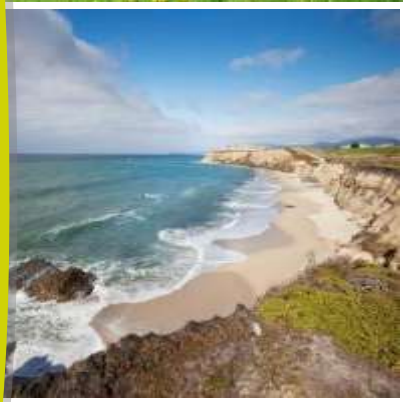

# DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED CLEARANCE OF TWO HECTARES OF INDIGENOUS VEGETATION REQUIRED FOR DEVELOPMENT AND RELATED OPERATION OF FOUR (4) BROILER UNITS EACH WITH A HOLDING CAPACITY OF 50 000 BROILERS ON PORTION 15 OF BROEKMANFONTEIN FARM NO: 294 JO WITHIN THE JURISDICTION OF THE RAMOTSHERE MOILA LOCAL MUNICIPALITY IN THE NORTH WEST PROVINCE.

**REFRENCE NO: NWP/EIA/85/2021**

**DATE OF SUBMISSION : 03 MARCH 2021**


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## EXECUTIVE SUMMARY

Lesekha Consulting was appointed by Kwena Chicks as an independent Environmental Assessment Practitioner (EAP) responsible for facilitating the legally required Environmental Authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, read with the Environmental Impact Assessment Regulations, (04 December 2014).

The applicant, Kwena Chicks is proposing to clear of two hectares of indigenous vegetation required for development and related operation of four (4) broiler units each with a holding capacity of 50 000 broilers on Portion 15 of Broekmanfontein Farm No:294 JO within the jurisdiction of the Ramotshere Moila Local Municipality in the North West Province The project will be established on two locations on the same farm with an extend of two hectares. The area falls under the jurisdiction of the Ramotshere Moila Local Municipality Local Municipality in the Ngaka Modiri Molema District Municipality in the North West Province.

The relevant application has already been lodged with the Department: Economic, Development Environment Conservation and Tourism for authorization, with the reference number as **NWP/EIA/85/2021:** As such, a Basic Assessment Application process (BAR) was undertaken to obtain an Environmental Authorization for the proposed project.

The proposed clearance of two hectares of indigenous vegetation required for development and related operation of four (4) broiler units each with a holding capacity of 50 000 broilers on Portion 15 of Broekmanfontein Farm No:294 JO within the jurisdiction of the Ramotshere Moila Local Municipality in the North West Province triggers the EIA Regulation 327, 04 December 2014.

**Listed Activity Number 05 (II)**: The development and related operation of facilities or infrastructure for the concentration of—

(i) more than 1 000 poultry per facility situated within an urban area, excluding chicks younger than 20 days;

**(ii) more than 5 000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days**;

(iii) more than 5 000 chicks younger than 20 days per facility situated within an urban area; or (iv) more than 25 000 chicks younger than 20 days per facility situated outside an urban area.

**Listing Notice No.1- Activity No 27.**

The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—

(i) the undertaking of a linear activity; or

(ii) maintenance purposes undertaken in accordance with a maintenance management plan.

As such, a Basic Assessment Application process (BAR) was undertaken to obtain an Environmental Authorization for the proposed project.

This Basic Assessment Report has been drafted in accordance with the EIA Regulations, 2014 and adheres to the requirements contained in Appendix 1 of GNR 326, as noted in Table 1.

**TABLE 1:** Content of a BA Report (2014 EIA Regulations)

| Scope of Assessment and Content of BAR | Section in the BAR |
|---|---|
| (a) A basic assessment report must contain all the information that is necessary for the competent authority to consider and come to a decision on the application, and must include –<br>a) details of –<br>i. the EAP who prepared the report; and the ii ii<br>ii. expertise of the EAP, including a curriculum vitae; | Section A |
| (b) the location of the activity, including:<br>(i) the 21-digit Surveyor General code of each cadastral land parcel;<br>(ii) where available, the physical address and farm name;<br>(iii) where the required information in items (i) and (ii) is not<br>(iv) available, the coordinates of the boundary of the property or properties; | Section B |
| (c) a plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale<br>(i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or<br>(ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken; | Section B |
| d) a description of the scope of the proposed activity, including - | Section B |

| Scope of Assessment and Content of BAR | Section in the BAR |
|---|---|
| (i) all listed and specified activities triggered and being applied for; and<br>(ii) a description of the activities to be undertaken including associated structures and infrastructure | |
| (e) a description of the policy and legislative context within which the development is proposed including –<br>(i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and<br>(ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instrumental. | Section C |
| (f) a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location; | Section D |
| (g) a motivation for the preferred site, activity and technology alternative; | Section E |
| h) a full description of the process followed to reach the proposed preferred alternative within the site, including:<br>(i(i) details of all the alternatives considered;<br>(ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;<br>(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; | Section F |
| (iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; | Section G |
| (v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts - | Section H |

| Scope of Assessment and Content of BAR | Section in the BAR |
|---|---|
| (aa) can be reversed;<br>(bb) may cause irreplaceable loss of resources; and<br>(cc) can be avoided, managed or mitigated;<br>(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;<br>(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;<br>(viii) the possible mitigation measures that could be applied and level of residual risk;<br>(ix) the outcome of the site selection matrix;<br>(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and<br>(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;<br>**(i)** a full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including -<br><br>(i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and<br>(ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;<br>(j) an assessment of each identified potentially significant impact and risk, including -<br>(i) cumulative impacts;<br>(ii) the nature, significance and consequences of the impact and risk; | |

| Scope of Assessment and Content of BAR | Section in the BAR |
|---|---|
| (iii) the extent and duration of the impact and risk;<br>(iv) the probability of the impact and risk occurring;<br>(v) the degree to which the impact and risk can be reversed;<br>(vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and | |
| (j) an assessment of each identified potentially significant impact and risk, including -<br>(i) cumulative impacts;<br>(ii) the nature, significance and consequences of the impact and risk;<br>(iii) the extent and duration of the impact and risk;<br>(iv) the probability of the impact and risk occurring;<br>(v) the degree to which the impact and risk can be reversed;<br>(vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and<br>(vii) the degree to which the impact and risk can be avoided, managed or mitigated. | Section H |
| (k) where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report; | Section G |
| (l) an environmental impact statement which contains –<br>(i) a summary of the key findings of the environmental impact assessment;<br>(ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and<br>(iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives; | Section I |
| (m) based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr; | Section I |

| Scope of Assessment and Content of BAR | Section in the BAR |
|---|---|
| n) any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation; | Section I |
| o) a description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed; | Section I |
| (p) a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation; | Section I |
| q) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised; | N/A |
| (r) an undertaking under oath or affirmation by the EAP in relation to:<br>(i) the correctness of the information provided in the reports;<br>(ii) the inclusion of comments and inputs from stakeholders and I&APs;<br>(iii) the inclusion of inputs and recommendations from the specialist reports where relevant; | Section I |

