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**To: Board**  
**From: Mary Crowley SPI**  
**Re: Addendum Report**  
**Date: 8<sup>th</sup> August 2021**

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## 1.0 Screening for Appropriate Assessment

1.1. I refer to Chapter 6 of Volume 2 of the EIAR, Volume 3 of the EIAR and Appendix 2.1 River Finn Conservation Objectives and Qualifying Interests (Source NPWS), Appendix 6.1 Natura Impact Assessment and Site Synopsis (NIS) and Appendix 6.2 Biodiversity Habitat Map therein together with the further information submitted to Donegal County Council comprising inter alia the Construction Waste Management Plan, the Construction Environmental Plan and the Stormwater Response Programme.

### 1.2. Introduction

1.2.1. A Screening for Appropriate Assessment was completed for the project which could not rule out the potential for likely significant effects on the River Finn SAC (Site Code 002301), arising from the construction, operation and decommissioning phases of the proposed development at the site. Specifically, the proposed development has the potential to result in indirect and cumulative water quality impacts including pollution and siltation/sedimentation run-off during construction and nutrient input and eutrophication during operation, potentially affecting the freshwater aquatic qualifying

interests of the River Finn SAC (Atlantic Salmon, Otter), with reference to their conservation objectives.

1.2.2. Therefore a Natura Impact Statement (NIS) was submitted to inform Appropriate Assessment. The NIS concluded that with application of mitigation measures, the proposed development works at the existing Glenmore Biogas Plant site will not have an adverse effect on the integrity of the Natura 2000 site, alone or in combination with other projects or proposals., in respect of the requirements of Article 6(3) of the EC Habitats Directive (1992), as transposed in Ireland as the EC (Birds and Natural Habitats) Regulations (2011 Amended) and part XAB of the Planning and Development Act, which is the relevant legislative basis for this assessment.

### 1.3. Stage 1 Screening for Appropriate Assessment

1.3.1. As stated the application included a Natura Impact Statement, including the screening stage to evaluate the potential impacts(s) of the proposed development on European Sites located within 15km radius. While 15km is not a statutory requirement I am satisfied that it is a reasonable parameter and that the sites identified in Stage 1 of the AA are acceptable.

1.3.2. The appeal site is not located within a Natura 2000 site. However, the River Finn SAC is in close proximity c0.5km to the north of the appeal site with the natural surface water flows towards the River Finn. Other sites considered relevant to this appeal site based on the 15km area of examination include the Croaghonagh Bog SAC and Lough Eske and Ardnamona Wood SAC. Site specific conservation objectives have been set for these three sites by the National Parks and Wildlife Service (NPWS). Details are summarised as follows:

European Site	Distance (km)	Qualifying Interests	Conservation Objective
River Finn SAC (002301)	0.5km N	<ul style="list-style-type: none"> <li>▪ Salmon</li> <li>▪ Otter</li> <li>▪ Oligotrophic waters containing very few minerals of sandy plains</li> <li>▪ Northern Atlantic wet heaths</li> </ul>	The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest.

		<ul style="list-style-type: none"> <li>▪ Blanket bogs</li> <li>▪ Transition mires and quaking bogs</li> </ul>	
<p><b>River Finn SAC (002301) Conservation Objectives</b></p> <ul style="list-style-type: none"> <li>▪ Conservation Objectives for Salmon <i>Salmo salar</i> is to maintain the favourable conservation condition of Atlantic Salmon in River Finn SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives.</li> <li>▪ Conservation Objectives for Otter <i>Lutra lutra</i> is to maintain the favourable conservation condition of Otter in River Finn SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives</li> <li>▪ Conservation Objectives for Oligotrophic waters containing very few minerals of sandy plains is to restore the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) in River Finn SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives</li> <li>▪ Conservation Objectives for Northern Atlantic wet heaths with <i>Erica tetralix</i> is to restore the favourable conservation condition of Northern Atlantic wet heaths with <i>Erica tetralix</i> in River Finn SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives</li> <li>▪ Conservation Objectives for Blanket bogs (* if active bog) is to restore the favourable conservation condition of Blanket bogs (*if active bog) in River Finn SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives</li> <li>▪ Conservation Objectives for transition mires and quaking bogs is to restore the favourable conservation condition of transition mires and quaking bogs in River Finn SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives</li> </ul>			
<b>Croaghonagh Bog SAC (000129)</b>	4.4km S	<ul style="list-style-type: none"> <li>▪ Blanket bogs</li> </ul>	<p>Conservation Objectives for: Blanket bogs is to restore the favourable conservation condition of Blanket bogs (* if active bog) in Croaghonagh Bog SAC, which is defined by the list of attributes and</p>

			targets set out by the NPWS
<b>Lough Eske and Ardnamona Wood SAC (000163)</b>	13.5km S.W.	<ul style="list-style-type: none"> <li>▪ Freshwater Pearl Mussel</li> <li>▪ Salmon</li> <li>▪ Oligotrophic waters containing very few minerals of sandy plains</li> <li>▪ Petrifying springs with tufa formation</li> <li>▪ Killarney Fern</li> <li>▪ Old sessile oak woods with Ilex and Blechnum in the British Isles</li> </ul>	The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest

#### **Lough Eske and Ardnamona Wood SAC (000163) Conservation Objectives**

- Conservation Objectives for Freshwater Pearl Mussel *Margaritifera Margaritifera* is to restore the favourable conservation condition of Freshwater Pearl Mussel (*Margaritifera margaritifera*) in Lough Eske and Ardnamona Wood SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives
- Conservation Objectives for Salmon *Salmo salar* is to restore the favourable conservation condition of Atlantic Salmon (*Salmo salar*) in Lough Eske and Ardnamona Wood SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives
- Conservation Objectives for Oligotrophic waters containing very few minerals of sandy plains is to restore the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) in Lough Eske and Ardnamona Wood SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives
- Conservation Objectives for Petrifying springs with tufa formation (*Cratoneurion*) is to maintain the favourable conservation condition of Petrifying springs with tufa formation (*Cratoneurion*)\* in Lough Eske and Ardnamona Wood SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives
- Conservation Objectives for Killarney Fern *Vandenboschia speciosa* is to maintain the favourable conservation condition of Killarney Fern (*Vandenboschia speciosa*) in Lough

Eske and Ardnamona Wood SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives

- Conservation Objectives for Old sessile oak woods with Ilex and Blechnum in the British Isles is to maintain the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in Lough Eske and Ardnamona Wood SAC, which is defined by the list of attributes and targets set out in the NPWS Conservation Objectives

1.3.3. As set out above the **Croaghonagh Bog SAC** is selected for active blanket bog, a priority habitat listed under Annex I of the E.U. Habitats Directive. Given the distance, the lack of hydrological connectivity and lack of impact pathways the Croaghonagh Bog SAC has been screened out from further consideration in view of the conservation objectives of the site.

1.3.4. The qualifying interests that could be affected in the **Lough Eske & Ardnamona Wood SAC** if an ecological connection existed via hydrological link are summarised below. The Killarney Fern (terrestrial flora) and old sessile oak woods (terrestrial habitats) are screened out from further consideration out given the distance to the SAC and lack of connecting ecological features.

Qualifying Interest	Potential Impacts
Freshwater Peal Mussel	Direct effects from water discharge Decrease in water quality Decrease in food availability Pollution
Atlantic Salmon	As above
Oligotrophic waters containing very few minerals of sandy plains	Direct effects from water discharge Decrease in water quality Pollution
Petrifying springs with tufa formation	As above

- 1.3.5. It is considered that there is no risk to the qualifying interests of Lough Eske & Ardnamona Wood SAC from the proposed construction and operational of the proposed development given that no works will take place within or adjacent to the designated site and given the distance and intervening lands. While the proposed development will involve construction and operational works, which may cause release of suspended sediments and could potentially cause accidental spills of oil or other toxic chemicals (in a worst case scenario) such an impact, if it were to occur would not affect this SAC given its location outside of the catchment area of the River Finn and no pathways for such effects to reach the receiving waters of Lough Eske. It is therefore concluded given the distance, the lack of hydrological connectivity and lack of impact pathways that there is no potential for construction and operational works to impact on this Natura 2000 site and Lough Eske and Ardnamona Wood SAC has been screened out from further consideration.
- 1.3.6. With regard to the **River Finn SAC**, the existing plant is located approximately 550m from this Natura Site with natural drainage following local topography towards the river. The SAC comprises almost the entire freshwater element of the Finn and its tributaries – the Corlacky, the Reelan sub-catchment, the Sruhamboy, Elatagh, Cummirk and Glashagh, and also includes Lough Finn, where the river rises. The spawning grounds at the headwaters of the Mourne and Derg Rivers, Loughs Derg and Belshade and the tidal stretch of the Foyle north of Lifford to the border are also part of the site. The Finn and Reelan, rising in the Bluestack Mountains and drain a catchment area of 195 square miles. All of this extensive Natura 2000 site is in County Donegal.
- 1.3.7. There are no aquatic habitats within the proposed development area. However, it is noted that there are a number of surface water features at the appeal site and therefore as a consequence of the proposed development indirect effects may arise by reason of a hydrological connection due to construction or operational emissions. The largest of these water features is a stream that runs along the western boundary of the site and which carries runoff water from lands and field drainage ditches up gradient of the site. This stream then runs in a north-eastern direction through the woodland before it meets and crosses the existing access lane which runs through Glenmore Estate before it discharges to the roadside ditch beside the junction of the R252 and R253. This roadside drainage ditch subsequently discharges into the River Finn (through field culverts) east of Glenmore Bridge.

- 1.3.8. I agree with the consultant ecologist's determination on behalf of the applicant that there is potential for significant indirect and cumulative effects on the River Finn SAC, arising from the construction, operation and decommissioning phases of the development. This aligns with the report from the Department of Culture, Heritage and Gaeltacht.
- 1.3.9. As set out above, the River Finn SAC is selected for active blanket bog, a priority habitat listed under Annex I of the E.U. Habitats Directive; lowland oligotrophic lakes, wet heath and transition mires, also on Annex I of the E.U. Habitats Directive and for Atlantic Salmon and Otter listed on Annex II of the same directive. The proposed development has the potential to result in water quality impacts including, pollution and siltation/sedimentation run-off during construction and nutrient input and eutrophication during operation, potentially affecting the freshwater aquatic qualifying interests of the River Finn SAC (Atlantic Salmon, Otter), with reference to their conservation objectives. Ingress of Cementous material can have a profound effect on water quality and pH and sensitive aquatic species. The development also has the potential to result in nitrogen deposition potentially affecting the peatland habitats for which the site is designated if these areas occur within a zone of influence of such effects. Nitrogen deposition and associated acidification are noted as being relevant to blanket bogs and all associated habitats by the NPWS. The proposed development is located downstream and a significant distance from the qualifying interest habitat of Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) and there is no potential for construction, operational or decommissioning works to impact on this habitat of the SAC.
- 1.3.10. On the basis of the findings of the Screening for Appropriate Assessment, it is concluded that the proposed development:
- is not directly connected with or necessary to the management of a Natura 2000 site; and
  - has the potential to result in significant effects on the River Finn SAC, with reference to surface water impact pathways affecting water quality and potential nitrogen deposition affecting peatland habitats.
- 1.3.11. Therefore, appropriate assessment is required to examine and assess the possible impacts in detail taking account of the conservation objectives of the River Finn SAC.

## 2.0 Appropriate Assessment Stage 2 Assessment

- 2.1.1. The Screening process above and as part of the submitted documents (NIS) identified the potential for the proposed development to result in significant effects the River Finn SAC. A number of species and habitats have been identified which require to be brought forward for further consideration due to potential for adverse effects as a result of the proposed development in the absence of appropriate mitigation measures.
- 2.1.2. These include Atlantic Salmon, Otter and peatland habitats comprised of Northern Atlantic wet heaths, Blanket bogs and Transition mires and quaking bogs. These qualifying interest features and the relevant attributes and targets that contribute to favourable conservation status are presented below. Note that due to the upland nature of the habitat Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) within this SAC, being located upstream of the proposed development, there is no likelihood of impacts and therefore this habitat is excluded from detailed assessment.

[insert a Table- e.g. see below}

Conservation Objectives for : River Finn SAC [002301]		
	Direct impacts	Indirect impacts
To restore the favourable conservation condition of blanket bog, [Northern Atlantic we heaths with Erica tetralix and Transition mires and quaking bogs	No direct impacts on habitat area or distribution. Community diversity and composition can be affected by soil nutrient status	Ecosystem function: soil nutrients- soil ph and appropriate nutrient levels should be maintained within natural range>  Nitrogen deposition
To maintain the favourable conservation	No direct impacts on distribution, number of adult spawning fish or fry or	Water quality: at least EPA Q4 required,



condition of Salmon (Salmo salar)	smolt abundance, or distribution of redds.	Clean gravels required for spawning
To maintain the favourable conservation condition of Otter	No direct impacts on terrestrial or freshwater habitat, couching sites or holts or barriers to connectivity	Decrease in water quality could affect fish biomass available

2.1.4. The following impacts with potential to adversely affect the conservation objectives of the identified Natura 2000 sites were considered in the NIS.

## 2.2. Direct Effects

2.2.1. **Construction Phase** - The SAC boundary follows the riparian corridor of the River Finn. None of the qualifying interests of the River Finn SAC, either habitats or species, occur within or directly adjacent to the appeal site or its associated infrastructure. There is no suitable habitat within the proposed development site to support the freshwater qualifying interests of the River Finn SAC. The agricultural land use within and adjacent to the development site, in addition to the distance of the works areas from the River Finn corridor would preclude any direct effects which may adversely affect targets or attributes that support the conservation objectives for either Atlantic Salmon, Otter or Blanket Bogs with respect to their conservation status.

2.2.2. **Operation Phase** - The proposed development will operate following the Project Description as set out in Chapter 3 of the EIAR. Water management will comprise a fully closed-loop system where process effluents are recycled to the anaerobic digestion process. Development works and proposals to alter and install new processes areas at the biogas plant are being undertaken to enhance digestates, reduce overall volumes of low value whole digestate and inter alia reduce dependence on land application. Whole digestate is exported from the site as product and used as an organic fertiliser on agricultural lands registered with DAFM. Due to the nature and character of the input feedstocks i.e. largely homogenous material from producers within the agri-food sector, there is no “residual material” e.g such as grit or contaminants such as plastic remaining after the digestion process which requires disposal.

2.2.3. There will therefore be no operational discharge directly to the River Finn SAC. In the absence of any discharges to the River Finn and taking account of the separation distance from the site, there are no pathways for direct impacts identified which would have the potential for adverse effects on any of the qualifying interests of the River Finn SAC during the operational phase.

### 2.3. Indirect Effects

2.3.1. **Construction Phase** - The potential indirect impacts with reference to water quality during the construction phase may arise due to connectivity to minor drains and watercourses in the vicinity of the development site. This gives rise to pathways for surface water / storm water run-off with downstream connectivity to the River Finn SAC. The baseline water quality within the wider study area is evaluated as being of 'Moderate status'; however, the project must not preclude the potential for the River Finn SAC to reach 'Good status', or achieve the compliance parameters for Atlantic salmon and Otter to reach their Conservation Objectives. During construction the potential indirect, temporary impact is as a result of hydrocarbon contamination and siltation associated with installation of the proposed digestate lagoon and the trenching works required for the pipeline connection. There is therefore potential for adverse effects in the absence of appropriate mitigation measures.

