edtea
Department :
Economic Development, Tourism and Environmental Affairs
PROVINCE OF KWAZULU-NATAL

	(For official use only)
EIA File Reference Number:	DC/
NEAS Reference Number:	KZN/EIA/.
Waste Management Licence Number (if applicable)	
Date Received:	.

BASIC ASSESSMENT REPORT

Submitted in terms of the Environmental Impact Assessment Regulations, 2010 promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998)

This template may be used for the following applications:

- **Environmental Authorization** subject to basic assessment for an activity that is listed in Listing Notices 1or 3, 2010 (Government Notices No. R 544 or No. R 546 dated 18 June 2010); or
- **Waste Management Licence** for an activity that is listed in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) for which a basic assessment process as stipulated in the EIA Regulations must be conducted as part of the application (refer to the schedule of waste management activities in Category A of Government Notice No. 718 dated 03 July 2009).

Kindly note that:

1. This **basic assessment report** meets the requirements of the EIA Regulations, 2010 and is meant to streamline applications. This report is the format prescribed by the KZN Department of Economic Development, Tourism & Environmental Affairs. Please make sure that this is the latest version.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with text.
3. Where required, place a cross in the box you select.
4. An incomplete report will be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it will result in the rejection of the application as provided for in the regulations.
6. No faxed or e-mailed reports will be accepted.
7. The report must be compiled by an independent environmental assessment practitioner ("EAP").
8. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
9. The KZN Department of Economic Development, Tourism & Environmental Affairs may require that for specified types of activities in defined situations only parts of this report need to be completed.
10. The EAP must submit this basic assessment report for comment to all relevant State departments that administer a law relating to a matter affecting the environment. This provision is in accordance with Section 24 O (2) of the National Environmental Management Act 1998 (Act 107 of 1998) and such comments must be submitted within 40 days of such a request.
11. **Please note that this report must be handed in or posted to the District Office of the KZN Department of Economic Development, Tourism & Environmental Affairs to which the application has been allocated (please refer to the details provided in the letter of acknowledgement for this application).**

DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	
File reference number (Waste Management Licence):	

SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS

1. NAME AND CONTACT DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Name and contact details of the EAP who prepared this report:

Business name of EAP:	**Nature's Environmental Agency**		
Physical address:	**27 Umkhamba Drive, Ladysmith, 3370**		
Postal address:	**27 Umkhamba Drive, Ladysmith**		
Postal code:	**3370**	**Cell:**	**074 141 4157**
Telephone:	**036 631 0806**	**Fax:**	**086 272 4442**
E-mail:	**dan@environmentalAgency@gmail.co.za**		

2. NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
Dan Mkhwanazi	**B.Sc.**	**IAIAsa**	**16**
Slindile Ngubeni	**BA Enviro Man**	**IAIAsa**	**3**

3. NAMES AND EXPERTISE OF SPECIALISTS

Names and details of the expertise of each specialist that has contributed to this report:

Name of specialist	Education qualifications	Field of expertise	Section/ s contributed to in this basic assessment report	Title of specialist report/ s as attached in Appendix D

SECTION B: ACTIVITY INFORMATION

1. PROJECT TITLE

Describe the project title as provided on the application form for environmental authorization:

Proposed Construction of Gugulethu (known as Ogade) Piggery for 600 saws on Farm no. 17601 Oliviershoek, Bergville, Okhahlamba Local Municipality, Uthukela District Municipality, KwaZulu-Natal

2. PROJECT DESCRIPTION

Provide a detailed description of the project:

The Gugulethu (known as Ogade) Piggery shall house 600 saw in 3 separate sheds namely Furrowing and Weaner house, Gestation house and Grower house, at Gugulethu rural area, Bergville, Okhahlamba Local Municipality, Uthukela Dristrict. The Piggery shall consist of Piggery Houses, 60 cu.m fresh water storage in Jojo tanks, 40 cu.m of waste water temporal storage Jojo tanks.

3. ACTIVITY DESCRIPTION

Describe each listed activity in Listing Notice 1 (Regulation No 983, 04 December 2014), Listing Notice 3 (Regulation No. 983, 04 December 2014) or Category A of GN 718, 3 July 2009 (Waste Management Activities) which is being applied for as per the project description:

Development of facilities for commercial production of 600 sows at any given time on the property.

4. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Describe alternatives that are considered in this report. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant

to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

NO.	ALTERNATIVE TYPE	DESCRIPTION
1.	Preferred Site - Alternative Site 1 (Farm 17061 Oliviershoek)	Amagwane Development Trust proposes construction of Gugulethu (known as Ogade) piggery shall house 600 saw on Farm Oliviershoek 17061 in Gugulethu rural area. The site is 61.582615 ha in extent and only 28 ha of the site will be used for the proposed development. The preferred site is approximately 27 km southwest of Bergville Town. Currently the site is vacant and is used as grazing land for livestock. The alternative sites were evaluated based on the soil type and erosive potential, sensitive hydrological features, accessibility and surrounding land uses. The site is a viable option as it is far from the residential properties to avoid odour and flies impacts, closer to road which makes easily accessible and it is considered to have low erosive potential.
2.	Proposed Alternative Site - Alternative Site 2 (Farm Oliviershoek 6416)	Oliviershoek Farm no. 6416 is the proposed alternative site, located 1 km west of the preferred site. It is 60 ha in extent. The site is found unsuitable as it is located in-between the streams and closer to residential properties. Therefore the site is hydrologically risky and odour will impact on residential properties. This site was not recommended for a piggery in view of environmental and social considerations.
3.	Alternative Process 1 - Preferred Alternative Process (Indoor piggery)	The proposed process of piggery technology is an indoor piggery with deep pit storage system. The piggery shall house will have slatted concrete floors. The pig manure will be store temporally in the deep pit storage system which will be flushed down through slatted floor. The pig manure will be regularly drained and used as a fertiliser in agricultural farms. This has proven to produce have high quality, has benefits of climate control, easy to maintain high health standard, risk of diseases outbreaks and has low impact on odour and flies.
4.	Alternative Process 2 - Outdoor Piggery	The proposed alternative process is an outdoor piggery with controlled drainage system. This option has low production and uncontrollable weather conditions (sunburn and freezing conditions). The outdoor feedlot piggery requires location with compacted base soil type. The option is less economically productive than indoor piggery. The outdoor piggery tend to have high disease outbreak as well as mortality rate, pigs suffer from sunburn and freeze point (climatic conditions), soil erosion, high odour levels and flies infestation and theft. This option is not easily manageable compared to indoor piggery.