Contents

**TERMS AND DEFINITIONS**

| TERM/S | DEFINITION |
|---|---|
| **Alternatives** | Alternatives are different means of meeting the general purpose and need of a proposed activity. Alternatives may include location or site alternatives, activity alternatives, process or technology alternatives, temporal alternatives or the no-go alternative. |
| **Appeal** | Any affected person may appeal a decision of the competent authority to the MEC. |
| **Applicant** | An applicant is a person who applies for an waste license in order to undertake a listed activity lawfully. The applicant must appoint an independent EAP to manage the application process. |
| **Benefits assessment** | The objective of the assessment of benefits is to identify and assess all the significant benefits that may arise from the undertaking of an activity. |
| **Competent authority** | The person who makes decisions in respect of applications for environmental authorizations is known as the competent authority. In this instance, the competent authority is the MEC of North West Province. Delegated officials from relevant departments assist the MEC with the final decision. |
| **Cumulative impacts** | Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts. |
| **Direct impacts** | Direct impacts are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable. |
| **Disposal** | Licensing, management, capacity, etc. of landfill sites and dump sites. |
| **EAP** | An EAP is a person who manages an application for environmental authorisation for an applicant. |
| **Education and Awareness** | Public education and awareness initiatives regarding the impact of waste on the environment and people's health and the promotion of sound waste management practices. |
| **EIA process** | The scoping and EIA process involves a complex and intensive assessment of the potential impacts of an activity. The process takes place in three broad phases, namely submission of an application form, scoping and the EIA. |
| **Environmental** | Assessment of the effects of a development on the environment |

| TERM/S | DEFINITION |
|---|---|
| **Impact Assessment** | |
| **Environmental Management Programme** | A working document on environmental and socio-economic mitigation measures that must be implemented by several responsible parties during all the phases of the proposed project. |
| **Impacts** | Impacts are the changes in an environmental parameter that result from undertaking an activity. The change is the difference between the effects on the environmental parameter where the activity is undertaken compared to that where the activity is not undertaken. Impacts may be positive or negative and may be categorized as being direct (primary), indirect (secondary) or cumulative impacts. |
| **Impacts assessment** | The objective of the assessment of impacts is to identify and assess all the significant impacts that may arise from the undertaking of an activity. |
| **Indirect impacts** | Indirect impacts of an activity are indirect or induced changes that may occur as a result of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity. |
| **Integrated Waste Management Plan** | An Integrated Waste Management Plan provides a framework within which local municipalities can deliver a waste management service to all residents and businesses. |
| **Interested and Affected Parties** | The public is legally required to be given an opportunity to comment on applications for environmental authorization. Members of the public who want to participate in an assessment process must first register as I&AP's. |
| **Mitigation measures** | Mitigation measures are the steps that are taken to reduce the identified impacts as far as possible. Mitigation measures will address the predicted factors of the impacts clearly to demonstrate how the impacts will be reduced through mitigation. |
| **Municipal solid waste** | Solid waste resulting from or incidental to municipal, community, commercial, institutional and recreational activities, and includes garbage, rubbish, ashes, street cleanings, abandoned automobiles, and all other solid wastes except hazardous waste, industrial solid waste, oilfield waste and biomedical wastes. |
| **No-go alternative** | The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives. The no-go alternative also provides the baseline against which the impacts of other alternatives can be compared. |
| **Public participation** | Public participation is a key element of both the scoping and EIA processes and must be conducted in accordance with at least the minimum requirements |

| TERM/S | DEFINITION |
|---|---|
| | as set out in the Regulations. |
| **Recycle** | Means to do anything that results in providing a use for a thing that otherwise would be disposed of or dealt with as waste, including collecting, transporting, handling, storing, sorting, separating and processing the thing, but does not include the application of waste to land or the use of a thermal destruction process. |

**ABBREVIATIONS AND ACRONYMS**

| ABBREVIATIONS | ACRONYMS |
|---|---|
| **APPA** | Air Pollution Prevention Act |
| **BAR** | Basic Assessment Report |
| **BID** | Background Information Document |
| **CRR** | Comments and Response Report |
| **DEA** | Department of Environmental Affairs |
| **EAP** | Environmental Assessment Practitioner |
| **ECA** | Environment Conservation Act |
| **EIA** | Environmental Impact Assessment |
| **EIAR** | Environmental Impact Assessment Report |
| **EMF** | Environmental Management Framework |
| **EMPr** | Environmental Management Programme |
| **EMPR** | Environmental Management Program Report |
| **GA** | General Authorization |
| **GIS** | Geographic Information System |
| **GN** | Government Notice |
| **I&AP** | Interested and/or Affected Parties |
| **I&AP's** | Interested and Affected Parties |
| **IDP** | Integrated Development Plan |
| **IWULA** | Integrated Water Use License Application |
| **LED** | Local Economic Development |
| **MSA** | Municipal Service Act |
| **NDP** | National Development Plan |
| **NEM:BA** | National Environmental Management: Biodiversity Act |
| **NEMA** | National Environmental Management Act (No. 107 of 1998) (as amended) |
| **NEMAA** | National Environmental Management Amendment Act |
| **NEMWA** | National Environmental Management: Waste Act (No. 59 of 2008) |
| **NHRA** | National Heritage Resources Act (No. 25 of 1999) |
| **NSBA** | National Spatial Biodiversity Assessment |
| **NWA** | National Water Act (No. 36 of 1998) |
| **NW-DECEDT** | North West - Department Economic Development Environment Conservation and Tourism |
| **PPP** | Public Participation Process |
| **SAHRA** | South African Heritage Resources Agency |
| **SANBI** | South Africa National Biodiversity Institute |

| ABBREVIATIONS | ACRONYMS |
|---|---|
| **SANS** | South Africa National Standards |
| **SDF** | Spatial Development Framework |
| **SDI** | Spatial Development Initiative |
| **SEA** | Strategic Environmental Assessment |
| **SEMP** | Strategic Environmental Management Plan |
| **RMLM** | Ramotshere Moila Local Municipality |
| **ToR** | Terms of Reference |

## SECTION A

## 1. INTRODUCTION

Lesekha Consulting was appointed by Kwena Chicks as an Independent Environmental Assessment Practitioner (EAP) responsible for facilitating the legally required Environmental Authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, read with the Environmental Impact Assessment Regulations, (04 December 2019). The relevant application has already been lodged with the North West Department: Economic, Development Environment Conservation and Tourism (NW DEDECT) for authorization, with the reference number as **NWP/EIA/85/2021:** As such, a Basic Assessment Application process (BAR) was undertaken to obtain an Environmental Authorization for the proposed project.

The proposed clearance of two hectares of indigenous vegetation required for development and related operation of four (4) broiler units each with a holding capacity of 50 000 broilers on Portion 15 of Broekmanfontein Farm No:294 JO within the jurisdiction of the Ramotshere Moila Local Municipality in the North West Province triggers the EIA Regulation 327, 04 December 2014.

**Listed Activity 1. Number 05 (II)**: The development and related operation of facilities or infrastructure for the concentration of—

(i) more than 1 000 poultry per facility situated within an urban area, excluding chicks younger than 20 days;

**(ii) more than 5 000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days**;

(iii) more than 5 000 chicks younger than 20 days per facility situated within an urban area; or

(v) more than 25 000 chicks younger than 20 days per facility situated outside an urban area.

**Listing Notice No.1- Activity No 27.**

The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—

(i) the undertaking of a linear activity; or

(ii) maintenance purposes undertaken in accordance with a maintenance management plan.

In terms of the National Environmental Management Act (No. 107 of 1998) (as amended) (NEMA), the proposed development triggered activities which require authorization from the

competent environmental authority before they can be undertaken. Furthermore, the National Environmental Management Act provides various measures for the prevention of pollution and ecological degradation, as well as for ecologically sustainable development to protect human health and the environment.

The relevant application has already been lodged with the North West Department of Economic Development, Environment and Tourism (NW DEDECT) for environmental authorization, with the reference number as **NWP/EIA/85/2021.** As such, a Basic Assessment Application process (BAR) was undertaken to obtain an environmental authorization for the proposed project.

