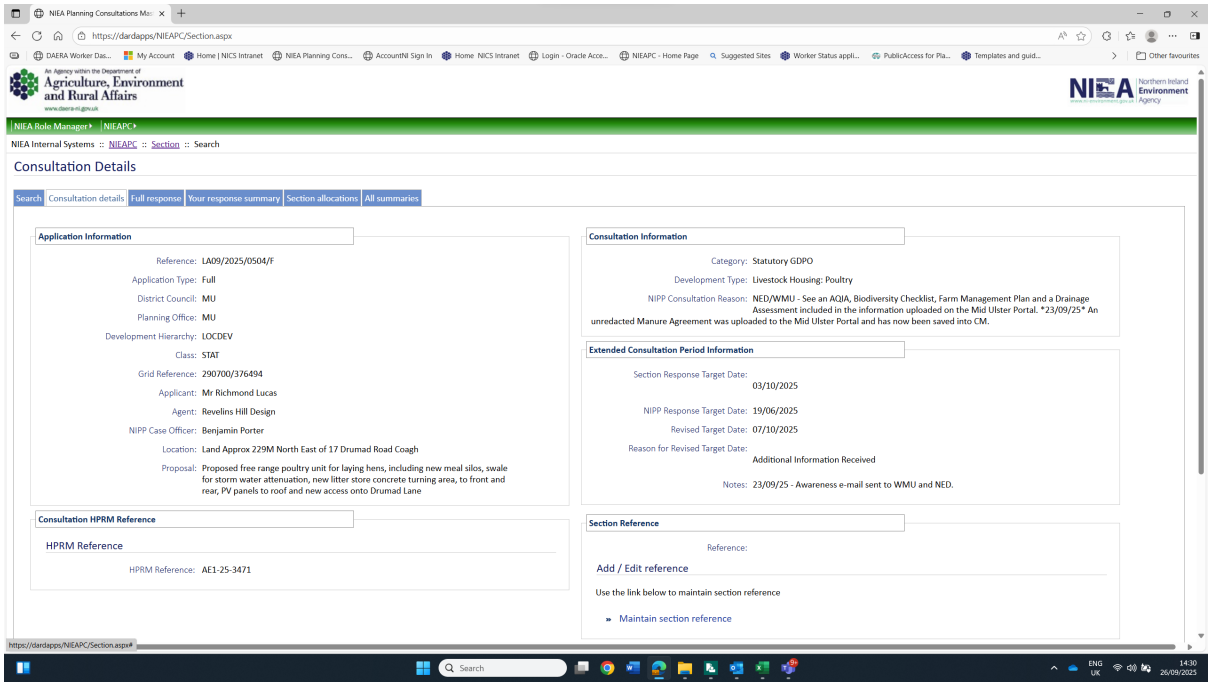
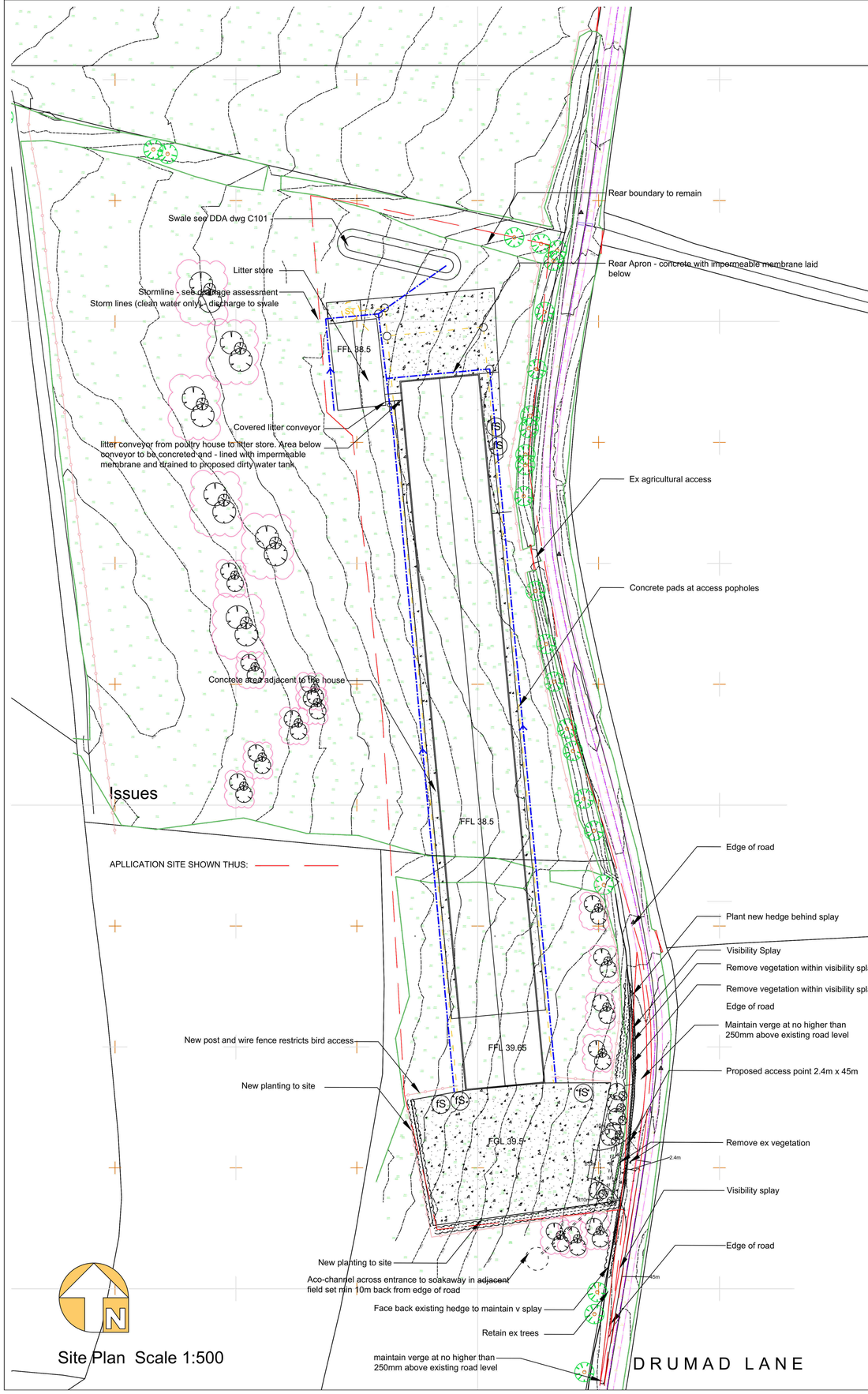

NIEA Planning Consultations Ma:
https://dardapps/NIEAPC/Section.aspx
An Agency within the Department of
Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk
NIEA Northern Ireland Environment Agency
NIEA Role Manager
NIEAPC
NIEA Internal Systems :: NIEAPC :: Section :: Search
Consultation Details
Search
Consultation details
Full response
Your response summary
Section allocations
All summaries
Application Information
Reference: LA09/2025/0504/F
Application Type: Full
District Council: MU
Planning Office: MU
Development Hierarchy: LOCDEV
Class: STAT
Grid Reference: 290700/376494
Applicant: Mr Richmond Lucas
Agent: Revelins Hill Design
NIPP Case Officer: Benjamin Porter
Location: Land Approx 229M North East of 17 Drumad Road Coagh
Proposal: Proposed free range poultry unit for laying hens, including new meal silos, swale for storm water attenuation, new litter store concrete turning area, to front and rear, PV panels to roof and new access onto Drumad Lane
Consultation Information
Category: Statutory GDPO
Development Type: Livestock Housing: Poultry
NIPP Consultation Reason: NED/WMU - See an AQIA, Biodiversity Checklist, Farm Management Plan and a Drainage Assessment included in the information uploaded on the Mid Ulster Portal. *23/09/25* An unredacted Manure Agreement was uploaded to the Mid Ulster Portal and has now been saved into CM.
Extended Consultation Period Information
Section Response Target Date: 03/10/2025
NIPP Response Target Date: 19/06/2025
Revised Target Date: 07/10/2025
Reason for Revised Target Date: Additional Information Received
Notes: 23/09/25 - Awareness e-mail sent to WMU and NED.
Consultation HPRM Reference
HPRM Reference
HPRM Reference: AE1-25-3471
Section Reference
Reference:
Add / Edit reference
Use the link below to maintain section reference
» Maintain section reference
https://dardapps/NIEAPC/Section.aspx#
Search
ENG UK
14:30 26/09/2025



PLANTING MAINTENANCE AND MANAGEMENT FROM YEAR 2-ONWARDS

Spot treatment of all planted areas. Spreading of approved slow release fertiliser around all plant material, to be applied twice a year in year 2 and once in years 3-5.Remove and replace dead or dying trees and shrubs throughout the phased area.Remove and replace diseased trees in order to prevent spread throughout the phased areas, carried out until end of year 5. Boundary hedges to be trimmed once a year and all cuttings removed from site.
Proposed tree planting to be regularly reviewed and the lower branches removed to allow a 2 m clear stem as the tree matures.

Proposed Hedge and Tree Planting to be carried out in the first planting season following completion of the site works

All trees to be in accordance with BS3936: Part 1:1992 and BS4428: 1989 and and BS5837: 2012. Shrubs and Trees that fail to establish during their first growing season must be replaced with healthy stock. All trees to be staked and tied. The planting is to be handed over after the first growing season.
Inorganic fertiliser at the rate of 30g/m2 is to be applied at time of planting and organic mulch is to be applied to a depth of 50 mm and dug into soil during planting operations.
All areas to be maintained weed free for the first growing
season prior to handover.
Topsoil depth to be 300mm for planting areas and 150mm
for grassing areas.

Establishment Maintenance

All planted areas are to be checked on a monthly basis. Operations to include wind firming tree stake and tie checking, litter lifting weeding and spot treating with herbicide to control weed,, including minor pruning, wind firming litter lifting and tie checks Spot treat all areas of planting with translocating weedkiller to control pernicious weeds. All areas to be mulched with 75mm depth of composted mini bark chips.

Existing Topsoil

All topsoil to be stripped shall be stored in separate piles independent of subsoil. Location to be agreed with the landscape architect and unnecessary trespass across areas to be stripped shall be avoided.

(Ground works to BS4428: 1989: AMD938 AMD938)

Filling, including mounds shall be subsoil, free from hardcore or rubbish and shall be approved by the landscape architect before filling operations shall begin. Layers to be thoroughly consolidated not exceeding 150mm thickness.
All grading of landforms to be completed in suitable weather conditions to avoid over compaction and to suitable concave/convex profiles.

Imported Topsoil
Topsoil to be to BS3882: 2015
Topsoil to be good quality medium loam, free from all pernicious weeds and roots, with a stone content no more than 20% by dry weight and not greater than 50mm diameter.

Banks and grading
Recommendations for grading to be in accordance with BS6031.

Existing Topsoil
All topsoil to be stripped shall be stored in separate piles independent of subsoil. Location to be agreed with the landscape architect and unnecessary trespass across areas to be stripped shall be avoided.

Topsoil Depths
Planted areas: 450mm depth of good quality topsoil for all shrub and herbaceous planting.
Grass areas: 150mm depth of good quality topsoil on prepared subsoil.
Tree pits: 800mm deep and 450mm wider than the root spread.
Topsoil to be backfilled around tree roots and be well compacted in layers to avoid air pockets forming around the tree roots.

Washings to be stored in 2500gallon underground slurry tank- disposal of washing and associated effluent to be in accordance with relevant legislation under the Nitrates Action Programme (NAP) Regulations (NI)2019 -2022
Washings under the Regulations shall have a Biochemical Oxygen Demand (BOD) no greater than 2000mg/litre total nitrogen concentration less than 0.3 kg/m3and less than 1% dry matter - as specified in the NAP Regulations.
Construction of storage Tanks to the British Standard BS5502 Regulations.
The tank installed for the collection of washings to comply with the SSAFO Regulations and any disposal of the collected washings will comply with the measures relating to slurry in the NAP Regulations - Storage of washings - should not be located within 10m of any watercourse..
NIEA WMU (Agricultural Team), must be notified of any new or substantially altered silage slurry or agricultural fuel storage stores at least 28 days before they are brought into use - to permit inspection to be carried out.
Storage of all manure and washings shall comply with the provisions of the NAP Regulations
Adequate storage capacity shall be provided for the poultry manure produced on site to me the requirement of the NAP regulations.- Under the regulations any run off meeting the definition of slurry must be collected in the slurry tank.
Run off meeting the definition of dirty water as described above must be collected with the slurry or in a separate dirty water tank. Only clean water shall be disposed of into soakaway or waterway.

All clean storm water from roof drainage shall be directed toward storm water attenuation system as detailed in accompanying Drainage Assessment.
If during the construction of any underground storage tanks, the water table is encountered, an appropriate abstraction /impoundment licence under the Water Abstraction and Impoundment (Licensing Regulations) NI 2006 and consent to discharge under the Water (NI) Order 1999 may be required from WMU.
The construction of the proposed development shall comply with all the relevant Pollution Prevention Guidelines (PPG) in order to minimize the impact of the development on the environment with particular attention to PPG 01, General Guide To Pollution Prevention
PPG 02- Above Ground Oil Storage
PPG 05 - Work In Or Near - or liable to affect Watercourses.
PPG's can be accessed by visiting NetRegs website - www.environment-agency.gov.uk/netregs/links/107968.aspx.
Hard copies of the SSAFO information - a notification form and all the current PPG's are available from NIEA - WMU upon request .
During the Construction phase all necessary measures will be undertaken to prevent the pollution of surface or ground water as a result of the proposed activities on site both during construction and thereafter

1.2m high poultry proof fencing around swale and perimeter of range area see(03)

Application Site

Storm lines (clean water only) - discharge to swale

Dirty water lines discharge to slurry tanks

ST Slurry tanks - collecting dirty water from bird accessed areas

New compensatory tree planting

New concreted area for collections/deliveries, aprons at rear and pathways at popholes all concreted areas where birds have access to to be lined with impermeable membrane

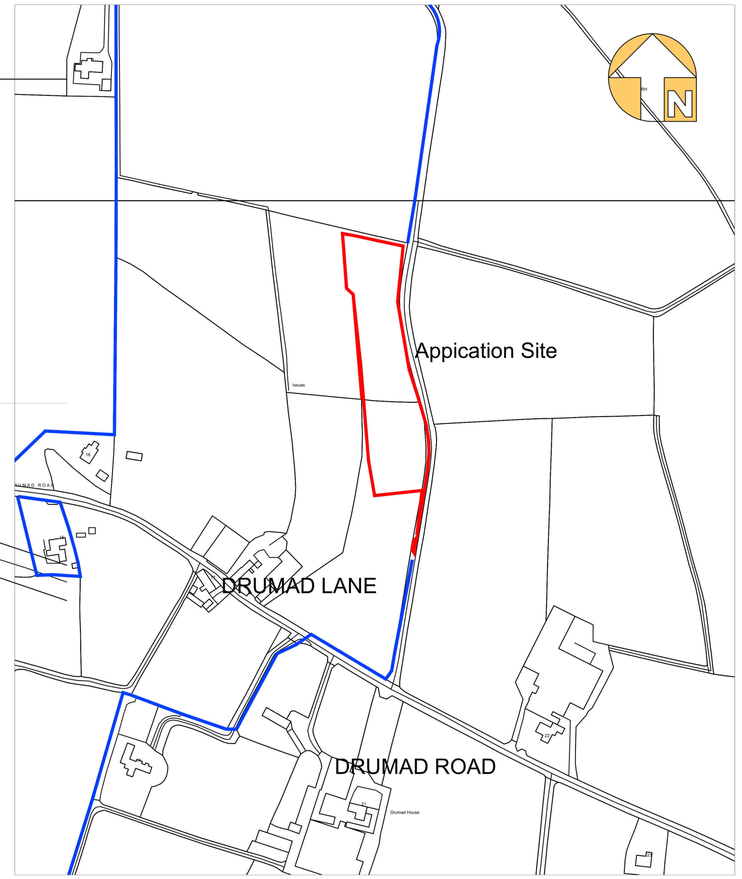
fS Feed silos

Swale as per Drainage Assessment

Hedges to be removed

Hedges to be planted

NOTE:
The area between the visibility splays and the edge of the carriageway should be cleared of all obstructions, levelled to a height not exceeding 150mm above the level site onto the public road.
of the carriageway, soiled, sown in grass seed, kept free from all trees and shrubs and maintained in a neat and tidy condition.
The gradient of the access shall not exceed 8% (1 in 12.5) over the first 5 m outside the road boundary. Where the vehicular access crosses a footway, the access gradient shall be between 4% (1 in 25) maximum and 2.5% (1 in 40) minimum and shall be formed so that there is no abrupt change of slope along the footway.
All plant and materials shall be stored within the curtilage of the site.
Precaution shall be taken to prevent the deposit of mud and other debris on the road way outside the site by vehicles travelling to and from the site, any deposit of mud, refuse etc. on the nearby roadway caused through the operations shall be removed.
No building work shall commence on site until the required site lines have been provided in accordance with Road Service Access Guidance Form -
Adequate provision shall be made to ensure that surface water does not flow from the access onto the public road
Adequate provision shall be made to accommodate the existing roadside drainage.



Location Map Scale 1:2500

Mid Ulster District Council
Drawing 01
Number.....

Rev	Date	Note

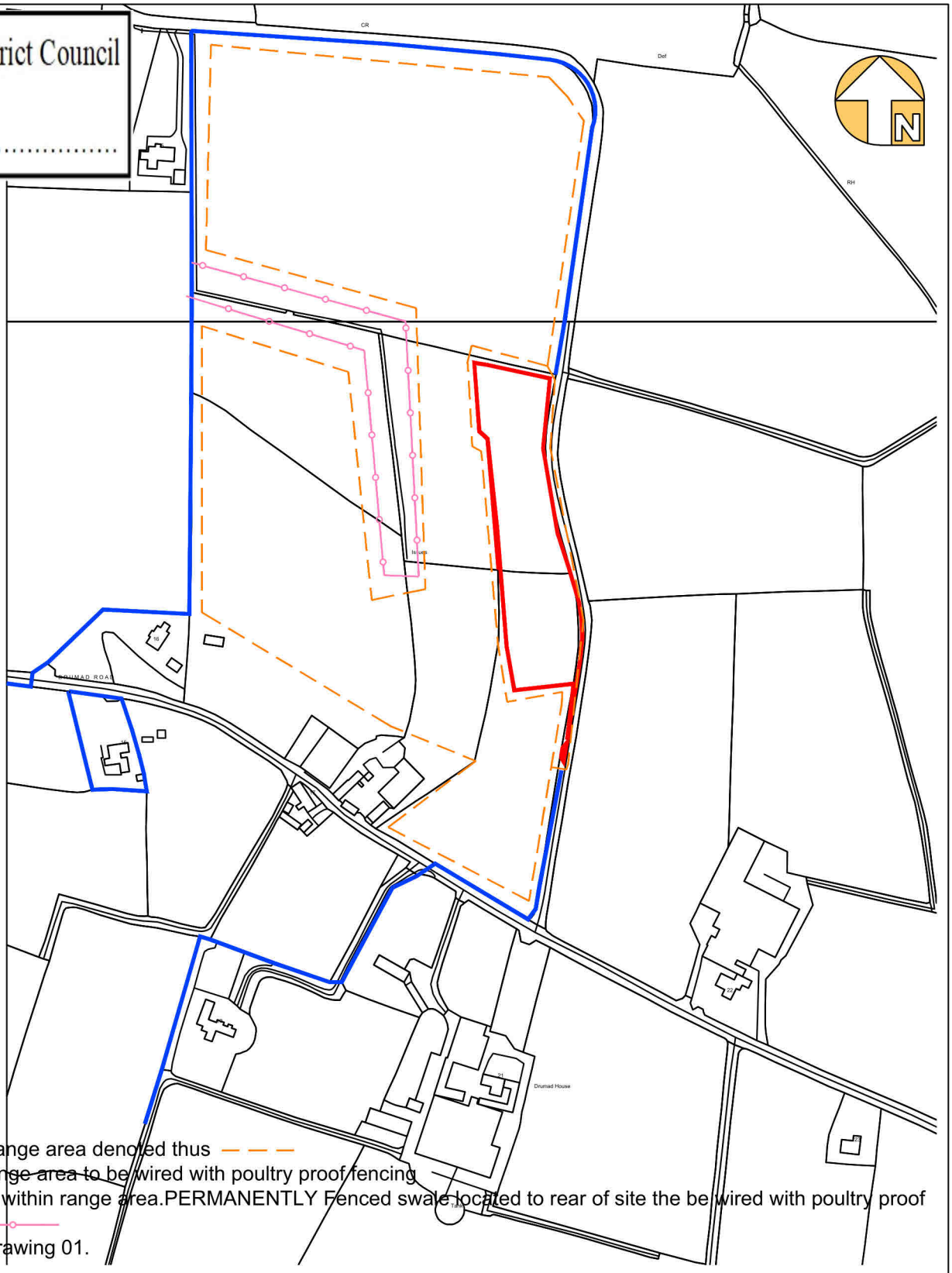
REVELINS HILL DESIGN

ARCHITECTURE AND PLANNING
43 KURIN ROAD GARVAGH CO LONDONDERRY BT51 5NS
T: 07907363735

DATE	FILENAME	DWG NO.	SCALES				
15/01/25		01	1:500	1:2500			A1

CLIENT: Lucas Farms
PROJECT: Proposed FR Poultry Unit
LOCATION: 229m N. East of 16 Drumad Road Coagh
TITLE: Location Map and Site Plan

Mid Ulster District Council
Drawing Number 02



Range Map Range area denoted thus
Boundary of range area to be wired with poultry proof fencing
Water courses within range area.PERMANENTLY Fenced swale located to rear of site the be wired with poultry proof fencing
see site plan drawing 01.

28-Jun-20	----	FILE NAME ----	DWG No. 03	nts	@ A4

REVELINS HILL DESIGN

ARCHITECTURE AND PLANNING
43 KURIN ROAD GARVAGH
CO LONDONDERRY
BT51 5NS
T:07907363735

TITLE
RANGE MAP

CLIENT
LUCAS FARMS

LOCATION
APROX 229M N. East of 16 Drumad Road Coagh

Habitat Regulations Assessment Screening Checklist

Conservation (Natural Habitats, etc) (Amendment) Regulations (Northern Ireland) 2015

Please Note that the development types listed below are only examples, all proposals may have the potential to cause impacts during construction, operation or decommissioning and should be assessed accordingly, if in doubt consult Shared Environmental Service (SES)

Refer to the SES Map Tool to answer questions below.

1) Site Address	**LA09/2025/0493/F - 6 Garrison Road** **Magherafelt**
2) Grid Reference	
3) Description of Proposal	Change of House Type with carport and PV solar panel added to existing garage roof
4) Is site in or immediately adjacent to a designated European Site? ***(SPA/SAC/RAMSAR, including those in Ireland)***	YES [ ] NO [X]
5) Is the application for an Anaerobic Digester? **If 'YES' is the proposal within 2km of a European Site?**	YES [ ] NO [X] YES [ ] NO [ ]
6) Is the application one that produces Ammonia (Pigs, Poultry, Cattle)? **If 'YES' is the proposal within 7.5km of a European Site?**	YES [x] NO [ ] YES [x] NO [ ]
7) Is the application for wind turbine/s? **If 'YES' is it close to an SPA, in habitat used by an SPA species or could it be on a flightline used by a SPA species?**	YES [ ] NO [x] YES [ ] NO [ ]
8) Would the proposal create the possibility of a hydrological link as a pathway for pollution to a European Site, including pollution from the construction phase?	YES [ ] NO [x]
If 'YES' for Q's 4 through to 8 continue to Q9	

If 'NO' is answered for Q's 4 through to 8 then the proposal may be screened out, continue to 11.	
9) Name of European Site/s (and selection features if known) that may be affected	Lough Neagh
10) Is mitigation already included to avoid all potential impacts on the European site during construction, operation or decommissioning? **If yes specify mitigation included**	YES ☐ NO ☐ ☐
If 'NO' you can consult SES informally by e-mail to ask how the proposal could be amended to comply with the Regulations or refer case through the planning portal. It will assist SES if you e-mail a copy of this checklist.	
11) Planning Officer's consideration of Potential Effects on European Sites	*The potential impact of this proposal on Special Areas of Conservation, Special Protection Areas and Ramsar sites has been assessed in accordance with the requirements of Regulation 43 (1) of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995 (as amended). The proposal would not be likely to have a significant effect on the features, conservation objectives or status of any of these sites. An informal consultation is to be sent to SES to confirm and response to be uploaded to planning portal.*
12) Is a test of likely significance required through consultation with SES?	YES ☐ NO ☒
13) Date Referred to SES	☐
14) Consultation method	E-mail ☐ Telephone ☐ Planning Portal ☐
(Where uncertainty exists the precautionary principle should be applied and consultation with SES should be undertaken)	

N.B. If the Planning Officer deems that the proposal is compliant with the Habitats Regulations this should be recorded. It is imperative that the Planning Officer records that they have considered the impact of the proposal on the European Site to demonstrate compliance with the Habitats Regulations.