Sections B 5 – 15 below should be completed for each alternative.

5. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. List alternative sites were applicable.

Alternative:	**Latitude (S):**			**Longitude (E):**		
Alternative S1[1] (preferred or only site alternative)	28°	42‘	53.3“	29°	08‘	41.4“
Alternative S2 (if any)	28°	42‘	50.9“	29°	07‘	51.6“
Alternative S3 (if any)	°	‘	“	°	‘	“

In the case of linear activities:

Alternative:	**Latitude (S):**			**Longitude (E):**		
Alternative S1 (preferred or only route alternative)						
• Starting point of the activity	°	‘	“	°	‘	“
• Middle point of the activity	°	‘	“	°	‘	“
• End point of the activity	°	‘	“	°	‘	“
Alternative S2 (if any)			“			“
• Starting point of the activity	°	‘	“	°	‘	“
• Middle point of the activity	°	‘	“	°	‘	“
• End point of the activity	°	‘	“	°	‘	“
Alternative S3 (if any)			“			“
• Starting point of the activity	°	‘	“	°	‘	“
• Middle point of the activity	°	‘	“	°	‘	“
• End point of the activity	°	‘	“	°	‘	“

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 500m along the route for each alternative alignment.

6. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	**Size of the activity:**
Alternative A1[2] (preferred activity alternative)	615826.15m²
Alternative A2 (if any)	600 000m²
Alternative A3 (if any)	m²

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	M
Alternative A2 (if any)	M
Alternative A3 (if any)	M

[1] “Alternative S..” refer to site alternatives.

[2] “Alternative A..” refer to activity, process, technology or other alternatives.

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	615826.15m²
Alternative A2 (if any)	600 000m²
Alternative A3 (if any)	m²

7. SITE ACCESS

Does ready access to the site exist?	~~YES~~	NO
If NO, what is the distance over which a new access road will be built		M

Describe the type of access road planned:

The site is located along the road, easily accessed via D1379.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

8. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this report.

The site or route plans must indicate the following:

8.1. the scale of the plan which must be at least a scale of 1:500;
8.2. the property boundaries and numbers/ erf/ farm numbers of all adjoining properties of the site;
8.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
8.4. the exact position of each element of the application as well as any other structures on the site;
8.5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
8.6. walls and fencing including details of the height and construction material;
8.7. servitudes indicating the purpose of the servitude;
8.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
- rivers, streams, drainage lines or wetlands;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);

8.9. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and

8.10. the positions from where photographs of the site were taken.

9. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

10. FACILITY ILLUSTRATION

A detailed illustration of the facility must be provided at a scale of 1:200 and attached to this report as Appendix C. The illustrations must be to scale and must represent a realistic image of the planned activity/ies.

11. ACTIVITY MOTIVATION

11.1. Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R1,8mil
What is the expected yearly income that will be generated by or as a result of the activity?	R 4mil
Will the activity contribute to service infrastructure?	YES ~~NO~~
Is the activity a public amenity?	YES ~~NO~~
How many new employment opportunities will be created in the development phase of the activity?	40
What is the expected value of the employment opportunities during the development phase?	R600 000
What percentage of this will accrue to previously disadvantaged individuals?	95%
How many permanent new employment opportunities will be created during the operational phase of the activity?	20
What is the expected current value of the employment opportunities during the first 10 years?	R14.4mil
What percentage of this will accrue to previously disadvantaged individuals?	98%

11.2. Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

The production of pork meat in KwaZulu-Natal is lower than the demand for local and international markets. This is because pork is costs less to consumers than traditional beef and lamp, the latter being even more expensive. This leads to consumers who are red meat eaters to switch to pork for economical reasons. Other reasons include:

a. Faster growth and maturity rate of pigs as opposed to cattle and sheep.

b. Low food costs for pigs
c. Low disease exposure than other red meat producers
d. High tolerance of extreme heat and cold experienced in the Bergville area
e. Relatively inexpensive food access.
f. Availability of abattoirs to process the product: 4 operations within 50km radius
g. Low level of skills required for operations management
h. High tolerance of water quality variations experienced in the area.

Indicate any benefits that the activity will have for society in general:

a. Stimulation of feeder economic sectors eg pig food supply, medicine, abattoirs, manure manufacturing, etc.
b. Skills development for Agricultural activities for local people.
c. Increased awareness of Agricultural sector as a food and employment provider.
d. Increased interest in Youth of Agriculture and its benefits within the Municipality
e. Increased productivity of arable land as a result of natural manure application from the piggery.
f. Increased usage of roads and waters services infrastructure for the community benefit.
g. Stimulation of economic activities in Okhahlamba Local Municipality
h. Export of products to the rest of the KZN Province or internationally.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

a. Creation of employment to about 40 people during construction and 20 during operational phase.
b. Stimulation of feeder economic sectors eg pig food supply, medicine, abattoirs, manure manufacturing, etc.
c. Skills development for Agricultural activities for local people.
d. Increased awareness of Agricultural sector as a food and employment provider.
e. Increased interest in Youth of Agriculture and its benefits.
f. Usage of wastewater to produce bio-fuels, manure and other products.
g. Increased productivity of arable land as a result of natural manure application from the piggery.
h. Increased usage of roads and waters services infrastructure for the community benefit.
i. Increased local economic activity thereby diminishing reliance on Bergville town.

12. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
a. The Constitution of the Republic of South Africa	All authorities	1996 August

b. 2014 EIA Regulations under NEMA	National and Provincial	2014
c. Heritage Resources Act	Amafa and Dept. of Arts and Culture	1999
d. National Water Act	Dept. of Water Affairs	1998
e. Health Act	Dept. of Health	1977
f. Conservation of Agricultural Resources Act	Dept. of Agriculture	1983
g. KwaZulu-Natal and Affairs Act	Dept. of Cooperative Governance and and Traditional Affairs	1992
h. National Environmental Management: Air Quality Act (No 39 of 2004)	Local Municipality Department of Environmental Affairs and Tourism	2004

13. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

13.1. Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES	NO X
If yes, what estimated quantity will be produced per month?		m^3

How will the construction solid waste be disposed of? (describe)

NA

Where will the construction solid waste be disposed of? (provide details of landfill site)

NA

Will the activity produce solid waste during its operational phase?	X YES	NO
If yes, what estimated quantity will be produced per month?		m^3

How will the solid waste be disposed of? (provide details of landfill site)

The pig solid waste will be disposed to a compost heap.

