

## NON-TECHNICAL SUMMARY

### GENERAL

Woodville Pig Farms currently operates an Industrial Emissions Licenced (Reg. No. P0467-02) pig rearing facility at Woodville County Tipperary (Eastings 196520 Northings 182050).

Permission is sought by Woodville Pig Farms to demolish a gilt house, two weaner houses and one first stage weaner house and to construct a modern second stage weaner house and extend farrowing Unit 1 with additional farrowing sow accommodation, convert farrowing Unit 2 to loose sow accommodation, extend Unit 2 to provide additional weaner accommodation, construct a new pre-finisher house for slow growing pigs, construction of a slurry reception tank and all associated site development works at their breeding facility in Woodville.

The current number of sow places and the proposed sow places at Woodville Pig Farms exceed the threshold in Schedule 5, Part 1, 17(c) of the Planning & Development Regulations, 2001 (as amended) which requires a mandatory EIAR to be completed for the development.

This EIAR document has been prepared on behalf of and for the exclusive use of Woodville Pig Farms by Panther Environmental Solutions Ltd.

The activities currently at the site are farming activities appropriate to the area, and is consistent with the development plan for County Tipperary. Given a successful application, the activities at the site would not change.

The farm operates under the conditions of an Industrial Emissions License (Reg. No. P0467-02) issued by the Environmental Protection Agency on 19<sup>th</sup> March 2000 and amended on 27<sup>th</sup> July 2012.

The main activities on the site are summarised as follows:

- Breeding of pigs;
- Feeding and rearing of pigs for transfer to finishing site (Ballyknockane);
- Delivery of feed to farm;
- Feeding of pigs via an automated feed and drinking water systems;
- Removal of pig slurry from slurry tanks periodically;
- Removal of fallen animals when required;
- Cleaning/disinfecting of pig pens between batches.

Pigs produced for the meat market at the Woodville site are finished at the Ballyknockane site. The pigs are taken in at the finishing site at a weight of c. 32-40 kg and then fed on a low protein industry standard diet until they reach a weight between 75 and 110kg after which they are transported to a factory for processing.

The principal input at the site would include pig feed, water, veterinary medicines and electricity for the automated feed system, lighting etc.

The main outputs at the site are weaner stage pig for finishing and animal slurry (by-product). The primary wastes produced at the site include domestic refuse, recyclable packaging waste and fallen animal carcasses.

The Woodville site occupies a space of c. 13.7 acres. The proposed development would be constructed on an area which is currently made-ground/hardcore and rough grassland, which is currently used as farmyard and is in the ownership of the Woodville Pig Farms. The construction phase of the proposed project would take an estimated 3-4 months.

The proposed development would improve the environmental and welfare performance of the existing facility, to increase stock numbers to sustain viability and to comply with the EU Animal Welfare regulations (S.I. No. 311 of 2010). Following the completion of the project, Woodville Pig Farms would remain fully compliant with the EC Regulations on Animal Welfare, Nitrate Directives, and Water Framework Directive.

The nearest settlement to the proposed development site is the village of Toomevara, located c. 4.5 km south of the site. The next closest populated area is the village of Moneygall c. 6.3 km south-east of the site.

Access for the site is taken from a local country road which connects the R491 road to Nenagh Town to the R490 and R445 regional roads near the village of Moneygall.

The regional setting of the development is predominantly rural and in a farming area with intermittent housing along the local road network. The nearest residential property to the proposed site not owned by the applicant is c. 300 m distance from the site.

### **SLURRY MANAGEMENT**

Slurry storage capacity at the site would be compliant with the minimum 26 weeks' slurry storage capacity specified in S.I. 605 of 2017 if the development went ahead.

Slurry from the site would be collected periodically at designated times by customers (i.e. local farmers) for the purpose of land spreading. All slurry collections from the site would be recorded in a log by the applicant, as per Nitrates Regulations (S.I. No. 605 of 2017).

All wash water produced on site (i.e. water from cleaning down pig pens between batches) is diverted to the nearest slurry tank where it is treated as slurry. There would be no discharge of any soiled water or any effluent from the site to any watercourse or to groundwater.

The existing and proposed slurry tanks conform to a recognised design standard for slurry storage, i.e. The Irish Department of Agriculture and Food Specifications S123 (Minimum Specification for Bovine Livestock units and Reinforced Tanks) March 2006. The existing and new slurry tanks would include an approved sub-floor leak detection system as a method of monitoring to ensure there is no source of pollution in the vicinity from the slurry tanks.

The applicant proposes to construct a new uncovered slurry reception tank in the north of the farmyard. The proposed reception tank would accommodate c. 80% of the slurry produced by the pigs in the new proposed buildings when operational. The remaining 20% of the slurry would be stored in the existing slurry tanks at the site.

The proposed slurry storage facilities would incorporate modern "low emission" design. The removal of slurry from underneath the pigs would reduce air and odour emissions from the site.