A completed copy of this HRA Screening Pro Forma must be attached to the planning application.

Farm Management Plan
Including Alternative Green Energy Measures
Proposed Free Range
Poultry Farm
Drumad Road
Coagh
Co. Tyrone

Rev	Date	Comment

Revelins Hill Design
Architecture & Planning
Garvagh
Co Londonderry
BT51 5NS

Odour Management Plan

Introduction

The proposed capacity of the new unit will be 20,000 free range laying hens. This report should be read in conjunction with Air Quality Assessment as produced by Irwin Carr Consulting Report No. Rp001A 2024210 4thApril 2025

Nearest dwellings
These are also identified in Section 6 of table 13 of AQA (pg 18) which accompanies this application. These are also included below for convenience.

Table 16: Significance of Estimated Odour Emissions at Considered Receptors

	Receptor ID	Maximum Annual 98th Percentile Hourly Mean Concentration (ou_E/m^3)		Receptor Sensitivity	Impact Descriptor
H1	Drumad Road*	0.58	2021	High	Negligible
H2	16 Drumad Road	0.84	2020	High	Negligible
H3	15 Drumad Road	0.57	2021	High	Negligible
H4	19 Drumad Road	0.19	2021	High	Negligible
H5	5 Drumad Lane	0.36	2021	High	Negligible
H6	22 Drumad Road	0.63	2021	High	Negligible
H7	21 Drumad Road	0.43	2021	High	Negligible

The purpose of this Plan is to: -

- Establish the likely sources of odour arising from the proposed unit
- Set out the procedures followed on site to prevent or minimise odour levels and their impact on third parties.
- Formalise the procedures for dealing with any odour complaints.

The tables below on pages 3 and 4 of this document set out the likely sources of odour and the procedures that must be followed to minimise odour levels.

Odour Complaint Procedures

- Any odour complaint received will be dealt with by the owner of the farm

- If a complaint is made, the form included in this Plan will be completed and this will be available for inspection by Environmental Health
- Information will normally be collected by visiting the complainant, although in some cases, contact may be made by telephone.
- After details of the complaint have been compiled, the cause(s) will be investigated, with reference to:
  - The activities taking place on the farm at the time.
  - The timing of the complaint and whether weekday, weekend etc.
  - The weather conditions at the time.
- The likely reasons for the complaint will be added to the form and the complainant will be contacted as appropriate.
- The feasibility of making changes to the activities responsible for the complaint will be considered. If changes are made, the Odour Management Plan will be amended accordingly.

Review Procedures

The plan shall be reviewed at least every three years or as soon as practicable after a complaint (whichever is the earlier) and changes recorded in the Table on page 8 of this plan.

Typical Odour Sources and Actions Taken to Minimise Odours

Odour Related Issue	**Potential Risks and Problems**	**Actions taken to minimise odour and odour risks**
Manufacture and selection of feed	• Milling and mixing of compound feeds. • The use of poor quality and odourous ingredients. • Feeds which are 'unbalanced' in nutrients, leading to increased excretion and litter moisture and emissions of ammonia and other odorous compounds to air.	• No on-site milling and mixing. • Feed specifications are prepared by the feed compounder's nutrition specialist • Feed is supplied only from UFAS accredited feed mills, so that only approved raw materials are used.
Feed delivery and storage	• Spillage of feed during delivery and storage. • Creation of dust during feed delivery.	• Feed delivery systems are sealed to minimise atmospheric dust. • Any spillage of feed around the bin is immediately swept up. • The condition of feed bins is checked frequently so that any damage or leaks can be identified.
Ventilation system	• Inadequate air movement in the house, leading to high humidity and wet litter. • Inadequate system design, causing poor dispersal of odours.	• The ventilation system is regularly adjusted according to the age and requirements of the birds. • The ventilation system is designed to efficiently remove humid air from the house. Specification of ventilation system should be strictly in accordance with *Tables 8 & 9 on page 15,* contained within the *Air Quality Assessment* as completed by Irwin Carr. (Also provided below for convenience)

Litter/manure management	• Odours arising from wet litter. • The use of insufficient or poor quality litter. • Spillage of water from drinking systems. • Disease outbreaks, leading to wet litter.	• Controls on feed and ventilation (see above) help to maintain litter quality. Additional controls include:- • Use of nipple drinking systems which minimise spillage. • Insulated walls and ceilings to prevent condensation. • Concrete floors to prevent water ingress. • Stocking density at optimal levels to prevent overcrowding. • Use of a health plan, with specialist veterinary input used as necessary.
Carcass disposal	• Inadequate storage of carcasses on site	• Carcasses are placed in sealed containers immediately after they are removed form the house.

5.2.2 STACK EMISSIONS VELOCITY

The operation of the fans on-site will be on/off, and they are designed with a 'baffle' below the stack that ensures there is no air escapes through the chimney when the fans are off.

Similar to the ridge fans, all inlets will close over to ensure that there is no air escaping when the extract fans are off/ closed.

The extract fans will operate at full power, however, in order to provide a conservative assessment, the AERMOD model has assumed that the fans will operate at 50% capacity. It should be noted that this is not expected to be reflected on site, where the fans will operate at full capacity.

Table 9 below shows the ventilation rate for the type of fan on the site, with screengrabs of the AERMOD model inputs provided in Appendix B.

Table 9: Ventilation Rates for fan

Fan Type	Stack Diameter (m)	Cross Sectional Area (m^2)	Exit Velocity (m/s)	Volume Flow (m^3/s)	Volume Flow (m^3/hr)
Ridge	0.82	0.528	5.26	2.78	10,000*

**The maximum capacity of the fans is 20,000m^3 however, to ensure a conservative assessment, it has been assumed that the fans will operate at 50% capacity.*

Odour Related Issue	Potential Risks and Problems	Actions taken to reduce odours and risks at this installation
House Clean Out	• Creation of dust associated with litter removal from houses. • Use of odorous products to clean houses.	• Litter to be taken on manure belts to purposed designed covered store located on site • Only approved and suitable products are used.
		Litter is removed min twice weekly on belts during the cycle of operations. The clean of out full house at the completion of each cycle is usually undertaken between 48-60 weeks Storage of litter will be in accordance with 5.2.3 and Table 10 of Air Quality Assessment as completed by Irwin Carr.
Used litter	• Storage of used litter/manure on site. • Transport of litter.	• There is no storage of used litter outside the houses at any time • Litter is transported in covered trailers. • Litter stored on site in litter store which is covered – before export to the sustainable outlet as identified on the litter plan detailed in accompanying documentation
Dirty water management	• 'Standing' dirty water during the production cycle or at clean out. • Applications of dirty water to land.	• Areas around the house are concreted and remain clean during the production cycle. • At clean-out, dirty water is directed to underground tanks for storage. It is then spread onto land in accordance with the DARD code of good practice.

Improvement programme to reduce odours - examples

Odour problem	Remedial action needed to reduce odour	Completion date	Ref: Farming rule (if applicable)
Odour from carcass skip during hot weather	Improve sealing of cover on skip, increase frequency of carcass collection to twice weekly during summer months.	Sept 09	2.3.6

Note: The above are examples of improvements that may be required in some circumstances. If further improvements are undertaken that are required to reduce odours on the farm, they are to be tabulated in the above form.

Odour Complaint Report Form

Installation to which complaint relates	**Date recorded**	**Reference number**
Name and address of caller (complainant)		
Telephone number		
Details of complaint		
Date, time and duration of offending odour		
Odour description e.g. comparison with other odours, strong / weak, continuous, fluctuating		
Any other comments from complainant		
Weather conditions (e.g. dry, rain, fog, snow)		
Wind strength and direction (e.g. light, steady, strong, gusting) or use Beaufort scale		
Any previous complaints relating to this odour?	Yes / No	
Any other relevant information		
Potential odour sources that could give rise to the complaint		
Operating conditions at the time offending odour occurred e.g. removing birds, clean-out etc.		

Follow-up

Date and time caller contacted			
Action taken			
Amendment required to the odour management plan?	Yes / No		
Form completed by		**Signed**	

Review of Odour Management Plan - Record

Date of review	Summary of changes made	Signature

Farm Waste Management Plan.

Contents

1. Litter

Poultry litter exported from farm – details of which are included in this application
Dirty water can be normally to apply it to agricultural land. You should plan how and when to apply all livestock wastes to the land, to make the risk of water pollution as low as possible, and get the most from nutrients.

Due to the low volume of solids held in suspension in dirty water tanks this can be spread on land as required provide DAERA guidelines are observed.

1) Pick out any land on the farm where waste should not be spread at any time for example: -
a) Ground that is currently being grazed or will be used for grazing within 6 weeks of the manure being spread
b) Land with a high risk of run-off
c) Sites of Special Scientific Interest etc
d) Set aside rules
e) Leave a untreated strip of at least 20 metres wide on both sides of water courses – remember about those on the boundary of your farm
f) To reduce the risk of polluting groundwater, poultry manure should not be applied within 50 metres of a spring, well or borehole that supplies water for human consumption or is to be used in a farm dairy

   Remember about any water sources on your neighbours' land.

2) Work out how much land you need to take the total nitrogen in all the waste that has to be spread on the farm. As a general guide there should be enough land where manure can be spread to make sure that the amount of ''total nitrogen'' in livestock wastes that are applied is less than 170kgs/ha/year.

3) Pick out land where waste should not be spread at certain times or where the spreading rate should be limited. Crops may limit the time when waste can be applied because of the chance of damaging them. There may also be a risk of soil damage, especially during the winter months, by machinery that is pulled by a tractor.

4) When removing litter from a poultry house the aim should be to remove all litter and debris from within the house. Trailers should be filled with soiled litter. The full trailer should be covered before removal to prevent dust and debris blowing around outside.

2. Water

Dirty water is waste, generally less than 3% dry matter, made up of water contaminated by manure and cleaning materials. Dirty water causes many agricultural water pollution incidents. You must collect, store and dispose of it carefully.

The system used to store, handle and dispose of dirty water must be designed to cope with the amount and type of dirty water coming from your farm. Water used to clean poultry houses will be polluted. Contaminated water can be graded under distinct areas:

A) Lightly contaminated water, eg: roof/yard water
B) Heavily contaminated water, eg: house washings

Lightly contaminated water

This type of wastewater can be discharged via soft engineering structures such as soakaways, wetlands or swales.

Heavily contaminated water

Water, which has been used for cleaning within the poultry house, must be collected and stored either in a slurry store or in separate tank until application to land. Slurry tanks must not be located within 10m of a watercourse.

Poultry units should be able to demonstrate best practice techniques to ensure that contaminated water never finds its way directly into a watercourse.
No part of a soakaway structure should be within 10m of a watercourse.

NEVER LET DIRTY/CONTAMINATED WATER FLOW INTO A WATERCOURSE.

3. Dead Bird Disposal

To routinely remove carcasses of any dead or culled birds from the poultry house environment, will help prevent the build up of pathogenic micro organisms and the possible transmission of disease to healthy birds.

All dead and culled birds should be removed from the house immediately and their carcasses disposed of as soon as possible.

It is now illegal to bury dead or culled birds on farm therefore all farmers must now dispose of all fallen stock by using an approved method – these being either incineration (approved appliance) or through the National Fallen stock scheme.

Collection receipts from the National Fallen Stock Scheme must be retained for both internal and external auditing.

Carcasses not removed off site immediately shall be stored on site in sealed containers to prevent odours from escaping. Regular Collections shall be made in accordance with the National Fallen Livestock Scheme

4. Pharmaceutical Waste

All vaccine bottles should be returned to advisory staff who will dispose of them in a sharps container.

Medicine bottles should be well rinsed into the water you are medicating in the first instance. The plastic bottle or foil container can then be disposed of with normal household rubbish.

Empty disinfectant containers should also be well rinsed and can be disposed of with your household rubbish.

Hypodermic needles, scalpels or any Sharpe objects should be disposed off properly in a sharps container.

*Further advice if necessary can be got from an Agriculture Health and Safety Inspector at HSENI.

5. Feed Spillage's

Any feed spillage's that occurs should be dealt with immediately. Feed, which has been spilt, should be collected immediately and buried off site. Care must be taken to bury the discarded feed deep enough so that it is not liable to attract scavengers and vermin.

6. Packaging

Where practicable any packaging that is not contaminated by pesticides should be sent for recycling. If recycling is not possible, paper bags/cardboard boxes can be burnt carefully in small quantities.

Burning in the open

It is an offence to burn any material in the open on Trade Premises if the burning produces dark smoke.
Take the following precautions, if burning in the open is the only practicable method of disposal, to prevent producing dark smoke and causing a nuisance.

a) Never burn plastics, rubber or other materials known to produce dark smoke
b) Avoid burning if it will cause a nuisance to any nearby residential areas
c) Materials should be dry and have a low moisture content
d) Keep fires small and continually add combustible materials. Do not pile material high on fires

You should also take the following precautions to minimise fire hazard.

a) Build fires well clear of houses, farm buildings, overhead cables or flammable materials such as straw, trees and hedgerows
b) Fires must not be lit near a public road
c) Do not start a fire when it is windy or in a period of drought
d) Only light fires down wind of public roads, houses and other farm buildings so that the wind will carry any sparks and smoke away from them
e) Contact the local Fire Service before starting any substantial burning
f) Have a fire extinguisher and a supply of water from the mains supply on hand in
case of an emergency
g) Burning should be carried out under direct and continuous supervision
h) Put out all fires before you leave them

*Further advice about burning in the open can be obtained from The Air Code book

Sources of Information

* ***The Air Code*** – *Code of Good Agricultural Practice.*
MAFF, October1998 – Countryside Matters.

* ***The Soil Code*** – *Code of Good Agricultural Practice.*
MAFF, October 1998 – Countryside Matters.

* ***The Water Code*** – *Code of Good Agricultural Practice.*
MAFF, October 1998 – Countryside Matters.

Noise Management Plan Guidance Notes

Content

APPENDIX 1 TEMPLATE NOISE MANAGEMENT PLAN

1.0 Noise management
Introduction
Site Description

This is a new site which lies immediately to the side of the existing farm complex.
It is located along the Drumad Lane with significant separation distances to the nearest third-party receptors as detailed above.

Overall Proposed Capacity: up to 20,000 birds

Cycle: Up to 62 weeks

Housing Facility with cladding panels wall and roof panels.
Mechanical ventilation

1.1 The purposes of this Noise Management plan are to successfully manage activities on the site to ensure neighbouring properties are not negatively impacted by the operations this is achieved as follows:

1.2 General Principles

Prevent generation of noise by good design and in relation to operation of the facility.

Reduce/minimise noise to a level that does not cause annoyance or harm to potential receptors by operating the best operational techniques and management practice.

1.3 Definitions

Day time 0700-1900
Night time 1900-0700

Reasonable time daytime of the normal working week
Working week Monday to Friday and Saturday morning but exclusive of public and bank holidays

2.0 Management techniques

2.1 The anticipated activity will conform fully to DAERA good practices throughout and as such is subject to summary inspection to ensure full compliance with all relevant guideline with regard to animal welfare, rearing and general associated operations.

2.2 Advice for staff, contractors and visitors
Staff will be advised of their responsibilities under the plan
Staff, contractors and visitors should be instructed not to raise voices unnecessarily.
Movement of vehicles around the site are to be minimised operatives on site are to ensure that engines and plant are not left running unnecessarily.

2.3 Deliveries

2.3.1 Deliveries of feed, fuel and livestock should only take place at a reasonable time.

2.3.2. Care should be taken to prevent unnecessary movements of trailers and loaders

2.3.3 Manure belts will dispose of litter to purposed designed covered store
.
2.3.4 The area of yard contaminated when removing manure and litter from buildings should be minimised, this will minimise the need for scraping.

2.3.5. Cleaning of buildings with powered equipment should only take place at reasonable times i.e. during normal working hours as defined above.

2.3.6 If powered equipment is used, manure and litter should only be removed from buildings at reasonable times.
Pressure washers and compressors should be placed inside buildings or another suitable enclosure during use.

2.3.7 Written advice should be provided for all staff, contractors and visitors on site, notifying them of their responsibilities for noise management.

2.4 Feed handling

See mitigation methods with regard to deliveries as above.
Feed to be delivered via augur on timing method. Noise level low and intermittent.

2.6 Bird Handling

2.6.1 Bird catching all handlers trained to Assured Chicken production standards to minimise bird stress and noise.

2.6.2 Catching shall be organized to minimise manoeuvring of forklift trucks outside of buildings

2.6 Emergency Generator (Only used in the event of a power cut)

Testing of generator to be conducted on regular basis- this is intermittent nature. It is not anticipated that noise levels would exceed that of normal agricultural machinery operational in the area.

2.7 Ventilation Fans

This is required to ensure that no unnecessary noise is generated by a malfunctioning or over worked fan or motors.
Conveyors or augers should not be operated empty.

2.7.1 Testing of emergency generator shall only be carried out during the daytime at periods of high background noise. Testing should be in accordance with manufacturer or supplier instructions.
2.7.2 Fans should be maintained and inspected in accordance with the manufacturers or suppliers' instructions.

3.0 Installation Design

3.1 Conveyor and auger systems

Conveyor runs should be optimised as to minimise the run outside of the building fabric. It is not anticipated that there will be any external conveyors in operation at this site.

3.2 Generator

Generator shall be housed within adequately designed structure be located between houses to ensure that they benefit from noise screening.
This is an emergency generator and only used in the event of a power outage. – (Singular Generator)

3.3 Ventilation & Mechanical Systems

The optimum of design in this case depends not only on the ventilation requirements of the units of the installation but also on the location of the installation and its proximity to sensitive receptors.

Adequacy of inlet and outlet areas

Design to ensure minimum number of fans are used
Low speed designs
Design of outlet cowls and stacks in terms of rigidity and resistance to airflow.
The use of inlet silencers.
The use of outlet silencers where appropriate
Building design to prevent build up of noise due to reflective surfaces and reverberation
Conveyors for internal operation should be contained within a suitably constructed enclosure.
Pneumatic conveyor systems should be designed to minimise length of run and number of bends.
Generator should be placed within an acoustic enclosure.
Ventilation and fan systems should be designed and maintained to an optimum to minimise noise generation and propagation.

3.4 Siting of structures

The site has been located hidden on low lying ground with no critical views from the surrounding public roads – The existing mature boundary to the north , west and south is retained and augmented

The use of manure belts will minimize movement of vehicles around the site.

The location of turning area at the front of the site reduces unnecessary vehicles movements around site.– the site is significantly screened from all third parties and therefore there are no visual impacts on third party dwellings

4 Complaints procedure

The existence of a complaint's procedure can help the farmer to
- Improve relationships with neighbours

- Identify sources of noise and prevent future problems
The complaints procedure should be tailored to your farm and your neighbours, but should contain the following elements

A telephone number and specific contact (the 'responsible person') for making complaints should be available
Complaints should be entered into a log with numbered pages
The complainant should be asked to give details of:

i) the time the noise was heard
ii) how long it lasted
iii) the nature of the noise

The 'responsible person' should then, if possible, make a note of:

i) the conditions at the time the noise was detected

ii)the activity on the farm at the time the noise was detected.

It may be useful to visit the complainant, both to collect more information to assess the exact extent of the problem.

The reason for the complaint should be investigated, and a note of the findings added to the log.

The complainant should then be contacted with an explanation.

Following complaints, it may be appropriate to review the Noise Management Plan.

For example, complaints may relate to deliveries at particular times of day. It may be possible to adjust delivery times to prevent further complaints.
The complaints log should be made available to statutory authorities including poultry advisor and Environmental Health officers on request.

Feed delivery points should be sited as far away as practicable from sensitive receptors.

Feed bin locations should be designed as far as is practicable to reduce delivery movement on site.

Slurry and manure storage areas shall be located as far as is practicable from any sensitive receptors.

Tanker filling points shall be sited as far as is practicable from receptors to achieve optimum benefit from noise screening and attenuation effects of, local topography and buildings.

APPENDIX 1 TEMPLATE NOISE MANAGEMENT PLAN

Name of Farmer or operating company:

Address of farm:

Farm ID No.:

Name and job title of person with day-to-day responsibility for activities carried out on the farm: (the “responsible person”):

The responsible person undertakes to adhere to the agreed plan at all times. If this cannot be achieved with respect to a specific event or activity, then the responsible person should inform the poultry advisor as soon as practicable. The advisor shall be notified without delay of any incident or accident, which is causing or may cause excessive noise.
The Noise Management Plan shall be reviewed at least once every calendar year.
Any alterations to the Noise Management Plan which are occasioned as a result of complaints or alterations to farming practices should be appended at the end of the document.

Agreed review date:

History of changes:

Approved by:

Complaints procedure
1 Complaints should be passed to the ‘responsible person’ on receipt. The responsible person f or this site is

Name……
Tel no……

2. Complaints should be logged on the sheet provided and kept in the Complaints Log in the site office
Complaint number……..
Date of complaint……..
Complainant details
……
……
Complainant Tel
……

Details of complaint:
(date, time, nature of noise, any other details)
Complainant visited? Yes/No

Weather conditions:
Wind direction ……..

On farm activity/ies at the time of the complaint:
Suggested cause of complaint:

Complainant contacted with explanation Yes/No Date……. By whom?……..

Need for Noise Management Plan review? Yes/No

Activities with potential for noise generation

Activity How often/length of cycle: 46 weeks

How is noise generated?:

Other activities
Delivery of feed Weekly Delivery vehicle; transfer of feed to bins
Delivery and collection eggs
Bird catching once every cycle annually
Bird noise; Contractor noise; site vehicles
Cleaning of animal housing Once every cycle
Skid-steer loaders, tractors and trailers, generator and compressor
Bird feeding twice daily Feed conveyor or bird noise
Emergency generator Monthly testing Generator noise
Other (specify)

Actions to be taken to prevent or minimise noise

Activity Action to be taken Comments/contingencies in case of breakdown

Other activities
.
Delivery of feed No deliveries outside reasonable time.
Feed company has fitted silencers to all vehicles for transfer to feed bins
No deliveries accepted outside normal working hours
Delivery and collection of birds no deliveries outside reasonable time.
Beginning and end of each 60 week cycle
Cleaning of animal housing In reasonable time only.
Litter is moved from housing via belts
Bird feeding by auger system.

Emergency generator Test time Timing agreed with neighbours

In the event that emergency generation is required, Neighbours will be notified within 2 hours.

Alarms To Houses Intruder/Temperature: Linked to mobile phones – audible external alarms to be tested at time agreed with neighbours
Advice for staff, contractors and visitors Advice notice in the site office covering the points above and:

• instruction not to shout unnecessarily
• instruction to turn off engines while not in use

Appendix 1 Acoustic Enclosure For Temporary Emergency Generator

ECHO BARRIER®
Environmentally Sound

Mini Genset M1™

Specifications

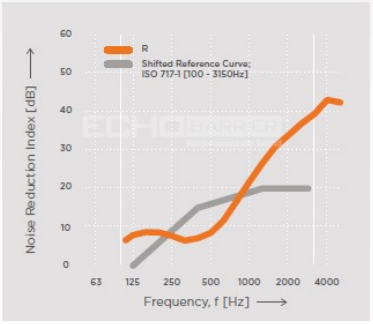
World-leading noise control

ECHO BARRIER®
Environmentally Sound

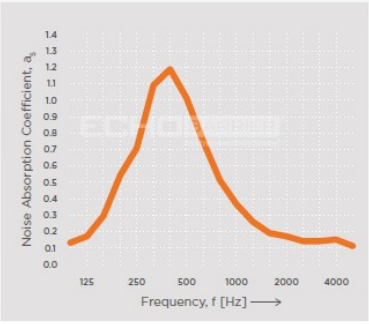
Mini Genset M1™

The Echo Barrier Mini Genset M1™ is a purpose-built portable acoustic enclosure for small generators and power units. It can be configured as a screen, partial or full enclosure depending on requirements and offers exceptional noise absorption and reduction in all directions. The Genset M1™ is designed with a lightweight aluminium frame and velcro attachments to be erected quickly and simply for easy deployment.