2.3.2. **Operation Phase** - Indirect impacts affecting the qualifying interests are limited to potential air quality (nitrogen deposition) effects which may adversely affect peatland habitats and water quality effects extending downstream which may adversely affect Atlantic Salmon and Otter within the River Finn SAC. The principle pollution threats are from (a) failures of tanks, pipe work, and materials delivery and storage and (b) discharge of stormwater to a receiving watercourse to the north of the site

2.4. With regard to potential impacts on peatland habitats including blanket bog I refer to the EIAR submitted with the application (Air quality, Odour and Climate Chapter) where it states that the predicted nitrogen deposition rate at the River Finn SAC (0.059 Kg/Ha/Yr) is 1.18% of the relevant Critical Load of 5 Kg/Ha/Yr. As the maximum predicted nitrogen deposition rate at the River Finn SAC is less than 10% of the relevant Critical Level (Cle) and 0.8% of the existing background nitrogen deposition level of 7.09 Kg/Ha/Yr, the proposed facility will not have a significant impact on nitrogen deposition rates at nearby designated sites or sensitive habitats. It can

therefore be concluded that there is no potential for adverse effects as a result of the proposed development.

## 2.5. **Cumulative and In-Combination Effects**

2.5.1. The proposed development is associated with the existing and consented biogas facility within the Glenmore Estate. There are no other plans or projects, consented or in planning, which would have the potential to interact cumulatively or in combination with the current proposal. In the absence of significant adverse effects on the aquatic ecology of drainage ditches and streams in the vicinity of the proposed development, there are no cumulative impacts which would preclude the potential for the River Finn main channel within the SAC to achieve 'Good Ecological Status'. It is documented that the pressures and drivers of water quality in the SAC are located upstream of the proposed development and are not associated via any potential impact pathways.

## 2.6. **Mitigation**

2.7. Mitigation measures to prevent possible impacts arising from the proposed project are summarised as follows. These align with the requirements of the Department of Arts, Heritage, and the Gaeltacht (DAU) and the Loughs Agency.

2.8. **Construction Phase** - Potential indirect impacts affecting the River Finn SAC have been identified during the construction phase. The proposed measures to remove the risk from potential contamination and emergency procedures to be implemented in the event of an accidental spill of potentially contaminating substances outlined in the NIS and further information and in particular the CEMP which includes a Construction Waste Management Plan, Stormwater Response Programme and Site-Specific Response Plan.

2.9. The CEMP outlines the approach to environmental and waste management throughout the construction works of the proposed development and associated activities with the primary aim of reducing any adverse impacts from construction on the environment and improving the overall environmental performance of the appointed construction contractor. The following standard practice pollution control measures have been incorporated into the CEMP, which the contractor will be obliged to follow to remove any risk of a pollution incident:

- The construction project will be managed by the main contractor. A site manager will be appointed by the main contractor who will have responsibility for co-ordinating and managing good environmental and health and safety practises design construction.
- Fuel and Oil Storage – Fuels and Oils will be stored in a manner to minimise the risk of pollution or ecological damage during fuel handling. Any waste oils or hydraulics will be collected, stored in appropriate containers and disposed of off site in an appropriate manner. Secondary containment will be provided for all oil diesel tanks. The types of fuel and oil that will be stored and how and where is set out in Table 6.4. All refuelling and lubrication of equipment will take place on sealed and bunded surfaces within this area in order to avoid the potential for accidental spillage of hydrocarbons.
- Materials Storage – Materials and waste will be stored in a manner that minimises risk to the environment and reduces the potential for wastage due to exposure to the elements or damage. The types of potentially polluting materials associated with these works and how and here they will be stored is set out in Table 6.5.
- Water – During the construction activities there will be a requirement for diverting rainwater away from the construction area. Water will be filtered and treated to prevent sediment from entering ditches and water streams. There will be no direct discharges to any natural watercourses, with all drainage waters being managed using settlement / siltation ponds and dispersed overland flows. Check dams will be added to an artificial drains created to control flows and sediment loads in artificial drains.
- As part of the detailed design and in advance of any construction activities a construction site drainage plan will be developed to assist with micro siting of proposed drainage controls. Artificial drains will be excavated and settlement ponds constructed to eliminate any suspended solids within surface water running off the site.
- Drainage Infrastructure will include interceptor drains, swales / roadside drains, check dams and settlement ponds to reduce the hydraulic loading to watercourses.
- Sedimentation presentation controls include:
  - 1) Minimisation of exposed ground and soil stockpiles

- 2) Minimising the time that ground is exposed and excavations are open
  - 3) Stockpiles will be located away from watercourses and limited in height to 3m
  - 4) Silt fences will be placed around the stockpiles where required to limit the potential for rainfall to wash fines into the drainage system
  - 5) Areas around infrastructure will be landscaped, restored and rejuvenated
  - 6) Location of construction activities away from water courses
  - 7) Track drainage will be porous and act as a soakways thereby minimising direct discharge to watercourses
  - 8) Wheel washing will be conducted in designated areas with runoff conducted to soakways
  - 9) Use of buffer zones, silt traps and settlement ponds to avoid sediment reaching watercourses
  - 10) Groundwater will be pumped or will flow to a secure sediment pond of sufficient size on site in order to allow ample retention time for any solids.
  - 11) Any mechanically propelled pumps will be located a safe distance from the water source in order to eliminate the potential of oils entering the water.
  - 12) Prior to pumping any water from source it will be visually assessed and if there is any evidence of contaminants absorbent pads or booms will be placed at the entry and exit of the pond
  - 13) After sufficient retention time in the holding pond the water will either flow or be pumped to land drains
  - 14) Monitoring of water discharges from the site will be undertaken as needed and as required by the consent process
  - 15) For large excavation the runoff from soil at temporary storage locations will be directed through appropriate sediment / silt control measures.
  - 16) Run off from large areas of exposed soil will be collected by temporary drainage and passed through settlement tanks or lagoons before discharging to surface water via an interceptor
- The following measures are proposed to avoid release of cement leachate from the site:
    - 1) No batching of wet cement products will occur on site

- 2) Supply of ready mixed wet concrete products
- 3) No washing out of any plant used in concrete transport or concreting operations
- 4) Where concrete is delivered on site, only chute cleaning will be permitted, using the smallest volume of water possible
- 5) No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed
- 6) Use weather forecasting to plan dry days for pouring concrete
- 7) Ensure pour site is free of standing water
- 8) A 20m buffer distance to nearby water courses will be in place for the duration of the construction works

- Site Compound – The location of same will be within the footprint of the extension development lands and accessed by the private laneway before approaching the weighbridge.
- An Emergency Response Plan is presented providing details of procedures to be adopted in the event of an emergency in terms of site health and safety and environmental protection. Section 6.12 refers.
- A separate Construction Waste Management Plan has been submitted detailing how waste will be managed. The Plan describes the controls and processes that will be used to manage materials effectively and reduce the amount of waste disposed of to landfill by identifying opportunities to reduce, re-use and recycle. The Contractor will ensure that any waste material is disposed of at a licenced facility approved to take this waste stream.

2.9.1. An appropriately qualified environmental scientist or aquatic ecologist will be engaged separately to the appointment of the Contractor and will provide input into the construction phase management plans and compliance monitoring. This role will include an ongoing review and compliance reporting with reference to the implementation of mitigation measures and avoidance of impacts adversely affecting the qualifying interests of the River Finn SAC.

2.9.2. Decommissioning impacts which would have the potential to affect the River Finn SAC, in the absence of mitigation, are limited to ground works, excavation and machinery operation which could adversely affect water quality within the River Finn

main channel within the SAC designation. Such impacts are in line with and directly comparable to construction stage effects as described above.

- 2.9.3. The foregoing mitigation measures are directly linked to the impacts that have been identified in the appropriate assessment and are based on a sound understanding of the qualifying interests concerned. The proposed mitigation measures are clearly described, and would be reasonable, practical, effective and enforceable. Following the implementation of the above-mentioned mitigation measures, it can be concluded that the construction phase of the proposed development will not have any adverse effects on water quality within the River Finn or species for which they are designated.

## 2.10. Operation Phase

- 2.10.1. Mitigation measures that will form part of the proposed development to ensure that adverse effects in the surface water and treated trade effluent discharge arising from the site can be avoided are set out below.

- The operational management and maintenance of the development proposal will be incorporated into the existing management plans of the GGL Biogas site. Applications for alterations to the existing EPA license (P1004-02) and DAFM approval (BIOG100) will be sought. Separate approval in accordance with DAFM requirements will be sought for operation of the fertiliser plant.
- Management systems and licences require frequent inspection and monitoring of processes and emissions. Compliance with surface water quality commitments will require that there is no discharge off site, of polluting effluents to land or to any surface water feature within the River Finn catchment.
- As the development proposals involve changes to processes (enhancement and reduced demand for harvested rainwater) and construction of new processing areas resulting in an increase to impermeable surfaces, there will be an increase in surface water runoff which will require management. This is to be achieved through the collection, treatment monitoring and discharge of clean stormwater using an isolated separate drainage system and attenuation tank. The system has been designed in accordance with policy F-P-5 of the Donegal CDP 2018-2024, which states
- The surface water attenuation tank has been designed to the 1% AEP event and provides for supplementary in-line controls (automated shut-off valves, penstock

chambers, and a monitoring and inspection chamber) to protect the downstream receiver

- The proposed site provides for separate drainage systems for dirty and clean areas at the site. The digestate enhancement proposals will result in reduced demand for harvested stormwater at the site (because low ammonia digestate will be returned from the back end of the process to the front end of the process for mixing of feedstocks in substitution for clean water). Therefore, clean stormwater will be collected and managed using a proposed stormwater attenuation structure from three areas of the site:
  - 1) Within the existing upper existing biogas site bund – roof and external areas,
  - 2) Proposed lower biogas site bund - roof and external areas,
  - 3) External hardstanding areas in the vicinity of the site office and fertiliser plant roof and external areas,
- A large stormwater attenuation structure with a capacity of 1,250m<sup>3</sup> will be constructed as part of development works on lands adjoining the northern boundary of the existing plant. The structure includes four internal chambers (with penstocks) to provide for isolation, attenuation and water quality testing. The structure will also provide reserve water for process use (if required). The system will provide for a controlled discharge of clean stormwater to a local watercourse (5l/s/ha) via a throttle pipe and downstream oil interceptor. The attenuation structure and its capacity has been designed to provide for a storm return period of 1 in 100 year and includes an additional factor of 15% for climate change (calculated to be 1,203m<sup>3</sup>).
- Automated shut-off valves will be fitted to the outflow from inspection chambers / pumping stations upstream of the stormwater attenuation structure. In the event that stormwater from any of the areas becomes contaminated from on-site processes sources, the corresponding valve will automatically close on the outflow from inspection chambers /pumping stations activated by continuous in-situ instruments (such as turbidity and dissolved oxygen probes). The collecting contaminated stormwater will then be retained within the pumping station prior to be rediverted to the AD process for treatment until the source has been removed and collection drainage system has been cleaned.



- It is also proposed to install continuous in-situ monitoring instrumentation within the final chamber of the stormwater collection system. A stormwater response programme comprising daily inspection and sampling of water in the final chamber will be implemented as part of the EMS for the site. The stormwater retention structure provides sufficient downstream storage (adequate retention time), allowing time for testing (i.e. turnaround time from a laboratory) of storm water prior to it being discharged to the receiving watercourse.
- All potential effluent generating areas are being moved to internal locations, e.g. vehicle washdown areas within the biogas site and digestate dispatch areas. This will reduce the potential for interaction with clean stormwater drainage system at the site.
- The operational management and maintenance of the development proposal will necessitate frequent monitoring. Compliance with surface water quality commitments will require that there are no discharges of process effluent off site, to land or to any surface water feature within the River Finn catchment.
- All digester vessels (including hydrolysis tanks) and ammonium sulphate storage tanks will be contained in concrete bunds designed to provide for retention in accordance with EPA guidance, i.e. to a volume not less than the greater of the following:
  - i) 110% of the capacity of the largest tank or drum within the bunded area,
  - ii) 25% of the total volume of the substance which could be stored within the bunded area,
- Feedstock handling, vehicle washing and handling of digestates will all be undertaken indoors with suitable drainage system provided to contain localised spills /drips and recover these to the AD process;
- Movement of digestates to the fertiliser plant will be via enclosed (above-ground) pipelines which will provide for inspection;
- Effluents generated within the feedstock reception building or fertiliser building will be recovered to the AD process for treatment.

2.10.2. There are no other specific mitigation measures proposed for the operational phase of the proposal. The foregoing mitigation measures are directly linked to the impacts that have been identified in the appropriate assessment and are based on a sound

understanding of the qualifying interests concerned. The proposed mitigation measures are clearly described, and would be reasonable, practical, effective and enforceable. Following the implementation of the above-mentioned mitigation measures, it can be concluded that the operational phase of the proposed development will not have any adverse effects on water quality within the River Finn SAC or species for which they are designated.

## **2.11. Department of Arts, Heritage, and the Gaeltacht (DAU) & Loughs Agency**

2.11.1. I refer to the reports of the of the DAU and Loughs Agency that are available to view on the appeal file and summarised in the body of the main report. Both reports set out conditions to be attached to any grant of permission. As previously stated the mitigation measures included in the NIS and CEMP align with the requirements of both these bodies. However the DAU has requested the attachment of a number of general “best practise” conditions. These conditions do not of themselves give rise to any potential effects on any European Site but rather relate to good practise. Relevant conditions have already been included in the recommendation of the main report.

## **2.12. Conclusions**

2.12.1. I am satisfied that a full examination of the potential impacts has been analysed and evaluated using the best scientific knowledge. The potential for significant effects on the River Finn SAC was identified. Appropriate Assessment has demonstrated that where potential adverse effects were identified in view of the conservation objectives of this site, key design features and detailed mitigation measures have been prescribed to remove risks to the integrity of the European sites. I am satisfied based on the information available that if the key design features and mitigation measures are undertaken, maintained and monitored as detailed in the NIS and further information, adverse effects on the integrity of the River Finn SAC will be avoided and that the proposed development would not delay or affect the attainment of the conservation objectives for the River Finn SAC..

2.12.2. I consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out Appropriate Assessment, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the River Finn SAC (002301) or any other European site, in view of the site’s Conservation Objectives. This conclusion is based on a

complete assessment of all aspects of the proposed project and there is no reasonable doubt as to the absence of adverse effects.

### **3.0 Environmental Impact Assessment**

- 3.1.1. I have carried out an examination and evaluation 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 observers, has been set out in the foregoing sections of this report. The main issues raised specific to EIA relate to project splitting, risk of pollution, traffic impact, noise pollution, disposal of digestate, odour, climate change and impact to the River Finn SAC. These issues are addressed below under the relevant headings, and as appropriate in the reasoned conclusion and recommendation, including conditions.
- 3.1.2. Concern is raised that the information relating to land spreading is not contained within the submitted documentation and is therefore project splitting for the purposes of the EIA Regulations and the EIAR is incomplete. I refer to the planning history pertaining to the site. The Glenmore Biogas Plant is authorised to accept 90,000 tonnes of feedstock and to generate more than 150,000 tonnes of whole digestate. The proposed development does not change the amount of feedstock but will substantially reduce the volume of whole digestate (to 30-40,000 tonnes) and, indeed the outputs from the process by half. Project splitting only arises where development is carved up in such a way as to avoid any requirement for EIA. In this case the application was accompanied by an EIAR. I also refer to the further information submitted together with the response to the appeal including the letter from the Department of Agriculture, Food and the Marine where it states inter alia that digestate produced from a bio gas plant using the EU transformation parameters is considered to be an organic fertilizer / soil improver (OFSI) as defined in the EU Animal By-product Regulations. Overall I agree with the applicants that the case law cited by the appellants, in particular O’Grianna vs ABP does not have the relevance suggested.
- 3.1.3. As documented the appeal will reduce overall production of digestate and movements / land spreading associated with same. Even if it were conceded that the effects of the land spreading are indirect effects it remains that the environmental effects of

digestate have been addressed in the planning application, further information and appeal response and have not been excluded completely. Overall, I am satisfied that issues of project splitting do not arise in this case.