The applicant also intends to use a modified “slurry cooling” system in the newly constructed slurry tanks. Cooling of pig slurry significantly lowers ammonia emissions from the slurry and consequently odours from the site.

### **WASTE MATERIAL**

All waste material would be stored as per the BREF Document on Emissions from Storage (July 2006) and removed from the site by a licensed waste contractor as necessary. Removal of waste materials would be documented as appropriate.

The proposed buildings would generate certain waste types during both the construction and operational phases. During construction works, construction and demolition waste would be generated. Waste would be segregated onsite and would be reused in infilling processes and landscaping where permitted and where possible, with remaining wastes sent for recycling or disposal as appropriate.

The operational phase would generate small amounts of typical domestic-type wastes (e.g. cardboard and plastic), animal tissue waste, fluorescent tubes and some veterinary waste which would be collected by the applicant and stored until removed by a suitably licenced waste contractor.

Woodville Pig Farms would ensure that all waste hauliers which are contracted by the farm are suitably licenced to transport specific waste streams from the site and that all waste would be delivered to facilities which are licenced to accept the waste.

### **HUMAN BEINGS**

The proposed development is located within a rural agricultural landscape, sparsely populated, with residential development primarily linearly aligned along the existing road network. A number of large farmsteads and agricultural facilities are located in the surrounding area of the proposed site. The area also supports a number of commercial developments.

The proposed development would have a positive impact on the local economy by providing temporary employment during the construction phase as well as providing job security for employees currently working for Woodville Pig Farms.

The enterprise currently provides full-time employment for eight full-time staff (not including the directors) at the Woodville site. The proposed new developments would also result in the creation of three new full-time positions.

The development would also provide employment for contract workers including hauliers delivering feed and removing products and wastes. The provision of employment would further contribute to the economy of the area through direct spending of goods and services in the local area.

The proposed development would have a potential nuisance upon human beings during the construction phase due to potential increased dust and noise emissions. However, the potential impact would be temporary given the transient nature of construction works. Noise and dust

control measures would be implemented throughout the construction phase to reduce the potential impact where required. Therefore, noise and dust would not be considered to pose a significant impact.

The proposed demolition works pose a potential risk of dust due to the presence of asbestos sheeting from roofs off the sheds for demolition. Corrugated asbestos cement sheet (CACS) are one of the most common low-risk asbestos containing materials (ACMs). CACS would be removed from roofs by competent asbestos contractors prior to any other construction activities being carried out. Therefore, the risk to human health via contaminated dust is considered minor.

During the operational phase, there would be potential for odour generation from new buildings. No odour complaints have been received by the site, County Council or EPA for the Woodville Pig Farms Ltd site since the beginning of operations. The proposed weaner house would replace existing houses of obsolete design and the new structures would incorporate modern low air emission design. While there would be expected to be a significant reduction in odour emissions from weaner accommodation, the additional pig numbers and buildings would increase overall odour emissions. Odour Impact Modelling has determined that the proposed farm would comply with the guideline odour limit value at the nearest odour sensitive receptors during the worst case scenario year. It is therefore considered that the siting of the new piggery development would not impact significantly upon nearby sensitive receptors with respect to odour.

No significant additional noise impact would be anticipated during the operational phase of the proposed development in combination with existing operations. Maximum fan noise would be inaudible to slightly audible at sensitive locations and due to the low predicted resultant noise levels and the infrequency of occurrence, it is predicted that there would be slight to no significant impact upon noise sensitive locations. The proposed development is unlikely to generate noise levels that will significantly impair amenity beyond the site boundary.

The proposed development has the potential to impact upon traffic volumes in the area. While there would be increased vehicle movements during the construction phase, this would be for a limited period of time. During the operational phase of the project traffic movements to and from the site should increase due to the new number of animals and works at the site. Operational traffic movements would be expected to involve deliveries, collections and staff movement. Traffic movements would be similar to the traffic movements associated with the existing piggery at the site when operating at full capacity.

The proposed development would not be anticipated to have any significant impact on the land use of the area. The proposed buildings would be constructed on land currently used as farmland and farmyard and owned by Woodville Pig Farms. The land use would continue to be for agricultural purposes, however, the agricultural value of the grassland area would be improved by the proposed development.

There would be no adverse impacts to human health due to a deterioration in water quality. The site is not located in the vicinity of groundwater or surface water wells for supply to humans. There are no surface water drains within the proposed construction site, only clean rainwater from roofs and clean yards is collected by the existing storm drain network and flow paths in the underlying bedrock aquifer are limited. During the construction phase, water quality would be protected by the implementation of mitigation measures, such as the

appropriate storage of excavated topsoil and the appropriate handling and storage of potentially polluting substances. Similar controls are currently in place, including a requirement for bunding of potentially polluting materials and leak detection systems on slurry tanks, which would continue to protect water quality during the operational phase.

It is not considered that the proposed development would pose any significant risk to human health or amenity.