NOISE REDUCTION



NOISE ABSORPTION



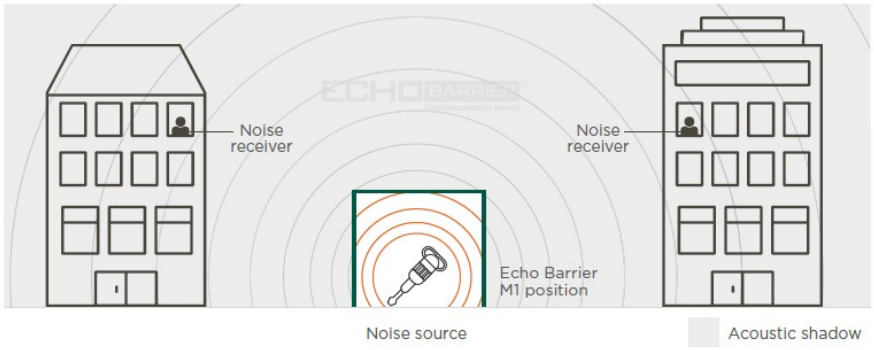
echobarrier.com | info@echobarrier.com

Mini Genset M1™ Acoustic Barrier specifications

Max Noise Reduction (Lab Tested)*	43 dB
Max Noise Absorption (Lab Tested)*	100%
Height	49.2 in (1250 mm)
Width	41.3 in (1050 mm)
Length	41.3 in (1050 mm)
Weight	Frame = 27.6 lb (12.5 kg) consisting of two equal parts, Acoustic components = 28.6 lb (13 kg) consisting of roof section and two side sections. Total Weight : 56.2 lb (25.5 kg)
Water resistant test standard*	BSEN 60529:1992 IPX6 / IPX9
Fire resistant test standard*	BS 7837-1996
Dust resistant test standard*	BSEN 60529-1992
Cold resistant test standard (result)*	BSEN 60068/2/1:2007 (-40°C/F)
UV resistant	3 years (USA + Canada), 5 years (rest of the world)
Safety features	Night-time reflective strips, hazard icons
Quick install	1 person in 2 minutes with velcro attachments
Anti-theft	Security cable, Data tag
Cleaning	Power wash
Identification code part number	Unique RFID number per each unit
Manufacturer's warranty	1 year
Color options	On request

* Full independent laboratory results can be obtained on request to **Info@echobarrier.com**

Effective installation

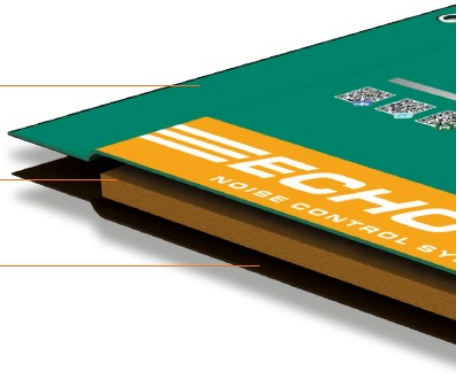


What makes our acoustic barriers so effective?

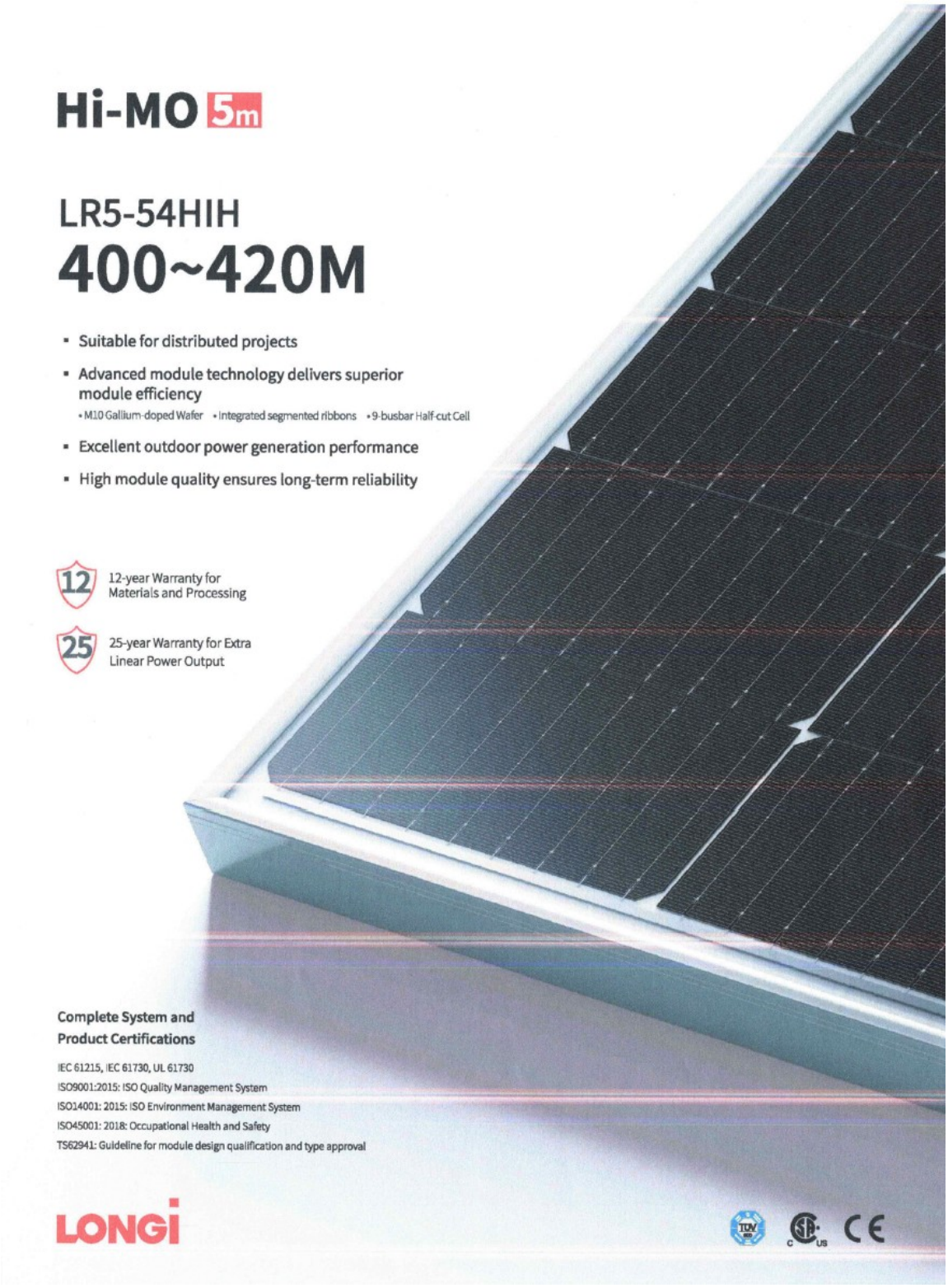
Front outer layer
Extremely durable, high-quality waterproof PVC, of optimum mass to achieve maximum noise mitigation, also offering an impressive visual finish.

Noise-absorbent composite
The heart of the panel: Echo Barrier's lightweight, but highly noise-absorbent composite.

Waterproof breathable membrane/mesh
The membrane/mesh lets in sound, so that it can be absorbed by the composite, but keeps water out.



Appendix 2 - Alternative Energy

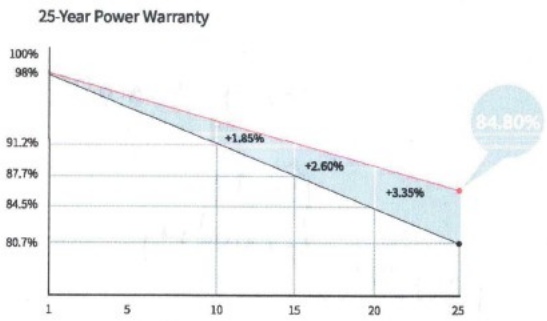


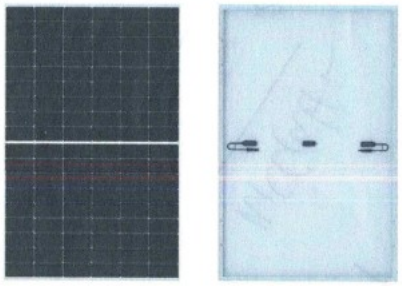
Hi-MO 5m

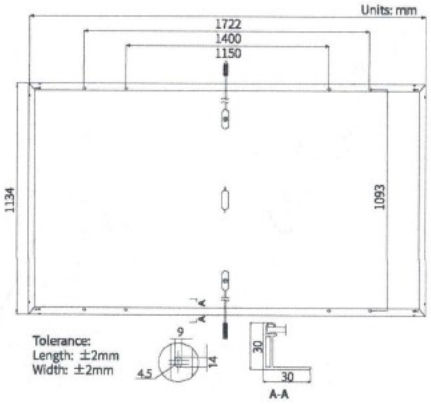
LR5-54HIH 400~420M

21.5%	0~3%	<2%	0.55%	HALF-CELL
MAX MODULE EFFICIENCY	POWER TOLERANCE	FIRST YEAR POWER DEGRADATION	YEAR 2-25 POWER DEGRADATION	Lower operating temperature

Additional Value







Mechanical Parameters

Cell Orientation	108 (6×18)
Junction Box	IP68, three diodes
Output Cable	4mm², +400, -200mm length can be customized
Glass	Single glass, 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight	21.5kg
Dimension	1722×1134×30mm
Packaging	36pcs per pallet / 216pcs per 20' GP / 936pcs per 40' HC

Electrical Characteristics

STC : AM1.5 1000W/m² 25°C NOCT : AM1.5 800W/m² 20°C 1m/s Test uncertainty for Pmax ±3%

Module Type	LR5-54HIH-400M		LR5-54HIH-405M		LR5-54HIH-410M		LR5-54HIH-415M		LR5-54HIH-420M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	400	299.0	405	302.7	410	306.5	415	310.2	420	313.9
Open Circuit Voltage (Voc/V)	36.75	34.55	37.00	34.79	37.25	35.02	37.50	35.26	37.75	35.49
Short Circuit Current (Isc/A)	13.76	11.13	13.83	11.18	13.88	11.22	13.94	11.27	14.01	11.32
Voltage at Maximum Power (Vmp/V)	30.75	28.56	31.00	28.80	31.25	29.03	31.49	29.25	31.73	29.47
Current at Maximum Power (Imp/A)	13.01	10.47	13.07	10.52	13.12	10.56	13.18	10.60	13.24	10.65
Module Efficiency(%)	20.5		20.7		21.1		21.3		21.5	

Operating Parameters

Operational Temperature	-40°C ~ +85°C
Power Output Tolerance	0 ~ 3%
Voc and Isc Tolerance	±3%
Maximum System Voltage	DC1500V (IEC/UL)
Maximum Series Fuse Rating	25A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Fire Rating	UL type 1 or 2 IEC Class C

Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

Temperature Ratings (STC)

Temperature Coefficient of Isc	+0.050%/°C
Temperature Coefficient of Voc	-0.265%/°C
Temperature Coefficient of Pmax	-0.340%/°C

LONGi

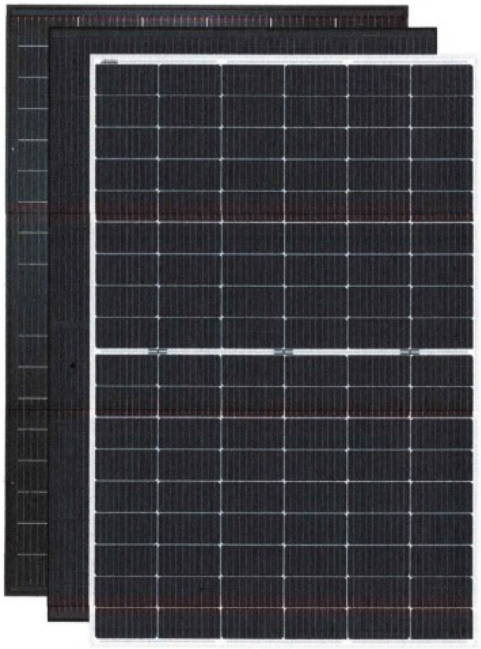
No.8369 Shangyuan Road, Xi'an Economic And Technological Development Zone, Xi'an, Shaanxi, China.
Web: en.longi-solar.com

Specifications included in this datasheet are subject to change without notice. LONGi reserves the right of final interpretation. (20220121DraftV02)

Technical datasheet
SOLARWATT Panel vision AM 4.

SOLARWATT®

PRODUCT



SOLARWATT Panel
vision AM 4.5 style
vision AM 4.5 black
vision AM 4.5 pure

Glass-Glass-Module

Solid quality with high performance

Thanks to their design Solarwatt glass-glass modules deliver the highest long-term yields. They are robust and resilient. Bifacial TOPCon half-cut-cells enable modules that are optimized for maximum performance.

The solar cells are embedded almost indestructibly in the glass-glass composite and thus optimally protected against all weather effects and mechanical stress. Solarwatt can therefore offer a 30-year warranty on performance and product quality.

The Solarwatt FullCoverage insurance is included for 5 years and free of charge. It insures almost all risks and takes effect even if the modules do not produce electricity or deliver less than expected in the event of damage.

CE

PRODUCT QUALITY

- ammonia resistant
- salt mist resistant
- LeTID tested
- PID protected
- 100 % plus-sorting
- snow-load warranty
- bifacial TOPCon half-cut-cells

SERVICE

FullCoverage insurance
included (up to 1,000 kWp)*

simple returns policy
as per „Delivery terms for Solarwatt solar modules"

30 year product warranty
as per „Warranty conditions for SOLARWATT Panel vision"

30 year performance warranty
on 90 % of nominal power as per „Warranty conditions for SOLARWATT Panel vision"

* country-specific deviations apply

Subject to change | Errors excepted.
This datasheet fullfills the requirements listed in IEC 61215-1-1 | EN

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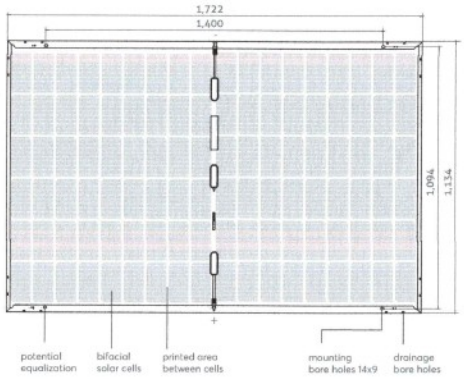
Certified acc. to DIN EN ISO 9001, 14001, 45001, 50001

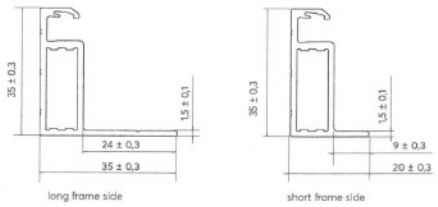
#05767 | Rev 0 | 26.01.2024

Technical datasheet
SOLARWATT Panel vision AM 4.5

FOR OVER 30 YEARS SINCE 1993

DIMENSIONS





GENERAL DATA

Module technology	Glass-glass laminate; aluminum frame black (style, black) or silver (pure)
Covering material Encapsulation Backing material	Tempered solar glass with anti-reflective finish, 2 mm Solar cells in POE encapsulation Tempered glass, transparent (style) or partially printed (spaces between the cells) in black (black) or white (pure), 2 mm
Solar cells	108 monocrystalline, bifacial, high power TOPCon-solar cells
Cell dimensions	182 x 91 mm
L x W x H / Weight	$1{,}722^{\pm 2}$ x $1{,}134^{\pm 2}$ x $35^{\pm 0{,}3}$ mm / 24 kg
Connection technology	Cables 2x 1.2 m / 4 mm², Stäubli Electrical MC4-Evo 2
Bypass diodes	3
Max. system voltage	1,500 V
IP rating	IP68
Protection class	II (acc. to IEC 61140)
Fire class	A (acc. to IEC 61730/UL 790)
Certified mechanical ratings as per IEC 61215	Pressure load up to 5,400 Pa (test load 8,100 Pa) Suction load up to 1,600 Pa (test load 2,400 Pa) **Higher suction load approvals in preparation**
Qualifications	IEC 61215 (incl. LeTID) | IEC 61730 in preparation: PID IEC TS 62804 | IEC 61701 | IEC 62716 | MCS 005

ELECTRICAL DATA (STC)

STC (Standard Test Conditions): Irradiation intensity 1,000 W/m², spectral distribution AM 1.5 | Temperature 25 ±2 °C, in accordance to EN 60904-3

Please check the performance class availability!p

Nominal power P_{max}	420 Wp	425 Wp	430 Wp
Nominal voltage V_{mp}	32,0 V	32,2 V	32,4 V
Nominal current I_{mp}	13,1 A	13,2 A	13,3 A
Open circuit voltage V_{oc}	38,4 V	38,6 V	38,8 V
Short circuit current I_{sc}	13,8 A	13,8 A	13,9 A
Module efficiency	21,5 %	21,8 %	22,0 %

Measurement tolerances: Pmax ±5 %; VOC ±3 %; ISC ±3 %, IMP ±10 %

Reverse-current power rating IR: 30 A, operating modules with an external power source is only permissible if using a phase fuse with a tripping current of ≤ 30 A.

ELECTRICAL DATA (WEAK LIGHT AND BNPI)

Weak light conditions: Irradiation intensity 200 W/m², Temperature 25 °C, Wind speed 1 m/s, load operation

BNPI: Bifacial Nameplate Irradiance G = 1000 W/m² + φ * 135 W/m²
φ = MIN (φ_{ISC}, φ_{Pmax}), φ_{ISC} = 80 %, φ_{VOC} = 100 %, φ_{Pmax} = 80 %

Nominal power $P_{max@STC}$	420 Wp	425 Wp	430 Wp
Nominal power $P_{max\ @200\ W/m^2}$	82,3 W	83,5 W	84,5 W
Nominal power $P_{max@BNPI}$	462 Wp	468 Wp	473 Wp
Open circuit voltage $V_{OC@BNPI}$	38,5 V	38,7 V	38,9 V
Short circuit current $I_{SC@BNPI}$	15,2 A	15,2 A	15,3 A

Reduction of module efficiency when irradiance is reduced from 1,000 W/m² to 200 W/m² (at 25 °C): 4±2 % (relative) / −0.6±0.3 % (absolute).

THERMAL FEATURES

Operating temperature range	-40 … +85 °C
Ambient temperature range	-40 … +45 °C
Temperature coefficient P_{max}	-0,29 %/K
Temperature coefficient V_{oc}	-0,25 %/K
Temperature coefficient I_{sc}	0,04 %/K
NMOT	42 °C

TRANSPORT AND PACKAGING

Modules per pallet	31
Modules per container	806
Pallets per truck	14 / 28
Modules per truck	434 / 868
Gross weight per pallet	814 kg
Gross weight per stacked pallet (max. 2)	1,628 kg
Pallet dimensions (packing size)	1,770 x 1,140 x 1,250 mm

NI Biodiversity Checklist & Extended Ecological Statement Report.

Lands at Drumad Road, Coagh.

November, 2024

For:

Revelins Hill Design,
43 Kurin Road,
Garvagh,
BT51 5NS.

By:
ATEC
43 Greenhill Road,
Katesbridge,
Banbridge,
County Down,
BT32 5QY.

www.atecni.com
info@atecni.com

ATEC NI
environmental consultancy

NI Biodiversity Checklist

PART 1: Designated Sites and Priority Habitats Checklist.

Question		Details
Is the development in or within 100m of a nationally or internationally designated site, e.g. SAC, SPA, ASSI, NNR or Ramsar site?	**Yes** ☐ **No** ☒	
Is the development in or within 50m of a local site of nature conservation importance, e.g. SLNCI, LNR, Wildlife Refuge or any other site identified by the local Council?	**Yes** ☐ **No** ☒	
Are any of the following present on or within 50m of the application site: • Broad-leaved woodland or any woodland listed as Ancient or Long Established Woodland? • Peatland habitat, such as blanket bog, raised bog or heathland? • Rivers or Streams? • Lakes or ponds? • Wetlands, fens or marshes? • Flower rich meadows/grassland? • Coastal habitats, including estuaries, sand dunes, rocky shore or salt marsh?	**Yes** ☐ **No** ☒	
Will the development affect or involve the removal of: • Field hedgerows or mature tree-lines, more than 30m long, consisting mainly of native species? • Parkland with mature trees?	**Yes** ☒ **No** ☐	*Some hedgerow will be removed.*
Will the development, or any waste, effluent or run-off it produces, affect: • Minor watercourses or field drains, particularly those which are hydrologically linked to (drain into) a designated site or priority habitat?	**Yes** ☐ **No** ☒	*Appropriate mitigation has been recommended to minimise chances of impacts of water borne pollutants.*
Is the development of a type which produces air emissions, such as nitrogen? See examples of development types below: • Intensive Livestock Units for poultry, pigs, cattle or sheep; • Anaerobic Digester Plants; • Combined Heat and Power Plants, Biomass Boilers; • Manure Storage Facilities.	**Yes** ☒ **No** ☐	*Potential Impacts of air borne emissions assessed in an independent Air Quality Impact Assessment.*
Is the application for any of the following: Development in a rural location on a site greater than 0.5 hectares in area? Quarrying or peat extraction? Hydroelectric Scheme? Wind Farm or Wind Turbine? Solar Farm? Any development which would require screening under the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015?	**Yes** ☒ **No** ☐	*Site >0.5ha.*

PART 2: Protected & Priority Species Checklist.

	Does the application involve: *(additional notes specific to the site)*		If 'YES' has been ticked to any of the questions, the potential impacts on the following species should be considered:
1	**The conversion, modification, demolition or removal of any building (including hotels, schools, hospitals, churches, commercial premises and derelict buildings) which are:** • Houses in a rural location or agricultural buildings (*e.g*. barns and outbuildings) of traditional brick or stone construction and/or with exposed wooden beams; • Buildings with weather boarding and/or hanging tiles that are within 200m of woodland and/or water; • Pre-1960 detached buildings and structures within 200m of woodland and/or water; • Pre-1914 buildings within 400m of woodland and/or water; • Pre-1914 buildings with gable ends or slate roofs, regardless of location; • Located within 50m of woodland, parkland or water.	**Yes** ☐ **No**☒	• **Bats** • **Breeding birds (particularly barn owls and swifts)**
2	**Any development affecting built structures:** • Tunnels, mines, kilns, ice-houses, adits, military fortifications, air raid shelters, cellars and similar underground ducts and structures; • Unused industrial chimneys that are unlined and of brick/stone construction; • Bridge structures, aqueducts and viaducts or other structures over or near water.	**Yes** ☐ **No**☒	• **Bats** • **Breeding birds**
3	**Floodlighting or Lighting (excluding domestic lighting) of:** • Woodland, parkland, mature trees, river corridors, waterbodies; • Green space (e.g. sports pitches) within 50m of woodland, water, field hedgerows or lines of trees with connectivity to woodland or water; • Churches, Listed buildings or any building meeting the criteria listed in (1) above; • Caves or built structures listed in (2).	**Yes** ☐ **No**☒	• **Bats** • **Badgers** • **Birds** • **Otters**
4	**Felling, removal or lopping of:** • Woodland (either broadleaved or conifer); • Field hedgerows or lines of trees >1m high and 0.5m wide. • Mature trees; • Areas of scrub, including gorse. *Some hedgerow vegetation will be removed.*	**Yes** ☒ **No**☐	• **Bats** • **Badgers** • **Birds** • **Otters** • **Red Squirrels** • **Smooth Newt** • **Protected Plants**

5	**Development affecting or within 50m of:** • Semi-natural woodland (broadleaved trees); • Rivers, streams or canals; • Lakes or reservoirs; • Peatlands (including bog and heathland); • Wetlands (including fen, swamp, reed beds).	**Yes ☐** **No☒**	• **Bats** • **Badgers** • **Birds** • **Otters** • **Red Squirrels** • **Common lizard** • **Butterflies & Invertebrates** • **Fish & freshwater species** • **Protected Plants**
6	**Development affecting or within 25m of:** • Any woodland (including broadleaf or conifer plantation); • Parkland or demesnes; • Field hedgerows (>1m high and 0.5m wide), particularly near woodland or water bodies; • Areas of scrub, including gorse, particularly near woodland, field hedgerows or waterbodies. • Coastal habitats, including estuaries, sand dunes, rocky shore or salt marsh; • Ponds or field drains (with slow moving water); • Railway embankments (used or disused). *The site is bounded by some hedgerow vegetation. Some hedgerows contain a drainage channel.*	**Yes ☒** **No☐**	• **Bats** • **Badgers** • **Birds** • **Otters** • **Red Squirrels** • **Smooth Newt** • **Common lizard** • **Butterflies & Invertebrates** • **Seals** • **Protected Plants**
7	**Development within or involving the modification, disturbance or removal of:** • Mature or overgrown gardens, particularly those adjacent to woodland, parkland, field hedgerows or waterbodies; • Previously developed, derelict or brownfield land which is overgrown or flower rich; • Arable fields with hedgerows or grass margins; • Flower rich meadows / rough or wet grasslands.	**Yes ☐** **No☒**	• **Bats** • **Badgers** • **Birds** • **Smooth Newt** • **Butterflies & Invertebrates** • **Protected Plants**
8	**Development within or immediately adjacent to:** • Quarries, sand or gravel pits; • Natural cliff faces and rock outcrops with crevices or caves and swallets.	**Yes ☐** **No☒**	• **Bats** • **Badgers** • **Birds (particularly peregrines & sand martins)** • **Protected Plants**
9	**Renewable Energy development, particularly:** • Wind Turbines; • Solar Farms; • Hydroelectric Schemes.	**Yes ☐** **No☒**	• **Bats** • **Badgers** • **Birds** • **Otters** • **Butterflies & Invertebrates** • **Fish & freshwater species**
10	**Any development within or adjacent to a site where protected or priority species are known to be present?**	**Yes ☐** **No☒**	• **All species**

PART 3: Ecological Statement.

1. Introduction

1.1 Background & Aims

ATEC was commissioned by Revelins Hill Design Architects on behalf of their client to complete the NI Biodiversity Checklist[1] and prepare the associated Ecological Statement at a site (hereafter referred to as the application site) located on lands at Drumad Road, Coagh (Figure 1).