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

The solid waste will be composted and used as manure by local farmers. Pig carcasses will be buried to decompose.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine the further requirements of the application.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?	YES	NO X

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	NO

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

13.2. Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO
If yes, what estimated quantity will be produced per month?	m^3	
Will the activity produce any effluent that will be treated and/or disposed of on site?	Yes	NO

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	NO

If yes, provide the particulars of the facility:

Facility name:	NA		
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

The generated wastewater will be used as manure and applied to agricultural land.

13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	YES	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	NO

If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.

If no, describe the emissions in terms of type and concentration:

NA

13.4. Generation of noise

Will the activity generate noise?	YES	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	NO

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

Limited noise will be generated during construction by construction and delivery vehicles. The amount of noise generated at the site during the construction and operational phases is considered to be negligible, and is not expected to exceed the existing ambient noise levels in the area. Noise will not be considered further in this environmental assessment.

14. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

municipal	water board	X groundwater	X river, stream, dam or lake	Other	the activity will not use water

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	1.8mil litres	
Does the activity require a water use permit from the Department of Water Affairs?	YES	X NO

If YES, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this report.

15. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

a. Energy efficient fluorescent lighting will be used
b. Bio-fuel is being investigated so as for machinery and implements to be fuelled by the Piggery.
c. Reuse of waste water in the system until dry matter is produced.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

a. Bio-fuel production from waste matte is being planned
b. Maximum natural light infrastructure designs are prepared
c. Solar energy is being investigated with the cooperation of the OLM.

SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION

Important notes:

- For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. ☐

(e.g. A):

- Subsections 1 - 6 below must be completed for each alternative.

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	~~1:20 – 1:15~~	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S2 (if any):

Flat	~~1:50 – 1:20~~	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site **(Please cross the appropriate box)**.

Alternative S1 (preferred site):

~~Ridgeline~~	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front

Alternative S2 (if any):

Ridgeline	~~Plateau~~	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front

Alternative S3 (if any):

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Has a specialist been consulted for the completion of this section?	YES	~~NO~~

If YES, please complete the following:

Name of the specialist:	NA		
Qualification(s) of the specialist:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?	YES	NO
If YES, specify and explain: NA		
Are their any special or sensitive habitats or other natural features present on any of the alternative sites?	YES	NO
If YES, specify and explain:		
Are any further specialist studies recommended by the specialist?	YES	NO

If YES, specify:			
If YES, is such a report(s) attached in Appendix D?		YES	NO

Signature of specialist: _____ Date:

Is the site(s) located on any of the following (cross the appropriate boxes)?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO X	YES	NO X	YES	NO
Dolomite, sinkhole or doline areas	YES	NO X	YES	NO X	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO X	YES X	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO X	YES	NO X	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO X	YES	NO X	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO X	YES	NO X	YES	NO
Any other unstable soil or geological feature	YES	NO X	YES	NO X	YES	NO
An area sensitive to erosion	YES	NO X	YES	NO X	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Has a specialist been consulted for the completion of this section?			YES	NO X
If YES, please complete the following:				
Name of the specialist:	NA			
Qualification(s) of the specialist:				
Postal address:				
Postal code:				
Telephone:		Cell:		
E-mail:		Fax:		
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?			YES	NO X
If YES, specify and explain:				
Are their any special or sensitive habitats or other natural features present on any of the alternative sites?			YES	NO X
If YES, specify and explain:				
Are any further specialist studies recommended by the specialist?			YES	NO
If YES, specify:				
If YES, is such a report(s) attached in Appendix D?			YES	NO

Signature of specialist: _____ Date: _____

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

~~Natural veld - good condition^{E}~~	Natural veld with scattered aliens^{E}	Natural veld with heavy alien infestation^{E}	Veld dominated by alien species^{E}	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an "^{E} "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. LAND USE CHARACTER OF SURROUNDING AREA

Cross the land uses and/or prominent features that currently occur within a 500m radius of the site and give a description of how this influences the application or may be impacted upon by the application:

Land use character			**Description**
Natural area	YES	~~NO~~	
Low density residential	~~YES~~	NO	Gugulethu rural dwellings
Medium density residential	YES	~~NO~~	
High density residential	YES	~~NO~~	
Informal residential	YES	~~NO~~	
Retail commercial & warehousing	YES	~~NO~~	
Light industrial	YES	~~NO~~	
Medium industrial	YES	~~NO~~	
Heavy industrial	YES	~~NO~~	
Power station	YES	~~NO~~	
Office/consulting room	YES	~~NO~~	
Military or police base/station/compound	YES	~~NO~~	
Spoil heap or slimes dam	YES	~~NO~~	
Quarry, sand or borrow pit	YES	~~NO~~	
Dam or reservoir	~~YES~~	NO	Woodstock Dam
Hospital/medical centre	YES	~~NO~~	
School/ crèche	~~YES~~	NO	Vulamehlo Primary school
Tertiary education facility	YES	~~NO~~	
Church	YES	~~NO~~	
Old age home	YES	~~NO~~	
Sewage treatment plant	YES	~~NO~~	
Train station or shunting yard	YES	~~NO~~	
Railway line	YES	~~NO~~	
Major road (4 lanes or more)	YES	~~NO~~	
Airport	YES	~~NO~~	
Harbour	YES	~~NO~~	
Sport facilities	YES	~~NO~~	

Golf course	YES	NO	
Polo fields	YES	NO	
Filling station	YES	NO	
Landfill or waste treatment site	YES	NO	
Plantation	YES	NO	
Agriculture	YES	NO	
River, stream or wetland	YES	NO	
Nature conservation area	YES	NO	
Mountain, hill or ridge	YES	NO	
Museum	YES	NO	
Historical building	YES	NO	
Protected Area	YES	NO	
Graveyard	YES	NO	
Archaeological site	YES	NO	
Other land uses (describe)	YES	NO	

6. CULTURAL/ HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or within 20m of the site?	YES	NO

If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.

Briefly explain the recommendations of the specialist:	N/A

Will any building or structure older than 60 years be affected in any way?	YES	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO

If YES, please submit the necessary application to AMAFA and attach proof thereof to this report.