### **AIR / ODOUR / CLIMATE**

The main potential sources of air pollutants from the operation of the proposed development would be the livestock digestive processes and pig slurry. Emissions from digestive processes and slurry include primarily ammonia and methane. Such air emissions would be concomitant with piggery odours.

Airborne dust associated with the animals is not expected to be an issue due to the modern design of the proposed buildings.

The proposed development would result in the generation of greenhouse gasses (GHG), in particular carbon dioxide and methane. GHG's emitted from the site would have no significant effect upon the local climate, however, would contribute to the overall generation of GHG's from agriculture in Ireland.

The use of modern "low emission" housing design and the demolition and replacement of outdated building designs would minimise the generation of air emissions from the farm. However, the overall generation of air emissions from the farm, including greenhouse gases, would be expected to increase due to the proposed increase in pig numbers.

Air emissions generated at the proposed development would be typical of the industry and would be anticipated to have no significant to slight air quality impacts in the regional context. Air quality in the vicinity of the development would be expected to continue to be "Good", as rated by the EPA's Air Quality Index for Health and would remain dominated by general traffic and agricultural sources within the region.

With regard to the potential for odour nuisance effects, there are no sensitive receptors not in the ownership of the applicant within 300m of the site. Since the applicant commenced pig farming at the site in the 1970's and since receipt of an EPA IPPC/IE licence in 2000, the site has not received any complaints with regard to odours.

An Air Quality and Odour Impact Assessment Report was carried out by Odour Monitoring Ireland Ltd to perform a predictive odour and ammonia impact assessment of an existing and proposed extension to an pig production facility utilising library emission data and dispersion-modelling software Aermid Prime (19191). This assessment is to ascertain whether the levels of emissions from the proposed pig production facility will result in ground level impact in the vicinity of the site operations and on Natura 2000 sites. See accompanying Impact Assessment (Document Ref: 20211003(1)) for detailed methodology and results.

The model assessed the potential impacts for the farm as standard slatted type animal houses. Potential ammonia reductions as a result of proposed slurry removal and slurry cooling systems were not accounted for in the model.

The maximum predicted ground level concentration of odour at the worst case sensitive receptor in the vicinity of the facility was less than or equal to 1.77 OuE/m<sup>3</sup> for the 98th percentile of hourly averages for the worst case meteorological year. This is less than the guideline odour limit value of less than or equal to 6.0 OuE/m<sup>3</sup> for the 98th percentile of hourly averages.

The high standard of design of the proposed pig houses, coupled with continued good housekeeping practices currently in place at the site, would serve to ensure the effective control of odour emissions and mitigate the risk of environmental impact and nuisance to sensitive receptors from odours associated with the site.

Mitigation measures for air emission and odour control are outlined in **Section 5.7** and include a state of the art slurry cooling system, a slurry removal system, appropriate stocking density, appropriate timing/weather for slurry removal, quality ventilation and high-quality building design. A draft odour management plan has been completed for the site and is included as **Attachment 5.2** of this EIAR.

It is considered that the proposed development would not have a significant impact upon air quality, climate or odour nuisance.

## **NOISE**

A Noise Survey has been prepared in support of this EIAR. The survey identified the main noise sensitive locations (NSLs) and assessed the potential impact of the proposed development at these locations, in accordance with the methodologies prescribed in ISO 9613-2:1996 "Attenuation of Sound during Propagation Outdoors" and in BS 4142:2014 "Methods for Rating and Assessing Industrial and Commercial Sound".

The baseline noise assessment conducted for the proposed development provides a predictive analysis of the impact of the construction and operation of the proposed development on NSLs to determine the need for any mitigation measures.

Peak source noise levels would occur during short periods during the initial construction phase, such as excavation/site clearance activities. It is anticipated that the proposed development would have a significant but short-term impact on the closest noise sensitive locations during the construction phase. The overall construction phase would be temporary (approx. 3-4 months) and works would be conducted during normal working hours, reducing the risk of negative impacts. Therefore, the subjective impact of noise from construction activities would be mitigated. Predicted construction noise levels would be in compliance with NRA guidance for noise during construction.

The maximum noise from onsite ventilation fans would be predicted to occur predominantly during the daytime periods of the warmest summer days. It is likely that ventilation fans would only be operating at maximum from May to September, for a number of days during these months and only for short periods of these days. The maximum potential impact of noise from

ventilation has been based upon all fans working at maximum power and includes a correction for potential tonal noise from malfunctioning fans. Therefore, the predicted maximum noise levels may be seen as a worst-case scenario for ventilation noise during the operation of the site.

The operation of fans at the typical low /medium power levels which would occur through the majority of the year were also modelled in order to define the expected normal noise impact from the proposed development.

All predicted operation noise levels, at all noise sensitive locations, have been determined to be below the sites existing EPA license daytime limit of 55dB and night-time limit of 45dB.

Due to the low predicted resultant noise levels and the infrequency of occurrence, it is predicted that maximum fan noise would have a slight to no significant impact upon noise sensitive locations.