- 3.1.4. With regard to potential transboundary effects the proposed development includes the spreading of digestate in lands in Northern Ireland. My understanding is that land spreading in the North is also the subject to statutory control under the Nutrient Action Programme 2019-2022 and would be a matter for this jurisdiction.

### 3.1. Introduction

- 3.1.1. The relevant classes of development that require EIA are set out in Schedule 5 of the Planning and Development Regulations 2001 (as amended). Schedule 5 transposes Annex 1 and Annex II of the EU EIA Directive (85/337/ECC as amended) into Irish Law as Parts 1 and 2 of the Schedule. The requirement for EIA and the subsequent EIAR arises in this instance on the basis that the development falls within Schedule 5, Part 2, Category 11 of the Planning and Development Regulations 2001 as amended:

*Installations for the disposal of waste with an annual intake greater than 25,000 tonnes not included in Part 1 of this Schedule and has the potential to cause significant environmental effects.*

- 3.1.2. The plant is permitted to accept and treat 90,000 non-hazardous biodegradable wastes primarily comprising agricultural (e.g. beef slurry and poultry manure) and food waste (e.g. material with a high content of fat, protein or sugar such as fish waste, catering waste, fruit /vegetable waste) and transform these materials into sustainable products using anaerobic digestion (AD) under planning application 14/51399. Both the 2014 amending EIA Directive (Directive 2014/52/EU) and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 are applicable in this instant case.

- 3.1.3. The EIAR is prepared in support of proposed changes to the site layout, process layout and infrastructural components of the biogas plant. Because the existing biogas plant is already operational, the EIAR provides an assessment of the cumulative impacts of the existing plant and construction of new components (extensions) and changes to processes. The proposed processing stages at the plant are described under the following process stages:

- STAGE 1: Feedstock Reception and Mixing (within biogas plant)

- STAGE 2: Anaerobic Digestion (within biogas plant)
- STAGE 3: Pasteurisation of Digestate (within biogas plant)
- STAGE 4: Enhancement of Digestate (within fertiliser plant)

3.1.4. The proposed construction of a fertiliser plant (Stage 4) to enhance digestate produced at the biogas plant is driven by the digestate management plan. Presently digestate produced at the GGL biogas plant is spread to agricultural land as whole digestate fertiliser (grassland and arable agriculture) and is considered an excellent fertiliser as it contains useful quantities of N, P and K.

3.1.5. Although this is a good use of the nutrients within the digestate, the value of the digestate is relatively low and the volumes produced are high (relative to inputs). Because the spreading of digestate to land is controlled and informed by the European Nitrates Directive and agricultural nutrient management plans (NMPs), whole digestate requires the availability of significant suitable lands for application and digestate storage for the closed spreading season.

3.1.6. The proposed construction of a fertiliser plant (coupled with proposed alterations to the existing biogas plant processes - hydrolysis phase and recirculation of low ammonia digestate liquor) are designed and incorporated to:

- increase the value of the digestate;
- create new markets for digestate products;
- reduce the dependence on land application;
- ensure more secure and sustainable outlets for digestate products; and
- potentially reduce the operating cost of the plant.

3.1.7. The proposed site layout is presented in Drawing Ref. No. 17-101-P30. A process flow diagram for the site which includes proposed development and alterations is presented in Figure 2.4 of the EIAR Volume 2.

## 3.2. **Compliance with Legislation**

3.2.1. The EIAR consists of three volumes, grouped as follows:

- Volume 1: Non-Technical Summary
- Volumes 2 Environmental Impact Assessment Report
- Volume 3 Appendices

- EIAR Addendum (Consultation Update & Statement of Competency)

- 3.2.2. In accordance with Article 5 and Annex IV of the EU Directive, the EIAR provides a description of the project comprising information on the site, design, size and other relevant features of the project. It identifies, describes and assesses in an appropriate manner, the direct and indirect significant effects of the project on the following environmental factors: (a) population and human health; (b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land and soils, water (hydrology and hydrogeology), air quality, noise & vibration and climate; (d) material assets including waste, traffic & roads and wastewater discharge; cultural heritage and landscape & visual and it considers the interaction between the factors referred to in points (a) to (d).
- 3.2.3. The contributors / competent experts involved in the preparation of the EIAR are set out in Section 1.4.4 of the EIAR and accompanying Addendum. I note the qualifications and expertise demonstrated by the experts involved in its preparation and I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality. No specific difficulties are stated to have been encountered in compiling the required information or in carrying out the assessment.
- 3.2.4. The EIAR provides an adequate description of forecasting methods and evidence used to identify and assess the significant effects on the environment. It also provides a description of measures envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects. The mitigation measures and monitoring arrangements are presented at the end of each chapter of the EIAR. Environmental Interactions are addressed in Chapter 12.
- 3.2.5. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality, and that the information contained in the EIAR and supplementary information provided by the developer, adequately identifies and describes the direct, indirect and cumulative effects of the proposed development on the environment and complies with article 94 of the Planning and Development Regulations 2000, as amended.

### 3.3. **Vulnerability to Risk of Major Accidents and / or Disaster**

- 3.3.1. The requirements of Article 3(2) of the Directive include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disaster.

- 3.3.2. A biogas plant involves complex processing engineering and it is important that they are designed, constructed, commissioned and operated in a sustainable, efficient and reliable manner with safety being considered at both personnel and plant level. If the appropriate protective measures are taken, hazards in and around biogas plants are limited and are reduced to the extent that the risk is low. The EIAR addresses the risk of accidents and unplanned events which may either be caused by or have impact on the proposed development have been assessed. A risk-based approach has been employed and is detailed in the following chapters: biodiversity, soils and geology, water, air quality, odour and climate, traffic and transport and noise and vibration.
- 3.3.3. The proposed volumes of biogas which will be stored on site at any given time will be below the qualifying quantity for application of the Control of Major Accident Hazards (COMAH) Regulations (i.e.,50 tonnes). The site is not connected to or close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e. SEVESO and so there is no potential effects from this source. Given the nature of and volumes of materials proposed to be stored on-site the Seveso Regulations would not apply.
- 3.3.4. As stated the building and operating a biogas plant presents health and safety risks both during construction and operation. At the start of the construction stage of the project, a Project Supervisor for the Design Process (PSDP) and a Project Supervisor for the Construction Stage (PSCS) will be appointed. The PSDP will be responsible for the compilation of the safety file for the client. The role of the PSCS will be to manage and co-ordinate health and safety matters during the construction stage. In order to control potential negative impacts during construction, a Construction Environmental Management Plan (CEMP) will be developed and implemented by the nominated Contractor. Mitigation measures outlined within the various sections of the EIAR will be incorporated into the CEMP. Post mitigation, impacts to population and human health during the constructions (and decommissioning stages) are predicted as short-term direct and indirect slight positive short-term. Decommissioning phase impacts are likely to be broadly similar to construction phase impacts, in terms of disturbance through increased noise levels, ground clearance works, and reinstatement; and potential surface water quality impacts from ground disturbance, re-fuelling and the storage of potentially hazardous materials onsite. A

Decommissioning Plan will be put in place, containing specific actions aimed at high quality habitat restoration of areas impacted by the decommissioning works.

- 3.3.5. There are a number of hazards associated with the operation of a biogas including environmental, biological, gas, mechanical, electrical etc. Due to the complex process engineering involved at biogas plants, it is important that the activity is strictly operated in accordance with licenses (EPA and DAFM), health and safety legislative requirements and international best practice.
- 3.3.6. As previously documented the Plant operates under licenses and approvals from the Environmental Protection Agency ('EPA') (Reg. No. P1004- 02) and also the Department of Agriculture Food and Marine (DAFM) (Reg. No. BIOG100) which authorises and controls the operation of the plant whilst ensuring protection of environmental and human receivers. The development proposals will require "licence review" of the existing EPA Industrial Emission Licence (P1004-02) and alterations to DAFM approval (BIOG100). The fertiliser plant aspect of the proposal will also require an additional approval from DAFM in accordance with it being classified as an organic fertiliser /soil improver plant. It is stated that a variation to respective licenses will be sought for the new development and processes proposed under this application in due course.
- 3.3.7. A Supervisory Control and Data Acquisition ("SCADA") system is installed at the existing site to monitor the performance of the biogas plant. The SCADA system will be updated to reflect proposals. Warning signs and security infrastructure will be in place around the site in accordance with Health and Safety Legislation to protect workers, including visitors and contractors. The following controls are included within the design to reduce and control hazards:
- The plant will be operated in accordance with the requirements of an accredited safety management system, such as ISO 45001;
  - The plant has been designed to reduce risks from hazards;
  - All infrastructure associated with the collection and storage of gas is and will be installed and tested by competent engineers.
  - An enclosed flare is included at the existing site for use in emergency situations;
  - Pressure relief valves are, and will be, fitted to existing and proposed gas domes;
  - Annual routine maintenance will be carried at the plant;



- Workers will be required to wear appropriate PPE and carry personal gas detection monitors when working in certain areas of the plant and when carrying out certain activities.

3.3.8. Other mitigation measures to ensure that adverse effects do not occur as a result of the operation include:

- Feedstocks will not be handled outside the main processing building;
- The feedstock reception building and fertiliser processing buildings are totally enclosed and provides for controlled operating conditions.;
- The extraction system and odour control units serving both buildings will ensure that the inside of the building is maintained under negative pressure. This prevents uncontrolled fugitive odour emissions when access doors are opened;
- Air extracted from the feedstock reception building is treated using the odour control system before exhausting and dispersing to atmosphere;
- New digester vessels will be constructed in concrete (cast in situ) to ensure integrity of the structure. Integrity testing of all structures will be undertaken as part of commissioning works. The digester vessels will also be fitted with air tight covers to prevent uncontrolled releases of gases /odours;
- The design of the extension area includes for the construction of a concrete bund which will encompass and contain spillage associated with site activities. Similar to the existing site, digester vessels constructed within the concrete bund is designed in accordance with best practice to contain 110% of the largest vessel within the bund or 25% of total vessel contents within the bund structure, whichever is greater

3.3.9. Further detailed mitigation measures in relation to the construction and operation of the plant are provided in Chapters 6 to 11 of the EIAR

3.3.10. It is considered that having regard to the nature and scale of the development itself, there are unlikely to be any effects deriving from major accidents and or disasters and I am satisfied that this issue has been addressed satisfactorily in the EIAR.

#### 3.4. **Alternatives**

3.4.1. I refer to Chapter 4 of the EIAR. There has been no consideration of alternatives in respect of the existing biogas plant since such consideration would be of no benefit to

the EIA in light of its consented status. Consequently, Chapter 4 identifies the extent to which alternatives have been considered in respect of future development proposals outlined in Chapter 3.

- 3.4.2. The main alternative in physical and design terms considered in detail was a digestion storage facility ('DSF') located approximately 700m SW of the existing biogas plant. The rationale for the DSF was the requirement to store digestate produced by the biogas facility during the closed spreading season or other times (e.g., during periods of poor weather conditions). However, the DSF facility was not progressed due to a number of environmental effects relating to the requirement to clear-felling of c 3ha of forestry land, requirement for a significant cut exercise involving rock removal proximate to residential receptors and the sterilisation of agricultural land. A further factor was the local community resident perception of harm which was expressed through community consultation exercises the Applicant held over the course of 4 months. A do-nothing scenario will constrain and limit the operating potential of the GGL biogas plant in its role in supporting the principle of the circular economy.
- 3.4.3. Other storage technological options were assessed but were ruled out following assessment of available demonstrated technological options, potential for environmental impacts and consultation with stakeholders.
- 3.4.4. The level of detail of the consideration of alternatives is reasonable and commensurate with the project. I am satisfied that the requirements of the Directive in terms of consideration of alternatives have been discharged.

### 3.5. Consultations

- 3.5.1. Details of the non-statutory consultation entered into by the applicant as part of the preparation of the application and EIAR and prior to the lodgement of the application are set out in Section 1.4.3 of the EIAR. Pre-planning consultation meetings were undertaken with the Planning Department of Donegal County Council on the 15th August 2017 and 28th August 2018. Various Consultations were also undertaken with the Department of Agriculture Food and the Marine (DAFM), Donegal County Council and the Environmental Protection Agency (EPA) in respect of development and enhancement proposals during the period August 2017 to August 2018. Three community consultation events have been held in advance of the application being lodged (October 2017, November 2017 and September 2018). The concerns were

considered as part of the EIAR process and are addressed in relevant chapters. I am satisfied that the participation of the public has been effective.

### 3.6. Construction & Commissioning

- 3.6.1. I refer to Section 3.3 of the EIAR and the CEMP submitted by way of further information. The development is likely to occur over an estimated 8-month period, during which time construction activities will have the potential to impact the existing environment. After the estimated 8-month construction period, it is expected that new infrastructure and processes will be commissioned and capable of operating as designed. An estimate of construction traffic volumes has been made for a site of this size and typical works associated with a development of this type are described.
- 3.6.2. The timing of the commencement of construction is subject to planning, design, tendering and ecological constraints. It would be expected, that any works associated with site clearance and removal of soils will be seasonally limited to mitigate against any adverse ecological affects. The impact of construction activities on Biodiversity and Roads and Traffic are assessed in Chapters 6 and 10, respectively. A CEMP has been developed for the construction phase of the development. This document provides a framework under which construction activities which have potential for environmental impact (e.g., generation of dust, ecological impacts, surface water discharge, etc) will be managed. Mitigation measures as outlined in the EIAR have been included within this plan.
- 3.6.3. Typical construction timeframe is set as follows in the CEMP with further details provided in Section 3.3.1 of the EIAR Volume 2.