SECTION D: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—

(i) the site where the activity to which the application relates is or is to be undertaken; and
(ii) any alternative site mentioned in the application;

(b) giving written notice to—
(i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
(ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
(iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
(iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
(v) the local and district municipality which has jurisdiction in the area;
(vi) any organ of state having jurisdiction in respect of any aspect of the activity (as identified in the application form for the environmental authorization of this project); and
(vii) any other party as required by the competent authority;

(c) placing an advertisement in—
(i) one local newspaper; or
(ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
(i) illiteracy;
(ii) disability; or
(iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and

(b) state—
(i) that an application for environmental authorization has been submitted to the KZN Department of Economic Development, Tourism & Environmental Affairs in terms of the EIA Regulations, 2010;(ii)
(iii) a brief project description that includes the nature and location of the activity to which the application relates;
(iv) where further information on the application can be obtained; and
(iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE PROCESS

The EAP must ensure that the public participation process is according to that prescribed in regulation 54 of the EIA Regulations, 2010, but may deviate from the requirements of subregulation 54(2) in the manner agreed by the KZN Department of Economic Development, Tourism & Environmental Affairs as appropriate for this application. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate.

Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before this application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations (regulation 57 in the EIA Regulations, 2010) and be attached as Appendix E to this report.

6. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

District, local and traditional authorities (where applicable) are all key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of this application and provided with an opportunity to comment.

Has any comment been received from the district municipality? YES | NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

There are no comments received as yet, all comments will be attached on the Final BAR.

Has any comment been received from the local municipality? YES | NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

No comments have been received as yet; all comments will be attached on the Final BAR.

Has any comment been received from a traditional authority? YES | NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

The activity does not impact directly on Traditional Authority.

7. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders? YES | NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

No comments have been received as yet; all comments will be attached on the Final BAR.

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

No comments have been received as yet; all comments will be attached on the final BAR.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached as Appendix E to this report):

No comments have been received as yet; all comments will be attached on the final BAR.

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS

WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

2.1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the planning and design phase:

Alternative S1 (preferred alternative)	**Mitigation Measures**
Direct impacts: • Demarcation of the site • Checking the soil type, contaminants and erosive potential. • Checking presence of sensitive vegetation and species • Checking presence of sensitive hydrological features • Social and economic impacts on surrounding communities. ***Indirect impacts:*** • Traffic management impacts • Access to the site ***Cumulative impacts:*** • Visual impacts	• The site must be clearly demarcated and trees must be planted around for screening purpose • The pig farm must be located far from residential properties to ensure that they don't get affected by pig odour and flies. • Proper planning and engineering designs to ensure that environmental, social and economic impacts are taken into consideration. • The piggery must be located where groundwater is deep and well protected soil type (clay). • Community consultation in order to provide information to allay concern. • Implement buffer zones to surface water bodies, avoiding application of manure within these areas.

Alternative S2 (if any)	
Direct impacts: • Inadequate planning • Poor waste manage design • Checking presence of sensitive vegetation and species • Checking presence of sensitive hydrological features • Social and economic impacts on surrounding communities. ***Indirect impacts:*** • Traffic management impacts • Access to the site ***Cumulative impacts:*** • Visual impacts	• Proper planning and engineering designs to ensure that environmental, social and economic impacts are taken into consideration • The pig farm must be located far from residential properties to ensure that they don't get affected by pig odour and flies. • Ensure effective waste management plan. • The piggery must be located where groundwater is deep and well protected soil type (clay). • Community consultation in order to allay concerns. • The piggery must be screened

	with trees and shrubs to avoid visual impacts.

No-go alternative (compulsory)

• If the project does not take place, no direct, indirect or cumulative impacts associated with planning and design will occur.	• N/A

b. Process, technology, layout or other alternatives

List the impacts associated with any process, technology, layout or other alternatives that are likely to occur during the planning and design phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative): Indoor Piggery with deep pit storage system	**Mitigation Measures**
Direct impacts: • Poor Pig house design • Poor Pig waste lagoon design • Poor electricity design • Loss of natural vegetation ***Indirect impacts:*** • Stormwater management system problems. • Lack of fluent and odour management. ***Cumulative impacts:*** • Solid waste and wastewater management • Poor traffic management designs	• It very crucial that the structure of the pig house must be well designed • The pig waste lagoon must be located downslope of piggery building. The solids must be separated and composed for use on dry lands, while the liquid effluent must be used for irrigation on cultivated lands. • Proper stormwater management plan must be prepared for the site. • Ensure implementation of surface and groundwater quality monitoring program. • Must have efficient storage for waste generated onsite. • Proper traffic management system to avoid traffic congestion and accidents.

Alternative A2 (if any):Outdoor Piggery with controlled drainage system	**Mitigation Measures**
Direct impacts: • Poor Pig house design • Poor Pig waste lagoon design • Loss of natural vegetation ***Indirect impacts:*** • Stormwater management system problems ***Cumulative impacts:*** • Poor traffic management designs	• It very crucial that the structure of the pig house must be well designed • The pig waste lagoon must be located downslope of piggery building. The solids must be separated and composed for use on dry lands, while the liquid effluent must be used for irrigation on cultivated lands. • Proper stormwater management plan must be prepared for the site. • Proper traffic management

	system to avoid traffic congestion and accidents.

No-go alternative (compulsory)	
Direct impacts: • There will be no direct impacts if the development does not occur. ***Indirect impacts:*** • There will be no indirect impacts if the development does not occur. ***Cumulative impacts:*** • There will be no cumulative impacts if the development does not occur.	• N/A

2.2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the construction phase:

Alternative S1 (preferred site)	**Mitigation Measures Alternative S1**
Direct impacts: • Clearance of vegetation resulting to loss of indigenous vegetation and protected species. • Surface water pollution due to spills of mixed hazardous chemicals during construction. • Ground water contamination due to oil and fuel leaks from vehicles. • Traffic caused by delivery vehicles during construction. • Generation of noise due to construction activities • Dust generation by construction activities. • Visual impacts • Soil erosion as result of loose soils. • Employment opportunities ***Indirect impacts:*** • Stormwater run-off due to loose soils leading to sedimentation of water bodies. Stormwater run-off may also arise due increase coverage of paved surfaces ***Cumulative impacts:***	• Minimise the clearance of vegetation to avoid exposure of soil. • Spills must be removed/cleaned up immediately and the contaminated soils or spilled material must be disposed of to the registered hazardous landfill site. • Construction vehicles/machines must be maintained to a good standard at all times so that fuel or oil leaks are avoided. • Traffic management must be ensured on site, hence avoid transporting construction material during peak hours. • Noise disturbance must be kept within acceptable levels, must comply with Noise Development Act and must be limited to normal working hours (07h00 to 17h00). • Dust generation must be avoided during windy days. Ensure that dust suppression measures are implemented on site, such as water spraying and commercial suppressants. • Plantation of trees surrounding the site for visual screening.