During the normal operation of the ventilation system, it is predicted that there would no significant impact upon noise sensitive locations during the daytime period and a slight to no significant impact upon noise sensitive locations during the night-time period.

### **VISUAL AMENITY & LANDSCAPE CHARACTER**

The proposed development site is located within a rural agricultural landscape, dominated by pasture fields of varying sizes, bordered by hedgerows and treelines. Residential development in the area is sparse and mostly found next to local roads. Residential property is generally dispersed along local roads. A number of one-off residences and farmyard complexes exist in the area and are the dominantly visible man-made structures in the landscape. Large farmyard complexes are common in the area and are generally composed of a barn, lean-to or A-shaped sheds.

According to the Landscape Character Assessment of County Tipperary, the site is in an area described as “the Plains”. The Plains are described as working landscapes containing most settlements and services as well as large continuous areas used for pasture, tillage and peat harvesting. The Plains area is subdivided into landscape character types. The proposed development site in the townland of Woodville is positioned in the Borrisokane wetlands (Peatlands & Wet Mixed Farmland) landscape character type. The Landscape Character Assessment identifies the dominant forces for change of this landscape character type as; a decline in agricultural activity, commercial coniferous forestry plantations and inappropriately designated and landscaped housing.

The proposed development is well screened from the north, east and west by folds in the land and the treelines and hedgerows which border most fields and roads. However, the existing site is a notable feature in the landscape at viewpoints to the south, in particular from the northern faces of ridgelines.

However, the proposed development is located at the north of the existing farm hub. Therefore, construction activities and the majority of proposed structures would be obscured by the existing structures. The proposed pre-finisher house would be obscured to views from the south by the esker ridgeline bordering the site.

There would be a minor to no significant and temporary visual impact from construction works as, by its nature, works would mainly occur at a low level and construction is not expected to continue for more than three to four months. The main visible impact would be predominantly construction vehicles and plant machinery, such as excavators and delivery vehicles.

The only part of the development which would be expected to result in any visual impacts is the proposed weaner house. This development would increase the height of the existing weaner house, which forms the background of the existing site. The proposed weaner house would not be expected to exceed the height of the existing feed silo's, the tallest existing structures currently at the site.

Therefore, it is anticipated that there would be a permanent slight to no significant impact upon the visual amenity at locations south of the site. It is anticipated that impacts would be predominantly limited to locations within 1 to 1.5 km of the site.

The recommendation of a green finish on the buildings would ensure that the development would blend in well with surrounding landscape features and elements. The recommended planting of trees to the south of the existing buildings would also merge the existing and proposed structures with the treelined character of the area.

A review of the County Development Plan shows that the site is not located within a primary or secondary amenity area, nor does the site impinge upon views from amenity areas or listed views.

According to the Tipperary Landscape Character Assessment, The Borrisokane Wetlands are a moderately sensitive landscape area. The proposed development is of an agricultural nature and would be incorporated within an existing farming enterprise. Given the nature, location and design features of the proposed buildings, it is considered that the proposed development would have a non-significant Minor-Negligible effect on the level of landscape and visual impact in the area.

## **BIODIVERSITY**

### *Designated Sites*

An Appropriate Assessment Screening Report has been prepared in support of this application (Document Ref. PES\_AA\_19\_9350). The European sites considered to be within the potential zone of influence of the proposed development were Scohaboy (Sopwell) Bog Special Area of Conservation (SAC) (Site Code: 002206), Lough Derg, North-East Shore SAC (Site Code: 002241) and Lough Derg (Shannon) Special Protection Area (SPA) (Site Code: 004058), due to the potential hydrological connectivity and / or distance from the proposed development site.

As discussed in detail within the Appropriate Assessment Screening Report and as summarised in **Sections 8.5.2** and **8.5.3**, the proposed development would not be considered to result in any adverse impact to the protected habitats or species of the designated sites due to habitat loss or fragmentation, reduction in species density or diversity, introduction of invasive species or potential impacts upon water quality.



The proposed development does not directly impinge on any part of a European site and it is not considered that the proposed development site would contain the habitats or species for which the sites have been designated for. It is unlikely that the development site would be of importance to the special conservation interests of Lough Derg (Shannon) SPA, given the habitats present onsite and the distance from the SPA site.

In the absence of any invasive flora species of concern onsite and given that no topsoil or subsoil would be required to be imported onsite, the development would have no significant impact upon designated sites due to invasive species.

It is not envisaged that protected species would be adversely impacted upon due to noise generated by the proposed development, given the nature of the proposed development and the distances to the designated sites. While there would be increased noise emissions during the construction phase, these would not be considered to pose a significant risk owing to the transient nature of works, the construction timeframe and the distances between the development site and designated sites.

The potential disturbance on protected habitats due to dust during the construction phase would not be considered significant, given the transient nature of construction works, the construction timeframe and given the distance to the nearest European site (approximately 9.6km).