<b>Phase</b>	<b>Details</b>	<b>Time</b>
1.	Site Evaluation	2 - 4 weeks
2.	Sie Preparation & Clearance	3- 4 weeks
3.	Civil & Structural Works	4 months
4.	Mechanical & electrical Installation	2 months
5.	Commissioning & Testing	1 – 2 months

- 3.6.4. Heavy vehicle movements to the site are expected to consist predominantly of plant and material deliveries. The majority of machinery associated with the construction phase is likely to remain onsite for the duration of the construction process. Therefore, the traffic associated with heavy plant will be limited to their delivery and removal, with the intervening period comprising internal movements within the site. It has been estimated that during the course of an average day during construction, that up to 10 trucks will access the site to deliver materials. These will be spread over the course of the working day.
- 3.6.5. Employment levels across the project will vary depending on the construction programme and the extent of activities occurring on the site. It is expected that during peak activities, there will be up to 30 construction workers at the site. It is anticipated that during peak construction periods, approximately 15 vehicles will enter the site in the morning and leave the site in the evening. This is based on vehicle occupancy of two. An assessment of the likely traffic volumes which may arise during the construction and operational phase are discussed in Chapter 10 of the EIAR.
- 3.6.6. Subject to agreement with the planning authority, it is anticipated that the following times will constitute the standard working hours on the construction site.
- Monday to Friday 07:00 to 19:00
  - Saturdays 08:00 to 16:00 pm
  - Site closed on Sundays
  - Site open on Bank Holidays as per Saturdays
- 3.6.7. It is stated that working hours may vary slightly depending on weather conditions and daylight hours during winter months and that heavy construction activities will be avoided where possible outside the normal working hours outlined above. I refer to Section 3.15.4 and 3.15.19 of this memo where there is some uncertainty with regard to construction working hours as documented in the EIAR. In the interest of clarity it is recommended that a condition be attached setting out strict construction working hours to ensure no night time or evening construction works take place.
- 3.6.8. Temporary Environmental Protection Measures include the following:
- During the construction stage site construction roads will be sprayed with water during dry periods to mitigate against the formation of dry dust particles. Excavated

materials stored or moved on site could lead to the formation of airborne dust particles during dry weather periods. Water suppressants will be used during these dry weather conditions.

- The landscaping areas proposed for the facility will be constructed and planted at the earliest opportunity thus limiting the potential for off-site migration of airborne dust. Where temporary stockpiles are required the material will be stored in designated areas and will be covered with tarpaulins and/ or regularly dampened during dry weather periods.
- All potentially polluting substances such as oils, chemicals and paints used during construction will be stored in designated storage areas. These will be bunded to a volume of 110% capacity of the largest tank/container within the bunded area with all filling and draw-off points fully located within the bunded area. Drainage for the bunded area will be diverted for dedicated collection and safe disposal.
- All domestic effluent generated on site will be discharged to temporary sewage containment facilities prior to transport and treatment off site.
- Temporary settlement ponds and interceptors will be constructed as necessary during the early stages of construction mitigating against silt laden run-off to the existing drainage network. Prior to commencement of development a construction quality assurance plan (CQA) will be jointly prepared by the contractor and developer. Written approval of the CQA will be sought from the planning authority prior to site development. Good housekeeping and facility management during the construction period will ensure that there will be no negative environmental impacts from the construction of the proposed facility.
- The majority of machinery associated with the construction phase is likely to be onsite for extended periods of time. The traffic associated with these will therefore be limited to their delivery and removal, with the intervening period involving internal movements within the site. The impact of these on the surrounding road network is therefore expected to be minimal and infrequent
- Artificial lighting, and its positioning, which may be required during construction of the project will be sympathetic to local biodiversity.

3.6.9. Further mitigation in relation to the construction and operation of the plant is provided with in Chapters 6 to 11 of the EIAR.

### **3.7. Likely Significant Effects on the Environment**

3.7.1. The likely significant effects of the development are considered under the following headings, as 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;
- the interaction between the factors referred to in points (a) to (d).

3.7.2. In total the main EIAR includes 12 Chapters. Chapters 1 to 4 provide an introduction to the project, description of the site and planning history, proposed development including a description of the construction and commissioning together with benefits and alternatives considered. Chapter 5 addresses waste management and planning policy, chapter 6 addresses biodiversity, chapters 7, 8 and 9 address soil and geology, water, air quality, odour and climate, chapter 10 addresses traffic and transport, chapter 11 addresses noise and vibration and chapter 12 addresses interactions. Each of the above chapters are considered in detail below, with respect to the relevant headings set out in the Directive.

### **3.8. Population and Human Health**

3.8.1. There is no significant negative effect of the proposal on population. The development proposal offers many positive benefits to the economy of the local area. The most significant positive impact will be the employment opportunities that will result from the construction (30 jobs) and operational phases. Indirect employment will also arise from the development in the form of hauliers and other contractors supplying services and goods to the plant. There is also the likely benefit which would accrue to the local area and region in terms of the ability to provide employment through spin-off sectors; such as organic farming; digestate products produced at the GGL plant are currently certified as a suitable fertiliser for organic farming.

3.8.2. Digestate products will continue to be applied to agricultural lands but the development proposals will result in reduced volumes of digestate being generated at the Biogas

Plant. The benefits of using digestate as a fertiliser compared to slurry are identified in Chapter 3. One benefit is that it can help ensure compliance with the Nitrates Regulations (S.I. 610 of 2010) which transpose into national law the Nitrates Directive (91/676/EEC) that has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further such pollution, with the primary emphasis being on the management of livestock manures and other fertilisers. This has a minor positive impact on human health by reducing pollution risks which may enter or impact on the food chain

3.8.3. Human health has the potential to be impacted by the proposed development in a number of ways, including through increased levels of traffic, noise, odour and emissions and hazards/accidents. These matters are respectively considered in Chapters 6-11 of the EIAR.

3.8.4. In order to control potential negative impacts during construction, a Construction Environmental Management Plan (CEMP) will be developed and implemented by the nominated Contractor during the construction phase of the project. Mitigation measures outlined within the various sections of the EIAR will be incorporated into the CEMP. Post mitigation, impacts to population and human health during the constructions (and decommissioning stages) are predicted as short-term direct and indirect slight positive short-term.

3.9. Having regard to the matters discussed above, I am satisfied that impacts that are predicted to arise in respect of population and human health can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on population and human health.

### 3.10. **Biodiversity**

3.10.1. Chapter 6 of the EIAR evaluates the impacts of the proposed development on biodiversity. Means to mitigate any significant impacts are proposed. As well as considering potential impacts on flora and fauna, the Section also considers impacts on designated areas. The Biodiversity Section of the EIAR is supported by a Natura Impact Statement report, Volume 3, Appendix 6.1.

- 3.10.2. The site is in the townland of Aghaveagh which is situated along the River Finn, approximately 6km due west of Ballybofey, Co. Donegal. The surrounding area of Aghaveagh is primarily rural and agricultural. Small-scale farms, rural dwellings and commercial conifer plantations dominate the surrounding countryside. Other prominent features of the landscape include the River Finn corridor which lies approximately 500m due north of the existing biogas site. The proposal includes development within the curtilage of the existing permitted biogas site and on lands, improved grasslands, adjoining the site to the north.
- 3.10.3. There are no designated conservation areas within the proposed development site. Therefore, the proposed development site does not directly impact on any Special Area of Conservation (SAC), Natural Heritage Area (NHA), Special Protection Area (SPA), National Park or Nature Reserve. The River Finn SAC, located approximately 500m north of the site, is a designated SAC (Site Code 002301). As previously documented the River Finn SAC is selected for active blanket bog, a priority habitat listed under Annex I of the E.U. Habitats Directive. The site is listed for lowland oligotrophic lakes, wet heath and transition mires, also on Annex I of the E.U. Habitats Directive. The site is also selected for Atlantic Salmon and Otter listed on Annex II of the same directive.
- 3.10.4. A desk study was undertaken together with field surveys in March 2017 and August 2017 with a walkover survey undertaken at the site in August 2018. A mammal survey was completed together with a bat suitability survey. No seasonal limitations or constraints were encountered with regard to the identification of sensitive ecological receptors within the study area. The surveys were undertaken in accordance with The Heritage Council's 'Best Practice Guidance for Habitat Survey and Mapping'. Potential occurrence and habitat suitability for breeding and wintering birds were recorded with the potential for reptiles to occur and suitable supporting habitat was also evaluated. During the field surveys undertaken in 2014 and 2017, birds noted on site and calling were recorded. Over the course of the survey visits, searches were made for the presence of mammals. A full bat survey was not undertaken as the project will not require felling of trees, nor will it result in fragmentation of potential foraging routes.
- 3.10.5. The terrestrial and aquatic habitats within the development area or potentially affected by the development are listed below and are shown in the habitat map (Volume 3, Appendix 6.2).



- Semi-natural Woodland, Oak-ash-hazel woodland and Scrub/transitional
- Woodland Scrub
- Improved agricultural grassland
- Grassland
- Dry Meadows and Grassy Verges
- Recolonising bare ground
- Buildings and artificial surfaces
- Stone walls and other stonework
- Eroding/upland rivers
- Drainage ditches

3.10.6. The Mammal Survey may be summarised as follows:

- Badgers - There was no evidence of badger activity in the vicinity of the site, although the occurrence of grassland, treelines and hedgerows with broadleaved woodland makes it suitable for badgers. This species is evaluated as being of local importance (higher value) and are not considered further in the impact assessment.
- Red Squirrel - No evidence of Red squirrel was recorded during the field survey. Red squirrel is evaluated as being of local importance (higher value) and not considered further in the impact assessment.
- Bats - The proposed development will not require the removal of any significant foraging or commuting corridors affecting the landscape connectivity in the wider study area. There will be no fragmentation or isolation of habitat which may be used by bats as a result of the proposed development. In the absence of any potential for significant impacts affecting potential roost features or foraging/commuting features, bat species were not evaluated further in the impact assessment.
- Otters - No evidence of otters was found within the proposed development site, no evidence was recorded during surveys from the minor streams to the north of the development area and this would not be expected given the lack of suitable habitat. Noted that the species may at times utilise the riverbank of the River Finn within the SAC but that they will not be affected directly by the proposed

development in terms of disturbance of their breeding or resting places and are therefore not evaluated further in the impact assessment. Note that Otter is considered in the AA in terms of the specific targets and attributes associated with the conservation objectives for this species.

- 3.10.7. Other mammal species protected under the Wildlife Acts 1976 and 2000, which could possibly occur, are Irish hare, pine martin, hedgehog and stoat. Given the suitable habitat of broadleaved woodland, there is potential for these species to occur. No visual sightings or signs of these mammals were found on the site on the days survey works.
- 3.10.8. The common newt and common frog are protected species under the Wildlife Act 1976 and 2000. Neither species were observed on dates of survey. No suitable ponds or pools were observed for suitable habitat for the common newt to occur, however it is likely that common frog is present within wetter grassland areas and drainage ditches within the overall study area. In the absence of records or likelihood of occurrence for either species, the potential for significant impacts affecting either Common lizard or Smooth newt is limited and is not considered further in the impact assessment.
- 3.10.9. Records of terrestrial invertebrate populations were evaluated based on the NBDC online dataset; the Annex II listed Marsh fritillary butterfly was previously recorded from the wider study area (2 km radius) dating from 2010. No other invertebrate species listed as protected / of conservation concern was identified. Marsh fritillary butterfly, where populations occur outside of designated European Sites, are evaluated as being of County Importance. In the absence of suitable habitat for this species they are not considered further in the impact assessment. No other terrestrial invertebrates were considered.
- 3.10.10. Records of bird species from the wider study area (2km radius) were evaluated from the NBDC dataset. The following species of conservation importance (Birds of Conservation Concern (BOCCI) and EU Birds Directive, 2009) have been previously recorded from suitable habitats:
- Birds Directive Annex I species: Hen harrier, Corncrake, Peregrine Falcon, Whooper Swan, Golden Plover;

- BoCCI red-listed species: Twite, Yellowhammer, Red Grouse, Blackheaded gull, Curlew, Northern Lapwing, Meadow Pipit, Whinchat, Woodcock, Pochard, Tufted Duck, Dunlin;
- BoCCI amber listed species: Common Sandpiper, Sky Lark, Teal, Common Swift, House Martin, Sand Martin, Swallow, Snipe, Lesser Black-backed Gull, Spotted Flycatcher, Wheatear, Cormorant.

3.10.11. No species listed by Birdwatch Ireland as Birds of Conservation Concern in Ireland (BoCCI), were recorded within the area of the existing biogas plant site. However, it is considered likely that the upland blanket bog, coniferous plantations and wetlands associated with the lower River Finn corridor in the wider study area provide extensive suitable habitat for those species of conservation importance listed above.

3.10.12. Overall, based on the extent of the site and the absence of habitats to support avifauna, the bird populations present are evaluated as being of local importance (lower value); with potentially greater diversity occurring within the wider landscape at a distance from the proposed development site. Bird species are therefore not considered further in the impact assessment.

3.10.13. It is considered that the aquatic habitats present in the immediate vicinity of the site; the small sections of woodland streams or drainage ditches are not suitable for fish due to their very small size, likely seasonal lack of water and general lack or remoteness of connectivity with larger fish supporting watercourses.

3.10.14. As documented, the existing biogas plant is located approximately 550m from River Finn SAC (site code 002301). One of the qualifying features of the River Finn is Atlantic Salmon, but there is no suitable habitat for this species within the site. The River Finn, upstream of the River Foyle, is a designated Salmonid river and has a reputation as one of the best salmon and sea trout rivers in Europe.

3.10.15. There are numerous factors which impact negatively on Salmon, the most important of which are reduced marine survival (probably as a result of climate change), poor river water quality (resulting from factors such as inadequate sewage treatment, agricultural enrichment, acidification, erosion and siltation), forestry-related pressures and over-fishing. This species is evaluated as being of overall 'Inadequate' conservation status nationally (NPWS) with an overall trend in Conservation Status

classed as 'stable'. The presence of Atlantic Salmon in the River Finn main channel which is within the drainage catchment of the proposed development gives rise to potential significant negative effects on this species if changes in water quality were to be associated with the proposed development and is evaluated further in the impact assessment below and also in the Appropriate Assessment.

3.10.16. The River Finn is also identified as a Freshwater Pearl Mussel catchment (NPWS), with an extant population occurring in the main channel. There is no suitable habitat for this species in the minor streams draining lands within Glenmore Estate in the vicinity of the proposed development. The absence of suitable habitat is due to very variable seasonal flows, high gradients and mobile substrate which do not favour the sedentary requirements of this species. In the absence of records for this species from within the surface water features draining lands in the vicinity of the proposed development site, or from the River Finn in proximity to the proposed development, there is no direct potential significant impacts identified. However Salmon is a host species for Freshwater Pearl Mussel and therefore any adverse affect to Salmon could potentially affect Freshwater Pearl Mussel. In this regard I refer to the foregoing AA Assessment and the mitigation measures considered therein. I am satisfied that the implementation of mitigation meaures proposed will ensure no adverse impact to water quality and therefore no adverse impact to Salmon population and therefore no adverse impact to Freshwater Pearl Mussel. This species is not therefore considered further in the impact assessment.

3.10.17. It is clear from the available data (EPA biological water quality monitoring) that upstream cumulative direct and diffuse sources of pollution are negatively impacting on ecological status and biological water quality in the River Finn. The River Finn is classified as 'poor status' under the Water Framework Directive and risk category 1a – 'at risk failing to meet good status by 2015'. The North Western River Basin Management Plan (2009-2015) proposes an extended timeframe of 2021 to restore good status in the River Finn. This evaluation is due in part to the failure to meet good ecological status in the river for the population of Freshwater pearl mussels, as well as with reference to Atlantic salmon conservation limits, and biological water quality results. During construction, excavating and earthmoving activities have the potential to release sediment and cementitious materials into nearby watercourses which ultimately discharge into the River Finn SAC. The potential for significant impacts

affecting aquatic macroinvertebrate communities is evaluated further in the impact assessment below.