• Generation waste as a result of construction rubble.	• Should erosion occur during construction, diversion of berms and drains must be constructed to divert run-off away from exposed areas. • Proper stormwater management plan must be implemented on site. • Waste generated on site must be collected and disposed of regularly at Bergville disposal site.

Alternative S2 (if any)

Direct impacts: • Clearance of vegetation resulting to loss of indigenous vegetation and protected species. • Surface water pollution due to spills of mixed hazardous chemicals during construction. • Ground water contamination due to oil and fuel leaks from vehicles. • Traffic caused by delivery vehicles during construction. • Generation of noise due to construction activities • Dust generation by construction activities. • Visual impacts • Soil erosion as result of loose soils. • Employment opportunities ***Indirect impacts:*** • Stormwater run-off due to loose soils leading to sedimentation of water bodies. Stormwater run-off may also arise due increase coverage of paved surfaces ***Cumulative impacts:*** • Generation waste as a result of construction rubble.	• Minimise the clearance of vegetation to avoid exposure of soil. • Spills must be removed/cleaned up immediately and the contaminated soils or spilled material must be disposed of to the registered hazardous landfill site. • Construction vehicles/machines must be maintained to a good standard at all times so that fuel or oil leaks are avoided. • Traffic management must be ensured on site, hence avoid transporting construction material during peak hours. • Noise disturbance must be kept within acceptable levels, must comply with Noise Development Act and must be limited to normal working hours (07h00 to 17h00). • Dust generation must be avoided during windy days. Ensure that dust suppression measures are implemented on site, such as water spraying and commercial suppressants. • Plantation of trees surrounding the site for visual screening. • Should erosion occur during construction, diversion of berms and drains must be constructed to divert run-off away from exposed areas. • Proper stormwater management plan must be implemented on site. • Waste generated on site must be collected and disposed of regularly at Bergville disposal site.

No-go alternative (compulsory)

Direct impacts: • There will be no impacts associated with the proposed development. • Loss of job opportunities. • Failure of support local economy. ***Indirect impacts:*** • None ***Cumulative impacts:*** • None	• N/A

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the construction phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative): Indoor Piggery with deep pit storage system	**Mitigation Measures**
Direct impacts: • Loss/disturbance to indigenous vegetation • Disturbance to habitat • Loss of grazing land • Infestation of alien species • Soil erosion due to exposed soils • Traffic congestion • Damages to access roads • Noise generation due to hauling construction vehicles • Possible crime increase. ***Indirect impacts:*** • Surface and ground water contamination as a result of spillages of hazardous materials. • Stormwater run-off ***Cumulative impacts:*** • Generation of waste on site, leading to increase of waste at landfill site	• Clearance of vegetation must be limited to demarcated area. After construction bare areas must be re-vegetated with indigenous plants. • Disturbance of fauna and their habitat must be kept to the absolute minimum. • Alien control and monitoring programme must be implemented. • Should erosion occur during construction, diversion of berms and drains must be constructed to divert run-off away from exposed areas. • Effective Traffic Management Plan must be implemented to avoid traffic congestion. • Access roads must be maintained to a good standard at all times. As soon potholes appear roads must be rehabilitated. • Noise levels must be kept to a minimum level and must be limited to normal working hours (07h00 to 17h00). • Construction site must be fenced and have security to ensure safe and avoid crime. • Regular sampling of water must be done to monitor the water quality. • Waste generated onsite must be

	collected regularly and disposed of to a registered landfill site.

Alternative A2: Outdoor Piggery with controlled drainage system.	**Mitigation Measures**
Direct impacts: • Loss/disturbance to indigenous vegetation • Disturbance to habitat • Loss of grazing land • Infestation of alien species • Soil erosion due to exposed soils • Traffic congestion • Damages to access roads • Noise generation due to hauling construction vehicles • Possible crime increase. ***Indirect impacts:*** • Surface and ground water contamination as a result of spillages of hazardous materials. • Stormwater run-off ***Cumulative impacts:*** • Generation of waste on site, leading to increase of waste at landfill site	• Clearance of vegetation must be limited to demarcated area. After construction bare areas must be re-vegetated with indigenous plants. • Disturbance of fauna and their habitat must be kept to the absolute minimum. • Alien control and monitoring programme must be implemented. • Should erosion occur during construction, diversion of berms and drains must be constructed to divert run-off away from exposed areas. • Effective Traffic Management Plan must be implemented to avoid traffic congestion. • Access roads must be maintained to a good standard at all times. As soon potholes appear roads must be rehabilitated. • Noise levels must be kept to a minimum level and must be limited to normal working hours (07h00 to 17h00). • Construction site must be fenced and have security to ensure safe and avoid crime. • Regular sampling of water must be done to monitor the water quality. • Waste generated onsite must be collected regularly and disposed of to a registered landfill site.
No-go alternative (compulsory)	
Direct impacts: • There will be no impacts associated with the proposed development. • Loss of job opportunities. • Failure of support local economy. ***Indirect impacts:*** • None ***Cumulative impacts:*** • None	• N/A

2.3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the operational phase:

