ENVIRONMENT STATEMENT

APPENDIX 1 - ODOUR, NOISE AND AMMONIA ASSESSMENT

SITE	Grove Farm, Grove Road, Gissing, Diss, IP22 5XA
APPLICANT	Kevin Jordan, PCA Cullum & Partners, Grove Farm, Gissing
APPLICATION	New Pig Building with covered muck store extension at Grove Farm, Gissing

INTRODUCTION

This Odour, Noise and Ammonia Impact Assessment has been prepared to accompany full planning application for a new pig building at Grove Farm, Gissing.

Its considers any potential impact of odour from the proposed development on hearby sensitive receptors and to demonstrate how any impact can be minimised through best available techneices and site management.

Grove Farm currently has a capacity to house 1996 fattening pigs

The existing buildings are located at the north west end of the yard, furthest away from the settlement areas of Gissing. The proposed building will be set between the existing pig buildings and the workshop keeping the proposed building within the existing farm yard footprint, increasing capacity to accommodate 2996 fattening pigs.

Pigs are kept on a fully straw based system, fed a low crude protein diet, and manure is pushed out regularly each week into a covered muck store.

The location of the proposed building in the wider context of the landscape is screened by various tree belts and hedges provide screening the site and the nearest neighbours on Rectory Road (located north west on the opposite side of the railway line).

METHOD OF ASSESSMENT

The Environment Agency H4 Odour Management Guidance has been adhered to, employing a qualitative source-pathway-receptor model supplemented by a risk matrix. In light of the absence of historical complaints, the rural setting, its positioning relative to residential sensitive receptors, and the distance from Protected Nature Conservation sites, it is deemed that a comprehensive dispersion model is neither necessary nor proportionate.

SITE CONTEXT AND BASELINE

Grove Farm is an established livestock and arable farm, located on elevated land with heavy drought resitant soils.

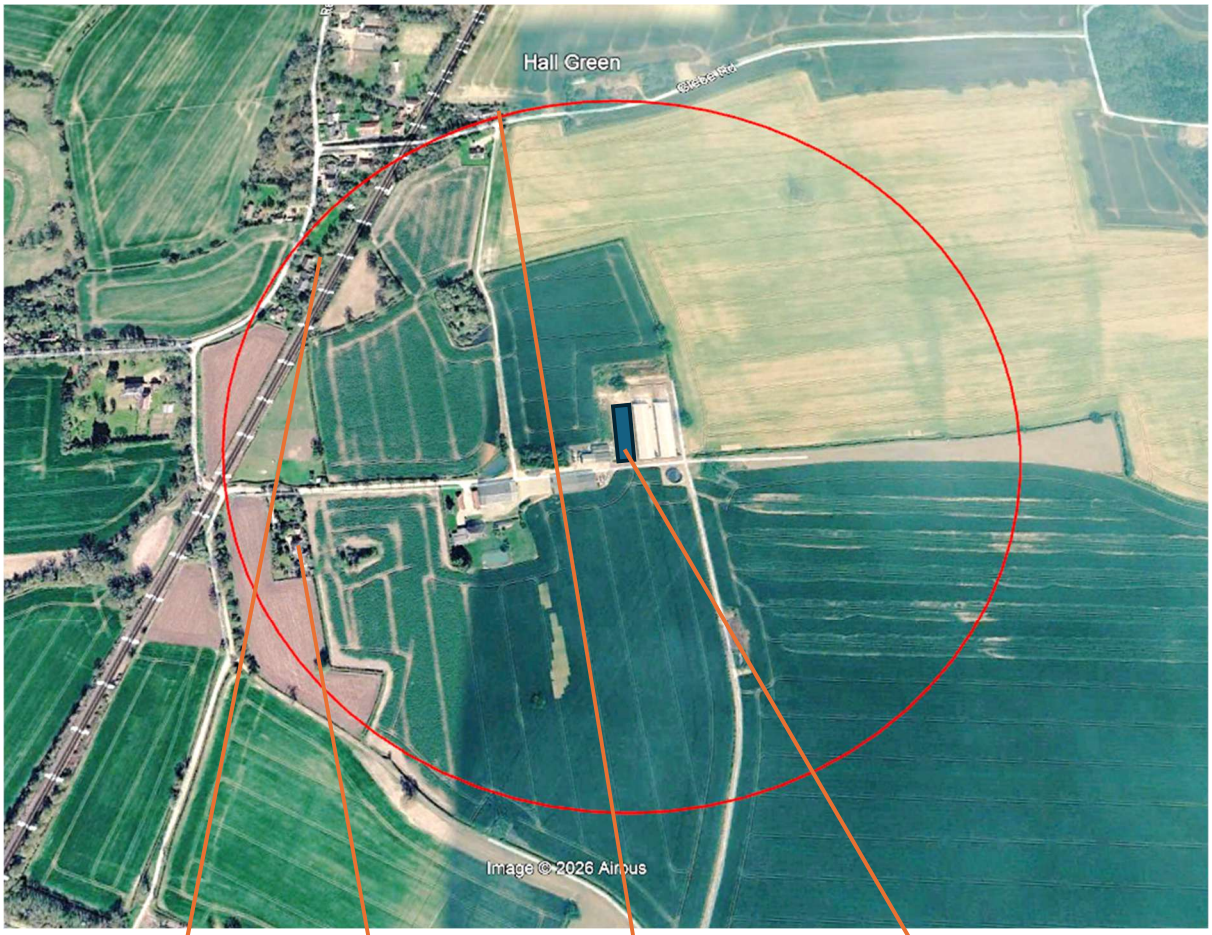
The proposed buildings will be situated al onside existing buildings and within the close proximity of the livestock infrastructure.