The site consists of 2 large fields of improved pasture bounded by hedgerows. Some of the site boundaries have an associated drainage channel.

The application is for a proposed new free range poultry unit.

The completed NI Biodiversity Checklist (attached) was used to inform what assessments would be necessary.

The Checklist provided the following positive answers:

Part 1, Designated Sites and Priority Habitats

The site is bounded by hedgerows. Hedgerows are NI Priority Habitats.

The development is of a type which produces air emissions.

Part 2, Protected & Priority Species

Questions 4 & 6: The site is within 25m of hedgerows. Some hedgerow vegetation will be removed.

Some of the site boundaries have an associated drainage channel.

These positive answers triggered the requirement for a site survey in order to identify any major ecological constraints to the proposed development on NI protected species including badgers, otters, nesting birds, smooth newts and roosting bats.

Therefore, a desk study and a site visit / field surveys were undertaken by Dr Jane Preston on 12th November, 2024.

1.2 Survey Personnel

The current assessment and associated surveys were undertaken by Dr Jane Preston BSc, PhD, MRSB CBiol, MCIEEM CEnv.

Jane is the principal ecologist and managing director of ATEC an environmental consultancy firm established in 1996 and specialising in general ecology, habitat and species management and mammal surveys.

Over the past 25 years, Jane has surveyed the majority of river systems in Northern Ireland and the inter-tidal shoreline and islands of Strangford Lough for the NI Environment Agency.

She was also responsible for conducting the last two NI Otter surveys in 2001 / 2002 and 2010 / 2011.

Jane was the senior ecologist with *Quercus* – a partnership between the Northern Ireland Environment Agency (NIEA) and Queen's University Belfast from 2003 – 2011.

[1] 'NI Biodiversity Checklist Version 2 –April 2017' (NIEA, NED; Aprl 2017; www.daera-ni.gov.uk/publications/ni-biodiversity-checklist-documents).

During her time at Queen's, Jane was the principal investigator on numerous large scale ecological surveys including surveys of the Irish hare, smooth newt, marsh fritillary butterfly and many protected plant species.

She was the QUB lead researcher and responsible for securing European funding for the internationally acclaimed project to rescue the globally endangered NI freshwater pearl mussel from extinction.

Jane has also been extensively involved in the determination of mitigation measures to minimise disturbance to badger setts and otter holts during the construction of roads, railway lines and in both commercial and residential development projects.

Jane is a full member of the Institute of Ecology and Environmental Management (CIEEM) which is the organization through which she became chartered. Employers and clients recognize the CEnv as the mark of quality within the environmental surveying profession.

2. Methodology

Information used for the completion of the NI Biodiversity Checklist was sourced from the following online resources:

Spatial NI: https://www.spatialni.gov.uk
Northern Ireland Environment Agency (NIEA) Natural Environment Map Viewer: https://appsd.daera-ni.gov.uk/nedmapviewer
NBN Gateway: https://nbnatlas.org
The National Biodiversity Data Centre (NBDC): http://www.biodiversityireland.ie ;
NI Mammal, Amphibians and Reptiles (NIMARS): http://www.habitas.org.uk/nimars;

All survey work was carried out to the Northern Ireland Environment Agency (NIEA) survey guidelines and in accordance with the Chartered Institution of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal.

All works comply with British Standard 42020:2013, *Biodiversity - Code of practice for planning and development*. This provides recommendations and guidance for those engaged in planning and development, whose work might affect or have implications for conservation, or the enhancement of biodiversity.

Habitat Survey

The application site surveyed for floral species and habitats by observing and recording the relative abundance of key species using the DAFOR scale (see below) and assessing the composition and condition of the various vegetation communities.

Habitats were then classified according to the Joint Nature Conservation Committee[2] methodology for Phase 1 Habitat Surveys and an assessment of any NI Priority Habitats within the site was made.

Abundance codes

Abundance	Abbreviation
Dominant	D
Abundant	A
Frequent	F
Occasional	O
Rare	R

[2] JNCC (2007). Handbook for Phase I Habitat Survey –a technique for environmental audit. JNCC. Peterborough.

Protected Species Assessments

The suitability of the habitats and features within the site for a range of protected species including bats, breeding birds, badger, otter and smooth newt were carried out using the following methodologies:

Bats

Bat Foraging & Commuting Potential

An assessment of the suitability of habitats and features within the survey area for their potential use by foraging, commuting or roosting bats was made during the site visit and also by viewing satellite imagery of the vegetation contained within the site and considering its inter-connectivity to other vegetated features such as tree lines, wooded watercourses, waterbodies and woodland that could be used by foraging and commuting bats in the wider countryside.

The vegetation within the site was then classified as having either 'Negligible', 'Low', 'Moderate' or 'High' potential for foraging and commuting bats.

The occurrence of good foraging habitat for bats surrounding a site will increase the potential of the site for roosting bats.

Bat Roost Potential (BRP) Survey

A Bat Roost Potential (BRP) Survey was undertaken on 12th November, 2024.

The BRP Survey is non-invasive and is a form of Preliminary Ecological Assessment with the aims of determining if any more detailed surveys are required to inform the planning decision and to identify any potential constraints to a proposed development.

The process used follows the guidelines recommended by the Bat Conservation Trust (BCT) (4th Edition Guidelines) and by the Chartered Institute of Ecology and Environmental Management (CIEEM).

The BRP focused on any mature trees and vegetation that will be directly impacted by the proposed development only.

A ground-level search (GLTA) looking for Potential Roost Features (PRF's) was undertaken using binoculars where necessary.

This information was used to assess the overall suitability of the trees to support roosting bats and categorised following the guidelines described by the BCT and also summarised in Table 1.

Table 1. Categorisation of Bat Roosting Potential of Mature Trees.

PRF - I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF - M	PRF is suitable for multiple bats and may be used by a maternity colony.

Birds

An assessment of the suitability of the habitats and features within the site to support breeding bird species was made during the current survey. Special emphasis was placed on the suitability of the site for Schedule 1 and UKBAP species and also species of conservation concern.

In addition, an assessment of the impacts of the proposed development on birds was also made.

Badgers & Otters

The application site and an area 50m surrounding the redline boundary was searched for signs of badger and otter activity.

Signs of badger activity can be identified through the presence of setts (badger dens), latrines (pits filled with badger dung), feeding signs (snuffle holes), badger paw prints and badger hair caught on barbed wire fences (breach points).

Signs of otter activity include the presence of holts (otter dens), couches (laying up areas), spraints (faecal droppings), otter paths and slides and otter paw prints.

Signs of rabbit and fox activity were also noted where present.

Smooth Newt

An assessment of the suitability of any areas of standing water within proximity to the application site for smooth newts was undertaken during the site survey.

3. Results

3.1 Desk Study

Protected Sites

From a desk based survey, the application site is located within a 7.5km radius of the following sites that have been designated for their nature conservation importance:

Brookend Area of Special Scientific Interest (ASSI);

Lough Neagh ASSI;

Lough Neagh & Lough Beg Special Portection Area and;

Lough Neagh & Lough Beg Ramsar.

In addition, some of the site boundaries contain drainage channels that could provide hydrological connection to designated sites and areas outwith the application site including Lough Neagh ASSI and Lough Neagh & Lough Beg Special protection Area (SPA) and Ramsar sites.

Therefore, appropriate mitigation to protect water quality should be provided and adhered to.

Protected Habitats & Species

Based on information contained within the Northern Ireland Environment Agency (NIEA) Natural Environment Map Viewer, the application site is within 7.5km of NI Priority Habitats including areas of peatland, woodland and lakes.

The site itself is bounded by hedgerow vegetation.

Hedgerows are NI Priority Habitats and can provide potential for protected species including badgers, nesting birds, smooth newts and bats.

Therefore, further field surveys to determine the potential impacts of the development on protected habitats and species are deemed necessary.

The site was visited on 12th November, 2024 and a walk-over survey was carried out in order to identify any major ecological constraints.

The walk-over survey included an area 50m surrounding the redline boundary of the site.

3.2 Site Survey

Habitats

Individual habitats together with their appropriate JNCC Habitat code are described below together with a species list for each habitat.

The location of habitats is provided in Figure 2.

Improved Grassland (JNCC Code: B4)

The application site consists of 2 large fields of improved pasture that have both been recently grazed by cattle (Field Parcels 1 & 2, Figure 2) (Photos 1 - 4).

The sward is typical of this type of forage pasture being dominated by perennial rye grass with few associated forbs (Photo 5).

The field margins contain nettle, creeping thistle, cleavers and occasional Yorkshire fog and cock's foot.

Annual Meadow Grass	Poa annua	LO
Broad-leaved dock	Rumex obtusifolius	O
Chickweed	Stellaria media	F
Cleavers	Galium aparine	LF
Cock's foot	Dactylus glomerata	LO
Creeping bent	Agrostis stolonifera	O
Creeping buttercup	Ranunculus repens	O
Creeping thistle	Cirsium arvense	LO
Curled leaf dock	Rumex crispus	VO
Dandelion	Taraxacum officinalis	O
Mouse ear chickweed	Cerastium fontanum	O
Nettle	Urtica dioica	LF
Perennial rye-grass	Lolium perenne	A
White clover	Trifolium repens	F
Yorkshire fog	Holcus lanatus	LO

Photo 1.

View across Field Parcel 1 looking north.

	*Photo 2.* *View across Field Parcel 1 looking south.*
	*Photo 3.* *View across Field Parcel 2 looking south.*
	*Photo 4.* *View across Field Parcel 2 looking north.*

Photo 5.

Improved sward in Field Parcels 1 & 2.

Hedgerows (JNCC Codes: J2.1.2 & J2.3.2)

The application site is bounded by hedgerows (Hedges H1 – H7, Figure 2). The species composition and structure of these hedges is provided below.

Most of the hedgerows contain a good mix of native species.

Internal Hedgerows H2 and H4 are the most species diverse containing more frequent holly, cherry and willow.

Hedgerow H3 contains leggy ash, bramble and holly.

Hedges H2, H4 and H5 all have an associated drainage channel / sheough.

		Hedgerows						
Common Name	Latin Name	H1	H2	H3	H4	H5	H6	H7
Alder	Alnus glutinosa	O	F		O			O
Ash	Fraxinus excelsior	O	O	F	F	F	O	O
Blackthorn	Prunus spinosa	LF					LF	LF
Bramble	Rubus fruticosus agg.	F	F	F	F	F	F	F
Cherry	Prunus sp.		R		O			
Dog rose	Rosa canina	O		O				O
Gorse	Ulex europaeus	R				F	O	
Hawthorn	Crataegus monogyna	F	O	F	O	O	F	F
Hazel	Corylus avellana		LO		O			
Holly	Ilex aquifolium		O	O	O		O	O
Ivy	Hedera helix							
Willow	Salix spp.	O	F		F	F	O	
Wych elm	Ulmus glabra							O
Associated Sheough / Drainage Channel								
Average Height (m)		7m	8m	6m	8m	5m	5m	6m
Mature Trees (DAFOR Abundance)		O	O		O	O	VO	O
Photos		6 & 7	8	9	10	11 & 12	13 & 14	15

	*Photo 6.* *Hedgerow H1 looking north.*
	*Photo 7.* *Northern section of Hedgerow H1 containing sparse vegetation.*
	*Photo 8.* *Hedgerow H2 looking north.*

	*Photo 9.* *Hedgerow H3 looking east.*
	*Photo 10.* *Hedgerow H4 looking west.*
	*Photo 11.* *Hedgerow H5 looking south.*

	*Photo 12.* *Hedgerow H5 looking north.*
	*Photo 13.* *Hedgerow H6 looking east.*
	*Photo 14.* *Hedgerow H6 looking west.*

	*Photo 15.* *Hedgerow H7 looking north.*

Drainage Channels / Sheoughs (JNCC Code: G2)

Hedgerows H2, H4 and H5 all have an associated drainage channel / sheough (Photos 16 & 17).

In each case they contain little standing water and are over-shaded by the overhanging hedgerow vegetation.

The drainage channel along Hedgerow H5 had a slight flow on the day of survey.

	*Photo 16.* *Drainage channel along Hedgerow H4.*

Photo 17.

Drainage channel along Hedgerow H5.

Protected Species

Bats

The hedgerow vegetation surrounding the site would offer ‘Moderate’ potential for foraging and commuting bats.

None of the mature trees within the hedges described above were assessed as having significant potential for roosting bats.

Nesting Birds

The hedgerows would provide nesting potential for a variety of species of birds.

Badgers & Otters

No evidence of otter or badger activity was identified within a 50m radius of the application site.

Smooth Newt

The drainage channels that occur along Hedgerows H2, H4 and H5 contain very little standing water and all are extensively over-shaded by hedgerow vegetation.

The drainage channels were all assessed as having ‘**Low**’ potential for smooth newts.

4. Assessment of Ecological Constraints & Proposed Mitigation

4.1 NI Priority Habitats & Designated Sites

Direct Impacts

Habitats that fall within the remit of PPS2 (Planning Policy Statement 2 (Natural Heritage)) are protected against operations requiring planning permission.

Policy NH 5 of PPS2 covers the Planners responsibilities with respect to 'habitats, species or features of natural heritage importance'.

Specifically it requires that Planning permission not be granted for a development proposal which is likely to result in the unacceptable adverse impact on or damage to a range of protected habitats.

A development proposal which is likely to result in an unacceptable adverse impact on or damage to a listed habitat

'*may only be permitted where the benefits of the proposed development outweigh the value of the habitat, species or feature'*, *in which case 'appropriate mitigation and/or compensatory measures will be required*'.

Improved Pasture

The development will involve the loss of an area of improved pasture which was assessed as having limited conservation value.

Hedgerows

Hedgerows are a Northern Ireland Biodiversity Strategy Priority Habitat and they are also protected under PPS2.

The majority of hedges within the application site would comply with the JNCC and DAERA definition of a priority hedgerow:

'*A hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide. All hedgerows consisting predominantly (i.e. 80% or more cover) of at least one woody UK native species are covered by this priority habitat'*.

From: DoE Planning & Environment Standing Advice Note 9 (April 2015) *Hedgerows: Advice for Planning Officers and Applicants Seeking Planning Permission for Land which may Impact on Hedgerows.*

The proposed development will involve the loss of hedgerow vegetation along the roadside boundary (Hedgerows H1 / H7) and along internal Hedgerow H3.

It is normal for at least an equal length of native hedge to be planted in compensation for hedgerow removal / loss.

The species chosen should follow recommendations and species lists provided within the NIEA Native Species Planting Guidance[3].

The following mitigation should be applied to protect the mature trees within retained hedgerows:

> Trees must be protected by barriers which will prohibit construction works in the area between the tree trunk and the construction footprint;

[3] http://www.doeni.gov.uk/niea/native_species_planting_guidance_jan_2012.pdf

The minimum distance between the tree trunk and protective barrier must be either the distance of branch spread or half the tree height, whichever is the greater;

Trees must be protected from direct impact and from severance or asphyxiation of the roots;

British Standard BS5837 'Trees in relation to construction' provides details on measures for the protection of trees during construction works and recommends types of protection barriers and the minimum distance for protective fencing around trees.

Indirect Impacts

Some of the site boundaries contain drainage channels that could provide hydrological connection to designated sites and areas outwith the application site including Lough Neagh ASSI and Lough Neagh & Lough Beg Special protection Area (SPA) and Ramsar sites.

Therefore, best practice should be employed during the construction and operational phases of the development and the following mitigation measures are recommended:

All works will be undertaken using best environmental practice and in accordance with all relevant Pollution Prevention Guidelines including PPG 1 "Understanding your environmental responsibilities – good environmental practices", GPP 5 "Works and maintenance in or near water" and PPG6 "Working at Construction and Demolition Sites";

Any contaminated run-off from the development must be collected within wash tanks with no overflow or outlet to the adjacent drainage channels;

The storm drainage of the site, during site clearance, construction and operational phases of the development should be designed to the principles of Sustainable Drainage Systems (SuDS) in order to minimize the polluting effects of storm water on waterways;

Construction of SuDS should comply with the Natural Heritage & Conservation Areas design and construction standards as set out in The SuDS Manual - Construction Industry Research and Information Association (CIRIA) Report C753 (2015).

From a desk based survey, the application site is located within a 7.5km radius of NI Priority Habitats and several sites that have been designated for their nature conservation importance.

In the absence of mitigation, there is also the potential for degradation of the designated sites and Priority Habitats due to nitrogen deposition resulting from ammonia emissions from the proposed development.

The potential impacts of ammonia emissions on designated sites and adjacent Priority Habitats must be considered within an independent Air Quality Impact Assessment and Nutrient Management Plan which should be carried out for the site.

The Air Quality Impact Assessment should comprise a Simple Calculation of Atmospheric Impact Limits (SCAIL) modelling on the emissions expected from the facility, as well as the storage and land spreading of the litter/manure/digestate. It should reflect the current background levels on designated sites and Priority Habitats described above and within 7.5km of the proposed development.

4.2 Protected Species

Bats

Roosting

None of the mature trees within the site were assessed as having significant bat roosting potential. Therefore, potential impacts on roosting bats were assessed as 'Low'.

Foraging & Commuting

The proposed development will involve the loss of hedgerow vegetation both along the roadside boundaries (Hedgerows H1 / H7) and along internal Hedgerow H3.

Replacement planting with at least an equal length of native hedge should be undertaken in order to mitigate for the potential impact on foraging and commuting bats.

Additional enhancement measures for bats as detailed in section 5 should also be carried out in order to compensate for vegetation loss and increase the potential of the site for roosting bats.

Birds

The hedgerows within the site would offer potential for nesting birds.

Therefore, in order to avoid potential offences through killing/injury of nesting birds and/or their young and/or the destruction/damage of their active nests, any necessary clearance of vegetation should be undertaken outside the bird nesting season, which runs from 1st March to 31st August inclusive.

Should this prove impracticable/impossible, then any such works scheduled within the bird nesting season should be preceded by a pre-work nesting inspection and/or breeding bird survey by a suitably experienced ecologist. In the event that an active nest is discovered at any stage during the works, works in that area should cease immediately and an exclusion zone of at least 5m observed until all young have fledged.

Additional enhancement measures for nesting birds as detailed in section 5 should also be carried out in order to compensate for vegetation loss.

Badgers & Otters

No evidence of badger or otter activity was identified within a 50m radius of the application site.

Therefore, the potential impact of the development on these mammals was assessed as 'Low'.

Smooth Newt

The drainage channels along the site boundaries were all assessed as having '**Low**' potential for smooth newts.

Therefore, the proposed development is unlikely to have an impact on smooth newts.

5. Ecological Enhancement

The biodiversity value of the developed site could easily be enhanced.

The following measures are suggested:

Additional planting with native trees.

Small copses of native species could be planted - this would be over and above the replacement planting already recommended in section 4 of this report.

The species chosen should follow recommendations and species lists provided within the NIEA Native Species Planting Guidance.

Erection of bird and bat boxes in mature trees along retained hedges.

x15 bird nesting boxes and x15 bat roosting boxes are suggested.

The bird nesting boxes will include:

- X8 Traditional wooden bird nesting boxes that would be suitable for blue tits, coal tits, great tits, and sparrows;
- X5 Open fronted next boxes suitable for robins, wrens, grey wagtails and flycatchers and;
- X2 barn owl nest boxes.

The bat boxes will include a selection of:

- 2F Schwegler bat box;
- 2FN Schwegler bat box;
- 1FS Schwegler Large Colony Bat Box and;
- Schwegler 1FW Bat Hibernation Box.

The bat boxes should be sited on the south facing side of trees and as high as possible, but at least 5m (15 feet) from the ground.

PART 4: Details of Proposal & Signed Declaration.

Proposal	New Free Range Poultry Shed.
Location	Lands at Drumad Road, Coagh.
Area of Site (ha)	0.5ha
Planning Reference	Application not yet validated.
Ecologist	Dr Jane Preston
Relevant Qualifications / Experience	Dr Jane Preston BSc, PhD, MRSB CBiol, MCIEEM CEnv. Jane is the principal of ATEC and has been working as a freelance environmental consultant since 1996 specialising in general ecology, habitat and species management and mammal surveys. Jane has particular expertise in protected species surveys including badgers, otters, smooth newts, red squirrels and bats. Jane was the senior ecologist with Quercus – a partnership between the Northern Ireland Environment Agency and Queen's University Belfast from 2003 – 2011. Jane is a Chartered Biologist and Chartered Environmentalist and a member of the Royal Society of Biology (RSB) and the Chartered Institute of Ecology and Environmental Management (CIEEM).
Address	ATEC 43 Greenhill Road, Katesbridge, Banbridge, County Down. BT32 5QY.
Telephone	[redacted]
E-mail	
I declare that this Checklist has been completed accurately to the best of my knowledge	
Signed:	[redacted]
Date:	22nd November, 2024.

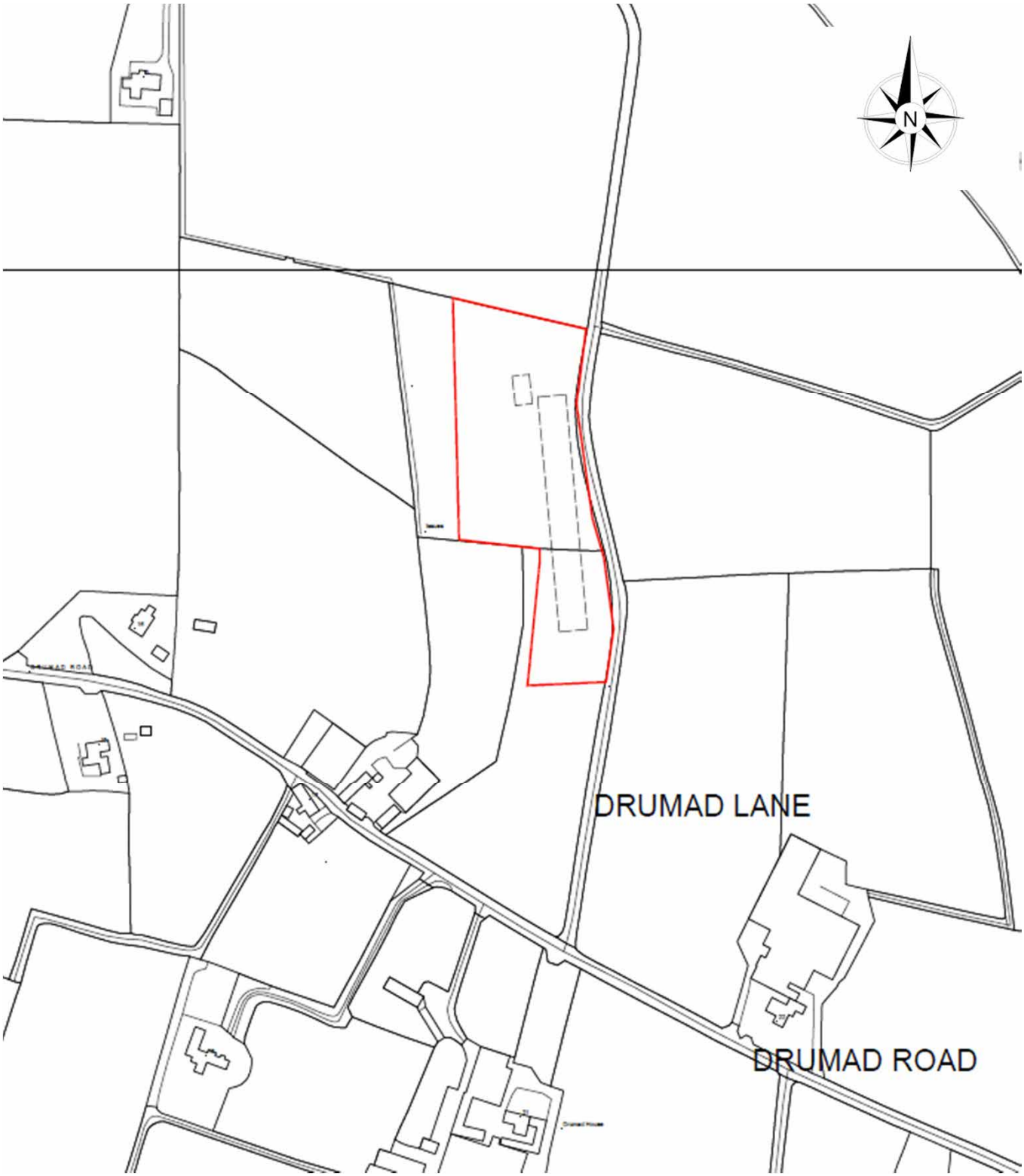


Figure 1. Map showing the location of the application site outlined in red.
Approximate Scale 1:2,500

