to avoid impacts are designed into the project and these are listed in section 1.63 of the NIS. Various surveys were undertaken as part of the preparation of the EIAR for the project and it was concluded that with the mitigation measures in place, the proposed quarry extraction activities would be unlikely to result in significant impacts on surface waters and groundwater, including the receiving waters. In addressing the effects of the extraction activity with the currently inactive processing area to the east in section 1.51 of the NIS, the applicant states that there would be no point discharge from the processing area in the future.

- 9.7.3. Within the application documentation it is proposed to recommence activity on the processing area to facilitate operation of the extraction activities. Manufacturing activities are expected to recommence at some stage from this area, but a timeframe for this is not specified by the applicant. As highlighted within the EIA above, arising from proposals to recommence use of the processing area, there is uncertainty regarding the cumulative indirect effects of the project on the receiving surface waters in the absence of specific details for the processing area.
- 9.7.4. Poor water quality can contribute significantly to the degradation of habitat for White-clawed Crayfish, Sea Lamprey, Brook Lamprey, River Lamprey, Salmon and Otter identified as features of interest for Lough Gill SAC. Having regard to the downstream hydrological connectivity between the processing site and Lough Gill, there is potential for interdependence and interconnectivity between the lakewater habitat and surface water running along the processing site. In the absence of details of how the processing area would be operated, there are concerns that the proposed development would pose an unacceptable risk to surface water draining to Lough Gill. Therefore, it cannot be reasonably ruled out beyond scientific doubt that there would not be adverse effects, either individually or in combination with other plans or projects, on Lough Gill SAC on the basis of the information available. I am satisfied that given the dilution effect of Lough Gill and the distance to marine waters in Sligo harbour, there would not be adverse effects on Cummeen Strand SPA, Cummeen Strand/Drumcliff Bay SAC arising from the operation of the processing area.
- 9.7.5. Cummeen Strand SPA, Cummeen Strand/Drumcliff Bay SAC, Ballysadare Bay SPA and Ballysadare Bay SAC are of importance for a variety of estuarine habitats, as well as flora and fauna, including migratory wintering water birds dependent on inter-tidal zones, harbour seal, river lamprey, sea lamprey, whorl snail and common juniper trees. Having regard to the downstream hydrological connectivity between the site and either Sligo Harbour or Ballysadare Bay, there is potential for interdependence and interconnectivity between the estuarine habitats of these European sites via reduced waters resulting from increased dewatering from the proposed development. I recognise that the applicant has addressed the impact of increased flows to Lough Gill, and my assessment above in Section 8.6.24 of the EIA does not raise concerns regarding the likely hydrological or hydrogeological

impacts of these reduced flows, there is uncertainty regarding the effects on the connected European sites. Reduced freshwater inflows may cause environmental consequences for estuarine habitats, due to changes in multiple factors, including increased salinity, alterations to biogeochemical processes and impacts on ecosystem function. Details of whether or not reduced groundwater would impact on the coastal European sites has not been provided and as a consequence, there are concerns that the proposed development would pose an unacceptable risk to the integrity of these sites, in view of their conservation objectives, particularly given the sensitive inter-tidal habitats and species reliant on these sites. Therefore, it cannot be reasonably ruled out beyond scientific doubt that there would not be adverse effects, either individually or in combination with other plans or projects, on Cummeen Strand SPA, Cummeen Strand/Drumcliff Bay SAC, Ballysadare Bay SPA and Ballysadare Bay SAC on the basis of the information available.

- 9.7.6. During the most recent survey undertaken for the planning application, it was noted that peregrine falcon had failed to nest on the site in 2018, but this species could potentially breed again at this site in future. The applicant asserts that Sligo/Leitrim Uplands SPA would not be within the hunting territory for peregrine falcon, based on a field guide and monitoring guidelines prepared by Hardey et al in 2013 (Raptors – A Field Guide for Surveys and Monitoring). The Hardey et al ‘Raptors’ guide identified a hunting territory range of 2 to 6sq.km for peregrine falcon, while the SNH guide identifies a core range of 2km, but with a maximum recorded range of 18km (in Britain). Based on this guidance, Sligo/Leitrim Uplands SPA located 9.1km to the northeast would not be within the core range for peregrine falcon using the subject quarry. The SNH guide states that the core range should be used when determining whether or not there is connectivity between proposed development and qualifying interests. Maximum ranges should be considered in exceptional circumstances, for example, if there is a lack of other closer foraging sites. Extensive foraging habitat for peregrine is clearly evident in the intervening area between the SPA and the site, and also surrounding the site. On the basis of the information available, I am satisfied that the proposed development would not directly impact on peregrine falcon connected with Sligo/Leitrim Uplands SPA.

## **9.8. Appropriate Assessment – Stage 2 Conclusion**

- 9.8.1. On the basis of the information provided with the application and appeal, including the Natura Impact Statement, and in light of the assessment carried out above, I am not satisfied that the proposed development individually, or in combination with other plans or projects would not adversely affect the integrity of Lough Gill SAC (Site Code: 001976), Cummeen Strand SPA (Site Code: 4035), Cummeen Strand/Drumcliff Bay SAC (Site Code: 000627), Ballysadare Bay SPA (Site Code: 004129) and Ballysadare Bay SAC (Site Code: 000622), in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval/permission.