Alternative S1 (preferred alternative)	Mitigation measures
Direct impacts: • Odour impacting on air quality. • Increase of fly population in the area. • Soil and water pollution • Soil erosion • Infestation of alien vegetation • Traffic congestion due to delivery trucks. • Employment Opportunities • Cheaper pork products. • Waste of generation due to runoff from feed storage, watering, feeding, loading and unloading) • Contamination of soil and water with hazardous chemicals (herbicides, pesticides and insecticides) • Possible disease outbreaks ***Indirect impacts:*** • Reduction on imported pork products. • Generation of wastewater. • Increase in composing of mature. ***Cumulative impacts:*** • Possible risk of disease outbreak • Possible increase in electric power supply as the pig farm requires stable power supply for water supply, ventilation and temperature regulators.	**Odour and Emissions:** • Pig farm must be located downwind of residential areas as a result of dust, smell and noise to avoid disturbance to local residents. • Pig housing must be constructed in a way that it height and width prevent the infestation of flies. • Control the temperature and humidity of manure storage to reduce emissions. • Carcase and compost areas must be covered with a layer of dry compost to prevent odour emissions and flies from breeding. • Dispose of dead animal on site within one day to avoid odour, flies and severe health risk. **Soil and Water quality:** • Re-vegetation rehabilitation must be applied to avoid soil erosion. • Effluents must not be applied to areas where there is ground water bores. • Install surface water diversions to direct clean runoff around areas containing waste • A water quality monitoring must be done on regular basis to ensure water quality. • If spills occur, immediate action must be taken to contain spillage and prevent it from entering the stream. **Management of Alien Invasive Plants:** • Alien invasive management plan to control and monitor the infestation of alien species.

	• Alien invasive plants must be removed as soon as they appear. • Introduction of alien vegetation and animals is prohibited. Only indigenous trees must be used and these must mirror the natural vegetation of the surrounding environment. **Traffic Management:** • Traffic management system must be implemented onsite. • All vehicles must be maintained to a good working condition. • Delivering of goods must not be done on peak hours. **Waste Management:** • Waste generated onsite must be collected regularly and disposed of to the Bergville landfill site, to keep the pig farm hygienic as possible. • Maintain feeding systems in good working condition to prevent spills and feed contact with the ground. • Keep waste as dry as possible by scraping wastes instead of, or in addition, to flushing with water to remove waste. **Waste Water Management:** • Install surface water diversions to direct clean runoff around areas containing waste. • No treated waste water is allowed to be discharged into the stream. **Management of Disease outbreak:** • Pig health institution must be catered for in the farm to avoid disease outbreak. The pig farm must also have the piglet's nursery. • Ensure pigs' welfare (animal care) and bio-security to prevent disease outbreak. • A specialist must be hired to conduct audits on regular basis to ensure highest health

	standards are maintained. **Hazardous Chemicals:** • Any chemical including herbicides, pesticides and insecticides must be stored accordingly on a container and used as per manufacture recommendation. **Pest and Insect Control:** • Implement an effective pest and insect control management plan (such as use of pesticide and herbicides). • Regular cleaning of sheds must be undertaken to minimise pests and insects. **Mortalities:** • Dead animals must be disposed /buried within a day to prevent odour and disease outbreak.

Alternative S2 (if any):

Direct impacts: • Odour impacting on air quality. • Increase of fly population in the area. • Soil and water pollution • Soil erosion • Infestation of alien vegetation • Traffic congestion due to delivery trucks. • Employment Opportunities • Cheaper pork products. • Waste generation • Possible disease outbreak ***Indirect impacts:*** • Reduction on imported pork products. • Increase in composing of mature. ***Cumulative impacts:*** • Possible risk of disease outbreak • Possible increase in electric power supply as the pig farm requires stable power supply for water supply, ventilation and temperature regulators.	• Pig farm must be located downwind of residential areas as a result of dust, smell and noise to avoid disturbance to local residents. • Pig housing must be constructed in a way that it height and width prevent the infestation of flies. • Alien invasive management plan to control and monitor the infestation of alien species. • Traffic management system must be implemented onsite. • Waste generated onsite must be collected regularly and disposed of to the Bergville landfill site, to keep the pig farm hygienic as possible. • Pig health institution must be catered for in the farm to avoid disease outbreak. The pig farm must also have the piglet's nursery. • Waste generated onsite must be collected regularly and disposed of to a registered landfill site.

No-go alternative (compulsory)

Direct impacts:	• N/A

• There will be no impacts associated with the proposed development. • Loss of job opportunities. • Failure of support local economy. ***Indirect impacts:*** • None ***Cumulative impacts:*** • None	

I

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the operational phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative): Indoor Piggery with deep pit storage system	**Mitigation Measures**
Direct impacts: • Infestation of alien vegetation • Traffic congestion due to delivery trucks. • Contamination of surface and groundwater. • Odour impacting on air quality. • Increase of fly population in the area. • Soil and water pollution • Soil erosion • Possible damages to access roads • Crime • Employment opportunities ***Indirect impacts:*** • Increase in composing of mature. • Stormwater run-off ***Cumulative impacts:*** • Possible risk of disease outbreak • Possible increase in electric power supply as the pig farm requires stable power supply for water supply, ventilation and temperature regulators.	• Minimise the clearance of vegetation to avoid exposure of soil. • Alien invasive management plan to control and monitor the infestation of alien species. • Traffic management system must be implemented onsite. • Should erosion occur during construction, diversion of berms and drains must be constructed to divert run-off away from exposed areas. • Access roads must be maintained to a good standard at all times. As soon potholes appear roads must be rehabilitated. • Pig health institution must be catered for in the farm to avoid disease outbreak.

Alternative A2: Outdoor Piggery with controlled drainage system	**Mitigation Measures**
Direct impacts: • Infestation of alien vegetation • Sunburn and freezing condition • Traffic congestion due to delivery trucks. • Odour impacting on air quality. • Increase of fly population in the	• Minimise the clearance of vegetation to avoid exposure of soil. • Alien invasive management plan to control and monitor the infestation of alien species. • Traffic management system must

area. • Soil and water pollution • Soil erosion • Possible damages to access roads • Crime • Employment opportunities ***Indirect impacts:*** • Increase in composing of mature. • Stormwater run-off ***Cumulative impacts:*** • Possible risk of disease outbreak • Possible increase in electric power supply as the pig farm requires stable power supply for water supply, ventilation and temperature regulators.	be implemented onsite. • Should erosion occur during construction, diversion of berms and drains must be constructed to divert run-off away from exposed areas. • Access roads must be maintained to a good standard at all times. As soon potholes appear roads must be rehabilitated. • Pig health institution must be catered for in the farm to avoid disease outbreak.