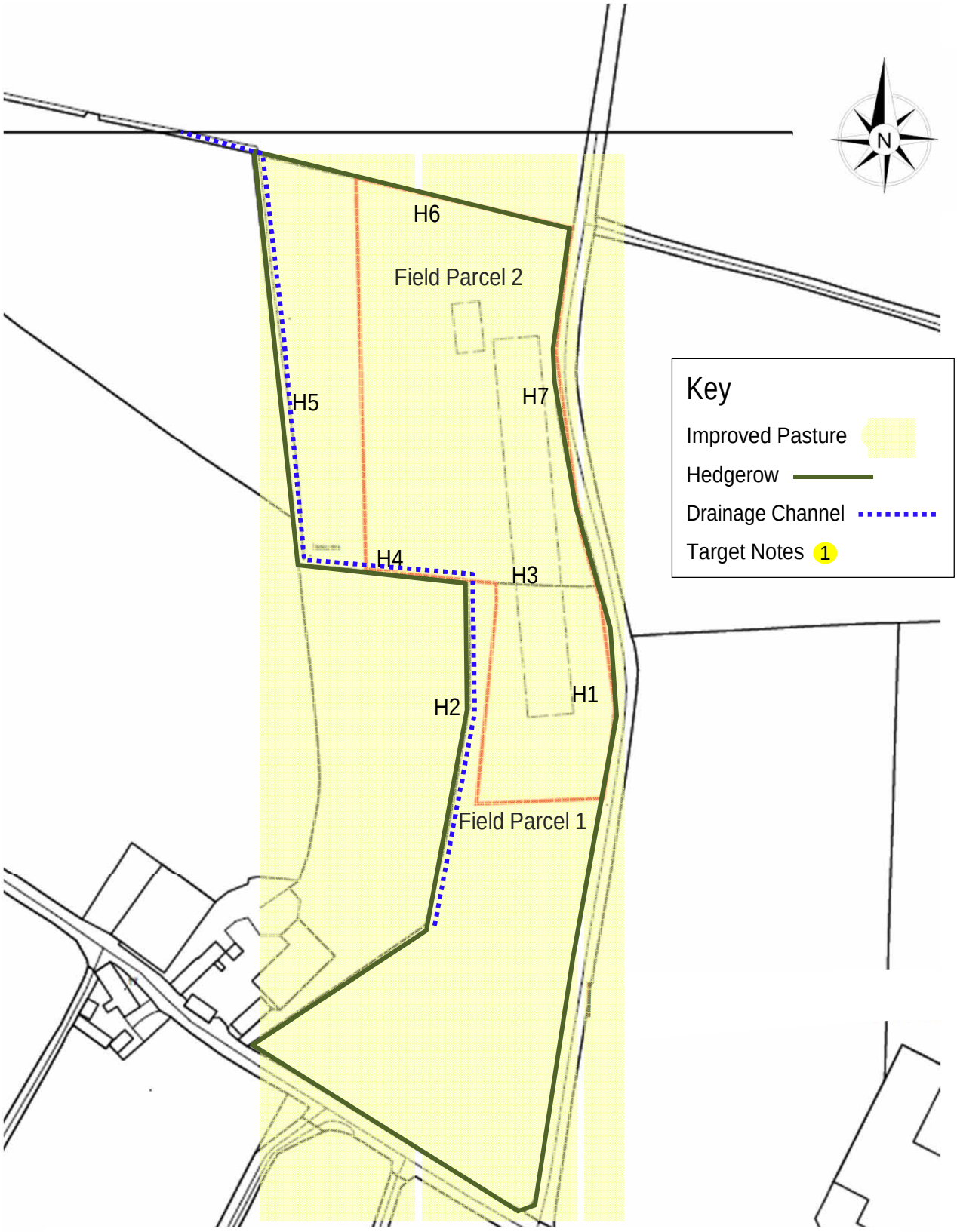


Figure 2. Map of the survey area showing the location of habitats and numbered target notes described in the text.
Approximate Scale 1:1,250

Comhairle Ceantair Lár Uladh Mid Ulster District Council

Mid Ulster District Council
Planning Department, 50 Ballyronan Road, Magherafelt, BT45 6EN
T: 03000 132 132
E: planning@midulstercouncil.org

Ref: DSFX1746536569567

(Offline Payment) Mid Ulster District Council Application For Permission to Develop Land (P1) Planning Act (Northern Ireland) 2011 Planning (General Development Procedure) Order (Northern Ireland) 2015

Major Development

Does this development fall within any class listed in the Schedule of Major Development Thresholds in The Planning (Development Management) Regulations (Northern Ireland) 2015?*	No

Applicant Details

Name * Please provide the Applicant's Name and/or the applying Company Name

Title	Mr
First name	Richmond
Surname	Lucas
Company name	
Street address *	17 Drumad Road
Address line 2	
Address line 3	
Town/City *	Coagh
County	
Country *	
Postcode *	BT80 ODY
Telephone number (optional)	
Mobile number (optional)	

Applicant Details

Email (optional)	
Are you an agent acting on behalf of the applicant? *	Yes

Agent Details

Name * Please provide the Agent's name and/or Company name

Title	Mr
First name	David
Surname	McMeekin
Company name	Revelins Hill Design
Street address *	43 Kurin Road
Address line 2	
Address line 3	
Town/City *	Garvagh
County	
Country *	
Postcode *	BT51 5NS
Telephone number (optional)	[redacted]
Mobile number (optional)	[redacted]
Email *	[redacted]
Reference Number Use this field to record Agent Ref. Number if applicable.	65-25

Agent Details

Location of Land/Building to Which this Application Relates

Does the location have a postal address? *	No

Location of Land/Building Description

Please enter the location description.

Description * If the application relates to open ground describe its location as clearly as possible. (e.g., 'Land approximately 120 metres South of 4 Main Street, Cookstown')	Land Approximately 229m North East 17 Drumad Road Coagh

Site Area and Use

Area of site in hectares * Please enter site area in hectares up to 2 decimal places.	0.89
Present use of the land * Please provide an accurate and concise description of the current use of the application site.	agricultural field

Pre-Application Discussion

Have you received any formal pre-application advice from Mid Ulster District Council Planning Department? *	No

Description of Proposal

Description of proposed development * Accurately describe the nature and purpose of the proposed development.	Proposed free range poultry unit for laying hens, including new meal silos, swale for storm water attenuation, new litter store concrete turning area, to front and rear, PV panels to roof and new access onto Drumad Lane

Type of Application

Type of Application:	Full Permission

Previous Applications

Are you aware of a previous application(s) on this site? *	No

Renewal of Permission

Are you applying to renew existing planning permission where approval has not yet expired?	No

Residential Development

Does your proposal include any Residential Development, including proposals for single dwelling(s)? *	No

Change of Use

Does your proposal include/involve a material change of use relating to a dwellinghouse(s)? *	No
Does your proposal include/involve any material change of use of other building(s)? *	No
Does your proposal include/involve a change of use of land? *	No

Farm Dwelling or Agricultural Building

Does the application relate to/involve a farm dwelling?*	No
Does the application relate to/involve an agricultural building? *	Yes

Agricultural Building

Please provide the proposed floorspace of the agricultural building. *	2606.00

Owner of Farm Business

Is the applicant the sole owner of the farm business? *	Yes

Farm Details

When was this farm business established? *	1980s
Do you have a DAERA (formerly DARD) Farm Business Identification Number? *	Yes

Farm Details

Please enter your DAERA Farm Business Identification Number (this number should begin with a "6") *	[redacted]
Enter date of allocation	01/01/2000

Farm Details

Do you submit a Single Farm Payment or other farm subsidies to DAERA (formerly DARD)? *	Yes
In order to establish the length of time the farm business has been active it will be necessary to provide any other DAERA (formerly DARD) Applicant Reference Numbers and any other evidence in support of your application.	

Additional Information

If you have an active equine business please detail any relevant information that you want to be considered.	
Please provide details of any dwellings or development opportunities sold off from the farm holding since 25 November 2008. *	na
Please provide justification if you are applying for an alternative site removed from the existing farm group.	agri app non residential

Industrial, Commercial, Community and Other Non-Residential Buildings

Does the proposal include industrial, commercial, community or other non-residential buildings, excluding agricultural buildings? *	No

Creche/Nursery Development

Does the application relate to/involve a Creche/Nursery? *	No

Nursing/Residential Accommodation Development

Does the application relate to/involve Nursing/Residential Accommodation? *	No

Plant, Machinery and Equipment (Excluding Wind Turbines)

Does your proposal involve the erection, alteration or replacement of plant and machinery including telecommunications/datacommunications equipment? *	No

Hazardous Substances (Use or Storage)

Does the application relate to/involve Liquid Petroleum Gas (LPG) or other Hazardous Substances (Use or Storage)? *	No

Peat and Mineral Workings

Does the application relate to/involve the Winning and Working of Peat?*	No
Does the application relate to/involve Mineral Workings?*	No

Oil/Gas Exploration and Waste

Does the application relate to/involve the carrying out of any operations connected with exploratory drilling for oil or natural gas?*	No
Does the application relate to/involve the use of land for the disposal of refuse or waste materials or for the deposit of material remaining after minerals have been extracted from land or the use of land for the storage of minerals in the open?*	No
Does the application relate to/involve carrying out of any other operation not coming within any of the above categories?*	No

Water Use and Trade Disposals

(0) is an acceptable value.

What is the anticipated daily water requirement in m3? *	1.00

Water Use and Trade Disposals

What is the nature, volume and proposed means of disposal of any trade effluents or trade refuse?	see litter disposal doc.

Existing Vehicular Movements

Are there any existing daily vehicular movements? *	No

Expected Vehicular Movements

Will there be any expected increase in daily vehicular movements? *	Yes

Details of the Expected Increase in Vehicular Movement

(0 is an acceptable value) Please detail:

The expected increase in staff vehicles *	0
The expected increase in customer vehicles*	0
The expected increase in goods/services vehicles*	1
The total number of expected increase of vehicles daily (Calculated)*	1
The combined total number of existing and expected increase of vehicles daily (Calculated)*	1

Existing Employees or Other Attendees

Are there any people attending the premises on a daily basis? *	Yes

Number of Existing Employees and Other Attendees

The number of existing employees*	0
The number of any others attending the premises*	1

Number of Existing Employees and Other Attendees

The total number of existing employees and others attending the premises daily (Calculated)*	1

Expected Increase in Employees or Other Attendees

Will there be any expected increase in employee numbers or others attending the premises? *	No

Wind Farms and Single Wind Turbines

Does the application relate to Wind Turbine(s)?*	No

Access and Car Parking

Do the proposed access arrangements involve the use of an existing unaltered access to a public road? *	No
Do the proposed access arrangements involve the construction of a new access to a public road? *	Yes
Do the proposed access arrangements involve alteration of an existing access to a public road? *	No
Are you proposing the development of a single storey car park? *	No

Access and Car Parking Incidental to Existing Use

Are the access and car parking arrangements incidental to the existing use? *	No

Additional Traffic and Parking Information

Does the development require submission of a Transport Assessment Form?* If yes please provide at the Upload stage of this form.	Yes
Does the development require submission of a Traffic Impact Assessment?* If yes please provide at the Upload stage of this form.	No

Additional Traffic and Parking Information

Does the development require submission of a Parking Statement?* If yes please provide at the Upload stage of this form.	No

Adjoining Land

Do you own any of the adjoining land? * If yes, outline in blue on site location map.	Yes
Is there a public right of way within or adjoining the site? * If yes, show in green on site location map.	No

Services - Main Source of Water Supply

What is the main source of water supply? *	Mains

Services - Surface Water/Foul Sewage

How will surface water be disposed of? *	swale
How will foul sewage be disposed of? *	Other

Services - Foul Sewage Disposal

Please specify how foul sewage will be disposed of? *	N/A no wc proposed

Flood Risk

Is the site within an area of known flood risk as identified on Rivers Agency Strategic Flood Maps? *	No
Does the development require submission of Drainage Assessment? * If yes please provide at the Upload stage of this form.	Yes
Does the development require submission of Flood Risk Assessment? * If yes please provide at the Upload stage of this form.	No

Environmental Statement

Environmental Statement

If your proposal is Schedule 1 Development as defined in The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015 then you will be required to submit an Environmental Statement.

Does the development require submission of an Environmental Statement? * If yes please provide at the Upload stage of this form.	No

Natural Heritage

Has the proposal taken account of the Conservation (Natural Habitats etc) (Amendment) Regulations (Northern Ireland) 2015? *	Yes
Does the development require submission of a Biodiversity Checklist? * If yes please provide at the Upload stage of this form.	Yes
Does the development require submission of Preliminary Ecological Assessment? * If yes please provide at the Upload stage of this form.	No

Contaminated Land

Is the land subject to any contamination that you know of? * If yes, please provide a Contaminated Land Report at the Upload stage of this form.	No

Fee Exemptions

Does the proposal benefit from a fee exemption? *	No

Planning Application Certificate of Ownership

If you are applying for Approval of Reserved Matters, there is no requirement to complete a Certificate of Ownership.

Are you applying for Approval of Reserved Matters following a grant of Outline Permission? *	No

Planning Application Certificate of Ownership

An ownership certificate must be completed stating the current ownership of the land to which the application relates under Section 42 of the Planning Act (Northern Ireland) 2011. This is a statement of ownership, not proof of ownership. It is an offence, knowingly or recklessly, to complete a false or misleading certificate.

Planning Application Certificate of Ownership

Fill in ONE of the following certificates.*	CERTIFICATE A - Applicant is in actual possession of every part of the land to which the said application relates.

CERTIFICATE A

An ownership certificate must be completed stating the current ownership of the land to which the application relates under Section 42 of the Planning Act (Northern Ireland) 2011. This is a statement of ownership, not proof of ownership. It is an offence, knowingly or recklessly, to complete a false or misleading certificate.

☐ I hereby certify that the applicant is in actual possession of every part of the land to which the said application relates.

I hereby certify that the applicant is entitled to: *	A fee simple absolute
Signed *	David McMeekin
On Behalf Of	Richmond Lucas
Date *	06/05/2025

Council Employee/Elected Member Interest

If an interest is declared the application may have to be presented to the Planning Committee for determination.

Is the applicant or agent a Mid Ulster District Council elected member or Officer involved with the planning process, or a partner/close friend/relative of either? *	No

Statutory Neighbour Notification

We require the address and postcode of any identified occupiers of buildings on neighbouring land. An 'identified occupier' is the occupier of a premises within a 90m radius of the boundary of the proposed application site, provided they adjoin the application site. 'Neighbouring land' is land which directly adjoins the application site, or which would adjoin it but for an entry or road less than 20m in width. Where identified occupiers of a building on neighbouring land have to be notified and the building is in multiple occupation give the addresses of all occupiers.

Do you have any neighbours to identify as meeting the criteria above?	No

Declaration

Declaration

☐ To the best of my knowledge and belief, all the information given in this application is true, and any documents provided herewith are accurate

Signed*	David McMeekin
On Behalf Of	Revelins Hill Design
Date *	06/05/2025

Payment Details

Payment Method *	Bank Transfer (BACS)
Payment Date *	08/05/2025
Payment Reference *	Lucas - Site 229m N EAst of 17 Drumad Road
If you selected Other for payment method, please provide further details below	

You may be required, in the next section, to upload evidence to demonstrate that payment has been made eg a screenshot of a bank transfer.

Uploads and Additional Information

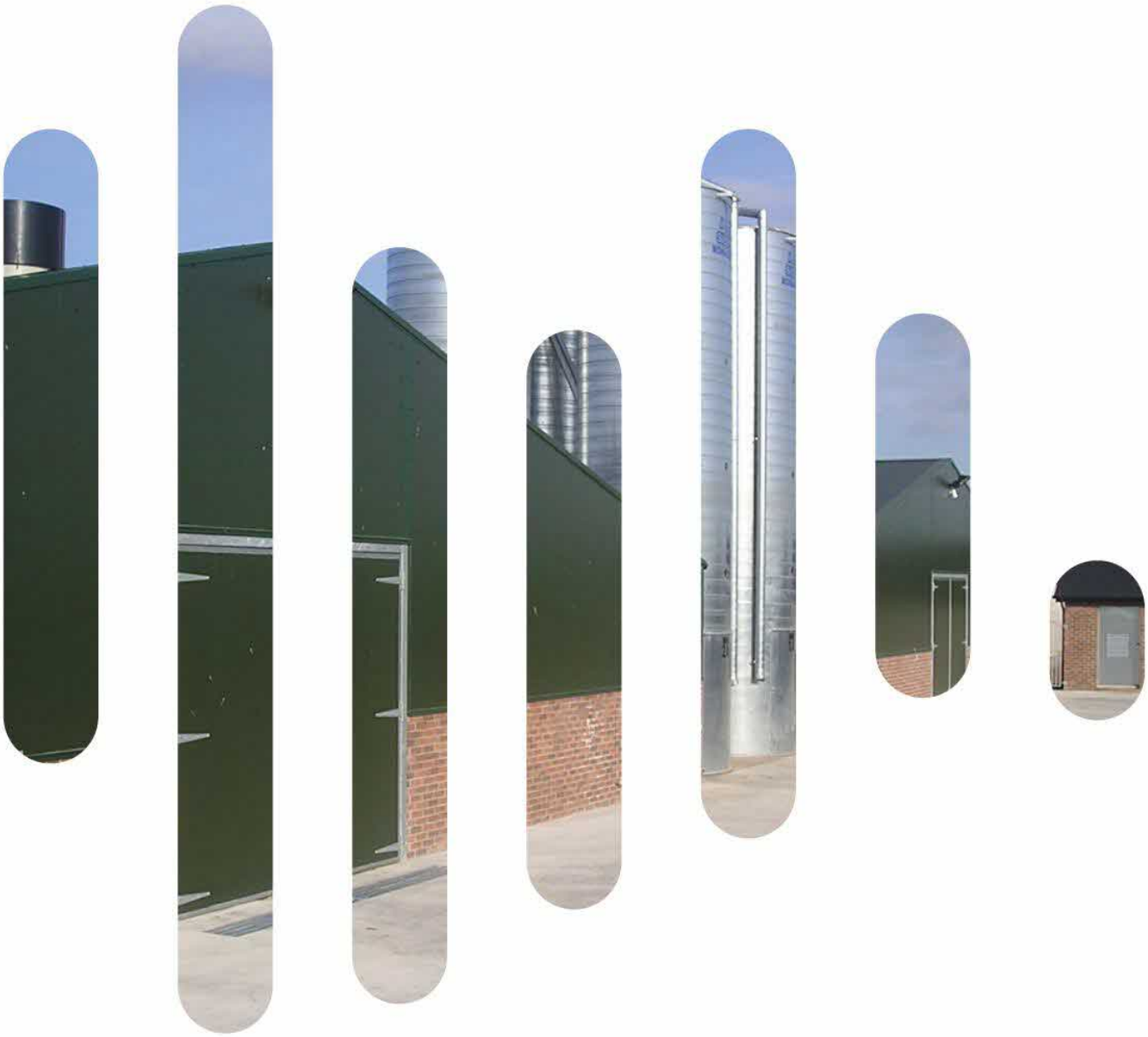
When uploading the drawings and plans how do you intend to provide them? *	Individual uploads of site location plan, site layout and detailed drawings

Email confirmation

On submission an email confirmation will be sent using the details below.

Forename	David
Surname/Company Name *	Revelins Hill Design
Email *	[redacted]

IRWIN CARR
CONSULTING



AIR QUALITY IMPACT ASSESSMENT
LUCAS POULTRY

Rp001A 2024210 (Lucas Poultry)
24 April 2025

PROJECT: AIR QUALITY IMPACT ASSESSMENT

PREPARED FOR: STEVEN & ADRIAN LUCAS
C/O REVELINS HILL DESIGN
43 KURIN ROAD
GARVAGH
BT51 5NS

ATTENTION: DAVID MCMEEKIN

REPORT NO.: Rp001A 2024210

Document Control

Status:	Rev:	Comments	Date:	Author:	Reviewer:
Final	1.0		24 April 2025	Mark Burke	Christy Carr

TABLE OF CONTENTS

1 INTRODUCTION

Irwin Carr Ltd have been commissioned to undertake an air quality impact assessment for a proposed poultry shed located on lands approximately 229m East of 16 Drumad Road, Coagh, BT80 0DY.

On completion, it is proposed the site will have the provision for one mechanically ventilated poultry shed, housing a total of 20,000 free range layer birds, as well as an associated litter store.

From the store, all litter from this site shall be going to a farm in the Republic of Ireland and there will be no land spreading of litter in Northern Ireland associated with this application.

This report is intended to address the issues of air quality in the form of odour and ammonia emissions from the poultry shed.

The predicted impact can then be compared to an appropriate criterion and graphically illustrated in the form of 'contours of equal concentration' or isopleths which are superimposed on base maps.

2 LEGISLATIVE POLICY AND GUIDANCE

2.1 Statutory Guidance

2.1.1 CLEAN NEIGHBOURHOODS AND ENVIRONMENT ACT (NORTHERN IRELAND)

The Clean Neighbourhoods and Environment Act (Northern Ireland)[1] has been produced to improve the quality of the local environment by giving the Local Authority additional powers to deal with litter, nuisance alleys, graffiti, and fly posting, abandoned and nuisance vehicles, dogs, noise and statutory nuisance.

Part 7 makes provision to constitute "*statutory nuisances*" for the purposes of the Act[1]. Specifically, Section 63 gives the following definitions of statutory nuisance relevant to dust, odour, and particles:

> "*Any dust, steam, smell or other effluvia arising from industrial, trade or business premises or smoke, fumes or gases emitted from premises to be prejudicial to health or a nuisance*".
>
> "*Any accumulation or deposit which is prejudicial to health or a nuisance*".

Following this, Section 65 says that where a statutory nuisance is shown to exist, the Local Authority must serve an abatement notice. The abatement notice would impose either all or any of the following requirements:

> Requiring the abatement of the nuisance or prohibiting or restricting its occurrence or recurrence; or,
>
> Requiring the execution of such works, and the taking of such other steps, as may be necessary for any of those purposes.

Nuisance is a subjective concept, and its perception is highly dependent upon the existing conditions and the change which has occurred.

2.2 Strategic Planning Policy

2.2.1 STRATEGIC PLANNING POLICY FOR NORTHERN IRELAND

The Strategic Planning Policy Statement for Northern Ireland (SPPS)[2] sets out how planning policies should be applied.

Annex A of the SPPS[2] relates to the management of air quality. Annex A states the following key points:

> The planning system can also positively contribute to the improvement of air quality and in minimising its harmful impacts on health and well-being.
>
> In managing development, planning authorities should recognise that air quality can be a material consideration in the determination of planning applications.
>
> Where a proposed development is likely to have a significant air quality impact or add to a cumulative impact in an area, applications should be supported by sufficient information to allow full consideration of the impact on local air quality.
>
> Adequate consultation between the planning authority and those with responsibility for air quality and pollution control will be essential.
>
> The impact on ambient air quality is likely to be particularly important for development proposals located within or close to a designated AQMA.

Nuisance is referenced throughout the SPPS[2] whereby, "*other amenity considerations arising from development, that may have potential health and well-being implications, include design considerations, impacts relating to visual intrusion, general nuisance..*". and "*development proposals should not result in environmental problems such as noise, nuisance or disturbance.*"

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1 Acts of the Northern Ireland Assembly (2011) Clean Neighbourhoods and Environment Act (Northern Ireland) 2011, Part 7 Statutory Nuisances 2011 c.23 [online] http://www.legislation.gov.uk/nia/2011/23/part/7

2 Department of the Environment (2015) Strategic Planning Policy Statement for Northern Ireland [online] https://www.planningni.gov.uk/index/policy/spps_28_september_2015-3.pdf

2.3 Best Practice Guidance

The following best practice guidance documents have been used in the production of this odour impact assessment:

Environment Agency - H4 Odour Management[3].

Institute of Air Quality Management (IAQM) - Guidance on the Assessment of Odour for Planning[4].

[3] Environment Agency (2011) H4 Odour Management: How to comply with your environment permit [online] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/296737/geho0411btqm-e-e.pdf

[4] Institute of Air Quality Management (IAQM) (Version 1.1 Updated 2018) Guidance on the assessment of odour for planning [online] https://iaqm.co.uk/text/guidance/odour-guidance-2014.pdf

3 ODOUR ASSESSMENT METHODOLOGY

The Proposed Development has the potential to cause nuisance from increased odour emissions stemming from the operation of the poultry shed.

The following method has therefore been derived to present an assessment of the potential impact of odour releases during the operation of the Development for the local Council's considerations.

3.1 Method

An impact assessment of odour releases from the Proposed Development has been carried out using the AERMOD dispersion modelling package (Version 10.2.1), as developed by the American Meteorological Society, in conjunction with the US Environmental Protection Agency (US EPA) and consideration of best practice guidance documents (see Section 2.3).

AERMOD is the current US EPA regulatory model used to predict pollutant concentrations from a wide range of sources that are present at typical industrial facilities. AERMOD is classified as a Gaussian (steady state) plume dispersion model.

The model accepts hourly meteorological data to define the conditions for plume rise, transport, diffusion, and deposition and give due consideration to the surrounding terrain. AERMOD estimates the concentration or deposition value for each source and receptor combination for each hour of input meteorology and calculates user-selected short-term averages. Since most air quality standards are stipulated as averages or percentiles, AERMOD allows further analysis of the results for comparison purposes.