3.10.18. Impact Assessment

3.10.19. The following sensitive biodiversity receptors were identified as being of local importance (higher value) or greater and for which potential impacts exist and have been carried forward for impact assessment:

- Protected Sites (River Finn SAC)
- Habitats and Flora
- Aquatic Ecology and Fisheries (Atlantic salmon and macroinvertebrate communities)

3.10.20. **Protected Sites** – The Natura Impact Statement (NIS), prepared to inform the Appropriate Assessment process accompanying the current planning application, concluded that the potential for adverse effects on the integrity of the River Finn SAC as a result of the proposed development, either individually or in combination with other plans or projects can be excluded with the implementation of mitigation measures.. The proposed development site does not lie within or in direct proximity to any European Site. The SAC boundary follows the riparian corridor of the River Finn, and does not include the minor streams which drain lands in the vicinity of the existing site and proposed works. None of the qualifying interests of the River Finn SAC, either habitats or species, occur within or directly adjacent to the site or its associated infrastructure. There is no suitable habitat within the proposed development site to support the freshwater qualifying interests of the River Finn SAC. The EIAR states that the existing agricultural land use within and adjacent to the development site, in addition to the distance of the works areas from the River Finn corridor would preclude any significant environmental impact on the River Finn SAC. However this statement is at odds with the AA where potential adverse effects are identified due to the strong hydrological connection between the development site and the SAC and that only with the application of mitigation measures can adverse effects be excluded and the conservation objectives of the site maintained or no delay in achieving those objectives. Natura 2000 sites have been addressed in the AA. I am satisfied that any significant impacts can be avoided, managed and mitigated by the mitigation measures that form part of the proposed development.

3.10.21. The impact to Natural Heritage Areas has not been addressed in the Biodiversity Chapter of the EIAR. In this regard I refer to Table 9.4 Designated Sites Located within 10km of the Site as set out in the Air Quality, Odour and Climate Chapter of the EIAR that set out the following:

Cashelnavaeen Bog NHA	4.72km
Meenagarranroe Bog NHA	5.198km
Lough Hill Bog NHA	5.669km
Barnesmore Bog NHA	9.336km

3.10.22. Given the stated distance of the foregoing NHA sites from the proposed works together with the application of mitigation measures proposed the development would preclude any significant environmental impact on these NHA sites.

3.10.23. **Habitats and Flora** - The proposed development on lands adjoining the northern boundary of the existing biogas plant site will involve excavation and trenching which may give rise to potential for significant negative environmental impacts in the local extent, directly associated with the character of the soil and hydrological regime at this location. The main potential environmental impact that could occur to water during the construction phase is surface water /storm water run-off to streams and drainage channels. Other threats to streams and drainage ditches are pollution from nutrients, silt and toxic chemicals, and physical degradation of the structure of the water body. However, it is proposed to use a sustainable urban drainage system approach to stormwater management throughout the site together with a suite of comprehensive pollution prevention measures as outlined in Section 3.10.26 below. This will provide control at source and will ensure that an effective system is put in place to mitigate the potential impact to watercourses from surface /storm water runoff. If suitable precautions are taken and best practice for the storage, handling and disposal of such materials is followed, impacts are likely to be minimal. The impacts in the absence of mitigation are evaluated as short term, likely but reversible.

3.10.24. **Aquatic Ecology and Fisheries (Salmon and Macroinvertebrates)** - The proposed works have the potential to give rise to water quality impacts during the construction phase due to surface water run-off leading to diffuse discharge of

pollutants and/or suspended solids. The baseline water quality within the wider study area is evaluated as being of 'Moderate status'; however, the project must not preclude the potential for the River Finn to reach 'Good status', or achieve the compliance parameters for Atlantic salmon and Otter to reach their Conservation Objectives. Mitigation measures are proposed to avoid and reduce the potential for significant water quality impacts affecting the aquatic environment and are set out below.

3.10.25. Decommissioning Phase impacts are considered to be the same as those detailed under the construction phase.

3.10.26. **Mitigation** - Measures proposed include that which has been identified in other chapters of the EIAR (notably Chapter 8: Water), embedded mitigation (project design) and also specific mitigation by avoidance, reduction and offsetting as specified within this chapter. The principle mitigation measures proposed are as follows:

- There will be no direct discharge to watercourses, including land drains,
- All outflows from drainage associated with construction will be by diffuse overland drainage at appropriate locations,
- There will be no on-site holding of any effluent or construction run-off potentially containing chemical pollutants or cementitious material excepting within appropriately bunded / contained areas,
- Disturbed ground within the site will be actively revegetated immediately post construction,
- The proposals to control potential pollution detailed within the Chapter 8: Water of this EIAR will be implemented in full,
- Works relating to the widening of the road will be subject to the requirements of 'Guidelines on protection of Fisheries during Construction Works in and Adjacent to Waters' (IFI 2016),
- A Construction Environmental Management Plan will be developed for the construction period. This will include details of the implementation and monitoring of environmental control measures to be applied during the construction process,
- Lighting will be designed for the site to minimise lighting spill to sensitive habitats

3.10.27. As previously mentioned the development proposals will require “licence review” of the existing EPA Industrial Emission Licence (P1004-02) and alterations to DAFM approval (BIOG100). The fertiliser plant aspect of the proposal will also require an additional approval from DAFM in accordance with it being classified as an organic fertiliser /soil improver plant. Any incidents of exceedances of emission limit values identified during the operational monitoring of the biogas facility (including fertiliser plant) will be recorded and corrective action undertaken, with reference to the compliance conditions of any planning consent and /or licences. In the event of exceedances being recorded, the operator will be required to take immediate action (notwithstanding reporting, direction or requirements issued by Donegal Co. Co, EPA or Loughs Agency) in order to prevent further contamination of water quality within the River Finn SAC. It is further stated that it will be necessary to undertake post-event follow-up monitoring, to include a full suite of chemical and biological sampling, in order to establish the significance of exceedance events and implications for the qualifying interests of the SAC, in terms of their resiliency to such effects. This monitoring data will inform future compliance limits and thresholds as part of the planning consent and operational licencing process. Taken together with the mitigation measures proposed I am satisfied that the development has been designed to prevent any unforeseen events and that it is highly unlikely that monitoring of incidents of exceedances or post event follow up will be required. That being said I also consider that such checks and monitoring are an essential element of any good design response and represent a considered development in incorporating a holistic best practise approach.

3.10.28. The operational management and maintenance of the development proposal will be incorporated into the existing management plans prepared for the site. This will specify frequent monitoring, with all process effluents managed within the proposed closed-loop system. Compliance with surface water quality commitments will require that there is no process discharges off site, to land or to any surface water feature within the River Finn catchment. This is necessary to ensure that the proposal remains within the parameters of the evaluated impact assessment and thus avoids long term or ongoing adverse effects on water quality in the River Finn SAC.

3.10.29. Stormwater collected and managed from clean areas of the site (roofs and non-risk areas) will be attenuated and contained within a retention tank prior to be tested



and discharged under controlled conditions to a receiving watercourse north of the site. Stormwater will also pass through oil interceptors from vehicle trafficked areas of the development (internal roads). The stormwater attenuation structure will contain a number of internal chambers to provide for settlement of any suspended solids. In accordance with existing EPA licence conditions, storm waters will comply with assessment criteria (trigger values as agreed with the EPA).

3.10.30. In addition, all digestates produced from the site and applied to agricultural lands will be done so in accordance with the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014.

3.10.31. Residual impacts after mitigation are evaluated as neutral to imperceptible in the local context and will not affect (a) the conservation status of the qualifying interests of the SAC, in view of their conservation objectives and (b) the sensitive ecological receptors, with reference to water quality and aquatic habitat requirements.

3.10.32. Having regard to the matters investigated and analysed above, I am satisfied that any significant impacts in respect of biodiversity can be avoided, managed and mitigated by the measures which form part of the proposed development, detailed mitigation measures including monitoring and through suitable conditions. With the full implementation of mitigation measures, residual impacts are evaluated as being neutral to slight negative in magnitude; restricted to the local context; temporary to short-term in duration and reversible; and therefore, not significant. I am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative impact on biodiversity.

### 3.11. **Soil & Geology**

3.11.1. Chapter 7 of the EIAR focuses on the geology and soil environment and discusses the potential impacts associated with the proposed development during the construction and operational and decommissioning phases.

3.11.2. Regionally the area is dominated by till derived from metamorphic rocks, blanket peat bogs and areas of alluvium associated with the River Finn which lies to the north of the site. A review of the publicly available datasets details that the soil cover is composed 'deep well drained mineral soils' (AminDW) (mainly acidic), described as fine loamy over shale and slate bedrock. The existing developed biogas site is

surfaced with hardstanding (concrete /asphalt). Proposed development lands adjoining the site to the north is described as improved grassland and it is understood that alterations to the natural topography of the lands has been undertaken in the past; soils stripping and grading of contours using soils /broken rock. The GSI Quaternary Geology online viewer indicates that the majority of the site is underlain by “metamorphic till”. Bedrock outcropping is shown to be present in the general area of the site; geology of the outcropping bedrock geology of the Boultypatrick (Grit) Formation (described as Psammite, graphitic clasts/beds, pebbles).

- 3.11.3. The GSI 100k bedrock maps demonstrate that the development site is underlain by the Boultypatrick (Grit) Formation. The GSI viewer highlights that the rock outcrops at the surface in the general area of the site. Three boreholes were drilled in the vicinity of the existing biogas site. Shallow bedrock was confirmed to be present (<8m) and was recorded as being Psammite bedrock to a known depth of 145m below ground level (bgl). Shallow groundwater was detected within the boreholes (surface of the bedrock) with artesian groundwater strike detected at circa 90m bgl in the boreholes drilled to the north of the site. Low groundwater yields were recorded from both of these wells. Estimated groundwater yield of 50m<sup>3</sup>/day were recorded in the groundwater well drilled to the south (upgradient) of the site.
- 3.11.4. The GSI database indicates groundwater vulnerability at the site is Extreme (E). Site specific information on depth to bedrock and subsoil type was obtained during site visits. Areas of exposed bedrock were noted in localised excavations in the vicinity of the site. Depths to bedrock in undisturbed areas in the vicinity of the site are estimated to be less than 3m. This agrees with the GSI Extreme (E) vulnerability classification for the site. There are no direct process related discharges to ground or soils associated with operations of the existing facility. There are no identified sources of contamination from historical land use within the site boundary or in adjacent land.
- 3.11.5. There are a number of minor surface water features at the site; the largest of these is a stream which carries runoff water from lands and field drainage ditches upgradient of the site. The stream runs along the western boundary of the site before entering the wooded area, downhill and north of the site. The stream then runs in a north-eastern direction and is culverted before it discharges to the roadside ditch beside the junction of the R252 and R253.

- 3.11.6. During the construction phase potential contamination of soils could occur as a result of spillages (such as waste oil, fuel, chemicals etc) resulting in a potential for a slight impact on the receiving environment. The main risk during the operational phase is the loss of containment of waste liquors or digestate. This has a very high biological oxygen demand which can render water bodies anoxic and damage ecosystems. Pathogens associated with the waste inputs may also be released to the environment. Any leaks would be detected quickly so the impact would be short-term in duration.
- 3.11.7. Existing process water requirements is sourced from the harvesting of rainwater for reuse at the site where possible. Stormwater generated on site is collected and returned to the process. The site also includes a sustainable urban drainage system (SuDS) which was installed to manage excess clean stormwater generated at the site and to mitigate the potential impact to watercourses from surface /storm water runoff run-off by reducing runoff rates, volumes, frequency and pollutant concentrations.
- 3.11.8. Drainage infrastructure at the existing Biogas Plant is designed to ensure separation and isolation of 'contaminated' surface water with 'uncontaminated' surface water. In order to ensure that uncontaminated surface drains are not mixing with possibly contaminated surface drains, 'risk areas' are discharged directly to the process effluent sump. Small areas that have the potential for causing contamination of surface drain water are separated from the overall surface water drainage. Appropriate surfacing and containment or drainage facilities for all operational area exists at the site. As the process of AD is a closed loop system, any minor process wastewater (effluents) generated (such as washwater) are recycled to the process effluent sump for re-use along with stormwater collected within the site bund.
- 3.11.9. The proposed development will not have any significant residual effects on the geological environment if all mitigation measures are implemented. The site development will result in the creation of low permeability and impermeable surfaces, limiting the potential for contamination of the subsurface. New development on lands to the north of the existing biogas plant will result in physical disturbance to the existing soil profile. Given the physical layout of these lands (extension area) within the Glenmore Estate, the site's agricultural potential and the residual effect is negligible.
- 3.11.10. The receptors for this assessment are considered to be shallow soils, the underlying drift and bedrock geology. Whilst the development proposals have the

potential to cause detriment to the sensitive receptors identified, the recommended mitigation measures will ensure that the risk of potential impacts are reduced to negligible.

3.11.11. Having regard to the matters discussed above, I am satisfied that impacts that are predicted to arise in respect of soils and geology can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on soils and geology.

### 3.12. **Water**

3.12.1. Chapter 8 of the EIAR focuses on the water environment and discusses the potential impacts associated with the proposed development during the construction and operational and decommissioning phases.

3.12.2. The site is located in the Foyle catchment which includes the area drained by the River Foyle and by all streams entering tidal water between Culmore Point, Co. Derry and Coolkeeragh, Co. Derry. The sub catchment is identified as the Finn [Donegal]\_SC\_020 which has an area of 106.81km<sup>2</sup>. The proposed site is positioned near the eastern boundary of this subcatchment with the River Finn defining the northern boundary of the subcatchment in this area and includes upland areas extending west and south-west of the proposed site characterised by peatlands, coniferous forest and pockets of agricultural lands.

3.12.3. The dominant surface water features in the general area of the site is the River Finn, which is designated as a Special Area of Conservation (SAC 002301), and tributaries (including the River Rough Burn), which flow into the Finn from upland areas located to the south of the River Finn. The Finn flows in an eastern direction approximately 400m north of the proposed development site. The steep slopes in the uplands around and up gradient of the site promote surface runoff. The relatively high stream density is likely to be influenced by the lower permeability rocks.

3.12.4. The Rough Burn is located approximately 950m east of the site but development works are not within its catchment. A number of smaller streams (tributaries to the River Finn) drain lands and carry surface water run-off from lands in the vicinity of the site. The

relatively high stream density is likely to be influenced by the lower permeability rocks. Surface water drainage in close proximity to the development site has been modified for agricultural drainage purposes and to manage run-off from the hillside. Modifications include field boundary drainage ditches and culverting. There are a number of minor surface water features at the site; the largest of these is a stream which carries runoff water from lands and field drainage ditches in the vicinity of the site. The stream flows through woodland downhill and to the north of the site.

- 3.12.5. For the 2010–2015 period, the River Finn was assigned “Moderate” status along its course west and east of the site towards Cloghan and Ballybofey respectively. The Finn(Donegal)\_040 and Rough Burn River, which are inputting surface water bodies to the main channel of the River Finn in the vicinity of the site, were classed as “Moderate” and “Good” during the survey period. Further west (approximately 5km west of the site), the River Reelan (inputting surface waterbody to the River Finn) is classed as “poor”. According to the assessment, the environmental pressures causing a reduced quality status of surface water bodies described above are agriculture and forestry.
- 3.12.6. A review of flood information available for the area demonstrates that the proposal development site is not located on lands susceptible to flooding and no flood plans are proposed in the general area of the site. The further information request required causes of flood risk to the R253, insofar as these relate to the pre-existing / proposed development planning application, to be fully explored and for mitigation measures to be developed to address the same. These requirements have been addressed by the completion of catchment analyses and preliminary drainage designs (Appendices 4E and 4G of the FI response) which culminate in the proposed measures detailed on the drawings contained in Appendix 4F of the FI response. The measures proposed to manage surface water runoff from agricultural lands adjacent to the proposed development are adequate to make sure that no surface water passes from the lands in question on to the public highway. Accordingly, flood risks have been adequately addressed; no flood risks exist from the lands in question to the highway for the events and durations considered in this assessment. Subject to the implementation of mitigation measures detailed herein, there is no flood risk to the R253 from the pre-existing / proposed development for the storm return periods and durations assessed.