No-go alternative (compulsory)

Direct impacts: • There will be no impacts associated with the proposed development. • Loss of job opportunities. • Failure of support local economy. ***Indirect impacts:*** • None ***Cumulative impacts:*** • None	• N/A

2.4. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING OR CLOSURE PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the decommissioning or closure phase:

Alternative S1 (preferred alternative)	**Mitigation measures**
Direct impacts: • Contamination of soil and water due spills of hazardous material. • Soil erosion • Invasion of indigenous vegetation • Noise pollution • Odour and dust generation due to demolition of buildings. • Waste generation ***Indirect impacts:***	• Proper rehabilitation/demolition of the buildings. • Install surface water diversions to direct clean runoff around areas containing waste • Implementation of a surface water and groundwater quality monitoring program. • Waste management by ensuring that waste is collected regularly and disposed of at the registered

• Stormwater run-off ***Cumulative impacts:*** • Increase waste in Bergville landfill site. • Termination of jobs due piggery closure.	landfill site. • Proper stormwater management plan must be implemented on site.

Alternative S2:

Direct impacts: • Contamination of soil and water due spills of hazardous material. • Soil erosion • Invasion of indigenous vegetation • Noise pollution • Odour and dust generation due to demolition of buildings. • Waste generation ***Indirect impacts:*** • Stormwater run-off ***Cumulative impacts:*** • Increase waste in Bergville landfill site.	• Proper rehabilitation/demolition of the buildings. • Install surface water diversions to direct clean runoff around areas containing waste • Implementation of a surface water and groundwater quality monitoring program. • Waste management by ensuring that waste is collected regularly and disposed of at the registered landfill site. • Proper stormwater management plan must be implemented on site.

No-go alternative (compulsory)

Direct impacts: • There will be no impacts associated with the proposed development. • Loss of job opportunities. • Failure of support local economy. ***Indirect impacts:*** • None ***Cumulative impacts:*** • None	• N/A

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the decommissioning or closure phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative): Indoor Piggery with deep pit storage system	**Mitigation Measures**
Direct impacts: • Soil erosion due to exposed soil • Dust as a result of demolition of infrastructure. • Noise during demolition. • Soil and water contamination • Waste generation (rubble) ***Indirect impacts:***	• Rehabilitation by re-vegetation with indigenous vegetation. • Dust suppression methods must be used during demolition such as water spraying and commercial suppressants. • Decommissioning activities must be undertaken during normal working hours.

• Increased waste in Bergville landfill site ***Cumulative impacts:*** • Termination of jobs created by operation of the piggery.	• Spills or leaks of hazardous chemicals must be removed immediately to avoid soil and water pollution. • All infrastructure demolished onsite must be removed and disposed on the registered landfill. • Waste must be recycled or donated to the community where possible.

Alternative A2: Outdoor Piggery with controlled drainage system	**Mitigation Measures**
Direct impacts: • Soil erosion due to exposed soil • Dust as a result of demolition of infrastructure. • Noise during demolition. • Soil and water contamination • Waste generation (rubble) ***Indirect impacts:*** • Increased waste in Bergville landfill site ***Cumulative impacts:*** • Termination of jobs created by operation of the piggery.	• Rehabilitation by re-vegetation with indigenous vegetation. • Dust suppression methods must be used during demolition such as water spraying and commercial suppressants. • Decommissioning activities must be undertaken during normal working hours. • Spills or leaks of hazardous chemicals must be removed immediately to avoid soil and water pollution. • All infrastructure demolished onsite must be removed and disposed on the registered landfill. • Waste must be recycled or donated to the community where possible.

No-go alternative (compulsory)	
Direct impacts: • There will be no impacts associated with the proposed development. • Loss of job opportunities. • Failure of support local economy. ***Indirect impacts:*** • None ***Cumulative impacts:*** • None	• N/A

2.5. PROPOSED MONITORING AND AUDITING

For each phase of the project and for each alternative, please indicate how identified impacts and mitigation will be monitored and/or audited.

Alternative S1 (preferred site)	**Alternative S2**

• Formulation of a site specific Environmental Management Programme containing all the recommendations made shall be implemented. • The ECO will be responsible for perform all task assigned to the ECO in the EMPr, keep record of all the activities on site, problems identified and transgressions noted, assist in ensuring environmental implementation of appropriate environmental authorisation and approved EMPr, and Providing guidance/advice that ensures implementation of appropriate environmental management measures and adherence with environmental legislation/regulations • The ECO will be required to conduct monthly environmental audit and submits reports every month end. • The ECO must quarterly monitor surface and ground water quality at points that will be established in consultation with the Department of Water Affairs.	• Formulation of a site specific Environmental Management Programme containing all the recommendations made shall be implemented. • The ECO will be responsible for perform all task assigned to the ECO in the EMPr, keep record of all the activities on site, problems identified and transgressions noted, assist in ensuring environmental implementation of appropriate environmental authorisation and approved EMPr, and Providing guidance/advice that ensures implementation of appropriate environmental management measures and adherence with environmental legislation/regulations • The ECO will be required to conduct monthly environmental audit and submits reports every month end. • The ECO must quarterly monitor surface and ground water quality at points that will be established in consultation with the water affairs.

Alternative A1 (preferred alternative)	**Alternative A2**
• Formulation of a site specific Environmental Management Programme containing all the recommendations made shall be implemented. • The ECO will be responsible for perform all task assigned to the ECO in the EMPr, keep record of all the activities on site, problems identified and transgressions noted, assist in ensuring environmental implementation of appropriate environmental authorisation and approved EMPr, and Providing guidance/advice that ensures implementation of appropriate environmental management measures and adherence with environmental legislation/regulations	• Formulation of a site specific Environmental Management Programme containing all the recommendations made shall be implemented. • The ECO will be responsible for perform all task assigned to the ECO in the EMPr, keep record of all the activities on site, problems identified and transgressions noted, assist in ensuring environmental implementation of appropriate environmental authorisation and approved EMPr, and Providing guidance/advice that ensures implementation of appropriate environmental management measures and adherence with environmental legislation/regulations

• The ECO will be required to conduct monthly environmental audit and submits reports every month end. • The ECO must quarterly monitor surface and ground water quality at points that will be established in consultation with the Department of Water Affairs.	• The ECO will be required to conduct monthly environmental audit and submits reports every month end. • The ECO must quarterly monitor surface and ground water quality at points that will be established in consultation with the water affairs.

3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative S1 (preferred site)

The proposed Piggery is well located; it will promote local economic empowerment, reduce pork import products and provide employment opportunities. If the identified negative impacts are well mitigated, there will be no significant environmental impacts associated with the development.