It is not considered that the proposed development would have the potential to significantly impact upon air quality within the area, with the potential to adversely impact upon Scohaboy (Sopwell) Bog SAC, Lough Derg, North-east Shore SAC or Lough Derg (Shannon) SPA.

While ammonia emissions would increase in response to an increase in pig numbers at the proposed development site, the proposed development includes design measures which limit the potential for the generation of ammonia emissions to atmosphere. Of particular note is the incorporation of a slurry cooling system, which has been estimated to reduce ammonia emissions by 25% (as discussed in **Section 5**). The development would also include for the removal of slurry to an external slurry store, which has been noted as a key principle within the document, “*Reference Document on Best Available Techniques (BAT) for Intensive Rearing of Poultry and Pigs*”, for reducing air emissions.

As per the Air Quality and Odour Impact Assessment of the existing pig production facility operations, the Ammonia plume spread for the Annual average ground level concentration is approximately 100m from the facility buildings. The maximum predicted ground level concentration of Ammonia at the worst-case sensitive receptor in the vicinity of the facility was less than or equal to  $0.51 \mu\text{g}/\text{m}^3$  for the annual averages for the worst-case meteorological year 2017. The maximum predicted ground level concentration at the identified Natura 2000 sites within 15km is less than  $0.12 \mu\text{g}/\text{m}^3$ . This is less than the guideline Ammonia limit value for the protection of ecosystems at these locations.

The Odour Impact Assessment also assessed the potential Ammonia plume from the proposed pig production facility operations using the same modelling. The model assessed the potential impacts for the farm as standard slatted type animal houses. Potential ammonia reductions as a result of slurry removal and slurry cooling were not accounted for in the model. The maximum predicted ground level concentration at the identified Natura 2000 sites within 15km is less than  $0.30 \mu\text{g}/\text{m}^3$ . This is less than the guideline Ammonia limit value for the protection of

ecosystems at these locations. See accompanying Air Quality and Odour Impact Assessment Report (Document Ref: 20211003(1)).

The proposed development is located within the Lower Shannon catchment (25C) and is hydrologically connected to the Lough Derg, North-east Shore SAC and Lough Derg (Shannon) SPA. The development site is not hydrologically connected to the Scohaboy (Sopwell) Bog SAC, therefore no potential water quality impacts are anticipated upon this site. As discussed in the Appropriate Assessment Screening Report, the development site is located a considerable distance, approximately 22.4km from Lough Derg, North-east Shore SAC and Lough Derg (Shannon) SPA. Given the considerable distance and subsequent tributaries involved, any drainage from the site would undergo considerable dilution prior to reaching the SAC or SPA sites.

The proposed development would not be considered to impact upon the SAC or SPA sites due to deleterious effects on water quality during construction works, owing to the duration of construction works, the considerable hydrological distance (and thus dilution) between the proposed development and designated sites and given that the proposed footprint is not located within the immediate vicinity of any watercourses. Further details are provided in the Appropriate Assessment Screening Report and **Section 8.5.2**, “*Designated Sites – SAC and SPA Sites*”.

It is not anticipated that the operational phase has the potential to impact upon the SAC or SPA sites due to deleterious effects on water quality. Stormwater from the site comprises of clean rainwater run-off from the roofs. Stormwater from the proposed structures would connect to this existing stormwater network prior to discharge to the Wilton Stream, located a significant hydrological distance from the SAC and SPA sites (greater than 22km). There are no process effluent emissions from the site, with all manure stored within underground slurry tanks, awaiting collection for landspreading activities. The existing slurry tanks are fitted with leak detection systems, which would also be incorporated within the proposed new slurry tanks.

The development could result in a potential impact upon the biodiversity of designated sites through the landspreading of pig manure as organic fertiliser, either through pollution of waterbodies or the enrichment of natural vegetation. However, manure is and would continue to be, collected by registered contractors / farms, for application to lands held by third parties in the area and managed in compliance with the Nitrates Regulations (S.I. No. 605 of 2017).

One Natura Heritage Area (NHA) site, Scohaboy Bog NHA (Site Code: 000937), is considered to be within the potential zone of influence of the proposed development. The proposed development does not directly impinge on this NHA site. It is not considered that the proposed development would have the potential to impact upon the NHA due to a potential deterioration in water quality, given that the NHA site is located upstream of drainage from the proposed development and therefore is not considered to be hydrologically connected to the development. The development could result in a potential impact upon the biodiversity of the NHA through the landspreading of manure as organic fertiliser. However, as noted above, manure is and would continue to be, collected by registered contractors / farmers, for application to lands in the area and managed in compliance with the Nitrates Regulations (S.I. No. 605 of 2017).

It is not considered that the proposed development would have the potential to significantly impact upon air quality within the area, with the potential to adversely impact upon the NHA.