## **10.0 Recommendation**

- 10.1. I recommend that planning permission for the proposed development should be refused for the reasons and considerations set out directly below.

## **11.0 Reasons and Considerations**

Having regard to:

(a) the relevant provisions of the Planning and Development Act 2000, as amended and the Planning and Development Regulations 2001-2020;

(b) the relevant provisions of EU Directive 2014/52/EU, amending Directive 2011/92/EU (EIA Directive);

(c) the relevant provisions of Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directives), Wildlife Acts 1976, as amended;

(d) national and regional policies of relevance, as set out in the inspector's report, including the objectives of the River Basin Management Plan 2018-2021;

(e) the provisions of the Sligo County Development Plan 2015-2021;

(f) the conservation objectives, qualifying interests and special conservation interests for the relevant European sites;

(g) the nature and extent of the proposed works;



- (h) the information submitted with the application including the Planning Report, Environmental Impact Assessment Report, Natura Impact Statement and associated documentation, and the range of mitigation measures set out;
- (i) the likely effects and consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effects of the proposed development on European Sites;
- (j) the observations and submissions received and;
- (k) the report and recommendation of the inspector.

### **Environmental Impact Assessment**

Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the applicant and the submissions received from the planning authority and prescribed bodies in the course of the application and appeal, the main significant effects of the proposed development on the environment are those arising from the impacts listed below.

- impacts on human health through excessive emissions of dust, noise and vibrations during operation, with potential for nuisance to sensitive residential receptors proximate to the site. Such impacts are proposed to be mitigated by measures to reduce and control the emissions in the first instance and thereafter by the adoption of specific measures, including those forming part of the operation of the development and adherence to a Construction and Environmental Management Plan, including monitoring proposals.

Having regard to the examination of environmental information contained above, it is considered that the developer has failed to identify or describe adequately all of the direct and indirect significant effects of the proposed development on the environment individually, or cumulatively with the adjacent processing area, including measures to avoid, prevent or reduce such effects, as follows:

- impacts on water quality and materials assets, through surface water containing sediment and/or pollutants, with potential for degradation of aquatic ecology within Aghamore stream and Lough Gill and with potential for deterioration of public water supplies sourced from Lough Gill. Such impacts

would result in these waterbodies being unable to achieve the relevant target ecological status set by the River Basin Management Plan 2018-2021, would be prejudicial to public health and would not be adequately mitigated by adherence to measures outlined or additional planning conditions during the operation and restoration phases of the project in the absence of specific proposals for the functionally-interdependent processing area of the development;

- impacts on biodiversity, through loss or disturbance of habitat, with potential impacts for sensitive species using the processing area and immediately adjoining areas. Such impacts would not be satisfactorily mitigated by adherence to measures outlined or additional planning conditions during the operation and restoration phases in the absence of specific details and proposals for the functionally-interdependent processing area of the development.

### **Appropriate Assessment - Stage 1 (Screening)**

Following a Screening Assessment it was concluded that the following European Sites are those for which a Stage 2 Appropriate Assessment is required, and that significant effects on any other European Sites can be ruled out:

- Lough Gill Special Area of Conservation (Site Code: 001976);
- Cummeen Strand Special Protection Area (Site Code: 004035);
- Cummeen Strand/Drumcliff Bay Special Area of Conservation (Site Code: 000627);
- Ballysadare Bay Special Protection Area (Site Code: 004129);
- Ballysadare Bay Special Area of Conservation (Site Code: 000622).

### **Appropriate Assessment - Stage 2**

On the basis of the information provided with the application and appeal, including the Natura Impact Statement, and in light of the assessment carried out above, the Board is not satisfied that the proposed development individually, or in combination with other plans or projects would not adversely affect the integrity of Lough Gill SAC (Site Code: 001976), Cummeen Strand SPA (Site Code: 4035), Cummeen

Strand/Drumcliff Bay SAC (Site Code: 000627), Ballysadare Bay SPA (Site Code: 004129) and Ballysadare Bay SAC (Site Code: 000622), in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval/permission.

### **Proper Planning and Sustainable Development**

Notwithstanding local planning policy supporting for the proposed recommencement of quarrying on the site, having regard to the nature, scale and extent of the development, including the cumulative impacts with the adjacent associated processing area and the inadequacy of information to comprehensively identify and demonstrate the effects of the proposed development on the environment, in particular water quality and biodiversity, it is considered that in the absence of adequate information and proposals to address same, the proposed development would be detrimental to receiving freshwater habitats and prejudicial to public water supplies sourced from Lough Gill, would lead to loss or disturbance of habitat and/or species in the adjacent associated processing area and would constitute haphazard and disorderly development. The proposed development would, therefore, be prejudicial to public health and contrary to the proper planning and sustainable development of the area.

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Colm McLoughlin  
Planning Inspector

15<sup>th</sup> June 2020