## 1.1 PROJECT BACKGROUND

The project is owned and run by Mr. Jake Mokwena with the help of a farm manager and other employees. Currently there are six employees who are running the project. The site is fenced with two access gates which are manned at night. Kwena Chicks were approached by Sumpreme Chickens to expand their operation with the four broiler units. On site there are (2) existing broiler units each with a holding capacity of 27 500 broiler. During the operational phase there will be six broiler unit with a total capacity of 255 000 broilers. Ground water is used onsite, there are four boreholes, three which are equipped and operational. The water is pumped into jojo tanks for storage. Electricity onsite is supplied through an Eskom line and the two broiler units have each an 80kva standby generator. Each broiler unit has two poultry feed storage units. The site also has offices, ablution facilities and storerooms. The farmer supplies the chickens to supreme chickens, in Mafikeng. The chickens are transported alive to for slaughter and further processing.

## 1.2 OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

The objective of the basic assessment process is to, through a consultative process—

(a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
(b) identify the alternatives considered, including the activity, location, and technology alternatives;
(c) describe the need and desirability of the proposed alternatives;
(d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and

locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:

(i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

(ii) the degree to which these impacts—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be managed, avoided or mitigated;

(e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—

(i) identify and motivate a preferred site, activity and technology alternative;

(ii) identify suitable measures to manage, avoid or mitigate identified impacts; and

(iii) identify residual risks that need to be managed and monitored.

### 1.3 BASIC ASSESSMENT PROCESS ORGANOGRAM

The Basic Assessment process should be undertaken for project activities that are included under Listing Notices 1 and 3. Impacts of these activities are more generally known and can often be mitigated or easily managed. The BA process must follow the procedure as prescribed in Regulations 19 to 20. The following diagram outlines the steps that should be followed in undertaking a BA process.

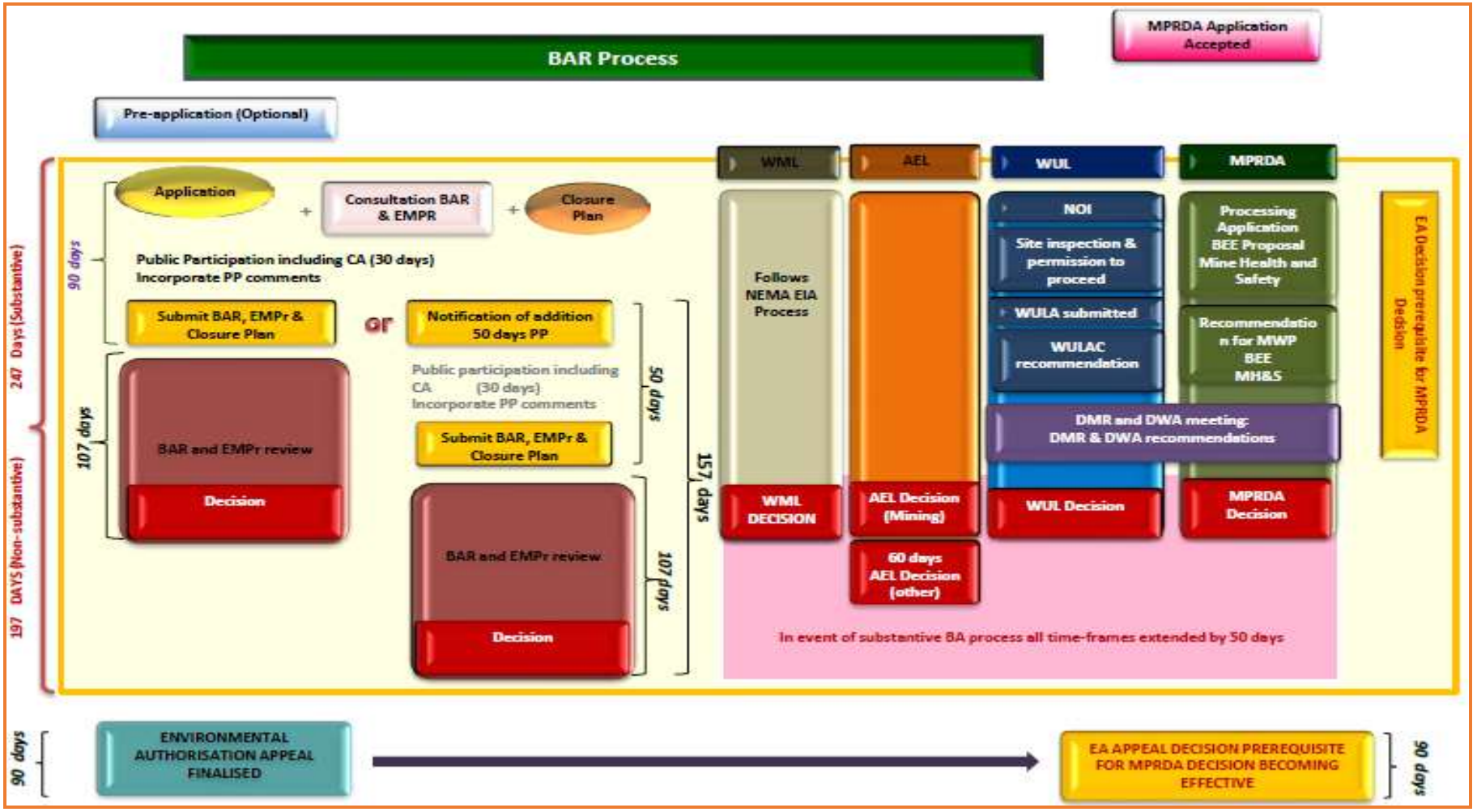



*Figure 1: BA Process Organogram*

## SECTION B

## 2 EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

This report has been prepared by Lesekha Environmental Consulting with all reasonable skill, care and diligence within the terms of the contract with the client. Lesekha Consulting is a multidisciplinary environmental management and consulting company with more than 14 years of experience in the field

Lesego Senna is a Lead qualified Environmental Assessment Practitioner (EAP) managing and coordinating the EIA study of the project. Lesego holds the Bachelor Degree: in Natural Science majoring in Microbiology and Biochemistry. She also holds an Honours Degree: Environmental Sciences, Majoring in Environmental Impact Assessment and Earth Sciences – North West University (Potchefstroom Campus).

Lesego holds a certificate in Environmental Law (NQF level 7) with the following courses: Waste Management, Biodiversity Management, Waste Management, Heritage Assessment, Environmental law & Environmental Impact Assessment obtained from the Centre of Environmental Management at Potchefstroom University). She also holds a certificate in GIS and GPS course (NQF level 5) from the Free State University, with the following Modules: Spatial data Structures; Spatial data symbolisation and analysis and interpretation Map design. Lesego is a registered Environmental Scientist registered with the ***South African Council of Natural Scientific Profession SACNASP (Reg.No.400165/17).*** Lesego is also a registered professional EAP with EAPASA registration ***No:2021/3325.***

Details of the qualified EAPs involved in undertaking the BA Process are noted in Table 2 and the Curriculum Vitae (CV) of the relevant EAPs attached as Appendix A.