As discussed above, while ammonia emissions would increase in response to an increase in pig numbers at the proposed development site, the development includes design measures which limit the potential for the generation of ammonia emissions to atmosphere. These design measures include the incorporation of a slurry cooling system and the removal of slurry to an external slurry store. Given the incorporated design measures for the reduction of ammonia emissions at source and given the distance of the proposed development from the NHA, no potential significant impacts are anticipated upon the NHA due to the proposed development in relation to air emissions.

#### *Land Use and Habitat Loss / Fragmentation*

The proposed development would result in a change of habitat use at the proposed development footprint, resulting in the loss of recolonising bare ground (ED3), wet grassland (GS4) and scrub (WS1) habitats. The loss of ED3 habitat would not be considered significant, given that this habitat is modified and of low ecological value. The loss of wet grassland (GS4) and scrub (WS1) habitats would not be considered significant, given that wet grassland is common in the general area and given that replacement planting would be undertaken, comprising of a new hedgerow of native species, measuring approximately 250m in length.

Where possible, scrub and tree removal would not take place during the bird nesting season (1<sup>st</sup> of March – 31<sup>st</sup> of August). However, it may be necessary to undertake some scrub / tree removal works during the bird nesting season. In such instances, a suitably qualified ecologist would be engaged to carry out inspections for the presence of breeding birds prior to any clearance works taking place and recommendations would be followed (for example the establishment of a buffer zone around an active nest).

There would be no loss of any known bat roosts. The buildings onsite scheduled for demolition were determined to have a negligible bat roost potential. The mature Ash tree scheduled for removal was assessed as having a moderate bat roost potential, due to dense ivy cover. Therefore, measures are proposed in **Section 8.6.1** to ensure that the tree is re-assessed prior to felling or soft-felled under supervision of a suitably qualified ecologist.

No rare plant species or protected flora under the Flora (Protection) Order 2015, were recorded within the proposed development area. Therefore, the proposed development would not be considered to impact upon any rare or protected flora species.

#### *Invasive Flora of Concern*

No invasive flora species of concern were recorded during the onsite ecological assessment. The potential risk of introducing invasive species during the construction phase would be considered low, given that excavated soils would be re-used in site levelling and landscaping works, therefore, no importation of topsoil or subsoil would be required as part of the development works.

#### *Disturbance*

Artificial lighting has the potential to negatively impact upon bat species. During the construction phase, works are not anticipated to be conducted outside of normal working hours, which would considerably reduce the potential impacts upon bat species. Should lighting be required, measures are included within **Section 8.6.1** to reduce the potential impact of light

pollution. With regards the operational phase, there are no external yard lights, with the exception of one light on the back door of the staff office. The proposed development would not require any additional lighting, therefore no significant impacts due to lighting are anticipated.

It is not envisaged that fauna would be significantly impacted upon by the development due to noise. No significant additional noise would be anticipated from the proposed new additions to the facility. Fauna present within the site or immediate area would likely be accustomed to the facility's existing noise environment. Furthermore, a noise management plan accompanies this application and would be put in place for the development. Construction noise would not be considered to pose a significant risk to fauna owing to the transient nature of works, the construction timeframe and given that all vehicles where possible would be equipped with mufflers to suppress noise, as is standard practice.

### *Air Emissions*

Dust emissions may arise during construction activities, in particular during earth-moving works, which may have the potential to impact upon photosynthesis, respiration and transpiration processes of flora due to the blocking of leaf stomata. However, given the transient nature of construction works, the construction timeframe and standard working practices including dust control, the potential impact to flora would not be considered significant.

As discussed in the “*Designated Sites*” section above, the proposed development would generate ammonia emissions to atmosphere. Emissions of ammonia to atmosphere is undesirable from an ecological point of view as it can have toxic, eutrophic and acidifying effects on certain ecosystems. In particular, the presence of high ammonia levels in peatland ecosystems has been found to inhibit the growth of certain moss species, allowing sedge and grass species to outcompete. While the proposed development would result in an increase of ammonia emissions in response to an increase in pig numbers, no adverse significant impact upon habitats is anticipated, given that there are few peatland ecosystems in the area, with the two nearest bogs, Glenahilty Bog, located 300m north of the site and an un-named bog located approximately 3.4km to the north-east, currently worked and therefore of reduced ecological value and given that the land use of the area is mainly pasture land, which would not be particularly sensitive to ammonia emissions. Furthermore, the proposed development has incorporated design measures which limit the potential for the generation of ammonia emissions to atmosphere. These design measures include the incorporation of a slurry cooling system, which has been estimated to reduce ammonia emissions by 25% and the removal of slurry to an external slurry store.

### *Water Quality and Biodiversity*

As discussed in **Section 8.5.2** and **Section 8.5.3**, the potential for the development to impact upon water quality during either the construction or operational phase and thus aquatic biodiversity, is reduced, given the absence of any watercourses within the immediate vicinity of the development site (with the nearest watercourse, the Wilton Stream, located approximately 220m from the main piggery facility and approximately 300m from the proposed development footprint).