Percentile analysis for emissions is calculated for the maximum averages using the AERMOD-percent post-processing utility. This utility calculates the maximum concentration of a pollutant from all receptors at a specific percentile, for a specific period. Employing the percentile facilitates the omission of unusual short-term meteorological events that may cause elevated pollutant concentrations and hence a more accurate representation of the likely average pollutant concentrations over an averaging period.

3.2 Odour Impact Assessment

3.2.1 SCOPE OF ASSESSMENT

The scope of the odour impact assessment has been determined by the following:

Desktop study to identify receptor locations e.g., residential dwellings that may be susceptible to an adverse effect on amenity from odorous releases made from the Site.

Review of emissions parameters for the Proposed Development and completion of an atmospheric dispersion modelling exercise with application of the AERMOD modelling software to predict the 98th percentile of hourly mean, ground-level odour concentrations at those identified sensitive receptor locations for each considered assessment year.

3.2.2 DEFINITION OF ODOUR

DEFRA issued a guidance document[5] for Local authorities around odour investigation and control. Page 8 of the DEFRA Odour guidance[5] states that,

"An odour is the organoleptic attribute perceptible by the olfactory organ on sniffing certain volatile substances. It is a property of odorous substances that make them perceptible to our sense of smell.

The term odour refers to the stimuli from a chemical compound that is volatilised in air. Odour is our perception of that sensation, and we interpret what the odour means. Odours may be perceived as pleasant or unpleasant."

Odour concentration is expressed as European Odour Units (ou_E) and the emission rate can be determined as European odour units per cubic metre of air (ou_E/m^3) or in $ou_E/m^2/s$ depending on the source of emission.

5 DEFRA (2010) *Odour Guidance for Local Authorities* [online] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/645286/pb13554-local-auth-guidance-100326.pdf

3.2.3 EFFECT OF ODOUR

Before an adverse effect (such as loss of amenity, annoyance, nuisance, or complaints) can occur, there must be odour exposure. For odour exposure to occur all three links in the source – pathway – receptor chain must be present:

A) An emission source – a means for the odour to get into the atmosphere

B) A pathway – for the odour to travel through the air to locations off site, noting that:

Anything that increases dilution and dispersion of an odorous pollutant plume as it travels from source to receptor will reduce the concentration at the receptor, and hence reduce exposure. Increasing the length of the pathway (e.g., by releasing the emissions from a high stack) will – all other things being equal – increase the dilution and dispersion.

C) The presence of receptors (people) that could experience an adverse effect, noting that people vary in their sensitivities to odour.

The scale of exposure (the impact) is determined by the parameters collectively known as the FIDOL[6] factors (Frequency, Intensity, Duration, Offensiveness and Location); these are described in Table 1.

The magnitude of the effect experienced is determined by the scale of exposure (FIDO) and the sensitivity of the receptor (L, denoting the location, which is often taken to be a surrogate for the sensitivity and incorporates the social and psychological factors that can be expected for a given community).

According to the IAQM[4], *"Different combinations of the FIDO factors can result in different exposures at a location. For example, odours may occur as a one-off, as frequent short bursts, or for longer, less-frequent periods, and may be said to give 'acute' or 'chronic' exposures, respectively."*

Table 1: Description of FIDOL Factors

Frequency	How often an individual is exposed to odour
Intensity	The individual's perception of the strength of the odour
Duration	The overall duration that individuals are exposed to an odour over time
Offensiveness	Odour unpleasantness describes the character of an odour as it relates to the hedonic tone' (which may be pleasant, neutral, or unpleasant) at a given odour concentration/intensity. This can be measured in the laboratory as the hedonic tone, and when measured by the standard method and expressed on a standard nine-point scale it is termed the hedonic score.
Location	The type of land use and nature of human activities in the vicinity of an odour source. Tolerance and expectation of the receptor. The 'location factor can be considered to encompass the receptor characteristics, receptor sensitivity, and socio-economic factors.

The IAQM[4] guidance provides definitions of how 'impact' is characterised in an odour impact assessment to inform the judgement on significance of 'effect'.

The following definitions have been applied, as per Box 1 of the IAQM[4] guidance document.

Impacts – These are changes to the environment attributable to the development proposal.

Effects – These are the results of the changes on specific receptors.

Receptors – Are the users of the adjacent land, which may vary in their sensitivity to odour.

[6] The term FIDOR is sometimes used in place of FIDOL, whereby 'R' represents the 'Receptor' (location(s))

3.2.4 IAQM ODOUR GUIDANCE

To inform an odour impact assessment, an air quality practitioner must incorporate one assessment method that gives due consideration to the FIDOL factors (see Table 1).

The IAQM[4] offers the air quality practitioner best practice guidance to complete an appropriate odour impact assessment. The document is not anticipated to replace existing guidance produced by the Environment Agency[3] or where a specific assessment method is already presented within existing guidance.

For the sensitivity of people to odour, the IAQM recommends that professional judgement is applied to identify where on the spectrum between high and low sensitivity a receptor lies, considering the general principles within Table 2.

Table 2: Receptor Sensitivity to Odours

High Sensitivity Receptor	Surrounding land where: Users can reasonably expect enjoyment of a high level of amenity; and People would reasonably be expected to be present here continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.
Examples may include residential dwellings, hospitals, schools / education and tourist / cultural.	
Medium Sensitivity Receptor	Surrounding land where: Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or People would not reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.
Examples may include places of work, commercial / retail premises, and playing / recreation fields.	
Low Sensitivity Receptor	Surrounding land where: The enjoyment of amenity would not reasonably be expected; or There is transient exposure, where the people would reasonably be expected to be present. Only for limited periods of time as part of the normal pattern of use of the land.
Examples may include industrial use, farms, footpaths, and roads.	

For odour assessments, the probability is the likelihood of exposure (impact), and the consequence can be the effect on the receptor if that exposure (impact) took place. These two components are brought together by the Source-Pathway-Receptor (S-P-R) concept, as outlined within the IAQM guidance on odour for planning[4].

3.2.5 ASSESSMENT CRITERIA

According to the IAQM odour guidance[4], an odour impact assessment may be required to reach a conclusion as to the likely significance of any predicted odour impacts for planning purposes. The significance can be therefore assessed with regard to the magnitude of the impact and the sensitivity of considered receptors.

Section 5 of the IAQM odour guidance[4] presents a review of odour benchmarks (see Section 3.2.6) and illustrates two tables with respect to impact descriptors based on the 'moderately offensive' and 'most offensive' odour categories, as referenced with the Environment Agency's H4[3] and IAQM's odour guidance[4] documents. The corresponding magnitude scale for this assessment has been derived based on the suggested benchmark for 'moderately offensive' odours.

The significance of impacts has been determined through the interaction of the predicted 98th percentile of hourly mean odour concentrations (i.e., the magnitude) and receptor sensitivity (see Table 2). The relevant assessment matrix is summarised in Table 3.

Although the matrix acts as a guide, professional judgement is required to take into account various factors such as a community's tolerance of existing odours. *The IAQM[4] note that "It is incumbent on the responsible practitioner to exercise good professional judgement in selecting an appropriate odour assessment criterion for any particular case and providing justification for that selection. Practitioners are also recommended to exercise such judgement in appreciating other factors which govern human responses to odour."*

Table 3: Matrix for Assessing the Significance of Impacts predicted from Dispersion Modelling of Moderately Offensive Odour

Odour Exposure Level as 98th %ile of Hourly Mean (ou_E/m^3)	Receptor Sensitivity		
	Low	Medium	High
Less than 0.5	Negligible	Negligible	Negligible
0.5 – 1.5	Negligible	Negligible	Negligible
1.5 – 3.0	Negligible	Negligible	Slight
3.0 – 5.0	Negligible	Slight	Moderate
5.0 – 10.0	Slight	Moderate	Moderate
More than 10.0	Moderate	Substantial	Substantial

It should be noted that Table 3 applies equally to cases where there are increases and decreases in odour exposure as a consequence of development, in which case the informative terms 'adverse' and 'beneficial' have been respectively applied to the corresponding descriptors.

The IAQM odour guidance[4] surmises that, "*Where the overall effect is deemed 'moderate' or 'substantial', it is likely to be considered as significant, whilst if the effect is termed as 'negligible' or 'slight' then it is likely to be adjudged as not significant. It is acknowledged that this is a binary judgement of either it is significant or not significant.*"

This has been considered to determine the overall significance of potential odour impacts associated with the Site.

3.2.6 ODOUR BENCHMARKS

The Environmental Agency for England and Wales, in consultation with the Northern Ireland Environment Agency (NIEA) published guidance[7] providing guidelines for dispersion modelling as well as identifying target odour levels at the nearest sensitive locations in the vicinity of operations such as the proposed site.

Table 4 below shows how different types of processes are categorised and the appropriate odour benchmark values.

Table 4: Odour Benchmark levels

Relative Offensiveness of Odour	Benchmark level (ou/s)
Most Offensive odours; Processes involving decaying animals or fish Processes involving septic effluent or sludge Biological landfill odours	1.5
Moderately Offensive Odours Intensive livestock rearing Fat frying (food processing) Sugar beet processing Well aerated green waste composting	3.0
Less offensive odours; Brewery Confectionery Coffee roasting Bakery	6.0

For the purposes of assessing odorous emissions from the poultry shed, the odour target value of C_{98}, 1-Hour ≤3 ou/m^3 will be adopted at the nearest sensitive receptor.

To put these guidelines into context, an odour threshold of 1ou/m^3 is the level at which an odour is detectable by 50% of screened panellists. The recognition threshold is about 5 times this concentration i.e. 5ou/m^3. Furthermore, odour concentration of between 5 and 10 ou/m^3 above background will give rise to a faint odour and concentrations greater than 10ou/m^3 constitutes a distinct odour and are likely to give rise to nuisance complaints.

Odour assessments are commonly compared to the 98th percentile of hourly averages. For a typical meteorological year, the dispersion model predicts 8,760 hourly concentrations for each receptor location. The 98th percentile is part of the statistical distribution, where 98% of the results fall below this value and 2% of the results fall above this value.

[7] H4 Odour Management: How to comply with your environment permit; Environment Agency March 2011

4 AMMONIA ASSESSMENT METHODOLOGY

Information was provided by the NIEA advising that there are limitations on emissions of ammonia from such installations for both the protection of human health and for the protection of vegetation. They are referenced from *Cape, J.N.; van der Eerden, L.J.; Sheppard, L.J.; Leith, I.D.; Sutton, M.A. 2009. Evidence for changing the critical level for ammonia. Environmental Pollution, 157 (3). 1033-1037.*

Where the limits are applied to general vegetation such as herbaceous species or forest trees the limit is set at 3 ± 1 µg/m^3 of ammonia (ie. 2-4 µg/m^3) as a long-term (several year) concentration.

For particularly sensitive plants such as lichens and bryophytes, the limit of 1 µg/m^3 is applied to ammonia as a long-term (several year) concentration.

Table 5 shows the target levels for both the protection of human health and protection of vegetation.

Table 5: Ammonia limit values

Pollutant	Reason	Guideline Value	Measured as
Ammonia	Protection of Human Health	180 µg/m^3	Annual Mean
		2,500 µg/m^3	Max 1-Hr
	Protection of Vegetation	1-3 µg/m^3	Annual Mean

5 AERMOD DISPERSION MODELLING DATA

The inputs for the dispersion modelling assessment are described in detail in this Section. During recent meetings with the NIEA, it has been confirmed that a surface roughness factor of 0.2 should be used in the AERMOD modelling process. The results in this report reflect the use of this factor.

The site layout, including the nearest residential properties, are shown in Appendix A.

5.1 AERMOD Dispersion Modelling Package Description

The AMS.EPA Regulatory Model (AERMOD) is the current US EPA regulatory model used to predict pollutant concentrations from a wide range of sources that are present at typical industrial facilities.

The model accepts hourly meteorological data to define the conditions for plume rise, transport, diffusion and deposition. It estimates the concentration or deposition value for each source and receptor combination for each hour of input meteorology and calculates user-selected short term averages. The model also takes into account the local terrain surrounding the facility. Since most air quality standards are stipulated as averages or percentiles, AERMOD allows further analysis of the results for comparison purposes.

Percentile analysis for emissions is calculated for the maximum averages using the AERMOD-percent post-processing utility. This utility calculates the maximum concentration of a pollutant from all receptors at a specific percentile, for a specific period. Employing the percentile facilitates the omission of unusual short-term meteorological events that may cause elevated pollutant concentrations and hence a more accurate representation of the likely average pollutant concentrations over an averaging period.

The following information was input into the model for the prediction of maximum ground level ambient ammonia concentrations from the proposed poultry shed.

5.2 Input Parameters

The proposed site layout map, building plans and elevations were used as a template for all sources, relevant structures and the boundary of the facility. The AERMOD package uses the steady state Gaussian plume equation for a continuous elevated point or line source.

Table 6 below gives general details of the proposed poultry house.

Table 6: Dimensions of Poultry House

	House 1 (Proposed)
Dimensions of house	147m x 16.5m x 5.8m
No. of birds	20,000 x Layers
Efflux temperature	24 ^{o}C
Emissions	Mechanically Ventilated

5.3 Emissions

The rate of production of an emission, such as ammonia, is best quantified as an emission rate. The Sections below detail the appropriate emission rates applicable to the site.

5.3.1 LOW PROTEIN DIET

In relation to this application, the emissions have been reduced through the incorporation of a low protein diet.

The current standards for ammonia emissions from laying hens in multi-tier systems are included in a Guidance note produced by the Northern Ireland Environment Agency[8]. The following breakdown of the associated emission rates was provided by AFBI and is included in Appendix E:

> The value for the housed proportion of emissions (0.026kg ammonia/bird/year) was derived from work using diets containing 17% CP and N excretion based on N excretion of 0.83kgN/bird/year.
>
> The free-range proportion of ammonia emissions (0.04kg ammonia/bird/year) was calculated assuming diets contain 15.3% CP and on N excretion of 0.67kgN/bird/year and that 20% of the excreta is deposited on the range.
>
> The birds on this site will be fed a crude protein diet of no more than 14.7%, which is less than the CP diet % used for both the housed and free-range proportion of emissions.

It is well established in the literature that as dietary CP is reduced, N excretion and hence ammonia emissions are lowered. There is significant evidence (included in the letter in Appendix C), supporting this, and the general rule of 8-10% reduction in N and ammonia is accepted for every 1% CP reduction providing there is no reduction in performance.

The reductions associated with each proportion of emissions (Housing & Free-Range) are included in the Table below.

Table 7: Low Protein Reduction

	Housing	Free-Range
Proportion of Emissions	80%	20%
Emission Base Rate (kg/yr)	0.026	0.2
Base Emission Rate (kg/yr)	0.021	0.04
Crude Protein Diet	17%	15.3%
Proposed CP Diet	14.7%	
Reduction (10% per 1% CP Reduction)	23%	6%
Updated Emission Rate (kg/yr)	0.016	0.038
Proposed Emission Rate per Bird (kg/yr)	0.054	

As a result of the low crude protein diet (14.7%) that will be fed to the birds on site, an updated emission rate of 0.054kg/yr has been calculated as applicable for use in this assessment. This is applicable to the proposed housing type, which will utilise a free-range multi-tier aviary system with forced manure drying on belts.

To find the emission from the proposed house, it was necessary to calculate the concentration within the buildings.

[8] *Department of Agriculture Environment and Rural Affairs. Environment, Marine & Fisheries Group & NIEA. Ammonia Emission Factors for Laying Hens. Updated Guidance for Development Proposals. December 2021.*

Odour emission factors for poultry are provided in Dutch Legislation[9] which have been adopted by the NIEA in their assessment of PPC livestock installations.

This document details the emission factor for 'Non-battery, low emission accommodation' as 0.34ou$_E$/s, which has been detailed in the Section below.

Table 8 below shows the odour and ammonia levels associated with the proposed site, taking account of a low protein diet.

Table 8: Concentrations per Building

House No.	No. of Animals per house	Odour Emission Factor (ou per animal)	Total Odour Emission Rate (ou$_E$/s per house)	Ammonia Emission Factor (kg/yr per animal)	Total Ammonia Emission Rate (g/s per house)
1	20,000	0.34	6,800	0.054*	0.034

** Updated emission rate as a result of a low protein diet, as calculated in Table 7 above. No reduction has been applied to the odour emission rate.*

The total ammonia emission rates, in g/s, are set as the pollutant leaving each building per second. For the purposes of the modelling process, the emission rate per house was divided by the number of emission points to obtain the emission value for each source.

Table 9 below shows the emission rates coming out of emission points.

Table 9: Emission Rates for each stack

House No.	No of Fans per House (and type)	Odour per fan (ou$_E$/s)	Ammonia per fan (g/s)
1	8 x Ridge	850	0.0043

The coordinates of these fans are detailed in Appendix C.

5.3.2 STACK EMISSIONS VELOCITY

The extract fans will operate at full power, however, in order to provide a conservative assessment, the AERMOD model has assumed that the fans will operate at 50% capacity. It should be noted that this is not expected to be reflected on site, where the fans will operate at full capacity.

Table 9 below shows the ventilation rate for the type of fan on the proposed site.

Table 10: Ventilation Rates for fan

Fan Type	Stack Diameter (m)	Cross Sectional Area (m^2)	Exit Velocity (m/s)	Volume Flow (m^3/s)	Volume Flow (m^3/hr)
Ridge	0.82	0.528	5.263	2.778	10,000*

**The maximum capacity of the fans is 20,000m^3 however, to ensure a conservative assessment, it has been assumed that the fans will operate at 50% capacity.*

[9] *Dutch Legislation on Ammonia and Odour. Presentation of the Dutch legislation on Ammonia and Odour in Denmark. 23 January 2008. Annex 1.*

5.3.3 STORAGE OF POULTRY LITTER

The amount of litter produced by the birds was calculated using information included in a recently published DAERA Newsletter[10].

Table 1 of this Newsletter states that 17.3 tonnes of litter will be produced per 1,000 birds.

Table 11 below shows the total amount of litter produced by the birds in the existing and proposed sheds.

Table 11: Total Litter Produced

	Litter Quantity (t/1,000 birds)	Total Birds (1,000's)	Total litter per crop (60 weeks) in tonnes	Litter per week (tonnes)
Litter Store (Existing and Proposed)	17.3	20	346.0	5.8

Approximately 5.8 tonnes of poultry litter will be moved to each of the litter stores per week, and they will be emptied every 3 to 4 weeks. For the purposes of the modelling process, it was assumed that there were 23.1 tonnes of litter in the store at all times. This will represent a conservative assessment, as there will be less than 23.1 tonnes in the store for the majority of the year.

Table 12 below shows the ammonia level within the proposed storage shed.

Table 12: Storage Concentrations

Building	Amount of litter (tonnes)	Ammonia Emission Factor (kg NH_3/ tonne fresh manure)	Total Ammonia Emission Rate (kg/yr)	Total Ammonia Emission Rate (g/s)
Litter Store (Proposed)	23.1	2.38	54.9	0.00174

In relation to the odour emissions from the stores, a document entitled "Odour emissions from livestock production facilities" Valli et al, is deemed as providing appropriate odour emissions for poultry litter in ou_E/s/tonne. In relation to drier manure, which is applicable for this site, the odour emissions were provided as 90ou_E/s/t for the summer cycle and 12ou_E/s/t during the winter.

A variable emission rate was used as part of the AERMOD model to account for the different emissions during the winter & summer cycles. Table 13 below shows the odour level within the storage shed, assuming that the store will be emptied every 3 to 4 weeks.

Table 13: Odour Concentrations from Storage

Building	Cycle	Amount of litter (tonnes)	Odour Emission Factor (ou_E/s per tonne fresh manure)	Total Odour Emission Rate (ou_E/s from store)*
Litter Stores (Existing and Proposed)	Summer	23.1	90	2,076
	Winter		12	276.8

** For 6x months during the year (March – August) the summer odour emission rate was applied, and the winter emission rate is applied to the remaining 6x months (September – February).*

[10] Department of Agriculture, Environment and Rural Affairs. Farm Advisory System (FAS) Newsletter. Spring 2018. Issue 10.

5.4 Meteorological Data

The AERMOD dispersion model requires the use of meteorological data (such as wind speed and direction) as pollutant concentrations can vary in time and space depending on the distribution of pollution sources and topography.

The Environment Agency's Permitting: Air Dispersion Modelling Reports[11] Guidance recommends that "*to represent conditions for an 'average year' hourly meteorological data for a period of at least three, preferably five years should be used*" to assess inter-year variations.

For this assessment, five years of hourly sequential meteorological data has been acquired from the Belfast International Airport, Aldergrove site for the years between 2018 and 2022 and incorporated into the AERMOD dispersion modelling exercise. This allowed for the determination of the predicted impact of emissions of ammonia from the site.

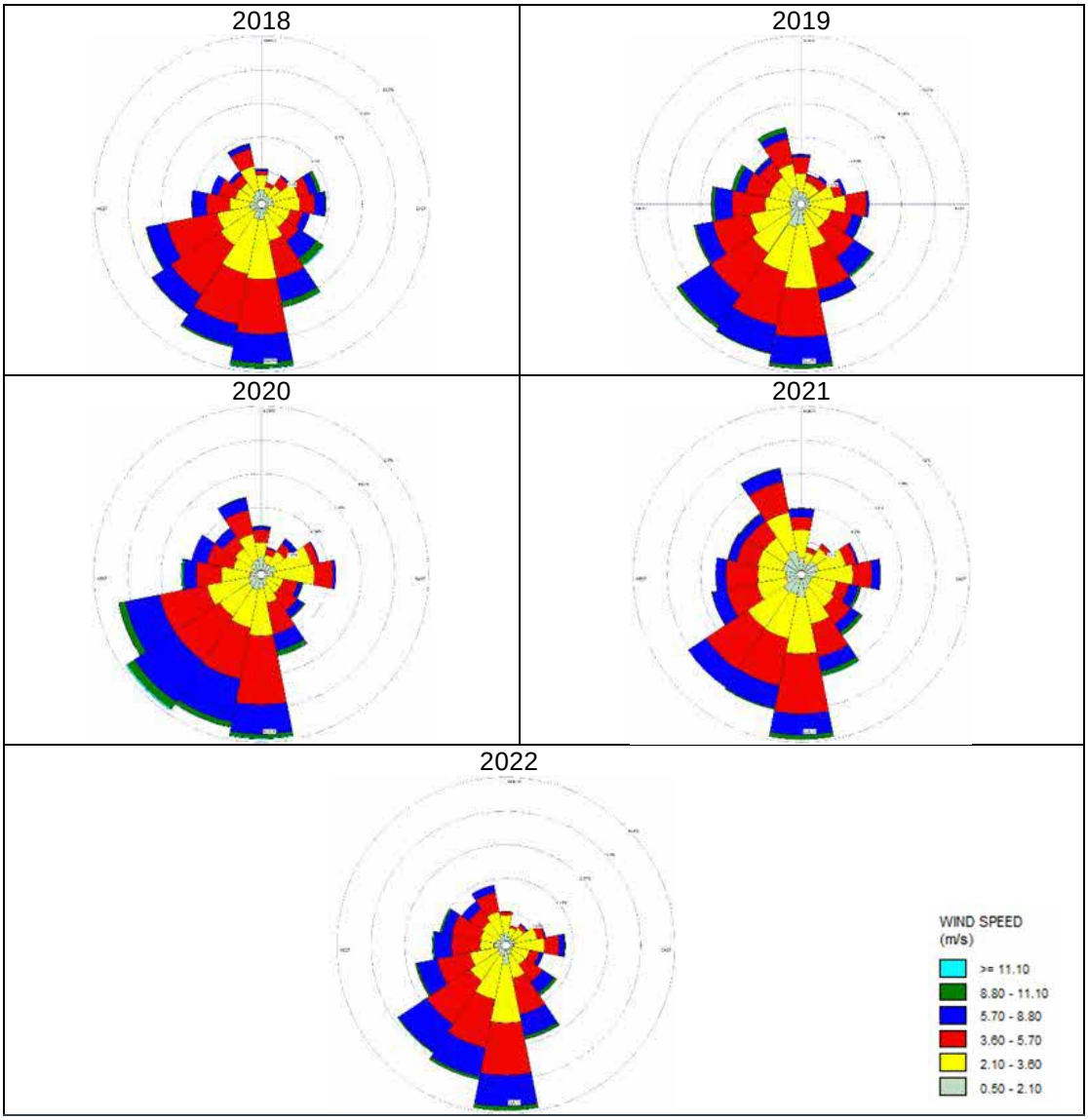
The corresponding meteorological datasets for the assessment have been acquired from Lakes Environmental who utilise the Weather Research and Forecasting (WRF) model, a mesoscale numerical weather prediction system designed for both atmospheric research and operational forecasting applications to generate a representative, high resolution meteorological dataset suitable for use within the AERMOD dispersion modelling package. The WRF model is used globally to simulate weather and air quality conditions by drawing from observations and archived meteorological model data and objective analysis to generate gridded meteorological parameters horizontally and vertically for a region.

Lake Environmental then employ the Mesoscale Model Interface Program (MMIF) to convert the prognostic WRF meteorological model output to AERMET pre-processor data input format prior to use within the AERMOD dispersion modelling package. During technical meetings held with the NIEA, it has been confirmed that a surface roughness factor of 0.2 should be applied to the respective meteorological dataset within AERMET before use in any AERMOD dispersion modelling exercises. The results in this report reflect the use of this factor.