*Table 3: The technical team*

| Team Member | Qualifications | Project Role |
|---|---|---|
| Lesego Senna | Bsc. (Honours) Environmental Sciences | EAP/Project Manager |
| Jennipher Sakaunda | Bsc. (Honours) Environmental Sciences | Environmental Assessment Practitioner |
| Kgomotso Mohaswa | Bsc. Degree in Environmental Sciences | Environmental Assessment Practitioner |

## 2.1 LOCATION OF THE OVERALL ACTIVITY

The proposed clearance of two hectares of indigenous vegetation required for development and related operation of four (4) broiler units each with a holding capacity of 50 000 broilers on Portion 15 of Broekmanfontein Farm No:294 JO within the jurisdiction of the Ramotshere Moila Local Municipality in the North West Province. The site has four existing boreholes that supply water to the site. The site is connected to the Eskom line and has standby generators are available.

The sites are located on a farm in Groot Marico, 20 km South East of Zeerust town. The site has an existing access road that connects the main road. The is a grassland site has a steep terrain, with a few scattered trees. There are no protected trees species on the sites of development.

**SITE PICTURES**

*Picture 1: Poultry feed storage units*

*Picture 2: An operational broiler unit.*

*Picture 3: Water Tanks on site*

*Picture 4: proposed site of development*

*Picture 5: Broiler Unit onsite*

*Picture 6: animals on the proposed development site.*

## 2.2 LOCATION OF THE OVERALL ACTIVITY

*Table 1: Property Description*

| | |
|---|---|
| **Farm Name:** | Portion 15 of Broekmanfontein Farm No:294 JO |
| **Application area (Ha)** | 2 ha |
| **Province** | North West Province |
| **Local Municipality** | Ramotshere Moila Local Municipality |
| **Ward No** | Ward 19 |
| **Magisterial district** | Ngaka Modiri Molema District Municipality |
| **Distance and direction from nearest town** | 20 km South East of Zeerust Town |
| **21-digit Surveyor General Code** | T0JO00000000029400000 |
| **Coordinates:** | S25° 41′ 29.72″ E26°17′ 8.15″<br>S25° 41′ 31.15″ E26° 17′ 0.63 |

**2.3 LOCALITY MAP**


*Figure 2: Locality Map*

## 2.4 DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

The proposed clearance of two hectares of indigenous vegetation required for development and related operation of four (4) broiler units each with a holding capacity of 50 000 broilers on Portion 15 of Broekmanfontein Farm No:294 JO within the jurisdiction of the Ramotshere Moila Local Municipality in the North West Province. The site is approximately 20 km South East of Zeerust Town. The following infrastructure is currently available and operational on site:

- 27 500 broiler unit x 2
- Security fence 400m
- Water tank x 3 (5 000l).
- Store room
- Ablution facilities
- Offices
- Stand by generators
- Poultry feed storage units
- 4 boreholes

The proposed site of development is currently being used for cattle rearing but the animals will be moved before the commencement of the construction phase. The development will entail the following:

- Clearance of two hectares of indigenous vegetation
- Development of four broiler units (147m X 16.5m)
- Erecting a fencing
- Installing Boiler Heating System
- Installing Boiler and Bunker Slab
- Establishing Ablution facilities

## 2.5 BROILER UNITS

A broiler is any chicken that is bred and raised specifically for meat production. They are genetically improved and have great meat production efficiency. Most commercial broilers reach slaughter weight between four and seven weeks of age, although slower growing breeds reach slaughter weight at approximately 14 weeks of age. Typical broilers have white feathers and yellowish skin.

Broilers are usually kept at high stocking densities, typical stocking densities range between about 22 to 42 kg/$m^2$ or between about 11 to 25 birds per square metre. There is a reduction of feed intake and reduced growth rate when stocking density exceeds approximately 30 kg/$m^2$ under deep litter conditions. Broilers with a rapid growth rate have a higher mortality rate as compared to standard broiler chickens of 1% per week. Modern fast-growing broilers are more dependent on suitable environmental conditions so suitable broiler housing is very important for commercial and profitable production.

## 2.6 POSITIONING POULTRY HOUSE

In order to control temperature effectively a naturally ventilated house must be built in a north/south direction. That is, the longer sides must face north and south, the shorter, brick sides east and west.

As the sun rises, the house is heated evenly and chickens do not compete for heat as a uniform environment is created. The long sides must also have an opening that runs the length of the house. This helps with the exchange of gasses. Carbon dioxide for one, emitted from wet chicken litter, must escape the house as it moves upward. If it stays trapped it can lead to the growth of harmful pathogens and influence the productivity of layers and growth rate of broilers.

The opening must face north because in South Africa strong winds usually do not come from a northerly direction, and this precaution will also help limit the possibility of a strong wind lifting the roof of off the chicken house. Chickens do not like wind anyway. Any disruption to their comfort will affect their feed intake and, as a result, their weight gain or egg production. The opening must be covered in mesh to prevent the entry of wild birds, which can transmit diseases to chickens.

## 2.7 TEMPERATURE CONTROL

There are three ways of heat production inside a house: heat produced by chickens, heat entering a house through the roof and walls and artificial heating. Chickens are warm-blooded and maintain a uniform body temperature of between 40, 6˚C and 41, 7˚C. It's important to provide young chickens with an ambient temperature of 21˚C to 37˚C (depending on the production stage) and adult birds with a temperature of about 21˚C. As hot air rises and cold air drops, thermometers measuring housing temperature must be at chicken height or knee height, and not at human eye level, because the temperature at the bottom of the house (where the chickens are) will differ from the temperature here.

*Figure 3: Canvas is rolled up or down to control the temperature inside the house. Mesh ensures that no rodents or birds can enter the house and possibly spread disease.*

A naturally ventilated house makes use of rolls of canvas on the corrugated iron sides that are rolled up or down, depending on whether the house needs to be cooler or warmer. Opening the canvas sides not also helps get rid of gases. Sprinklers can also be installed on a roof as wetting a corrugated iron roof can help cool down a house. A chicken that feels uncomfortably hot will open its wings and stop feeding and use energy that was supposed to go to weight gain or egg production to maintain its body temperature. Cold temperatures can be controlled by using infrared lights, brooding systems and spot heaters which heat only a certain area in a house.

Chickens flocking around a heat source mean they are cold and need more heat. A cold chicken will eat more to increase its body temperature and will be more expensive to maintain (due to increased feed intake), even though it's not producing optimally. Broilers produce more heat as they grow very fast and will therefore need less artificial heat. Larger, older birds and active birds, like free-range birds, also produce more heat.

**2.8 DESIGN OF THE STRUCTURE**

Before designing and erecting a broiler house careful consideration were made on the location relative to community residence. The main advantage of locating broiler units to the residence is that providing quick access and a degree of security. The open-sided broiler

unit design will be used on the projects. It costs less to build and operate than a controlled-environment house but requires more hands-on involvement of the producer to maintain favourable environmental conditions inside the units. The main environmental management activities are control of the side curtain openings and the use of heaters but they can also involve the use of fans and misting systems. Open-sided units will be located on well-drained land in a location that allows for natural air movement. The units will be built so that direct sunlight does not fall on to one of the side walls during the hottest part of the day in summer. Unit orientation should be such that the long axis of the house lies east to west. Preferably the open-sided poultry units should have a high roof pitch, because this assists natural ventilation, as it increases the movement of air by convection (hot air rising and cooler air sinking) and reduces the amount of radiant heat from the underside of the roof that reaches the level of the house (just above the floor) where the birds are living.

The dimensions of the house (147m X 16.5m) were selected based on the desired batch size (number of birds grown during a production cycle) and the resources (funds, building materials) available for the erection of the units. Building materials to be used include bricks (cement or conventional), wood (roof beams), concrete (floor and foundation for brick walls) and insulated corrugated iron (roof).