- 3.12.7. The receptors for this assessment are considered to be surface waters (River Finn and its tributaries) and groundwater. Whilst the development proposals have the potential to cause impact to the sensitive receptors identified, the recommended mitigation measures will ensure that the risk of potential impacts are reduced to negligible. Design mitigation measures include bunding of storage vessels on site, separation of clean and dirty drainage on site, use of attenuation structure to provide for testing and controlled discharge of clean stormwater generated at the site. Applications for operation of the existing biogas plant in combination with development proposals will be subject to EPA and DAFM approvals and these applications will be submitted in due course.
- 3.12.8. The development proposal will continue to provide for the management and treatment of non-hazardous organic wastes. Construction of a fertiliser plant and provision of digestate enhancement techniques provides increased efficiencies and benefits associated with the management and operation of the existing biogas plant and digestates arising. Spreading of digestate to land is controlled and informed by the European Nitrates Directive and agricultural nutrient management plans. The proposed development will reduce the dependence on land application as volumes of whole digestate will be reduced and it is expected that alternative enhanced products will benefit from the forthcoming introduction new Fertiliser Regulations which will include digestates and composts.
- 3.12.9. The proposed development will not have any significant residual effects on the water environment if all mitigation measures are implemented. The development will result in the creation of low permeability and impermeable surfaces, limiting the potential for contamination of the subsurface. Part of the proposals includes for development on lands to the north which are greenfield. The proposed development will result in physical disturbance to the existing soil profile. Given the alternatives considered with respect to storage and management of digestate, the availability of the lands adjacent to the existing biogas plant and that no environmental protections are assigned to it, the residual effect is negligible.
- 3.12.10. Having regard to the matters discussed above, I am satisfied that impacts that are predicted to arise in respect of water can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied, therefore, that the proposed

development would not have any unacceptable direct, indirect or cumulative impacts on water.

### **3.13. Air Quality, Odour and Climate**

- 3.13.1. Chapter 9 has been prepared to assess the potential air quality and odour impact on the nearest neighbouring residential properties in proximity to the site from the existing biogas plant and proposed development works. i also refer to the further rinfomation submitted on file.
- 3.13.2. The background air quality in the area of the development is of very good quality and the site is located in 'Zone D' as denoted by the EPA. Concentrations of air quality pollutants in Zone D are very low and well below the relevant air quality limit values.
- 3.13.3. There is no significant individual odour source in proximity to the proposed development site. Background odours are most likely to be typical of intermittent rural area odours influenced by existing agricultural activities, etc. Improvement works have been undertaken at the existing Biogas Plant over the past 12 months to mitigate and further reduce any odour arising from activities at the site. Ongoing odour controls are in place at the existing biogas plant and include; maintaining the feedstock reception building under negative pressure with ventilated gases being treated using the odour odour control abatement system, carrying out daily subjective odour assessments using FIDOL criteria are per EPA guidance AG5 and inspection and assessment of vehicles delivering feedstock to the site. Further the scheduled emission points in the proposed plant will be regulated through the EPA Licensing process.
- 3.13.4. As part of assessment works twenty representative sensitive residential receiver locations were selected in proximity to the facility. The River Finn SAC has also been assessed by selecting five representative locations along the River Finn in proximity to the Biogas Plant. The assessment and evaluation of the air quality and odour impact arising from the proposed development involved the identification of sources, quantification of emission rates, dispersion modelling of emissions and a comparison of modelling results with relevant criteria.
- 3.13.5. The nearest residential sensitive receptors to the site is located at a distance of over 250m. Therefore, the impact from construction activities can be considered to be

imperceptible. All sensitive habitats are located at a distance greater than 25m from the emission source and as a result the impact on habitats will be imperceptible.

3.13.6. The assessment shows that the worst-case odour concentration at a residential property will be approximately half of the odour target value of C98, 1-Hour 1.5 ouE/m<sup>3</sup> even when based on the elevated odour emission concentration limit of 1,500 ou/m<sup>3</sup>. The 17.5m heights of the Feedstock Reception Building and the Fertiliser Plant odour control stack result in effective dispersion of the odours from the facility. The proposed facility will not have a significant impact on nitrogen deposition rates at nearby designated sites or sensitive habitats.

3.13.7. Suitable operational designs and procedures have been recommended which will be enforced on site to prevent potential odour impacts. There is no potential for exceedances of the air quality standards as a result of emissions to atmosphere from combustion sources at the site (boilers & CHP).

3.13.8. GGL have engaged with a number of international suppliers of process odour and dust abatement systems and have been provided with the following equipment specification to serve the proposed fertiliser building. The fertiliser building will house digestate handling and processing equipment, e.g. separator and dryer. The design and layout of the system is based on experience of similar systems in the UK, Germany and Scandinavia. The abatement system will handle two separate airstreams and the as envisaged is as follows;

- Odorous air from process equipment (e.g. dryer) - The airstream from the dryer and other associated machines are expected to be of medium odour intensity (reduced from high intensity) as the material will already have undergone anaerobic digestion thereby liberating biogas which is contained beneath the digester domes before being further processed into biomethane.
- General room extraction - The system for general room extraction is designed around volume of the new building (14,000m<sup>3</sup>). The air is expected to be of low odour intensity.

3.13.9. The air handling and extraction and abatement system fitted to the fertiliser building will be capable of providing three air changes per hour to the building and emissions from the drying /processing technologies (point source emissions).



- 3.13.10. The proposed odour removal technique is based on the use of intense and energetic UV radiation to fragment the organic molecules and oxidise the odour compounds by the mechanism of ozonolysis and photolysis. The oxidised gases have a much lower odour threshold and activity. A short / medium residence time carbon bed will be installed after the UV reactor. This contains an adapted volume of carbon for low and medium concentration odour sources within the fertiliser plant. The active carbon has a long lifetime as the excess ozone generated by the UV lamps helps to destroy organic compounds captured on the carbon thus significantly extending the carbon life.
- 3.13.11. The system can also be fitted (subject to detailed design of the enhancement process and chosen technology manufacturers) with dust filters to remove all particulates (99.9% of dust burden) from the exhaust air stream. The combination of these technologies delivers high performance and low energy consumption by recovering energy from the process.
- 3.13.12. A final supplier will only be awarded post planning grant and so it is not possible to be categoric about specific specifications, however the Applicant has ensured a worst-case approach within the EIAR on the basis of assessment to ensure protection of the environment and compliance with emission limit values
- 3.13.13. The impact of emissions from the proposed Biogas facility will not be significant on local air quality in relation to the relevant Air Quality Standards Regulations. There will be no significant residual impact from the operation of the Plant
- 3.13.14. With regards to Climate, although it is noted that the proposal is beneficial in reducing the carbon footprint of farming activities in the area and reducing reliance on fossil fuels it is not considered that the proposal would have a significant impact on climatic or any other environmental factors. No other environmental issues have been identified in the previous three planning applications for the biogas facility and the addition of the digestate facility and laneway does not increase traffic movements to and from the site therefore there is no change to this assessment.
- 3.13.15. Having regard to the matters discussed above, I am satisfied that impacts that are predicted to arise in respect of Air Quality, Odour and Climate can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I

am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on Air Quality, Odour and Climate.

### **3.14. Traffic & Transport**

- 3.14.1. Chapter 10 deals with Traffic & Transport. Because the existing biogas plant is already operational, this section of the EIAR provides an assessment of the cumulative roads and traffic related impacts the construction, operation, and decommissioning of the proposal and the continued operation of the existing Biogas Plant. I also refer to the Trip Generation, Traffic Counts, Traffic Calculations & Traffic Modelling Output accompanying the further information. I also refer to the further information submitted with the appclaiton.
- 3.14.2. The access to both the existing biogas plant and development proposal is located on the southern side of the carriageway of the R253 regional road, approximately 240m to the west of its junction with the R252 regional road. The R252 regional road provides a link between the N15 (Sligo to Lifford) national road at Ballybofey which is 7km to the east, and the N56 (Donegal to Letterkenny) national road to the south of Dungloe which is 41km to the west.
- 3.14.3. A desk study and field work (traffic counts and measurements) was undertaken. In the vicinity of the site access junction, the receiving environment is currently characterised as follows:
- The sealed surface of the R253 regional road carriageway is 5.8m in width and is not demarcated by any road markings;
  - The R253 regional road has a straight horizontal alignment and relatively level vertical alignment, crest being present as discussed;
  - Residential properties are present to both the east and west of the site on the southern side of the carriageway of the R253 regional road;
  - The northern side of the R253 regional road is bounded by a low berm, whilst the southern side of the R253 regional road carriageway is demarcated by wooden fencing in the immediate vicinity of the site access, the typical height of the fence being 1.4m over carriageway level;

- The site access has a typical width of 7m and is gated 23m from the edge of the carriageway of the R253 regional road. The width increases to 27m at the junction bell mouth
- Surface water gullies are present in the vicinity of the tie-in between the site access and R253 regional road, but surface water was currently observed to pond towards the western end of the tie-in;
- Utility poles are present on both sides of the carriageway of the R253 regional road but no public lighting is present; and,
- The posted speed limit for the R253 regional road is 80km/h.

3.14.4. The roads, traffic and transport impacts of the proposed development have been assessed by utilising an approach based on the prevailing Transport Infrastructure Ireland (TII) guidelines on Traffic and Transport Assessment (TTA) (May 2014). The impact assessment considered a range of factors including background traffic growth; the trip generation associated with the various phases of the development; and, software-based highway capacity modelling.

3.14.5. During the construction phase of the development, trip generation comprises two distinct elements. Firstly, the delivery of construction related machinery and materials to the site usually by HGV; and, secondly, the workforce constructing the site usually by LGV. In relation to this proposed development, the main construction inputs are concrete and reinforcing steel. Construction materials should be delivered to the site by appropriate routes utilising the national road network whenever possible, and the R252 regional road and R253 regional locally. Drivers delivering to the construction site should be made aware of appropriate delivery routes. Deliveries using such routes should be timed to avoid passing schools during the start and finish times of the school day (pupil drop-off and collection times).

3.14.6. As part of this assessment a review has been undertaken of the previously estimated operational trips, cumulatively with trips resulting from the proposed development. The predicted type and number of cumulative daily two-way movements during the operational phase of the development are relatively consistent with the levels previously permitted.

3.14.7. I refer to the further information submitted. The tables show that the proposed development will result in significantly less generated traffic movements with the

proposed development operating at 100% capacity when compared to the currently permitted development operating at 100% capacity. This is primarily due to the reduction in the water context, and therefore mass, of the outputs from the site.

- 3.14.8. For a development to be considered to have a material impact on the road network, the impact of the development is typically in excess of 5% of nondevelopment related traffic volumes. Based on this measure, the material impact of the proposed development would be limited to the R253 to the east of the Biogas plant access. However, the impact of the proposed development is significantly less in percentage terms than the currently permitted (existing) development. Remedial works are proposed in response to the associated FI Item 4(c) for this section of the R253 (Appendix 4H refers).
- 3.14.9. The impact of traffic movements related to both the current permitted (existing) development operating at 100% capacity, and the proposed development operating at 100% capacity, on the site access junction onto the R253 and at the R252/R253 junction, have been assessed for AM and PM peak hours in a future assessment year of 2035 using PICADY, industry standard software for such junction modelling applications. The modelling input is included as Appendix 4C
- 3.14.10. The PICADY modelling output (Appendix 4D), shows that both the site access junction onto the R253 will operate with over 95% spare capacity in all scenarios tested, and the R252/R253 junction, will operate with over 92% spare capacity in all scenarios tested. Neither the permitted nor proposed developments will significantly impact the operation of the regional road network at these locations
- 3.14.11. No significant defects were observed related to the carriageway of the R253 regional road in the immediate vicinity of the site access. Due to the relatively low number of additional vehicle movements associated with the development, particularly in the operational phase, the development is not anticipated to result in observable degradation to the R253 regional road. Mitigation against degradation is included in Section 10.5 of the EIAR.
- 3.14.12. If the proposed development proceeds without the recommended mitigation measures, there is an increased risk of collisions at the site access junction with the R253 regional road. Such collisions are likely to result in injury to vehicle occupants

and environmental impacts including the uncontrolled release of pollutants into the local environment from vehicles involved in the collisions.

3.14.13. Mitigation Measures and Monitoring are set out in Section 10.5 of the EIAR and summarised as follows:

#### Pre-Construction

- Stop control markings and signing should be provided at the site access to increase the definition of the edge of the carriageway of the R253 regional road.
- The wooden utility pole located to the east of the residential dwelling to the east of the existing site access should be relocated and the associated grass embankment lowered or removed in order to maximise the available egress visibility from the site access to the east.
- The wooden post and rail fence adjacent to the R253 regional road to the west of the site access should be repositioned (set-back) to maximise egress visibility from the site access to the west.

#### Construction Phase

- Construction materials should be delivered to the site by appropriate routes utilising the national road network whenever possible, and the R252 regional road and R253 regional locally. Drivers delivering to the construction site should be made aware of appropriate delivery routes. Deliveries using such routes should be timed to avoid passing schools during the start and finish times of the school day (pupil drop-off and collection times).
- The construction access should be signed with appropriate temporary advance directional signing, including at the R252/R253 regional road junction.
- Construction vehicles leaving the site should be appropriately cleaned, e.g. through use of a wheel wash, to minimise dust and dirt being carried from the site on vehicles onto the R253 regional road and associated external road network.
- Whilst damage to the road structure of the R253 regional road is not anticipated, a survey should be conducted with the local Donegal County Council Area Engineer prior to, and following completion of, the construction phase. Any defects attributable to the construction of the development should be made good following completion of the construction phase. Additionally, any defects observed during

the construction phase should be reported immediately to the Donegal County Council Area Office.

#### Operational Phase

- The pre-construction mitigation measures should be maintained during the operational phase of the redevelopment.
- With the exception of collections from and deliveries to local farms and businesses, traffic movements within the local area related to inputs and outputs from the proposed development will be limited to the routes highlighted in orange Figure 4A, namely the R252, R253, N13 and N15.
- Defined specific haulage routes will be specified in all haulage contracts.

#### Decommissioning Phase

- Mitigation measures for decommissioning should be as per the construction phase, including survey and reporting of defects to the R253 regional road.
- Covered vehicles should be used for removal of material from the site to minimise the spread of materials and dust into the local environment.

3.14.14. With the recommended mitigation measures in place, no significant adverse roads and traffic related environmental impacts are anticipated during the construction, operational or decommissioning phases of the proposed development

3.14.15. Having regard to the matters discussed above, I am satisfied that impacts that are predicted to arise in respect of traffic and transport can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on traffic and transport.

### 3.15. Noise & Vibration

3.15.1. Chapter 11 deals with Noise & Vibration. The noise impact assessment has been prepared to assess the noise levels in proximity to the main noise sources on site and to assess the potential impact on the nearest neighbouring residential properties in proximity to the site. I also refer to the further information submitted with the application.