The associated wind rose plots for each individual year are presented in Figure 1.

[11] Environment Agency & DEFRA (Updated Jan 2021) Environmental Permitting: Air Dispersion Modelling Reports [online] https://www.gov.uk/guidance/environmental-permitting-air-dispersion-modelling-reports

Figure 1: Annual Windrose Data



5.5 Building Downwash

When one or more buildings in the vicinity of a point source interrupt wind flow, an area of turbulence known as a building wake is created. Pollutants emitted from a relatively low level can be caught in this turbulence, affecting their dispersion. This phenomenon is called building downwash. In order to conduct an analysis of downwash effects of the point sources created to mimic the release of odorous air from the site, the dimensions (including heights) of the facility and other existing buildings on-site was obtained from drawings.

5.6 Digital Terrain Data

AERMOD contains a terrain data pre-processor called AERMAP. Receptor and source elevation data from AERMAP output is formatted for direct insertion into an AERMOD control file. The elevation data are used by AERMOD when calculating air pollutant concentrations.

Regulatory dispersion models applicable for simple to complex terrain situations require information about the surrounding terrain. With the assumption that terrain will affect air quality concentrations at individual receptors, AERMAP first determines the base elevation at each receptor and source. For complex terrain situations, AERMOD captures the essential physics of dispersion in complex terrain and therefore needs elevation data that convey the features of the surrounding terrain. In response to this need, AERMAP searches for the terrain height and location that has the greatest influence on dispersion for each individual receptor. This height is the referred to as the hill height scale. Both the base elevation and hill height scale data are produced by AERMAP as a file or files which can be directly inserted into an AERMOD input control file.

6 ODOUR IMPACT ASSESSMENT

There are seven residential properties in the immediate vicinity of the site, which are detailed below.

Table 14: Nearest Residential Properties

Location	Description	Co-ordinates	Approx. distance to nearest poultry shed (m)
H1	Drumad Road*	290478, 376641	360
H2	16 Drumad Road	290600, 376586	240
H3	15 Drumad Road	290568, 376508	285
H4	19 Drumad Road	290656, 376353	295
H5	9 Drumad Road	290610, 376900	270
H6	8 Drumad Road	290971, 376382	230
H7	10 Drumad Road	290831, 376322	260

** The property number of H1 could not be identified, however the co-ordinate provided shows the location used in the AERMOD model.*

All the properties are shown in the figure in Appendix A.

6.1 Odour

Odour modelling was carried out for each individual year with the results at the nearest sensitive locations presented in Table 15 below. All results are the odour concentration in (ou_E/m^3).

Table 15: 98th Percentile of the Max 1-hr odour levels at nearest residential properties

Location	2018	2019	2020	2021	2022	Average
H1	0.45	0.47	0.51	0.58	0.45	0.49
H2	0.80	0.68	0.84	0.83	0.75	0.78
H3	0.49	0.37	0.55	0.57	0.49	0.49
H4	0.17	0.17	0.18	0.19	0.16	0.17
H5	0.29	0.33	0.25	0.36	0.33	0.31
H6	0.43	0.42	0.41	0.63	0.37	0.45
H7	0.29	0.30	0.29	0.43	0.35	0.33

For the proposed site layout, all existing dwellings are significantly below the $3ou_E/m^3$ when considered as individual years and as a 5-year average of the 98th percentile.

It should be noted that there are no third-party receptors in the vicinity of the poultry shed that will experience odour levels higher than those predicted in the table above.

6.2 Odour – Impact Significance

An assessment of the significance of the odour impact at each receptor using the specified criterion within the IAQM odour guidance (see Table 3) and dispersion modelling results (see Table 15) has been made in Table 16 below.

Table 16: Significance of Estimated Odour Emissions at Considered Receptors

	Receptor ID	Maximum Annual 98th Percentile Hourly Mean Concentration (ou_E/m^3)		Receptor Sensitivity	Impact Descriptor
H1	Drumad Road*	0.58	2021	High	Negligible
H2	16 Drumad Road	0.84	2020	High	Negligible
H3	15 Drumad Road	0.57	2021	High	Negligible
H4	19 Drumad Road	0.19	2021	High	Negligible
H5	5 Drumad Lane	0.36	2021	High	Negligible
H6	22 Drumad Road	0.63	2021	High	Negligible
H7	21 Drumad Road	0.43	2021	High	Negligible

As indicated in Table 16, the significance of odour impacts has been predicted to be no worse than 'Negligible' at all receptors.

The IAQM guidance states that only if the impact is greater than slight, the effect is considered significant. As such, the maximum impact of 'Negligible' at the worst affected receptor is considered not significant, in accordance with the stated methodology.

7 AMMONIA

In addition to the seven receptors identified in Section 6.0, the ammonia levels were assessed in areas of specific interest in relation to vegetation.

All areas within approximately 7.5km of the site were searched on the NIEA website for the eight types of designated areas listed below:

RAMSAR

These are wetlands of international importance designated under the RAMSAR convention.

Special Areas of Conservation (SAC)

These areas are given special protection under the European Union's Habitats Directive to protect some of the most seriously threatened habitats and species across Europe.

Special Protection Areas (SPA)

Areas designated under the European Commission on the conservation of wild birds (the Birds Directive). All EU member states are required to identify internationally important areas for breeding, over-wintering and migrating birds and designate them as SPA's.

National Nature Reserve (NNR)

An area of importance for flora, fauna and geological features of special interest, which are reserved and managed for conservation and to provide special opportunities for study or research.

Areas of Special Scientific Interest (ASSI)

These have been identified as being Northern Ireland's very best wildlife and geological sites.

Areas of Outstanding Natural Beauty (AONB)

Areas designated to protect and enhance their distinctive landscapes and scenic beauty and to promote their enjoyment by the public.

Marine Nature Reserves (MNR)

The purpose of the MNR's is to conserve marine flora and fauna and geological features of special interest, while providing opportunities for study of marine systems. Strangford Lough is NI's only MNR

World Heritage Site

Designated for their globally important cultural or natural interest and require appropriate management and protection measures. Giant's Causeway and Causeway Coast is NI's only World Heritage Site.

There are two designated sites located within 7.5km and two priority habitats within 2km of the site, all of which are detailed in Table 17 below.

Table 17: Designated areas in vicinity of the site

Location	Description	Approx. distance to nearest shed (km)*	NI Grid Co-ordinates	
E1	Brookend ASSI	3.26	293117	374645
E2	Lough Neagh ASSI (Lough Neagh and Lough Beg SPA)	4.72	293003	372515
E3	Priority Peatland	1.69	291271	377925
E4	Priority Peatland	1.70	291280	377923

**It should be noted that all distances provided in this Table are approximate and are provided for information purposes only. The grid co-ordinates provided were input into the model, and the source locations are provided in Appendix C.*

The predicted ammonia impacts are presented in Table 18 below, which show the impacts from the proposed poultry shed.

Table 18: Annual Average Ammonia from Poultry Shed

Location	2018	2019	2020	2021	2022	Average
E1	0.0026	0.0039	0.0030	0.0041	0.0040	0.0035
E2	0.0024	0.0024	0.0021	0.0033	0.0022	0.0025
E3	0.0195	0.0207	0.0168	0.0195	0.0204	0.0194
E4	0.0194	0.0206	0.0167	0.0195	0.0202	0.0193

The results for the maximum 1-hour concentration at each of the residential receptors in the vicinity of the site are included in Appendix D.

All of the predicted Ground Level Concentrations of Ammonia are significantly below the limit values as provided in Table 5 in relation to the protection of human health and vegetation.

Table 19 below compares the highest annual average predicted levels at the designated areas where:

The Process contribution (PC), the maximum modelled concentration of the substance due to process emissions alone.

Predicted Environmental Concentration (PEC) – that is, the maximum modelled concentration (of ammonia) due to process emissions combined with estimated baseline concentrations.

PC and PEC as a percentage of the objective or guideline.

In accordance with A3.195 of Part IV of the Environment Act 1995 Environment (Northern Ireland) Order 2002 Part III Local Air Quality Management Technical Guidance LAQM.TG(09) February 2009, *"For the assessment of annual mean concentrations the annual mean contribution of the process can be added to the annual mean estimate for background."*

Table 19: Ammonia concentrations at ecologically sensitive locations

	Location	Guideline ($\mu g/m^{-3}$)	Background ($\mu g/m^{-3}$)	Highest PC ($\mu g/m^{-3}$)	PEC ($\mu g/m^{-3}$)	PC/ Guideline level (%)	PEC/ Guideline level (%)
E1	Brookend	3	3.23	0.0041	3.2341	0.14	108
E2	Lough Neagh (Lough Neagh and Lough Beg)	1	2.82	0.0033	2.8233	0.33	282
E3	Priority Peatland	1	3.53	0.0207	3.5507	2.07	355
E4	Priority Peatland	1	3.53	0.0206	3.5506	2.06	355

The ammonia concentrations at these sites are dominated by the background concentrations, which are approximately 108 - 355% of the air quality guidelines for ammonia.

The maximum process contribution from the proposed shed is 0.33% of the guideline value at the designated sensitive sites, significantly less than contribution by the background level. Further discussion on this impact is provided in Section 9 below.

The maximum process from the site is 2.07% at the priority habitats, less than the limit level of 50% for this type of site.

8 NITROGEN DEPOSITION

The Critical Load specifies the annual amount of ammonia that can be deposited for a given area per year. Below this level, sensitive habitat should not be affected.

The dry deposition flux (µg/m^{2}/s of ammonia) was calculated using AQTAG06[12] where the predicted ground level of ammonia (in µg/m^{3}) was multiplied by the relevant deposition velocity.

The dry deposition was then multiplied by the conversion factor provided in the guidance to convert to the levels of kgN/ha/yr. The conversion factors are provided in Table 8.1 and 8.2 of the AQTAG06 as presented in the Table 20 below.

Table 20: Conversion Factors

Pollutant	NH_3 Deposition Velocity (m/s)	Conversion Factor
NH_3 to N	0.02 (short vegetation)	260

Table 21 below converts the highest Process Contribution of the designated sites in µg/m^{-3} to kg.N/ha/yr, using the conversion factors detailed in Table 20 above.

Table 21: Conversion of Highest NH_3 results

Location	Pollutant	Highest PC (µg/m^{-3})	NH_3 Deposition Velocity (m/s)	Conversion Factor	Highest PC (kg.N/ha/yr)
E1	NH_3 to N	0.0041	0.02 (short vegetation)	260	0.021
E2		0.0033			0.017

The max PC at any of the designated sites is 0.021 kg.N/ha/yr.

[12] Technical Guidance on Detailed Modelling Approach for an Appropriate Assessment for Emissions to Air, AQTAG06

9 ASSESSMENT OF IMPACT

In their consultation response, the NIEA provided detail on their updated ammonia strategy, which is now based on an interim 'case-by-case' approach, using the Decision-Making Threshold project reports published by the JNCC.

Ammonia

A summary of the steps outlined in the case-by-case approach are detailed below:

Where the PC at a designated site is at or below 0.08%, it is considered de minimis and no further air quality assessment is required.

If the application contributes at impact more than 0.08%, a Site Relevant Threshold (SRT) is applied. The SRT has been calculated for this application as 0.34%.

If the application contributes more than the SRT (0.34%), further assessment is necessary by way of an in-combination assessment.

Taking into account the predicted impacts included in Table 19 above, the following is a summary of the impact of the poultry shed:

Two designated sites were identified within 7.5km of the poultry shed.

All designated sites were above 0.08%. Therefore, further assessment is required.

The two designated sites which exceed the DMT, do not exceed the SRT of 0.34%.

At all designated sites within 7.5km of the poultry shed, the proposal contributed less than the DMT (0.08%) or the SRT (0.34%).

Nitrogen Deposition

As noted in the NIEA response, the approach is based on the Decision Making project reports published by the JNCC. The DMT for both ammonia and nitrogen deposition are included in these reports.

The DMT for annual mean nitrogen deposition is confirmed as the following for the application site:

0.057 kg.N/ha/yr for woodland

0.040 kg.N/ha/yr for grassland

The results in Table 21 show that the maximum deposition at any designated site is 0.021 kg.N/ha/yr at Location E1 (Brookend ASSI), which is less than the DMT for grassland, 0.040 kg.N/ha/yr.

Conclusion

In can be seen from the information above that the contribution from the proposed poultry shed under consideration is below the DMT for both ammonia and nitrogen deposition at all designated sites in the vicinity of the proposed poultry shed.

As detailed in the JNCC reports, the cumulative effects of proposals excluded by the SRT will not undermine the achievement of the conservation objectives for the relevant designated sites, and the impact is therefore considered to be not significant.

10 DISPERSION MODELLING UNCERTAINTY

Potential uncertainties in the model were minimised as far as practicable and conservative inputs used to provide a robust assessment, including:

Choice of Model

AERMOD is commonly used atmospheric modelling software and has been accredited by the US EPA as well as being identified by the Environment Agency's documentation as an acceptable software to use.

Meteorological Data

Dispersion modelling has been completed using five years' worth of annual data sets, from a site within Northern Ireland to account for local conditions. The assessment has been based on the most conservative year for each pollutant and averaging periods to ensure maximum concentrations were considered.

Surface Characteristics

The zo and Monin-Obukhov length were determined for both the dispersion and meteorological sites based on the surrounding land uses and guidance provided by the NIEA. Terrain data has been included in the modelling and processed within the AERMAP software.

Variability

All model inputs are as accurate as possible and conservative conditions were considered as necessary to ensure a robust assessment of potential pollutant concentrations.

11 CONCLUSION

An air quality impact assessment has been undertaken for a proposed poultry shed located on lands approximately 229m East of 16 Drumad Road, Coagh, BT80 0DY.

The maximum ground level odour concentration is predicted to be primarily confined to the immediate environs of the proposed poultry shed.

Under the proposed layout, the maximum 98th percentile of 1-hour ground level odour concentration at the worst effected residential property with no interest in the operation of the poultry shed, in the vicinity of the proposed site is in accordance with the target limit value for of $\leq 3ou_E/m^3$ when taken as an average of the 5-year period or within any individual 1-year period.

The predicted results of the ammonia modelling process show that the emissions of each pollutant from the proposed poultry shed will not cause significant Ground Level Concentrations at any residential property in the vicinity of the site.

In addition, it can be shown that the limits for the protection of vegetation are not exceeded at the designated sites within the vicinity of the proposed poultry shed. Thus, any areas of ecological interest will not be adversely affected from the ammonia emissions for the operation of the proposed poultry shed.

For air quality, it can be seen that the contribution from the proposal is below either the DMT or SRT for both ammonia and nitrogen deposition at all designated sites in the vicinity of the proposed poultry shed.

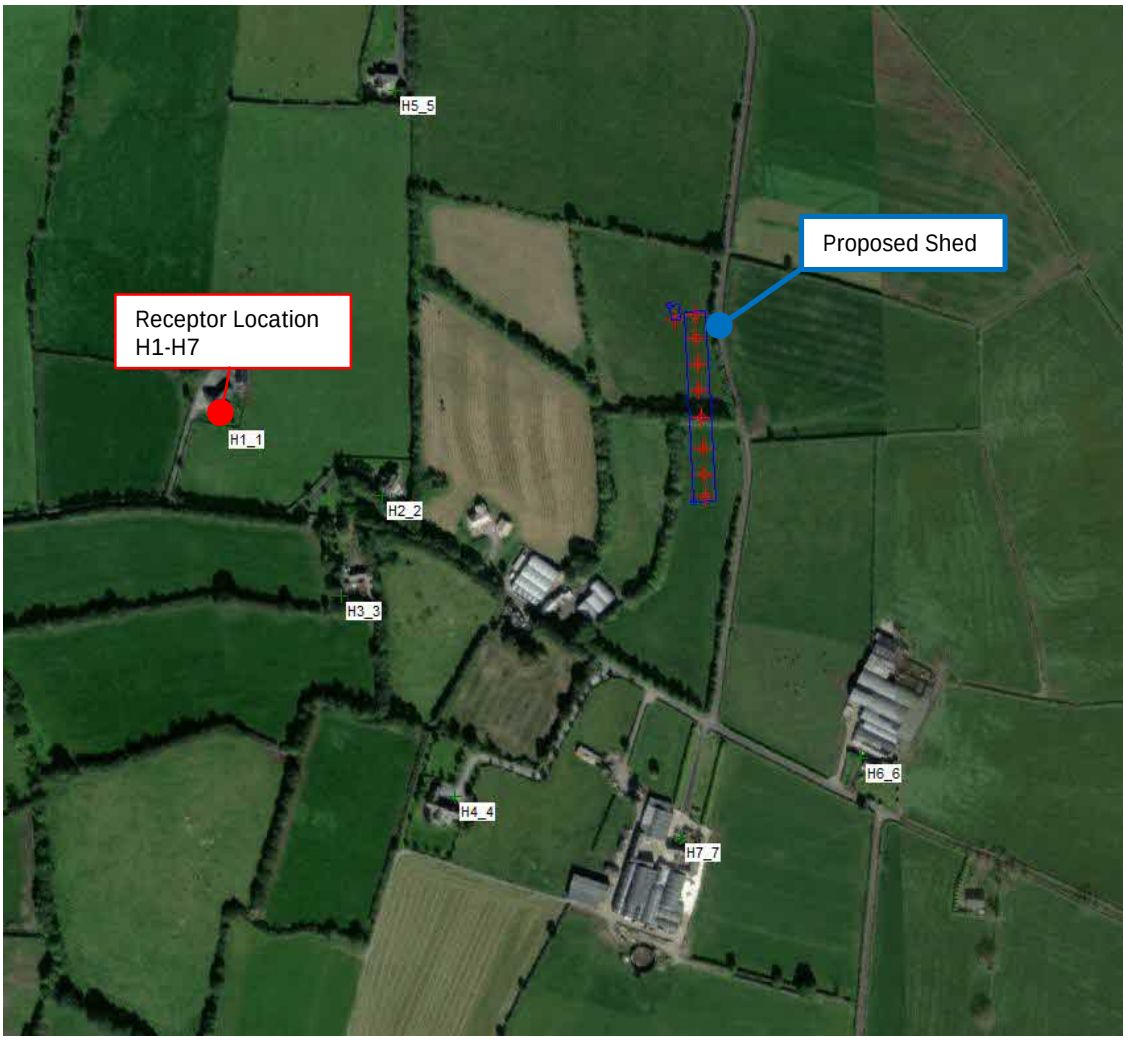
As detailed in the JNCC reports, the cumulative effects of proposals excluded by the DMT will not undermine the achievement of the conservation objectives for the relevant designated sites, and the impact is therefore considered to be not significant.

Appendix D indicates the predicted dispersion of the odour and ammonia plumes for 2022.

APPENDIX A SITE LAYOUT

The Figure below details the approximate location of the closest third-party receptors and proposed poultry unit.

Figure 2: Site Layout



***Note- The above diagram is not to scale and is for illustrative purposes only. Exact co-ordinates are given in Appendix B below.*

APPENDIX B AERMOD INPUTS

This Section details all of the AERMOD model inputs that were included in the model to calculate the predicted impacts.

Sources

The following Figures include the details of the proposed mechanically ventilated sources and exact locations.

Figure 3: Ridge Fan AERMOD Inputs

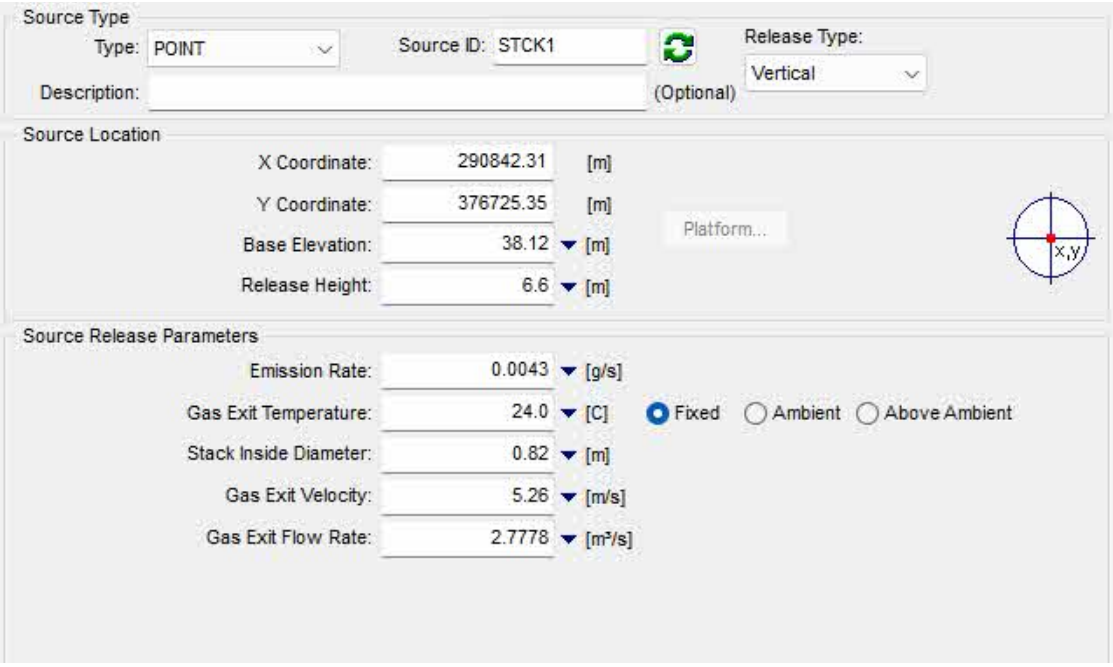


Table 22: Source Locations

Building Number	Source	Irish Grid Co-ordinates	
1	1	290842.31	376725.35
	2	290843.29	376707.76
	3	290844.60	376688.23
	4	290845.25	376668.05
	5	290846.87	376646.23
	6	290848.18	376623.12
	7	290849.48	376602.61
	8	290850.13	376585.03
Litter Store	1	290827.09	376721.41

Buildings

The exact input of the proposed building and location is shown in the Figure below.