Due to the size of the house, solid columns at regular distance from each other may be necessary to provide support for the roof structure. Side walls will have adjustable, reinforced plastic curtains that completely cover the wire netting. Adjusting these curtains (opening and closing) will provide a degree of control over temperature and ventilation inside the house. Partial or complete opening of the curtains is used to reduce the temperature and closing the curtains to increase the temperature.

The floor of the open-sided broiler will consist of a concrete slab with a smooth surface. Making the surface smooth helps to clean the house effectively in between batches. For the same reason, smooth plastering of the solid sidewalls and the lower parts of the end walls will be used. Corrugated irons sheets are used for the roof of the open-sided broiler house. These sheets are fastened to wooden beams that make up the roof frame. Before attachment insulation material is placed below the sheets. This helps to reduce temperature fluctuation in the house. The mechanically ventilated units have advantages following reasons:

- The mechanically ventilated coops prevent the rapid spread of diseases.
- There is less mortality as there is no heat stress because temperature can be controlled.
- The design of this alternative minimizes odours.

The drawings for the broiler units are attached in appendix C.

## 2.9 CURRENT OPERATIONS

Currently, the site has two operational broiler units each with a holding capacity 27 500 broilers. In order to ensure safety of the products there are security guards who guard the sites from 6 pm until 6 am. The daily running of the sites is done by employees under the super vision of the farm manager, which includes cleaning of the site, feeding and watering the chickens. Ground water is used onsite which is pumped into jojo tanks by solar powered pumps. The chickens are transported to Mafikeng alive for slaughter as such there is on slaughtering done on site. Currently, chicken litter is transported to the applicant's other farms were its composted and used as manure in the fields. Mortalities are kept in the fridge and supplied to a near-by lion farm. We recommend that as production increases a lined mortality pit be established. We recommend that a lined Mortality pit where carcasses will be disposed. The carcass pit must be covered with soil to prevent vermin and the attraction of rodents and scavenger animals. The following table compares the disposal methods.

***Table 2: Disposal Methods Comparison***

| Disposal Method | The Design and operation | Advantages |
|---|---|---|
| Mortality Pit. | It is recommended that a properly constructed mortality pit be used for disposal of carcass onsite.<br>A pit must be dug and lined on the bottom and sideways to prevent seepage resulting in the contamination of underground water.<br>Following the disposal of carcasses Lime must be added on the pit to reduce oudors.<br>Decombuster granules enzyme (containing lipase protease and hemicellulase) which are highly biodegradable must be added to the carcasses pit. The use of this enzyme will increase degradation time, speed up decomposition in the mortality pit extends the life of the pit enhance performance of the mortality pits by speeding up the decomposition process of the carcasses.<br>The pits must be covered with soil after the | -extremely economical<br>-Simple and the most convenient method of disposal.<br>- can be established onsite to reduce transporting costs.<br>-if properly constructed can and covered can effectively reduce odours. |

| Disposal Method | The Design and operation | Advantages |
|---|---|---|
| | disposal of mortalities. | |
| Provision of carcass to Predator Farmers | Currently are the mortalities are taken to a lion farm.<br>Mortalities must be stored in the freezer to allow the deactivation of the microorganisms and viruses that could have killed the chickens.<br>The mortalities can then transport and fed to the animals. | - An additional source of income.<br>- No carcass handling onsite and related impacts on site. |

## 2.10 LISTED AND SPECIFIED ACTIVITIES TRIGGERED AND BEING APPLIED FOR ACTIVITIES

In terms of the Environmental Impact Assessment (EIA) Regulations (2014), promulgated in terms of the National Environmental Management Act, 1998 (NEMA), certain Listed Activities are specified for which either a Basic Assessment (GN R 327 and 326) or a full Scoping and EIA (GN R 325) is required. The following Listed Activities in Government Notice (GN) R 327 (Listing Notice 1) requiring a Basic Assessment (BA) Process are applicable to the proposed project:

| Listed activity as described in GN R.327 | Description of project activity |
|---|---|
| **Listing Notice No.1- Activity No 5.**<br>The development and related operation of facilities or infrastructure for the concentration of—<br>(i) more than 1 000 poultry per facility situated within an urban area, excluding chicks younger than 20 days;<br>**(ii) more than 5 000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days;**<br>(iii) more than 5 000 chicks younger than 20 days per facility situated within an urban area; or<br>(iv) more than 25 000 chicks younger than 20 days per facility situated outside an<br>urban areas; | The proposed project will entail development and related operation of four (4) broiler units each with a holding capacity of 50 000 broilers outside an urban area. |
| **Listing Notice No.1- Activity No 27.**<br>The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where | Two hectares of vegetation will be cleared to allow for the development. |

| Listed activity as described in GN R.327 | Description of project |
|---|---|
| such clearance of indigenous vegetation is required for—<br>(i) the undertaking of a linear activity; or<br>(ii) maintenance purposes undertaken in accordance with a maintenance<br>management plan. | |

## 2.11 LAND USE AND SERVICE PROVISION

The current zonings on this property is agriculture, therefore no rezoning application is needed.

## 2.12 SITE ACCESS

The site will utilize an existing access road which connects to the R49 road and will not generate any significant traffic except for a temporary minor increase in heavy vehicle traffic during the construction phase. During the operational phase additional traffic will be generated from the vehicles bringing feed and transporting the chickens to the market.

*Picture 7: Existing access road*

## 2.13 SOLID WASTE MANAGEMENT

A very minimal quantity of waste will be produced per month during the construction phase. All waste must be removed from the site and transported to the Zeerust Landfill Site. Construction rubble shall be disposed of in pre-agreed demarcated spoil dumps that have been approved by the Project Engineer. Solid waste will be transported off the site to the municipal dumpsite for proper disposal. Construction solid waste will be separated according to type and stored appropriately in skips and drums.

During the operational phase organic waste from the chickens in the form of manure, wastewater and feed remnants will be generated. Currently, the applicant is transporting the litter for compositing on the farms is a farmer who collects the chicken manure. Alternativity, since these are all organic, they will be collected and composted in a lined compost pit onsite. Solids will be placed in the composting area and composted along with material such feed. The composting area must be lined to prevent potential leachate.

b) **Emissions into the atmosphere**

During construction, activities carried out by construction vehicles and machinery will result in dust being released into the atmosphere. Should dust pollution become a problem during the construction, dust control measures will be put in place (i.e. periodic wetting of exposed surfaces, temporary halt in dust generating construction activities during periods of high wind).

c) **Generation of noise**

Noise is expected during the operational and construction phase noise associated with normal construction activities i.e. vehicles, generators and plant equipment being used on the site. The trucks offloading chickens for sales are expected to be minimal. However, construction activities will as far as possible be limited to normal working hours (weekdays between 7am and 5 pm). Noise levels will be kept within the legislated limits for the area, in accordance with the requirements of the relevant national and local noise control statutes (e.g. 85dBA). This project is situated in a rural/agricultural setting and noise emanating from this proposed projects and farm vehicles on and around the site. Noise levels from this project will have no significant impact on the surrounding populace.

## 2.15 WATER USE

Water needs on the farm will be supplied from the existing borehole onsite. A water use lisence will be applied in terms of section 21 (a) (b) of the National Water Act.

## 2.16 ENERGY EFFICIENCY

The proposed poultry houses will make use of passive ventilation; will have insulated roofs to maintain optimal ambient temperatures. These measures minimise the need to actively regulate temperature and airflow within the houses. Furthermore, the orientation of the proposed houses will ensure a relatively even thermal load from solar radiation and minimise the need for artificial active regulation. All these measures will increase the energy efficiency of the facility. In addition, the solar will reduce reliance on Eskom energy supplies and will ensure this activity is energy efficient.