No significant impact on water quality would take place due to drainage from the site. Stormwater from the site comprises of clean rainwater run-off from the roofs. Stormwater from the proposed structures would connect to the existing stormwater network. There are no process effluent emissions from the site, with all animal manure stored within underground slurry tanks, awaiting collection for landspreading activities. All slurry tanks have been designed to ensure sufficient storage capacity and are fitted with leak detection systems. The landspreading of manure has the potential to impact upon biodiversity. However, as discussed in the “*Designated Sites*” section above, manure is and would continue to be, managed in compliance with the Nitrates Regulations (S.I. No. 605 of 2017).

No adverse potential impacts upon water quality would be anticipated due to accidents and potential spills and leaks, given the absence of watercourses within the vicinity of the site, the low volume of stored chemicals onsite and given that chemicals and oils are stored upon bunds, in accordance with the site’s Industrial Emissions (IE) Licence.

### **SOILS, GEOLOGY AND HYDROLOGY**

GSI online mapping indicates that the soil underlying the majority of the site is classed as shallow, rocky, peaty/non-peaty mineral complexes which are mainly basic. A small portion of site is underlain by soil described as deep well drained mineral basic soil. These two soil types and poorly drained basic mineral soils are the predominant soil type in the surrounding area. The subsoils beneath the proposed site are mapped as limestone till (Carboniferous) and a small portion of bedrock near the surface.

GSI and OS maps indicate the site of the proposed development is located on bedrock classified as Carboniferous Ballysteen Formation. The Ballysteen Formation comprises bioclastic argillaceous limestone interbedded with shales, becoming increasingly muddy upwards. This lower impure limestone is generally thought to have low bulk permeability with the possible exception of areas near faults.

The south of the site is in a high-risk groundwater vulnerability area and the north of the site is in an extreme risk groundwater vulnerability area. The vulnerability of the groundwater within much of the site is interpreted as being high due to the high permeability of the sand and gravel subsoil and due to the sites position on a bedrock outcrop.

GSI’s aquifer classification map indicates that the site of the proposed development is situated on a bedrock aquifer, which is classified as a Locally Important Aquifer (LI) which is moderately productive in local zones. Due to the bedrock in the area, groundwater storage and movement would be limited.

Due to the topography of the area, it is likely that groundwater beneath the site discharges to the Wilton stream and Ollatrim River.

During the construction phase, the main potential impacts upon soils would be through soil removal as part of excavation works, soil compaction arising from the use of construction plant and hydrocarbon contamination from leaks and spills. Mitigation measures would include the re-use of excavated soils for reinstatement and landscaping works where possible, the use of specialised machinery to minimise soil compaction and the appropriate storage of potentially polluting materials.

During the construction phase, the main potential impacts to surface and groundwater would be the potential for hydrocarbon spillage and uncured concrete spillage. Mitigation measures would include the appropriate handling and storage of hydrocarbons, daily inspections of construction plant, good housekeeping practices and the provision of spill kits.

During the operational phase of the development, the main potential impacts to soils, groundwater and surface waters would include the storage of slurry and accidental leakage or spillage of hydrocarbons.

All existing and new pig houses would include a leak detection system underneath the slurry tanks. In compliance with the sites IE licence, the leak detection system would be required to be visually assessed weekly and collected water laboratory tested bi-annually.

The sites existing IE licence includes conditions for the minimisation of risk from containment of chemicals and fuels. All chemical containment is required to be appropriately bunded and spill clean-up materials are required to be available onsite.

The use of agricultural slurry as a fertiliser is regulated under *Good Agricultural Practice for the Protection of Waters Regulations 2017 (Nitrates Regulations)*, which controls the landspreading of organic fertilisers in order to protect groundwater, surface waters and drinking waters.

Given good working practices and appropriate mitigation measures, it is considered that the proposed development would have no significant impact upon soils, geology or hydrology.

### **MATERIAL ASSETS**

There would be no significant impacts upon agricultural properties or non-agricultural properties (including residential, commercial, recreational and non-agricultural land) due to the proposed development.

There would be no loss of residential, commercial, recreational or non-agricultural land due to the proposed development. As the proposed development would be an extension to an existing piggery, the site would continue to be used for agricultural activities. Therefore, there would be no land use change at the proposed site.

During the construction phase, there is potential for noise and dust to impact upon agricultural and non-agricultural material assets. However, the potential impact would not be considered significant, given the transient nature of construction works and given that noise and dust control measures would be implemented throughout the construction phase.

There would be construction-related traffic during the construction phase of the proposed development. As construction works would be located on agricultural land, there would be no potential impacts on non-agricultural material assets. For agricultural material assets, discussions would take place with local landowners to ensure that construction traffic causes minimum interference with movements of stock and does not hinder farm operations.

The potential for operational noise associated with the proposed development to cause disturbance to livestock within grassland surrounding the proposed development would be considered low. Animals would quickly become acclimatised to the new noise environment adjacent to the development, as with similar projects such as new roads and motorways.