Figure 4: Proposed Building Inputs

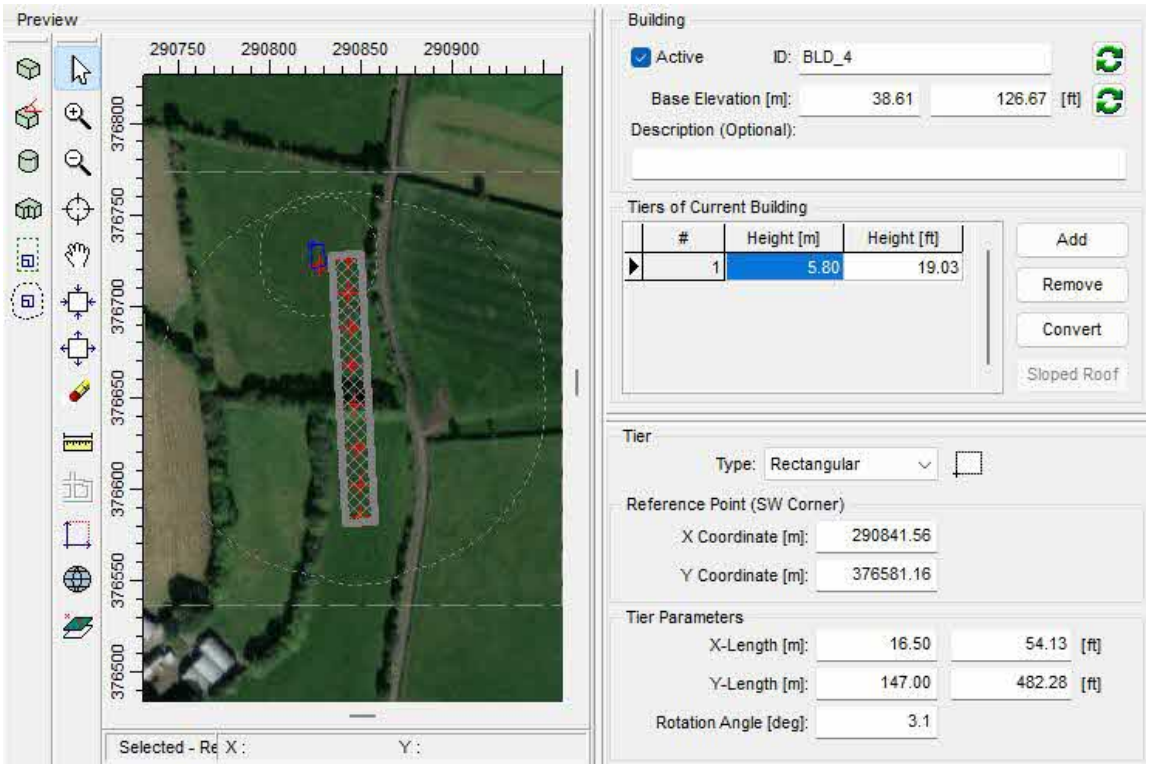


Figure 5: Proposed Litter Store Inputs

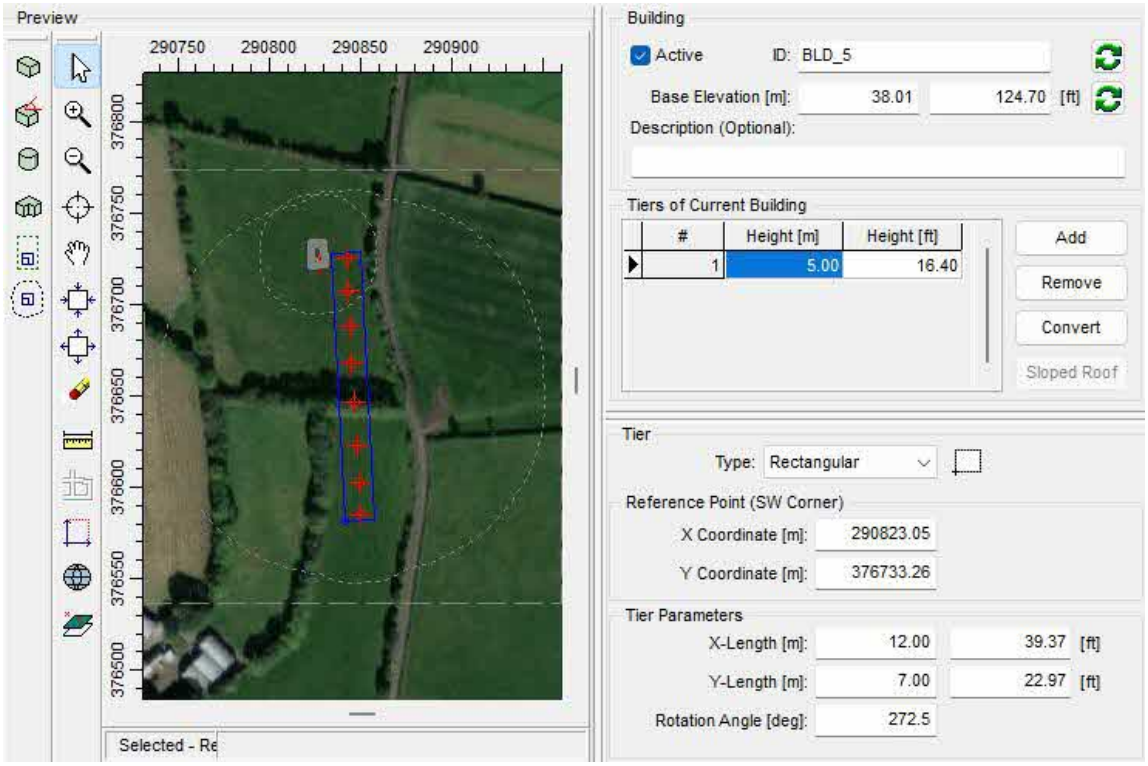


Table 23: Building Locations

Building Number	Irish Grid Co-ordinates
House 1	290841.56, 376581.16
Litter Store	290823.05, 376733.26

Receptors

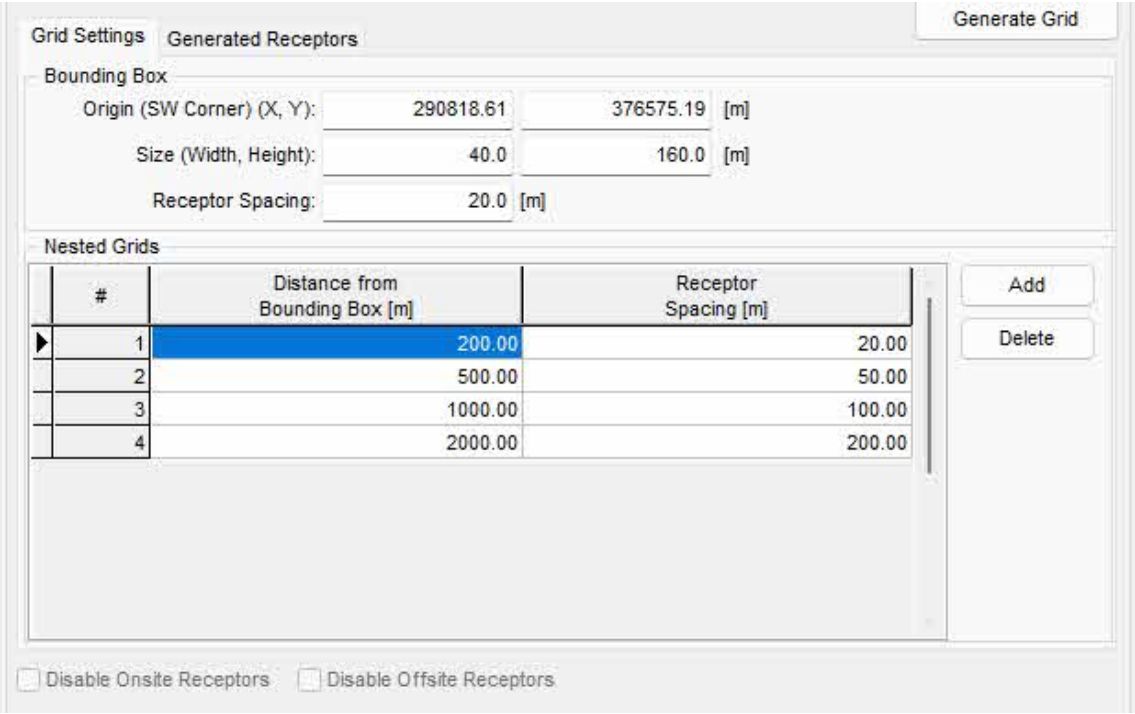
The Tables below show the co-ordinates of the locations defined as the nearest receptor locations, proposed poultry house and emission points:

Table 24: Receptor Locations

Receptor Location	Irish Grid Co-ordinates
1	290478, 376641
2	290600, 376586
3	290568, 376508
4	290656, 376353
5	290610, 376900
6	290971, 376382
7	290831, 376322

The information below shows the co-ordinates of the 'Nested Grid Receptors' that were used to create the contour plume below.

Figure 6: Details of Nested Grid Receptors



Modelling Results

With the Nested Grid Receptors included in the model, the predicted ammonia plume for 2022 was generated, as shown in Appendix C.

APPENDIX C MODELLING RESULTS

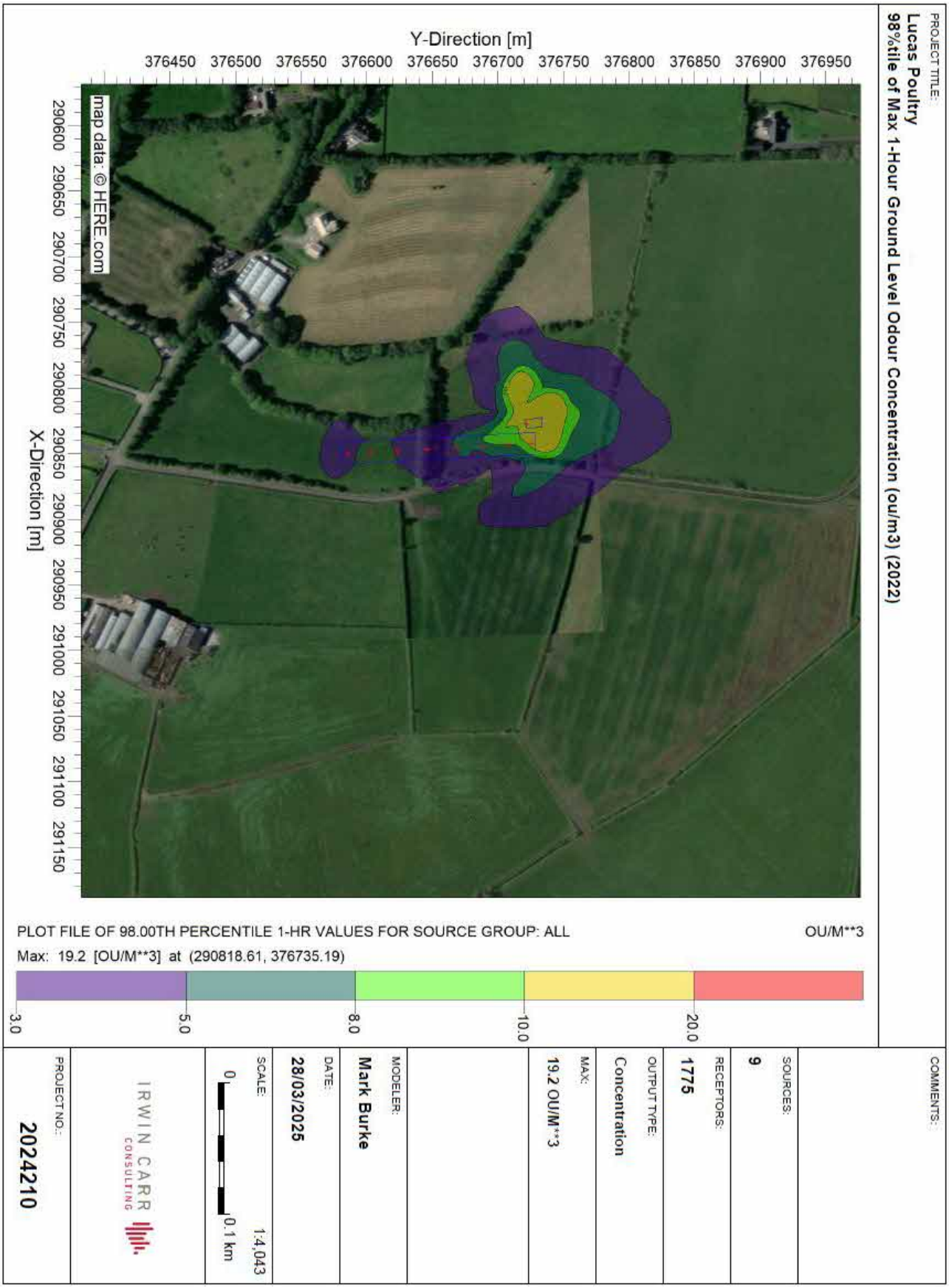
The Table below details the maximum 1-hour concentration at each of the sensitive receptors for the MET data 2018-2022.

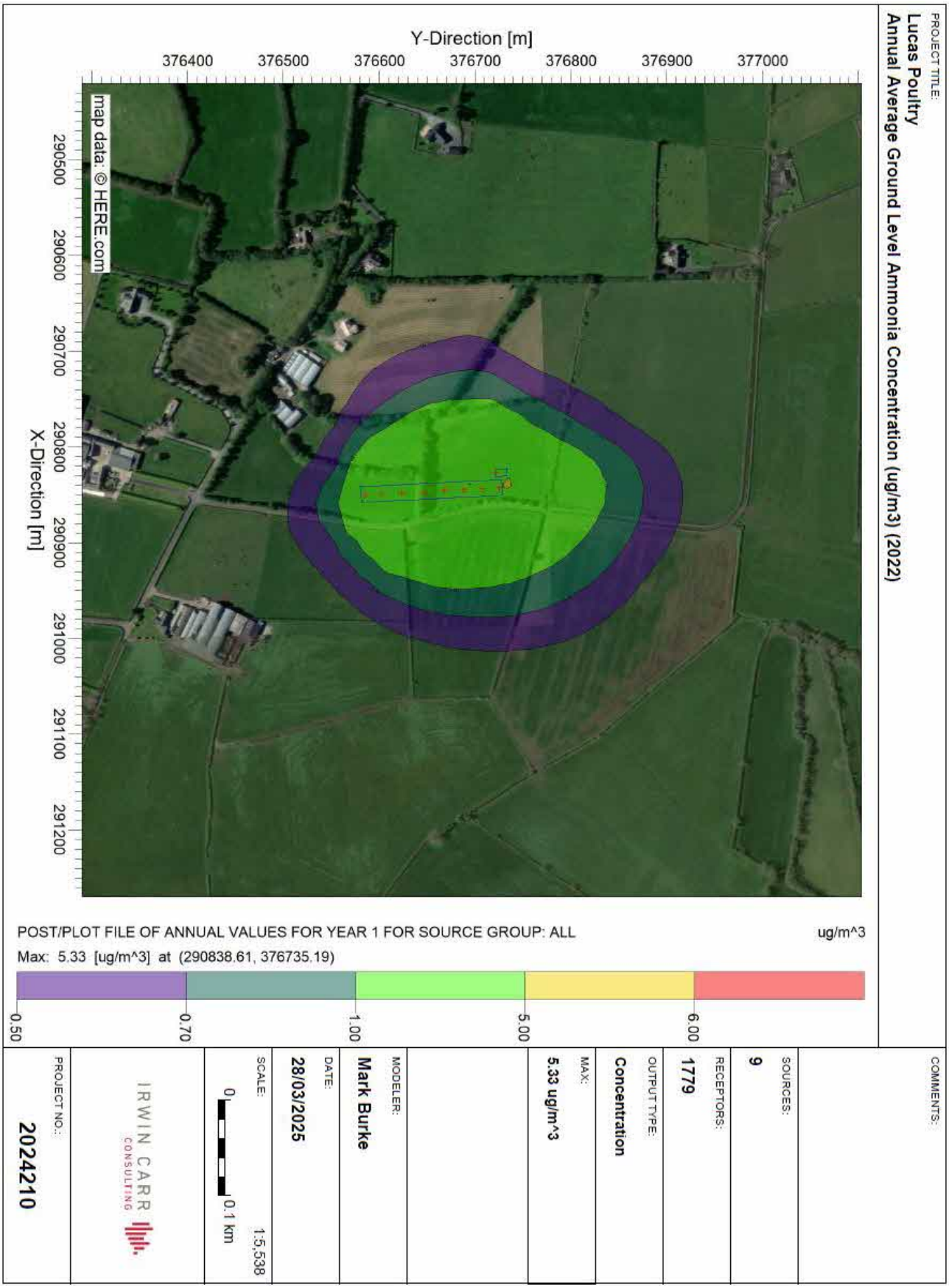
Table 25: Ammonia concentrations at residential and identified locations

Location	Maximum 1-Hour Concentration (µg/m^3)
H1	10.91
H2	11.55
H3	14.47
H4	16.13
H5	19.98
H6	19.97
H7	21.40

All the predicted Ground Level Concentrations of Ammonia are significantly below the maximum 1-hour limit value as provided in Table 5 in relation to the protection of human health.

The figures below detail the odour and ammonia plumes for 2022 for the proposed site.


PROJECT TITLE:
Lucas Poultry
98%tile of Max 1-Hour Ground Level Odour Concentration (ou/m3) (2022)
Y-Direction [m]
376450 376500 376550 376600 376650 376700 376750 376800 376850 376900 376950
X-Direction [m]
290600 290650 290700 290750 290800 290850 290900 290950 291000 291050 291100 291150
map data: © HERE.com
PLOT FILE OF 98.00TH PERCENTILE 1-HR VALUES FOR SOURCE GROUP: ALL
OU/M**3
Max: 19.2 [OU/M**3] at (290818.61, 376735.19)
3.0 5.0 8.0 10.0 20.0
COMMENTS:
SOURCES: 9
RECEPTORS: 1775
OUTPUT TYPE: Concentration
MAX: 19.2 OU/M**3
MODELER: Mark Burke
DATE: 28/03/2025
SCALE: 0 0.1 km 1:4,043
IRWIN CARR CONSULTING
PROJECT NO.: 2024210


PROJECT TITLE:
Lucas Poultry
Annual Average Ground Level Ammonia Concentration (ug/m3) (2022)
Y-Direction [m]
376400
376500
376600
376700
376800
376900
377000
X-Direction [m]
290500
290600
290700
290800
290900
291000
291100
291200
map data: © HERE.com
POST/PLOT FILE OF ANNUAL VALUES FOR YEAR 1 FOR SOURCE GROUP: ALL
ug/m^3
Max: 5.33 [ug/m^3] at (290838.61, 376735.19)
0.50
0.70
1.00
5.00
6.00
COMMENTS:
SOURCES:
9
RECEPTORS:
1779
OUTPUT TYPE:
Concentration
MAX:
5.33 ug/m^3
MODELER:
Mark Burke
DATE:
28/03/2025
SCALE:
0
0.1 km
1:5,538
IRWIN CARR CONSULTING
PROJECT NO.:
2024210

APPENDIX D SITE RELEVANT THRESHOLD

As detailed in the report, the updated NIEA strategy relies on a 'Site Relevant Threshold' (SRT) for the assessment of ammonia and Nitrogen impacts.

The SRT is calculated depending on the number of additional new projects below the DMT within 5km of the development over 13 years. The current applicable 13-year period is from 2017 – 2030. It is therefore necessary to estimate how many projects might be developed over this 13-year period.

Irwin Carr have completed a search of all relevant planning applications and IPPC permit applications/ variations within 5km of the development, and they are summarised below. As per the JNCC Technical Report, only those applications which are below the DMT have to be included as part of the calculation.

Table 26: Number of additional new projects below the DMT within 5km of Development

Application	Proposal	Min Impact at a Relevant Designated Site	Exceeds DMT (0.08%)	Include as Relevant Application?
LA09/2018/1366/F	Proposed free range poultry shed with 4 feed bins, a standby generator building and associated site works (poultry shed to contain 32000 free range egg laying hens)	0.03	No	Yes
LA09/2020/0820/F	Proposed grass silage clamp alteration (from that approved under LA09/2015/0240/F) to include roof enclosure / steel frame, plant storage shed and extension to curtilage associated with an operational Anaerobic digestion (AD) plant	No AQIA needed	-	No
LA09/2021/1475/F	Proposed free range poultry shed with 2no. feed bins, a storage shed and associated site works (Poultry shed to contain 8000 free range egg laying hens)	0.07	No	Yes
LA09/2021/1554/F	Proposed free range poultry shed with 4 feed bins, a storage shed a standby generator building and associated site works (Poultry shed to contain 32000 free range egg laying hens)	0.38	Yes	No
	Total Applications from 2017 – 2023			2

In addition, the following IPPC permit was also identified within 5km of the proposed shed.

P0005/03A: The rearing of poultry for 68,000 birds (pullets). The minimum impact at a designated site associated with this application was 0.6%. Therefore, it has not been included.

P0034/03A: The rearing of poultry for 68,000 birds (broilers). This was permit was granted in 2016 and has not been varied. Therefore, it has not been included.

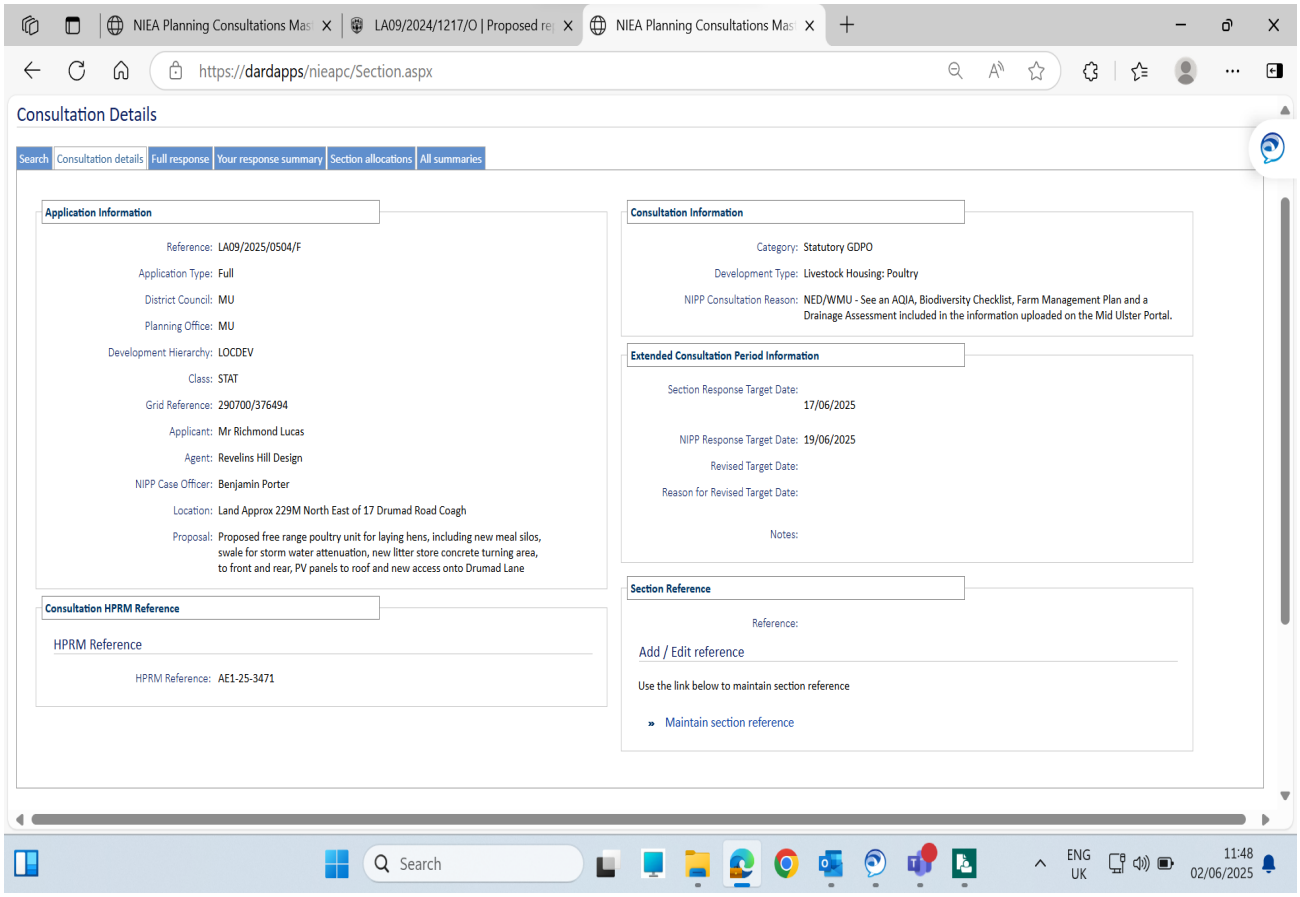
P0417/13A: The rearing of 1,400 sows, 150 pigs >30kg, 5,500 pigs <30kg. Has not been varied since 2016. Therefore, it has not been included.

Based on the information above the identified applications/ permits, it can be seen that there is a total of 2 relevant applications between 2017 – 2023 to be considered when calculating the DMT. Based on a consistent rate of development, it has been assumed that there will be a total of approx. 4 additional new projects below the DMT within 5km of the development over the 13-year period.

Based on the Figure below, taken from the JNCC report, this results in a 'Low' Development Density, with the associated SRTs provided for each emission type.

Figure 7: Site Relevant Thresholds for On-Site Emissions

Development Density	Very Low	Low	Medium	High
Description	Remote area which sees very little development	Area which sees small amounts of development	Typical agriculture / industrial area	Area experiencing intensive growth (e.g. Powys or Immingham docks)
Example Number of additional new projects below the DMT within 5 km of proposed development over 13 yrs [a]	1	5	10	30
Site-Relevant Thresholds for On-site Emissions				
Annual Mean NH_3 (lichens/bryophytes) ($\mu g/m^3$)	0.0075	0.0034	0.0020	0.00079
Annual Mean NH_3 (higher plants) ($\mu g/m^3$)	0.022	0.010	0.0060	0.0024
Annual Mean NOx ($\mu g/m^3$)	0.087	0.046	0.030	0.014
Annual Mean N dep (woodland (kg-N/ha/yr)	0.13	0.057	0.034	0.013
Annual Mean N dep (grassland) (kg-N/ha/yr)	0.088	0.040	0.024	0.0093


NIEA Planning Consultations Mas
LA09/2024/1217/O | Proposed re
NIEA Planning Consultations Mas
https://dardapps/nieapc/Section.aspx
Consultation Details
Search
Consultation details
Full response
Your response summary
Section allocations
All summaries
Application Information
Reference: LA09/2025/0504/F
Application Type: Full
District Council: MU
Planning Office: MU
Development Hierarchy: LOCDEV
Class: STAT
Grid Reference: 290700/376494
Applicant: Mr Richmond Lucas
Agent: Revelins Hill Design
NIPP Case Officer: Benjamin Porter
Location: Land Approx 229M North East of 17 Drumad Road Coagh
Proposal: Proposed free range poultry unit for laying hens, including new meal silos, swale for storm water attenuation, new litter store concrete turning area, to front and rear, PV panels to roof and new access onto Drumad Lane
Consultation HPRM Reference
HPRM Reference
HPRM Reference: AE1-25-3471
Consultation Information
Category: Statutory GDPO
Development Type: Livestock Housing: Poultry
NIPP Consultation Reason: NED/WMU - See an AQIA, Biodiversity Checklist, Farm Management Plan and a Drainage Assessment included in the information uploaded on the Mid Ulster Portal.
Extended Consultation Period Information
Section Response Target Date: 17/06/2025
NIPP Response Target Date: 19/06/2025
Revised Target Date:
Reason for Revised Target Date:
Notes:
Section Reference
Reference:
Add / Edit reference
Use the link below to maintain section reference
» Maintain section reference
Search
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11:48
02/06/2025