# SECTION C

## 3 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

The current assessment is being undertaken in terms of the National Environmental Management Act (NEMA, Act 107 of 1998)' EIA Regulations dated on the 04 December 2014, this makes provision for the identification and assessment of activities that are potentially detrimental to the environment, and which require authorization from the competent authority (the Department of Economic, Development, Environment, Conservation and Tourism. The Department of Economic, Development, Environment, Conservation and Tourism decision will be based on the findings of the Basic Assessment Report and the site visits. The following is a list of all the applicable legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA Regulations:

### 3.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO: 107 OF 1998)

The National Environmental Management Act (Act 107) of 1998 (NEMA) is the overarching framework for Environmental Legislation as well as the Regulations for Environmental Impact Assessment. An application for Environmental Authorization for the identified Listed Activities will be lodged with the North West Department economic development Environment conservation and Tourism (NW-DEDECT) Activities in terms of NEMA.

According to National Environmental Management Act 1998 (Act no 107 of 1998), construction of the broiler units triggered NEMA 107 of 1998 and New amended EIA regulations GN: 327 of 04 April 2014. In terms of Activity No: 27 stated that the clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation. Section

28(1) of NEMA states: “every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring”. If such degradation/pollution cannot be prevented, then appropriate measures must be taken to minimise or rectify such pollution. The farmers as the custodians of the site, therefore have a responsibility, to ensure that the EIA process conform to the principles of NEMA and that the objective of the EIA process is to identify and assess environmental impacts and to manage these impacts. The final objective is to ensure that this development remains environmentally sustainable.

### 3.2 NATIONAL FOREST ACT (ACT NO: 84 OF 1998)

The site has vegetation and there are indigenous and no protected trees are on the site. The purposes of this Act are to promote the sustainable management and development of forests for the benefit of all; provide special measures for the protection of certain forests and trees; promote the sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes.

National Forest Act stated that it’s prohibited of destruction any indigenous tress in any natural forest without a license or permit. In terms of Section 7(1) no person may cut, disturb, damage or destroy any indigenous living tree in, or remove or receive any such tree from a natural forest except in terms of (a) a license issued under subsection (4) the minister may issue a license to cut, damage or destroy any indigenous, living tree in or remove or receive ant such tree from a natural forest. (b) An exemption from the provision of this subsection published by the minister in the Gazette on the advice of the council. Clearing of vegetation of will be done to an extend of 0.8 ha, on an area that is mainly a grassland. It is the responsibility for farmers the site is rehabilitated using indigenous trees.

### 3.3. ANIMAL DISEASES ACT, 1991 (ACT NO. 35 OF 1984)

Provides for the control of animal diseases and parasites as well as for measures to promote animal health to reduce the impacts of the disease on livestock and prevent human infection is to control this disease in the animal population. Specify the kinds of animals which are susceptible to the animal disease or parasite concerned, which are the carriers thereof or which may cause or spread it and determine the measures which shall be taken to prevent the infection or reinfection of the animals concerned, and the progeny or products thereof, with the animal disease or parasite concerned, or the spreading thereof.

Control of animal's disease must be ensured at Kwena Chicks through vaccination and training of the farmers to prevent the spread of infections. Good control of parasites and diseases will also ensure profitability of the business.

### 3.4 ANIMAL IMPROVEMENT ACT 1998 (ACT NO. 62 OF 1998)

Provides for the breeding, identification and utilization of genetically superior animals in order to improve the production and performance of animals. The Acts states that persons who desires to be registered as an animal breeder's society shall apply to the registrar in the form determined by the registrar and in the prescribed manner, and such application shall be accompanied by the constitution of the animal breeders' society, and the prescribed application fee. The act prohibits the export from the Republic an animal or genetic material of a landrace unless such exportation has been authorized by the registrar in writing. In order for the Kwena Chicks to be profitable the farmers must use genetically superior chickens in order to improve the production and performance of animals.

### 3.5 ANIMAL PROTECTION ACT, 1962 (ACT NO. 71 OF 1962)

Consolidates and amends the law relating to the prevention of cruelty to animals. Animal cruelty is done when a person unnecessarily starves or under-feeds or denies water or food to any animal, overloads, overdrives, overrides, ill-treats, neglects, infuriates, tortures or maims or cruelly beats, kicks, goads or terrifies any animal. When a person kills any animal in contravention of a prohibition in terms of a notice published in the Gazette under subsection (3) of this section. Kwena Chicks must prevent cruelty to animals by ensuring that there have adequate food supplies and medication.

### 3.6 SOCIETIES FOR THE PREVENTION OF CRUELTY TO ANIMALS ACT, 1993 (ACT NO. 169 OF 1993)

Provides for control of societies for the prevention of cruelty to animals and for matters connected therewith. The Council shall for the purposes of section 8 of the Animals Protection Act be a society for the prevention of cruelty to animals. The Council, as well as agents and representatives, to assist it; confer or impose upon an inspector appointed in terms of paragraph such functions, powers and duties as the board may deem necessary including the powers to enter upon any premises or conveyance of a society; to examine or test or cause to be examined or tested any animal, material, substance or other article on such premises or conveyance; to take samples of any such material, substance or other article to examine and make copies of or extracts from any book or document of a society to give written instructions to societies regarding the execution of the board's requirements in terms of this Act; to seize any such animal or the whole or any part or quantity of such

material, substance or other article, or any such book or document that relates to, or is on reasonable grounds believed by him to relate to, or may afford proof of, the failure of a society to perform its duties or to pursue its objects

### 3.7 ANIMAL IDENTIFICATION ACT, 2002

The main objects of the Animal Identification Act, 2002 are to provide for the breeding, identification and utilisation of genetically superior animals in order to improve the production and performance of animals in the interest of the Republic, and to provide for matters connected therewith. An animal of a specified breed of such kind of animal as the Minister may by notice in the Gazette declare to be an animal for the purposes of this Act.
In the case of a new kind of animal or a new breed of such kind of animal to be imported into or to be bred in the Republic, the Minister shall make such declaration after considering the request, taking the international law into consideration and after considering comments received in response to an invitation by the registrar to interested persons to comment on a proposed declaration that had been published in the Gazette at least 30 days prior to such declaration. Different kinds of animals or breeds of such kinds of animals may be so declared in relation to different provisions of this Act: Provided that an animal or genetic material as referred to in section shall only be declared upon a specific written application to the Minister by the relevant animal breeders' society. The farmers must continuously learn and acquire knowledge about breeds of to provide, technology in order to improve the production and performance of animals.

### 3.8 MEAT SAFETY ACT 40 OF 2000

To provide for measures to promote meat safety and the safety of animal products; to establish and maintain essential national standards in respect of poultry production; to regulate the importation and exportation of meat; to establish meat safety schemes; and to provide for matters connected therewith. Kwena Chicks must ensure that they produce chicken that meets the national meat standards.

### 3.9 CONSTITUTION OF SOUTH AFRICA 108 OF 1996

This application considers the Environmental and Social-Economic conditions as set out in Section 24 of the Constitution of South Africa (No 108 of 1996). In terms of section 7, the state is obliged to respect, promote and fulfill the rights in the Bill of Right. The environmental right states that:
Everyone has the right-

- To an environmental that is not harmful to their health or well-being; and
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
    - Prevent pollution and ecological degradation
    - Promote conservation
    - Secure ecological sustainable development and use of natural resources promoting justifiable economic and social development.