- 3.15.2. The noise impact assessment and evaluation of the noise impact arising from the proposed development involved review of baseline noise survey results, a comparison of the noise impact on the nearest residential receivers against the World Health Organisation (WHO) Guidelines for Community Noise and an assessment in accordance with the EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4). The area is rural with infrequent traffic noise on the R252 and R253 roads with agricultural noise sources dominating the background noise climate of the area.
- 3.15.3. This noise impact assessment has compared the measured noise levels in proximity to the nearest noise sensitive properties to the relevant guideline noise limits outlined in the WHO Guidelines for Community Noise and the EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4).
- 3.15.4. No night-time or evening construction works will take place. At the nearest noise sensitive receptors, the ambient noise levels (rounded to the nearest 5 dB) are approximately 55 - 60 dB LAeq,T during daytime and evening. Therefore, all noise sensitive receptors fall into Category A of the 'ABC' assessment methodology. Hence, daytime construction noise will be subject to a limit of 65 dB LAeq,T.
- 3.15.5. In response to FI Item 3d, reports detailing information prepared in support of licence conditions and non-licensing works is presented in Appendix 3B. Environmental noise monitoring was carried at the GGL Biogas Plant located at Aghaveagh, Ballybofey, Co. Donegal on the in May 2018 during normal site operations for the purpose of complying with EPA licence conditions . The survey was carried out in accordance with the EPA Guidance Note for Noise (NG4). Based on the findings of the survey there are no environmental noise issues at the noise sensitive receptors associated with operations at the Biogas Plant. Daytime, evening-time and night-time noise limits were complied with at all noise sensitive locations with regard to GGL Biogas Plant noise emissions.
- 3.15.6. Intermittent traffic along public roads were the dominant noise sources at NSL1, NSL2 and NSL4 along with farm related sources and bird song. Frequency analysis data recorded during the daytime and night-time noise surveys indicates that operations at

GGL Biogas Plant do not give rise to a tonal noise impact at the nearest residential properties.

- 3.15.7. A further daytime and night-time environmental noise survey was undertaken in May 2019 at five properties north of the Glenmore site in the townlands of Welchtown and Ballynatone along the L2193 and R252. The survey and noise impact assessment was prepared to assess the noise impact at 5no. receivers north of the Glenmore site. A comparison of the noise impact at the receiver locations was undertaken against the World Health Organisation (WHO) Guidelines for Community Noise and a review of the potential for adverse noise impact in accordance with the BS BS 4142: 2014 'Method of Rating and Assessing Industrial and Commercial Noise'. Reference was also made to the EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) (January 2016 Update).
- 3.15.8. During daytime, while the noise sources on the Glenmore site are audible at the residential properties to the north of the Glenmore site in Welchtown and Ballynatone, the actual measured noise levels are broadly in accordance with the WHO guidelines recommended daytime limit of 50 – 55 dB(A) for outdoor living areas. It is the frequent traffic noise from the R252 that elevates noise levels in the area. The highest measured background noise level of 40.5 dB LA90 at NSR-203 can be interpreted to represent the specific continuous noise level from the Glenmore site when all daytime plant and the sweeper are in operation. The EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) outlines that a Daytime Noise Criterion of 55 dB LAr,T (07:00 to 19:00hrs) should apply in areas that are not designated as a 'Quiet Area' or an 'Area of Low Background Noise'. This area is neither a 'Quiet Area' or an 'Area of Low Background Noise'.
- 3.15.9. During night-time, while the noise sources on the Glenmore site are faintly audible at the residential properties to the north of the Glenmore site in Welchtown and Ballynatone, the measured specific night-time noise levels (with no influence from traffic) are well below the WHO guidelines recommended night-time limit of 45 dB(A) outside a bedroom window. The EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) outlines that a nighttime Noise Criterion of 45 dB LAr,T (23:00 to 07:00 hrs) should apply in areas that are not designated as a 'Quiet Area' or an 'Area of Low Background Noise'. In summary, survey concluded that the Glenmore Generation Ltd. Biogas Plant site does



not cause an adverse noise impact at the residential properties to the north of Plant in the townlands of Welchtown and Ballynatone

3.15.10. The main sources of noise due to construction of the proposed development will be from activities such as earth movement and excavations, foundations and general building construction activities. There is likely to be temporary and intermittent increases in noise levels during the construction phase of the proposed development at the adjacent properties. The following construction practices have the potential to produce intermittent and temporary noise impacts:

- Infilling / Levelling Excavators & concrete pour
- Foundations Excavators, Concrete lorries, dumpers
- Building Erection Block-laying & Delivery vehicles
- General Construction Masonry construction, services, drainage, road building and surfacing etc.

3.15.11. The Construction of the proposed development will include associated construction site traffic, comprising of contractors' vehicles, excavators, diggers, possibly generators and other diesel-powered vehicles. During the construction phase, the proposed development will generate HGV movements throughout the duration of the construction period. The noise impact of passing HGVs will be short-term at receiver locations in the area.

3.15.12. Construction noise can be assessed in terms of the equivalent continuous sound level and/or in terms of the maximum level. The level of sound that arises from a construction site depends on a number of factors and the estimation procedures need to take into account the following significant factors;

- the sound power outputs of processes and plant;
- the periods of operation of processes and plant;
- the distances from sources to receptor;
- the presence of screening by barriers;
- the reflection of sound

3.15.13. Typical noise levels from construction works likely to take place during the construction phase of proposed development are outlined in Table 11.6. of the EIAR and include activities such as site clearance / excavation, removal of waste/rubble,

foundations, general construction works, road works / landscaping and infilling / levelling.

3.15.14. Worst-case construction noise levels at specific distances from the area of construction have been predicted assuming the use of the following equipment with a 75% operating 'on' time as outlined in Table 11.7 of the EIAR. The closest noise sensitive receptors are in excess of 200m from the main areas of construction on the development site and hence, there should be no exceedance of the daytime construction noise limit of 65 dB LAeq,T at the noise sensitive receptors in the area. It will be incumbent on the contractor to ensure that construction works are undertaken with particular sensitivity to ensure no significant construction noise impact. All construction works will take place during daytime hours and so the relative construction noise impact will not be significant.

3.15.15. Predicted operational noise levels at noise sensitive receivers are based on the drawings and information provided. The proposed development will consist of the following aspects of which some have the potential to be the main noise sources:

- Feedstock Reception Building
- CHP Engines
- CO2 Building
- Biogas Purification & Bottling Plants
- Biogas Purification & Bottling Plant Compressors
- Pump House Buildings
- Boiler Building
- Process Pit
- Digestate Tanks x 7
- Flare (only used in emergency)
- Fertiliser Processing Building

3.15.16. In terms of development generated traffic, traffic movements coming to and exiting the site are predicted in Table 11.8 Development Generated Traffic of the EIAR. A worst-case figure of 10 HGV movements to the site per hour during daytime hours has been assumed. Such traffic movements will not occur during night-time.

3.15.17. The results of the predicted noise levels at the noise sensitive receivers in the area during daytime, evening and night-time are presented in Table 11.9. It is assumed that the worst-case noise impact will be the same during evening and night-time as there will be no traffic movements on site. The measured noise levels at the noise monitoring location are in accordance with the relevant guideline noise limits outlined in the WHO Guidelines for Community Noise and the predicted noise levels at the nearest residential properties are in accordance with the WHO Guidelines for Community Noise during daytime and night-time.

3.15.18. Mitigation Measures and Monitoring are set out in Section 10.5 of the EIAR and summarised as follows:

3.15.19. Appropriate mitigation measures have been recommended to ensure the Construction Phase target noise limits are not exceeded. The contractor should take note of the control measures recommended in BS 5228 and apply the appropriate measures where applicable. Other measures recommended include:

- Working hours during site construction operations will be restricted to daytime hours as outlined;
  - 07.30 hours to 18.00 hours (Monday to Friday)
  - 08.00 hours to 13.00 hours (Saturdays)
- An on-site speed limit will be enforced for all traffic. Drivers of vehicles will be
- advised of the speed limits through the erection of signs i.e. a typically recommended on site speed limit of 10 km/hr.
- Where practicable the use of quiet working methods will be selected and the most suitable plant will be selected for each activity, having due regard to the need for noise control.
- Best practicable means will be employed to minimise noise emissions and will comply with the general recommendations of BS 5228, 1997. To this end operators will use “noise reduced” plant and/or will modify their construction methods so that noisy plant is unnecessary.
- By positioning potentially noisy plant as far as possible from noise sensitive receivers the transmission of sound can be minimised. Earth mounds and/or stacks of material or buildings on site can be used in such a way that they act as a physical barrier between the source and the receiver.

- Mechanical plant used on site will be fitted with effective exhaust silencers. Vehicle reverse alarms will be silenced appropriately in order to minimise noise breakout from the site while still maintaining their effectiveness.
- All plant will be maintained in good working order. Where practicable, machines will be operated at low speeds and will be shut down when not in use.
- If required, compressors will be of the “noise reduced” variety and fitted with properly lined and sealed acoustic covers.
- In all cases engine and/or machinery covers should be closed whenever the
- machines or engines are in use.
- All pneumatic percussive tools will be fitted with mufflers or silencers as recommended by the equipment manufactures. Where practicable all mechanical static plant will be enclosed by acoustic sheds or screens.
- Employees working on the site will be informed about the requirement to minimise
- noise and will undergo training on the following aspects:
  - The proper use and maintenance of tools and equipment
  - The positioning of machinery on-site to reduce the emission of noise to the noise sensitive receptors
  - Avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment
  - The use and maintenance of sound reduction equipment fitted to power pressure tools and machines
- Cognisance should also be taken of the ‘Environmental good practice site guide’ 2005 compiled by CIRIA and the UK Environment Agency. This guide provides useful and practical information regarding the control of noise at construction sites.
- It is recommended that should complaints be received from nearby residential properties, periodic noise monitoring should be undertaken during construction works to determine noise levels at noise sensitive receptors. On the basis of the findings of such noise monitoring and appropriate noise mitigation measures should be implemented to reduce noise impacts. Where excessive noise levels are recorded, further mitigation measures should be employed which may include temporary screening of the nearest receptor to on-site activities.

- Responsible Person - It is recommended that the Contractor should appoint a responsible and trained person who will be present on site and who will be willing to answer and act upon complaints and queries from the local public.
- Night-time Working - If there are items of plant (e.g. dewatering pumps and similar) in use during night-time hours they should be chosen, sited and enclosed such that levels at the nearest properties do not exceed the measured background noise levels.

The worst-case assessment of operational noise from the proposed plant and traffic movements associated with the proposed development has indicated that the EPA's "Area of Low Background Noise" limit criteria will not be exceeded at the nearest residential properties. Therefore, no additional specific mitigation measures beyond those which are already proposed within the design have been recommended to reduce operational noise.

3.15.20. The noise impact of the existing plant and development proposal will not be significant in relation to the existing background noise level in the area. There will be no significant residual impact from the operation of the overall proposal.

3.15.21. Having regard to the matters discussed above, I am satisfied that impacts that are predicted to arise in respect of noise and vibration can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on noise and vibration.

### 3.16. Cultural Heritage

3.16.1. I refer to the EIAR and Section 8.8.2 of this report above. No material assets including features of architectural, archaeological or cultural heritage were identified in the three previous applications for the biogas facility (these are identified in Chapter 2.0).

3.16.2. There is no evidence that there are any material assets within or adjoining the parts of the site that were not included in the 2014 permission i.e., the extended yard area. The 2014 permission was subject to a condition requiring, amongst other things, predevelopment testing by a suitably qualified archaeologist and the submission of a

written report to the Planning Authority. Depending on the content of the report, monitoring may be required and the Department of Arts, Heritage and the Gaeltacht will advise on relevant matters. It was considered that these measures would equally and appropriately prevent adverse impact on any material asset that may be within the site. When the biogas facility was constructed no man-made heritage, features were uncovered but this condition would remain appropriate so far as it relates to land required to be developed for the extended area proposed which lay outside of this red line. Consequently, no further assessment was deemed necessary to be commented on in this EIAR as far as the proposed development is concerned.

3.16.3. Having regard to the matters discussed above, I am satisfied that impacts that are predicted to arise in respect of cultural heritage can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on cultural heritage.

### **3.17. Landscape and Visual Impact Assessment**

3.17.1. I refer to the Landscape and Visual Impact Assessment prepared by Park Hood, Chartered Member of the Landscape Institute UK and submitted with first party response to the appeal. The overall approach and methodology undertaken in the LVIA is based on techniques and guidance in the *Guidelines for Landscape and Visual Impact Assessment (3<sup>rd</sup> Edition)* by the Landscape Institute and the Institute of Environmental Assessment (2013).

3.17.2. The site is located on sloping lands that face north towards the River Finn Valley, a defining landscape feature in this part of Donegal. The levels drop from approx. +110m to the south of the site to approx. +99m at the entrance lane. While the River Finn is inconspicuous, the associated valley comprises a broad and open landscape of large rectangular or square agricultural fields overlooked by mountainous areas of upland bog. The levels to the immediate north of the site have been subject to significant modification in recent years to facilitate construction of the Biogas plant, ancillary plant works, cattle sheds and associated yard areas. There are no streams or watercourses

on the site itself and it is self-draining. The steeper lands to the north and west of the site area in woodland made up of mature mixed species deciduous trees.

3.17.3. There are no amenity, destination or recreational features on the site or in the Glenmore Estate landholding. No features, scenic / walking routes or notable landscapes are annotated in or near the appeal site in the County Development Plan. The site is located adjacent to a utilitarian and functional land-use associated with the Biogas Plant / Farm complex that has a generally low landscape condition, quality and value. The site and wider area has a medium condition and value being made up of farmland bound by mixed hedgerows and scattered trees on its immediate periphery. The Development Plan indicated the site as being located in a "Structurally Weak Rural Area" which is the lowest rating provided for rural landscape types in the county.

3.17.4. The study area includes the site itself and the wider landscape where the proposed (or cumulative) development may have an influence either directly or indirectly. Site surveys were undertaken to assess the baseline environmental conditions against which any future changes can be measured or predicted and assessed. The process allowed for identification of 6 representative viewpoints in locations that are publicly accessible and based on a determination of the actual visibility of the site from where there are significant numbers of likely visual receptors. The following representative viewpoints were selected:

- Viewpoint 1 – L2173 Road, Welchtown (towards Kinnaderry)
- Viewpoint 2 – L2193 Road, Ballyatone
- Viewpoint 3 – R252 Road, Kinnaderry
- Viewpoint 4 – Glenmore / Welchtown Picnic Spot
- Viewpoint 5 – R252 Road, Glenmore Bridge and
- Viewpoint 6 – R252 road, Ballynatone / Glenmore

3.17.5. With the exception of Viewpoint 1 the predicted change in the remaining 5 viewpoints as a result of the proposed development would be negligible due to distance and intervening woodland on the Glenmore Estate. With Viewpoint 1 it was determined that the majority of the proposed development will be out of view but there will be very slight effects on this section of the L2193 Road and part of Welchtown as a small portion of the development will be visible on the east side of the site. This will be a

very limited glimpsed view that would be closed off as the boundary planting to the east of the site matures. The extent of building on this part of the Glenmore Estate will increase but given the site setting and distance, this would not be rated as having a significant to unacceptable effect on this view.