Alternative S2

This alternative site is 70m closer to the water resource and is likely to impact on it by runoff. The steepness of this site is not desirable for construction of facilities and management of stormwater from the site. It is also situated closer to residential properties and will impact badly on air quality by odour and infestation of flies.

Alternative A1 (preferred alternative)

The proposed process of piggery technology involving 3 main phases is the tried and tested technology in South African in line with environmental, climatic and water requirements. This option is an indoor piggery with deep pit storage system. The indoor piggery system has proven to produce high quality (high economically production), has benefits of climate control, easy to maintain high health standard, risk of diseases outbreaks and has low impact on odour and flies.

Alternative A2

The proposed alternative option is an outdoor piggery with controlled drainage system. The outdoor feedlot piggery requires location with compacted base soil type. The option is less economically productive than indoor piggery. The outdoor piggery tend to have:

- High disease outbreak as well as mortality rate
- Pigs suffer from sunburn and freezing condition
- Soil erosion
- High odour levels and flies infestation
- Theft

Any new technology would require research, testing and monitoring, which is not the field of the applicant.

No-go alternative (compulsory)

- For no-go option, there will be no impacts associated with the Pig farm development.
- Loss of employment opportunities
- No reduction to imported pork products
- Lack of local economy empowerment.

SECTION F. RECOMMENDATION OF EAP

	YES	NO
Is the information contained in this report and the documentation attached hereto in the view of the EAPr sufficient to make a decision in respect of this report? If "NO", please contact the KZN Department of Economic Development, Tourism & Environmental Affairs regarding the further requirements for your report.	X	

If "YES", please attach the draft EMPr as Appendix F to this report and list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

GENERAL

a) An EMPr for site establishment, construction and operational phases must be finalised and approved by DEDTEA prior to the contractor moving onto site.
b) The Environmental Control Officer (ECO) must be appointed prior to site establishment and construct to prevent contravention of the approved EMPr and Environmental Authorisation.
c) The working areas must be clearly demarcated by the ECO prior to commencement of the installation and no access is to be allowed to sensitive areas.
d) The ECO is to conduct monthly audits and prepare monthly audit reports. Copies of these reports are to be supplied by the ECO to the developer and DEDTEA.
e) The ECO's duties extend to the end of the construction phase.

DESIGN PHASE
Engineering Design:

- A stormwater management plan must be prepared once the engineer's design of the site is finalised.
- Engineering design needs to accommodate the spill containment slabs to assist in the containment accidental spillages.

CONSTRUCTION PHASE
Noise Pollution and Blasting:

- Noise disturbance must be kept to a minimum.
- During the construction phase, maintain machinery regularly, as per the manufacturer's instructions
- During the construction phase, limit working hours from 07:00 to 17:00 on weekdays, 07:00 to 13:00 on Saturday and no work must be conducted on

Sundays unless for emergency purposes.
- All blasting and handling of blasting materials must be done in accordance with the Explosives Act and the Mine Health and Safety Act
- Risk assessment must be done after ground vibrations and blasting for the safety of residents, livestock and surrounding infrastructures.

Air Pollution:
- The liberation of dust into the surrounding environment must be effectively controlled.
- During dry/windy periods water sprays precautions must be undertaken to the construction access road.
- Construction phase stockpiles which have the potential of generating dust must be covered with plastic sheeting.
- Maintain construction vehicles and machinery to control exhaust emissions.

Water Pollution:
- Construction activities must remain within the footprint of the development.
- Construction machinery must be maintained by a suitably qualified mechanic, at an appropriately lined site, during working hours, so that diesel and/or oil leaks are avoided.
- Prevent run-off by constructing diversion berms and/or placing straw bales on denuded areas.
- Measures must be taken to ensure that ground and surface water are not polluted

Erosion measures:
- Should erosion become a problem during the construction phase then diversion berms and drains shall be constructed to divert run-off away from exposed areas.
- During the construction phase, bales can be used as filters across run-off pathways.
- The applicant must have alien invasive control programme that will be used to eliminate infestation of these plants.
- The applicant must have alien invasive control programme that will be used to eliminate the infestation of this plants.

Accidental spillages:
- Spills shall be cleared up immediately. The contaminated soils and the spilled material shall be taken to the nearest registered landfill site capable of receiving such spills.
- A register of all incidents shall be kept on site showing measures taken to clear up the spillages.
- Spillages occurring at the dispensing (i.e. offloading) area must be contained and cleaned up, must be disposed of safely and in accordance with environmental legislation. No product must be allowed to be discharged into municipal storm water and/or sewer system.
- A petrol and oil interceptor must be provided.

Heritage Issues:
- During construction, if heritage findings are made (graves, archaeological objects, etc.), contact AMAFA and stop the works immediately.

Health & Safety:

- Traffic signage shall be erected to advice people of machinery driving in the area.
- Pollution that could be detrimental to humans, flora and fauna shall be prevented as much as possible.
- The area must be fenced off to deny unauthorised access and to avoid potential risks associated with it.

Construction Site:

- Constructors must be encouraged to keep within the proposed development site, and not trespass on private property.

OPERATIONAL PHASE

Water pollution

- An operational spill management plan must be compiled by a suitably qualified specialist and implemented.
- Accidental spillages in the filler area and the forecourt are to be contained by allowing entering the drain at the edge of the spill containment slabs, diverting the spillages to the separator located at a low point on the site.
- A certified contractor must service the separator by removing the spilt product.

Stormwater

- A stormwater management system must be implemented and maintained throughout the operational phase of the proposed development.

Health and Safety

- All relevant health and safety requirements under the Occupational Health and Safety Act, as amended (Act 85 of 1993) must be complied with in the operational phase.

Monitoring and Reporting

- Routine monitoring, sampling and analysis of the early warning system should be carried out.
- Quarterly monitoring and bi-annual sampling is recommended.
- Records of monitoring must be kept and made available to the Department of Economic Development, Tourism and Environmental Affairs on request.
- Monthly stock reconciliations must be taken and recorded. These records must be made available to the Department of Water Affairs on request.
- The leak detectors must be regularly tested and records kept.
- All machinery must be maintained in good working order as to prevent soil or water pollution from oil, fuel or other leaks.

SECTION G: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Draft Environmental Management Programme (EMPr)

Appendix G: Other information