### 3.10 NATIONAL HERITAGE RESOURCES ACT 1999 (ACT NO: 25 OF 1999)

The National Heritage Resources Act provides for an integrated and interactive system for the management of the National Heritage Resources and empowers civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations. SAHRA is tasked with protecting heritage resources of national significance. The site does not have any items or recourses of heritage importance.

### 3.11 OCCUPATIONAL HEALTH AND SAFETY ACT 1993 (ACT 85 OF 1993)

The OHSA stated that every employer shall provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health and safety of his employees. Personal Protective Equipment (PPE) refers to any equipment worn to protect the user whilst they are working. It includes an array of equipment such as safety glasses/goggles/visors, gloves, lab coats, respiratory masks, ear plugs/ear defenders and safety shoes. PPE must be worn after all other methods of reducing risk have been properly considered. PPE only protects the wearer from harm, and is liable to failure due to incorrect use, damage or being forgotten entirely. The PPE that must be used will be specified in the Risk Assessment for the activity. The employees at the Kwena Chicks during the construction and operational phase must wear the correct PPE all the time.

### 3.12 HEALTH ACT NO. 63 OF 1977

The act aims to provide for measures for the promotion of the health of the inhabitants of the Republic of South Africa and to that end to provide for the rendering of health services. The act defines the duties, powers and responsibilities of certain authorities which render health services in the Republic and provide for the co-ordination of such health services.

### 3.13. NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT 39 OF 2004

The NEMA Air Quality represents a distinct shift from exclusively source-based air pollution control to a holistic and integrated effects –based air quality management. This approach

has the following basis: the prevention and minimization of atmosphere emissions and the management and reduction of impacts associated with unavoidable releases. The implementation of pollution prevention, impact mitigation and co-operative air quality governance varies between different sectors. Within the industrial sector, pollution prevention can take various forms including innovative product design, efficient use of natural resources and shift to cleaner production methods. The Kwena Chicks must put measure to control odors and gases generated from the decomposition of the carcasses.

### 3.14 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT

During construction various type of waste are expected to be generated from the site, in terms of National environmental Management Act: Waste part 5, section 21 states that any person who stores waste must at least take steps, unless otherwise provided by the Act, to ensure that

(a) The containers, in which any waste is stored, are intact and not corroded or in any other way rendered unfit for the safe storage of waste.

(b) Adequate measures are taken to prevent accidental spillage or leaking

(e) Pollution of the environment and harm to health are prevented.

Both during the construction and operational phases measures must be put in place to control the disposal of waste. During the construction phase minimum waste will be generated which will be disposed of at the Wolmaransstad landfill site. During the operational phase chicken manure, wash water and mortalities will be generated. Chicken manure will be composted in a lined pit and mortalities will be disposed of in a mortality pit.

### 3.15 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE BILL 39 OF 2007

The draft Bill seeks to reform the law regulating waste management in order to protect human health and well-being, and the environment by providing reasonable measures for:

- The minimization of the consumption of natural resources;
- The avoidance and minimization of the generation of waste;
- The recovery, re-use and recycling of waste
- The treatment and safe disposal of waste as a last resort;
- The prevention of pollution and ecological degradation;
- Promoting and ensuring the effective delivery of waste services
- Remediating land where contamination presents, or may present, a significant risk of harm.

### 3.16 NATIONAL WATER ACT 36 OF 1998

The National Water Act, No 36 of 1998 (NWA) was promulgated on 20 August 1998. The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled. In terms of Section 19 of the Act owners/ managers/ people occupying land on which any activity or process undertaken which causes, or is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.

This Act is relevant to the proposed project as both the construction and operational phases may impact negatively on water resources. Kwena Chicks are therefore required to take all reasonable measures to prevent any pollution to water resources because of the proposed project. Should any pollution occur at the site, owners will be obliged to cease the activity that has caused the pollution and remediate any negative impacts resulting from the activity.

A water use lisence application will be lodged in terms of section 21 (a) (b) of the National Water Act, 1998 (Act 36 of 1998). The application for a Water Use License and/or Registration of the water use activities which includes:

- **Section 21(a): taking water from a water resource;**
- **Section 21(b): storing water**;
- Section 21(c): impeding or diverting the flow of water in a watercourse;
- Section 21(e): engaging in a controlled activity (irrigation);
- Section 21(g): disposing of waste in a manner which may detrimentally impact on a water resource; and
- Section 21(i): altering the bed, banks course or characteristics of a watercourse.

The Act stipulates that if an industry is acquiring water from a municipality or other local supplier, it is the responsibility of that supplier to obtain the necessary permits. Any private well or borehole sunk for the abstraction of groundwater has to be reported to the regulatory authority.

The National Water Act is the principal piece of South African legislation governing wastewater management. Under the Act there are several important issues to note:

- Industrial and sanitary wastewater cannot be directly or indirectly discharged to stormwater drainage systems, surface or groundwater,
- Persons storing chemicals and oils must take the necessary precautions to prevent leakage into stormwater drains or water courses, unless specifically authorized by the regulatory authority;
- It is generally prohibited to allow stormwater to enter sewer systems;

- Industrial effluents may be discharged to sewer only with the permission of the regulatory authority. There are site effluent discharge limits that if exceeded can result in a fineable offence;
- It is an offence to willfully or negligently pollute surface water or groundwater;
- In the event of a pollution incident, the offending party is obliged to report the incident to the regulatory authority;
- The regulatory authority can take the necessary steps to prevent the pollution of water resources and can recover the costs of clean-up from the polluter. Local by-laws can also require a facility that stores or handles environmentally hazardous materials that could pollute stormwater runoff, rivers, water courses etc. to take 'adequate precautions' to prevent the spillage or seepage of such materials into the environment.

### 3.16.1 Water supply

The National Water Act 36 of 1998 ensures that water resources are adequately protected, used, developed, conserved and controlled. The Act deals with the development of strategies to facilitate the proper management of water resources, provides for the protection of the water resource, the regulation of the use of water, for financial provision, catchment management agencies, water use associations, Advisory committees, international water management, government waterworks, dam safety, access to and rights over water, monitoring and assessment and information, appeals and dispute resolution.
Under the Act, a facility is required to obtain the necessary permits for water usage and the disposal of wastewater from the authority responsible for the administration of the Act, namely the Department of Water & Sanitation (DWS).

### 3.17 Pollution

Section 19 of the National Water Act deals with pollution prevention and remedying effects, and in particular the situation where pollution of a water resource occurs or might occur as a result of activities on land. The party who owns controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources. If these measures are not taken, the catchment management agency concerned may do whatever is necessary to prevent the pollution or to remedy its effects, and to recover all reasonable costs from the persons responsible for the pollution.

Section 31A of the Environmental Conversation Act empowers the regulatory authority to undertake action if a person or company carries out any activity that results in significant damage to the environment e.g. surface and groundwater pollution. The costs of remedial

work can be recovered from the polluter. Currently there are no soil and groundwater clean-up guidelines.

### 3.18 HAZARDOUS MATERIALS MANAGEMENT

The Hazardous Substances Act 15 of 1973 governs the control of substances that may cause ill health or death in humans by reason of their toxic, corrosive, irritant, flammability or pressure effects. The Act regulates the storage, handling, labeling and sale of Group I, II, and III hazardous substances. A license is required for an operation that stores, handles and sells. Group I substances. Regulations controlling the 'Conveyance of Hazardous Substances by Road tanker' have been promulgated under the Act. The Fire Brigade Services Act 99 of 1987 regulates the storage, handling and transport of flammable gases, flammable liquids and flammable solids through local by-laws.