- 3.17.6. During the construction phase there will be short term substantial effects to the site due to groundworks. The majority of these effects will derive from construction activity. No trees or significant vegetation is to be removed to facilitate the development. In terms of public perception this will be limited to those who work in this area. With the main construction area set back by over 320m from the nearest public road (R253) and due to intervening woodland there would be no effects on these views. The most appreciable impact at this stage to publicly accessible areas will derive from the taller construction equipment which will have a short term slight adverse effect to distant views (in excess of 0.5km) across the Finn Valley. In any views the existing plant and broad panoramic views ensure that the effects would be of a low magnitude and not significant.
- 3.17.7. At the operational phase the development will significantly increase the area of actual building in this part of the Glenmore Estate set between an existing cluster of trees (to be retained) and a mature wooded belt. This will have long term and substantial effects with a high magnitude of change in terms of land use, management, usage and built elements. While such effects are inevitable, the site presents a very suitable and appropriate location for this type of development given the adjacent land uses and visual containment offered by woodland and topography. This ensures any significant effects are restricted to the site and the applicant's land holding.
- 3.17.8. In the wider study area the most appreciable views of the proposed development will be within a 50m range of the site which are private lands and part of the applicant's landholding. None of the key scenic landscape, natural, cultural, social, heritage, amenity or recreational features or views and prospects identified in the Landscape Character of County Donegal (2016) or the County Donegal County Development Plan (2018 – 2024) will be affected by this proposal and any significant changes limited to area on or immediately adjacent to the proposed site. The existing setting and considered site selection ensure that this proposal while sizable can be successfully assimilated into the medium sensitivity area and of countryside without causing significant or unacceptable effects to the landscape character or amenity.



### 3.17.9. Mitigation Measures and Monitoring are summarised as follows:

#### Construction Phase

- A key mitigation is that of site selection with the proposed development located beside an existing Biogas Plant / farm complex and yard in an area that is not widely visible from any publicly accessible areas. The site is not visually prominent or likely to affect any key natural or environmentally sensitive areas or result in significant visual or landscape effects.
- Landscape mitigation measures were considered during the design and as part of the proposal to assist in the visual integration and assimilation of this proposal into the River Finn Valley
- The proposed non-reflective cladding material will be in keeping with the adjacent developments and the matt medium grey colour will tie in with the adjacent landscapes on a year round basis. When feasible associated structures and other plant will be coloured in dark or muted shades to help blend and mute the proposed development into the wider landscape setting.
- Proposed lighting will be high quality and selected on basis of minimising light spillage by casting light directly into the site area and thus limiting light “pollution” to adjacent lands.
- Proposed site signage will be grouped on a minimum number of poles where possible or tied in with boundary or internal fencing / walls.
- Existing trees and hedgerows will be retained and protected. Tree protection fencing will be erected around the base of all trees or hedgerows to be retained on site to ensure their protection during the construction phase. There are no proposals to fell any significant trees or vegetation as part of this development.

#### Operational Phase

- The design ensures that external working areas are easy to maintain and manage. The maintenance programme from the outset will ensure presentable, clean and tidy site appearance and replacement of any damaged features or elements.
- The landscape proposals are indicated on *Figure 5.4 Proposed Landscape Setting* and *Drawing 6645 L001 Proposed Landscape Works* which includes details for structure planting, hedgerows and new woodland.

- Landscape works will include new hedgerows or woodland belts and augmentation / improvement of existing hedgerows to the north and eastern site perimeters. The trees to be planted shall be a mix of indigenous species.
- Planting will be maintained regularly by the client and any trees dying within subsequent three years shall be replaced.

3.17.10. The decommissioning stage would entail returning the site to its existing state of improved pasture. No mitigation measures are anticipated in landscape and visual terms at this stage.

3.17.11. Effects to the site during the construction state will be of a substantial nature due to the extent of construction activity but the magnitude of any change in LVIA terms is low given the existing site setting and character. The effects taking into account mitigation measures during construction period will be slight to negligible and insignificant to areas beyond the site. Where views are afforded, effects on visual amenity or landscape character area assessed as slight due to the distance and context of the adjacent land uses.

3.17.12. At the operational phases the key mitigation measures relate to pre-construction considerations in terms of site selection and the proposed non-reflective cladding and colour in terms of the buildings design considerations. The proposed planting to the periphery of the proposed development will assist its integration into the local landscape. The planting will as it matures, visually close off distant views to the north-east and assist in screening the eastern edge of the development and parts of the AD plant and farm complex.

3.17.13. Having regard to the matters discussed above, I am satisfied that impacts that are predicted to arise in respect of Landscape and Visual Impact heritage can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on material assets.

### 3.18. Interactions

3.18.1. Chapter 12 of the EIAR describes interactions between the various impacts identified under Environmental Factors described in each of the previous Chapters of the EIAR

during both the various phases of the development proposal. Stated that while all environmental factors are inter-related to some extent, the significant interactions were taken into consideration by each specialist during preparation of the EIAR. This required each specialist to review other relevant Sections of the EIAR prior to determining the potential interactions. Potential impacts identified can be eliminated by the implementation of mitigation measures as detailed in each Section of the EIAR.

3.18.2. The proposed development works at, and adjacent to, the existing Glenmore Biogas Plant has the potential to impact on various environmental aspects, and there are interactions and inter-relationships between these aspects, as presented in Table 12.1 and described in Table 12.2 of the EIAR and summarised below:

<b>Interaction of Environmental Factors</b>	<b>Description</b>
<b>Population and Human Health</b>	Interactions of environmental factors will occur during construction activities as a direct result of earth works associated with site clearance and civils works (construction of structure foundations, road improvement works, internal road constructions, berm construction, etc). These activities will result in the generation of noise and dust. The development would have the potential for negative impact if construction activities were to proceed without implementing adequate mitigation measures. Health and Safety on site is also recognised as being of paramount importance to human health during the construction, operation and decommissioning phases and this will not be compromised, if the specified mitigation measures outlined in the various chapters of the EIAR are adhered too.
<b>Air Quality and Population &amp; Human Health</b>	There is potential for impact to human beings living in the area of the proposed development during the construction, operation and decommissioning phases of the development. These have been outlined and assessed in Chapter 9 (Air Quality, Climate and Odour) of the EIAR. The air quality impact at the nearest residential receivers is predicted to be below the relevant air quality standard limit values and is therefore determined to be low. The assessment of odour impact shows that worst-case odour impact will be well below the odour target value of C98, 1-Hour 1.5 ouE/m <sup>3</sup> at the sensitive residential receptors in the area. The emissions from the Building Odour Control Stacks result in effective dispersion of the odours from the facility. The main interactions between air quality and biodiversity are related to emissions of acidifying gases such as nitrogen oxides (NO <sub>x</sub> ).

	<p>One of the most important contribution of biogas technology to environmental protection is that it avoids additional carbon dioxide (CO<sub>2</sub>) emissions compared with fossil energy sources. Producing energy from biogas is largely CO<sub>2</sub> neutral, i.e. the CO<sub>2</sub> released by burning biogas was previously removed from the atmosphere during the generation of biomass through photosynthesis. The fermentation of manure also reduces emissions of methane, a gas that has an effect on the climate and would otherwise escape uncontrolled from raw liquid manure with far more damaging effects for the climate than CO<sub>2</sub>.</p> <p>New research suggests that emissions of laughing gas (N<sub>2</sub>O) – which also has an effect on the climate – can also be reduced by fermentation. Furthermore, fermentation reduces the development of odours during liquid manure storage and spreading since the odours contained in it are broken down and neutralised during the fermentation process. In addition, fermentation improves the quality of manure as pathogens and weed seeds are killed and nutrients made more available for plants, enabling the manure to be applied in a more targeted fashion as a substitute for inorganic fertilisers. Therefore, the digestate is an ideal fertiliser in arable farming/crop production and a good soil conditioner.</p>
<p><b>Noise, Human Beings and Biodiversity</b></p>	<p>The impact of noise on the human beings living in the area of the proposed development has been addressed during the construction, operational and decommissioning phases of the proposed development. Appropriate mitigation measures have been recommended to ensure the Construction phase target noise limits are not exceeded. The contractor will also be required to adopt and implement suitable control measures as recommended in BS 5228.</p> <p>These will be further prescribed in a construction management plan subject to planning. The predicted noise levels at the nearest neighbouring residential properties due to the operation of the existing site and development proposal are in accordance with the WHO Guidelines for Community Noise during daytime and night-time and the relevant noise limits outlined in the EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4 Noise levels generated during the operation of the proposed development will not be audible at the nearest sensitive receptors (human and ecological)).</p>
<p><b>Soils, Geology and Waters</b></p>	<p>There is a strong interaction between soils &amp; geology and waters (surface waters and groundwater). The disturbance of soil during</p>

	<p>construction has the potential to impact on water quality. Construction activities which disturb or expose the soil have the potential to elevate suspended solids in runoff from the site which could impact on surface water bodies such as the River Finn. Mitigation measures during the construction process will prevent sediment run-off and construction discharges. A construction environmental management plan (CEMP) will be developed and implemented for the construction phase of the development. This document will provide a framework under which construction activities which have potential for environmental impact (e.g. generation of dust, ecological impacts, surface water discharge, etc) will be managed. Mitigation measures as outlined in the EIAR will be included within this plan.</p> <p>There will be no direct process related discharges to soils or surface water bodies during the operational phase of the development. Bund are designed and provided in accordance with best practice to contain and spillages /escape of organic materials and encompass areas where processing relating activities will be carried out. This removes the pathway of potential sources of pollution to receptors. Stormwater generated on the site will be managed in accordance with proposals as presented in EIAR.</p>
<p><b>Traffic &amp; Transport, population and human health, noise &amp; vibration, and biodiversity</b></p>	<p>There will be potential interactions with increased traffic movements as a result of the construction and operation of the proposed biogas plant with population and human health, air quality odour and climate and noise and vibration and biodiversity. Recommended mitigation is proposed within each of the Sections of the EIAR.</p>
<p><b>Landscape &amp; Visual Impacts and Cultural Heritage, Ecology and Population</b></p>	<p>There are no archaeology / cultural heritage features on the site. all other scheduled monuments are distant enough form the site to be subject to anu significant changes to their landscape and visual setting.</p> <p>The proposed landscape works were reviewed by the project ecologist and plant species include significant indigenous species which will have a positive effect as they mature on local ecology and diversity comparable to what currently derives form a field in improved pasture.</p> <p>The design process took into account potential visual effects to the nearest residential properties which are all excess of 500m of the site or have no views due to intervening vegetation and topography. This proposal is at a suitable distance from any residential properties for there to be any significant or unacceptable on these areas int eh</p>

	landscape and visual terms. Recommended mitigation is proposed within the LVIA.
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3.18.3. This EIAR has considered these interactions and inter-relationships throughout the design process through appropriate siting of development components, functional design in accordance with the relevant standards /codes and guidelines and incorporation of mitigation measures as recommended. I consider that this summary of the potential for interacting impacts to be reasonable.

3.18.4. In conclusion, I am satisfied that such affects can be avoided, managed and mitigated by the measures which form part of the proposed development, mitigation measures, and suitable conditions. In my opinion, there is therefore nothing to prevent the granting of permission on the grounds of cumulative effects.

**3.19. Reasoned Conclusion**

3.19.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and the supplementary information provided by the applicant, and the submissions of the prescribed bodies, and objectors in the course of the applicant, it is considered that the main significant direct and indirect impacts of the proposed development on the environment are as follows:

- Biodiversity - Impacts to biodiversity are likely to arise during construction works. Ecological desk and field studies were undertaken for the proposed project. Based on these, sensitive biodiversity receptors identified within the proposed development site, or connected via indirect/secondary pathways for effects include: River Finn SAC; Atlantic salmon; and aquatic invertebrate communities. The impacts arising would be mitigated by additional planting, appointment of an Ecological Clerk of Works, a CEMP, attenuation of surface water and following best practice and procedures during the construction phase. Detailed mitigation measures are prescribed within this Biodiversity chapter and in additional chapters of the EIAR (Soils and Geology and Waters) together with further information submitted. With the full implementation of these mitigation measures, residual impacts are evaluated as being neutral to slight negative in magnitude; restricted

to the local context; temporary to short-term in duration and reversible; and therefore, not significant.

- Water – Potential environmental impacts arise from wastewater discharge and surface water. Having regard the EIAR and further information submitted together with the mitigation measures contained in same that include surface water management, SuDS and attenuation tanks it is considered that all potential discharges, both those governed by the Industrial Emissions license from the EPA and discharges that may result from spillage or firewater, can be adequately contained. Subject to full compliance with all mitigation measures listed in the documentation, by virtue of this development there is no potential for significant adverse impact on the receiving environment proximate or removed from the site, either from this development alone or in combination with other developments.
- Air Quality & Odour - Air pollution and odour are likely to arise during the construction / operational phase such as would impact negatively on sensitive receptors and populations in the vicinity of the site. The Air Quality & Odour Impact Assessment demonstrated that the emissions will result in an acceptable air quality impact in accordance with the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). Impacts are avoided by the indicated operation of the existing plant through air handling and extraction and abatement systems, odour removal techniques (UV radiation) and dust filters as well as by the agreement of measures within a Construction and Environment Management Plan (CEMP) to include specific provisions relating to dust monitoring and odour management.
- Traffic & Transport – Construction phase impacts in the form of short term increases in the traffic (private cars and HGVs) on the local road network are recognised, addressed in the EIAR and, specifically in the CEMP. The mitigation measures are reasonable and practicable. With the recommended mitigation measures in place, no significant adverse roads and traffic related environmental impacts are anticipated during the construction, operational or decommissioning phases of the proposed development.
- Noise & Vibration – Noise pollution is likely to arise during the construction / operational phase such as would impact negatively on sensitive receptors and populations in the vicinity of the site. These impacts will be mitigated by the agreement of CEMP to include specific provisions relating to noise management.

There will be no negative impacts subject to mitigation measures outlined or otherwise addressed by condition

- Landscape & Visual Impact Assessment – The proposed development entailing a series of modern industrial design buildings would have an impact on the visual character of the immediate area. This impact is considered acceptable given the location of the site beyond which, any effects will be of slight and non-significant nature given the limited visual envelope, existing site context, nature of peripheral woodland and distance of any possible views. In more distant views from across the River Finn valley, it will not have any significant, unacceptable, or adverse effects on the setting or amenity value of these areas.
- Population & Human Health – There are potential positive impacts for employment opportunities and economic activities in the region. Impacts arising from noise, odour, traffic, and construction will be mitigated by a Construction Management Plan including traffic management measures. There will be no negative impacts subject to mitigation measures outlined or otherwise addressed by condition.

3.19.2. In conclusion, having regard to the above identified significant effects, I am satisfied that subject to mitigation measures proposed the proposed project would not have any unacceptable direct or indirect impacts on the environment.

## 4.0 Recommendation

4.1. On the basis of the above environmental impact assessment and appropriate assessment together with my previous report, I recommend that the Board approve the application for the proposed development for the reasons and considerations and subject to the conditions set out in my previous report together with the following additional condition pertaining to construction working hours.

1.	Site development and building works shall be carried out only between the hours of 0800 to 1900 Mondays to Fridays inclusive, between 0800 to 1400 hours on Saturdays and not at all on Sundays and public holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the planning authority.
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	<b>Reason:</b> In order to safeguard the residential amenities of property in the vicinity.
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**Mary Crowley**

**Senior Planning Inspector**

**8<sup>th</sup> August 2021**