Protected sites, such as SSSI's are far enough away that they are not seen as at risk from expansion of this site.

Distance from Protected Nature Conservation Sites

SSSI Sites		
	Shelfanger Meadows	5km
	Pulham Market Big Wood	6.45km
Country Wildlife Sites		
CWS Ref 41	Brick Kiln Wood	677m
CWS Ref 40	The Shrubbery	670m
CWS Ref 38	Gissing Common	2520m
CWS Ref 37	Home Wood & The Belt	1500m
CWS Ref 36	New Plantation & Brick Kiln Covert	1300m

Diagram showing 400m receptor circle from proposed building



Rectory Road

Closest property – 382m

Closest Listed Building

Gleve Farm – 400m

Site of Pig building and muck store

The Harrolds

Closest residential building – 350m

The village of Gissing lies to the south -west of the site, with the nearest dwelling 350m away. This site is not visible from the site, having hedging, and several agricultural buildings shielding it.

The prevailing wind is south-westerly, blowing away from both the village and the closest houses.

Historically the farm has never received a complaint regarding odour, noise or ammonia despite the current presence of livestock and manure management activities.

PROPOSED DEVELOPMENT

The proposed development is for a new pig building alongside two existing pig buildings. The building and extension to the manure store will enable the family to improve animal welfare and efficiency alongside maintaining a sustainable and profitable future for the current and future generation.

ODOUR SOURCES AND MITIGATION MEASURES

- Primary Odour and Ammonia sources:-
- Pig Housing (Fattening housing – over 30kg live weight)
- Manure storage
- Slurry Store
- Manure Spreading operations

ODOUR AND AMMONIA MITIGATION AND CONTROL MEASURES IN PLACE:-

- Straw-based system: naturally suppresses odours compared to slurry-based systems. Lowest Ammonia and Odour emitting system

- Diet – the pigs are fed a complete feed with reduce Crude protein to substantially reduce Nitrogen in the urine

- Enhanced ventilation within the building design to manage airflow and reduce concentration of odours around the site

- Clean-out procedures: Frequent mucking out (several times weekly) and deep bedding maintenance

- Covered Dirty water store: As part of the IPPC application the applicant will fit a floating cover fitted with a floating cover to reduce ammonia and odour emissions – (reduction from 1.13 Kg ammonia per M2 to 0.45 Kg ammonia per M2)

- Dirty Water store – emptied using Approved Contractor. Umbilical system with application via dribble bar on applicants land

- Manure Management
  Manure is kept dry from rain, reducing dirty water content (and storage) and producing a higher-quality, nutrient-dense fertiliser for the farms arable land

- Manure store (under cover storage) protects local watercourses from leachate runoff and limits ammonia emissions
  Manure store (under cover storage) cuts down on odour and atmospheric emissions

- Manure is spread onto surrounding arable land (majority of which is a greater distance from receptors) direct from manure store and cultivated within a target time of 24 hours

ODOUR AND NOISE RISK ASSESSMENT

Using the Environment Agency's H4 qualitative risk matrix

Element	Description
Source	Pigs (straw-based system), muck store (covered), slurry store (covered)
Pathway	Airborne via wind
Receptors	The Harralds (350m West) – Rectory Road properties minimum distance 382m (North-West)
Prevailing Wind	South-west blows away from receptors
Historical Complaints	None recorded
Overall Risk	Low, due to distance, mitigation, wind direction, pig management & vegetation belts Stocking density is kept in regulation to maintain high welfare and reduce risk of noise Vegetation belts on farm and between housing and site reduces noise

AMMONIA RISK ASSESSMENT

Element	Description
Source	Pigs (straw-based system), muck store (covered), slurry store (covered)
Pathway	Airborne via wind
Receptors	The Harralds (350m West) – Rectory Road properties minimum distance 382m (North-West)
Prevailing Wind	South-west blows away from receptors
Historical Complaints	None recorded
Overall Risk	Low, due to distance, mitigation, wind direction, pig management, and vegetation belts. Building designed incorporating ventilation systems reducing build-up of ammonia Dry manure store reduces ammonia leachate Low Crude Protein diet – reducing ammonia Straw based system – lowest ammonia and odour emitting Manure is in covered store, reducing leaching, ammonia and odour

CONCLUSION

The proposed development of a pig building and muck store extension is unlikely to result in significant odour, noise or ammonia impacts on nearby receptors.

Existing mitigating factors, manure management – with the addition of dry muck storage a few years ago – has reduced the wet content of the manure and reduced ammonia. The muck is applied to the applicants farm land and cultivated in a target of 24 hours.

The dirty water store will have hexa-cover added which will significantly reduce ammonia and odour to the local receptors (by up to 90%) and the amount of dirty water has reduced due to rainwater diversion from the manure. This content will further reduce with the addition of a floating cover by reducing the ability for rainwater to enter the store.

Low Crude protein diet, straw based system creates a low ammonia environment

Tree belts, vegetation and hedges restrict the view from receptors and the earth bund absord sound, smells and ammonia.

The family are committed to maintaining their reputation as farmers and continue to work closely with the community and are further committed to the Environmental plans on their farm, with the IPPC application and the impacts that arise from it. They maintain good recording, using BAT (Best Available Techniques) and guidance from Natural England and the Environment Agency.