The potential for noise to impact upon residential, commercial and other non-agricultural facilities would be considered low, given the nature of the proposed development, the existing noise climate of the area and the distance from other facilities.

There is predicted to be no significant increase in traffic volumes using the local road infrastructure as a result of the operation of the proposed development. On completion of the construction phase, there would be an estimated c. 96 traffic movements at the site per week. This increase in traffic movements would be similar to the existing site and to the traffic movements of comparable facilities in Ireland.

Due to the relatively small footprint of the proposed site, there would be no significant impact on the microclimate of the area. There are no significant direct impacts predicted on the macroclimate as a result of the proposed development.

### **USE OF NATURAL & OTHER RESOURCES**

There are no significant negative effects expected in relation to the use of natural resources.

Operations carried out on-site would lead to the consumption of water, pig feed, electricity and medication during the operational phase of the proposed development. The main resource to be consumed would be feed, which is classifiable as a natural resource that is renewable.

The proposed development would be connected to the electrical mains supply. There are multiple power line systems within the vicinity of the site. There are two 110 kv stations within c. 10 km of the site one in Nenagh Town the other in the townland of Ikerrin. The largest and closest power generation station is the Ardnacrusha hydrogenation station near Limerick City.

Water needs for the current piggery are provided through an existing groundwater well at the site (AGW1). This well would also be used to supply water and services to the new proposed buildings. The site currently uses c. 5,811 m<sup>3</sup> of water per year which would be expected to increase to c. 16,333 m<sup>3</sup> per year if the proposed development/expansion went ahead. Although the above figures are estimates they may be used to adequately describe water usage at the site.

During the construction stage, the volume of HGVs and small commercial vehicles for deliveries of construction materials and transport of construction workers would increase over a 3 to 4 month period. The expected volume of traffic on the road network would have a negligible additional effect on the structural integrity of the road network and its on-going maintenance costs.

It is considered that the proposed development would have no significant impact on mineral resources in the vicinity of the area.

Overall, the proposed development would have a minor negative impact on natural and other resources. Any disruption to services and existing transport networks would be minimal and of a temporary nature during the construction phase of the development.

### **ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE**

Shanarc Archaeology Ltd. has prepared an archaeological, architectural and cultural heritage impact assessment relating to the proposal to extend the Woodville Pig Farms Ltd. piggery facility in Woodville townland, Ballymackey, Nenagh, Co. Tipperary. The assessment has been prepared for inclusion in an Environmental Impact Assessment Report (EIAR) in support of a planning application to Tipperary County Council.

The purpose of the chapter is to provide an archaeological, architectural and cultural heritage assessment of the receiving environment, to identify the likely significant effects on the receiving environment and to propose measures to mitigate these effects. The assessment is based on a desk-top study of the receiving environment supported by an on-site inspection.

The Woodville Pig Farms Ltd. existing facility is situated on the southern periphery of a bog, on land that formed part of the attendant grounds of Woodville House, a late 18th century gentry residence. Historically, the landholding associated with the house was broken up, and the existing piggery facility, a number of residences and Tipperary County Council's Ballaghveny Landfill and Recycling Centre have developed in the demesne grounds that once surrounded the house.

No known archaeological monuments are recorded in association with Woodville townland, and none will be directly or indirectly affected by the proposed development.

Woodville House is listed in the Record of Protected Structures, RPS Ref. S404, in the North Tipperary County Development Plan 2010-2016 (as varied). The National Inventory of Architectural Heritage (NIAH) lists Woodville House in its Building Survey, Ref. 22401522, and Garden Survey, Ref. TN-59-R-967821. The attendant grounds of Woodville House will be directly affected by the proposed development.

Archaeological, architectural and cultural heritage effects are considered in respect of the following:

- Woodville House and its original setting;
- Bessborough House and its setting; and
- Archaeological potential presented by bog in Woodville and surrounding townlands.

Mitigations measures at the pre-construction, construction and operation phases of the proposed development are provided to address identified effects. These include pre-construction archaeological test excavation and construction phase monitoring to address the archaeological potential presented by bog in Woodville and at the site of a former formal garden, located to the north of a linear wooded ridge that also formed part of the landscaped grounds at Woodville House. Retention of landscaped features within the setting of Woodville House, such as the wooded ridge and the remains of an entrance avenue is recommended, as these features contribute to the historic setting of the protected structure. Cumulatively, the proposed expansion of the existing facility will increase the footprint of development within the attendant grounds of Woodville House. An adequate buffer between the proposed



development and the curtilage of Woodville House, and using screening to mitigate the potential visibility of the proposed development from outbuildings in the curtilage, will serve to limit a potential indirect effect on potential future uses of the protected structure.

### **SUMMARY**

The potential for the proposed development to cause adverse environmental impacts during the construction and operational phases, considering the proposed mitigation measures, is anticipated to be negligible. This is due to the nature, scale, high specification, management and location of the proposed development.

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