### 3.19 ENVIRONMENT CONSERVATION ACT NO. 73 OF 1989

The main purpose of this Act is to provide for the protection of the natural environment (Section 16) to control environmental pollution by prohibiting littering and controlling the removal of littering and controlling waste management (Section 20) where the owner of a disposal site is required to apply for a permit from the minister of Water Affairs to operate such a facility. The Act further provides for the control of activities which may have a detrimental effect on the environment (Section 21). The Act defines a disposal site as:
"A site used for the accumulation of waste with the purpose of disposing or treatment of such waste." Sections 24 to 28 of the Act contain regulations regarding waste management, littering, noise, vibration and shock, environmental impact reports, limited development areas and general regulatory powers.

### 3.20 SANS 10400 APPLICATIONS OF THE NATIONAL BUILDING REGULATIONS

The application of the National Building Regulations contains performance parameters relating to fire safety, sanitation systems, moisture penetration, structural safety, serviceability, and durability. It also considers how the above can be established to reflect social expectations in a manner which supports sustainable development objectives.

| Title of legislation, policy or guideline | Applicability to the project | Administering authority | Date |
|---|---|---|---|
| Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of | Provides for the appointment of a Registrar of Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies; the registration of fertilisers, farm feeds, agricultural remedies, stock | DAFF Directorate: Agriculture Inputs Control | 1947 |

| Title of legislation, policy or guideline | Applicability to the project | Administering authority | Date |
|---|---|---|---|
| 1947) | remedies, sterilising plants and pest control operators; the regulation or prohibition of the importation, sale, acquisition, disposal or use of fertilisers, farm feeds, agricultural remedies and stock remedies and the designation of technical advisers and analysts. The use of treated effluent as a soil enhancer or fertiliser must comply with the requirements of this Act. | | |
| Chicken 360 Quality Assurance and Traceability Standards 2017 | The standards are mandatory on all intensive chicken farms and deal with biosecurity, animal welfare and environmental sustainability. | DAFF directorate: Agriculture Inputs Control | 2017 |
| 2015/16 – 2019/20 Strategic Plan for Agriculture | This document provides the strategic planning indicators for DAFF within the agricultural sector. The plan aligns with the National Development Plan (NDP) amongst others and provides commitments from the DAFF to ensuring food security and land distribution. The improvement of productive land, increase in efficiency and protection of agricultural resources are strongly encouraged. | DAFF Directorate: Agriculture | 2019 |
| The Green Choice Living Farms Reference 2009/2010 | This document provides practical and effective means to managing agricultural entities in an environmentally sustainable and sensitive manner. The EMPr utilizes this guideline for practical management and best practise principles. | DAFF Directorate: Agriculture Inputs Control | 2010 |
| Municipal Systems Act (Act 32 of 2000) | To provide the principles, mechanism and processes to ensure equitable and essential services are provided to all social and economic groups. | Municipality | 2000 |

## SECTION D

### 4. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES.

*(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).*

### 4.1 NEED

The proposed project area is earmarked for agricultural purposes only. Despite its relatively small share of the total Gross Domestic Product (GDP), primary agriculture is an important

sector in the South African economy. Agriculture remains a significant provider of employment, especially in the rural areas, and a major earner of foreign exchange. The primary agricultural sector has grown by an average of approximately 9, 9% per annum since 1970, while the total economy has grown by 12, 9% per annum over the same period, resulting in a drop in agriculture's share of the GDP from 7, 1% in 1970 to 2,6% in 2013.
Due to the inequalities of the past, black farmers have not had much success in the farming industry. However, in recent years more and more black farmers are emerging as they are striving to improve their standards of living and contribute to the economy of the country. The poultry industry is increasingly relevant in terms of socio-economic development, especially among previously disadvantaged South Africans. The relative affordability of chicken makes it an important source of protein for millions of low-income South Africans, thus contributing to the zero-hunger ambition of the government.

Many small-scale chicken producers conduct business informally. This contributes to employment and productivity of the sector but is largely unaccounted for. SAPA (South African Poultry Association) reports that estimated 1554 small- scale farmers from previously disadvantaged communities have been established by government. Farmers are crucial in driving the promotion of economic growth, by creating jobs and increasing the local GDP. Farmer's also support the government's efforts to secure the country's food security needs.

The area is characterised by high levels of poverty and high unemployment levels. Society will benefit from employment opportunities created by this broiler units construction and permanent employees during operational within their area. The promotion of the development will increase better life.
The proposed development of the broiler units would provide benefits to both the local and regional community:

- Improved living standards
- Upliftment of individual and community spirit
- Broader economic benefits in the form of increased competitiveness
- Promotion activities that benefit the community
- improvement in the quality of life and physical, mental and moral well-being of a population

Successful farmers serve as role models for the youth deterring the youths from the use of drugs. The Community is one of the farm communities with very little social and economic amenities have been developed, Developing the broiler units will help to address the need of social and economic infrastructure. The area is undeveloped with high levels of unemployment and poverty. The facilities will enable communities to manage their development, by providing access to appropriate facilities; the development of the facilities

will introduce economic activities and the creation of employment during the construction and operational phases.

### 4.2 DESIRABILITY

Kwena Chicks is a commercial farming enterprise rooted in commercial farming practices and focused on unlocking economy of scale to the advantages of all stakeholders and the surrounding community; whilst being BBBEE compliant and aligning to the National Development Plan. This will be achieved through sound commercial farming practices and effective management. Kwena Chicks can be a model for successful farming into the future by living the belief that "the Nation owns the land, now the Nation holds us worthy of working it". Kwena Chicks is a farming enterprise that will contribute to the stability of food security in South Africa for the benefit of the community and other stakeholders.

Community development and participation:

- Contributing to food security and serving historically disadvantaged communities by contributing to nation building through agricultural development.
- Actively contributing to land reform programmes by having collaborative partnerships with government and/or emerging farmers.
- Finding creative ways of using our resources and skills to contribute to commercial farming development.
- Chicken is an affordable protein source, when compared to other meat products. According to studies posted on the South African Poultry Producers' Organisation (SAPPO) website (http://www.sapoultry.biz/):the following are the benefit chicken meat
- Chicken is an excellent source of complete protein and is considered a nutrient rich food;
- Is a great source of vitamins and minerals.

The need for chicken production has therefore significantly increased. The construction of the projects will therefore address the need for chicken product, economic diversification, employment opportunities and exploiting a high potential agricultural area.

## SECTION E

# 5. MOTIVATION FOR THE PREFERRED SITE, ACTIVITY AND TECHNOLOGY ALTERNATIVE

## 5.1 ALTERNATIVES CONSIDERED

As per GNR 326, Appendix 1(2)(b), alternatives for the proposed development are to be identified and considered. Chapter 1 of the EIA Regulations provides an interpretation of the word "alternatives", which is to mean "*in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the -*

a) Property on which or location where the activity is proposed to be undertaken;
b) *Type of activity to be undertaken;*
c) Design or layout of the activity;
d) *Technology to be in the activity; or*
e) *Landuse alternative*
f) *Operational aspects of the activity;* And *includes the option of not implementing the activity."*

## 5.1 SITE ALTERNATIVES

No site alternative has been considered as the site is considered suitable to the proposed activity. Furthermore, the site is owned by the proponent. The area is zoned as agricultural and the surrounding land uses are agricultural i.e poultry and cattle farming. The proposed activity will not result in major disturbances or changes to the receiving environment as the study area is already largely disturbed and developed. The current site is preferred because of the following:

- existing poultry operations;
- the property is zoned for agriculture and thus agriculture activities which promote and develop agriculture is supported;
- Existing land use on the site and on neighbouring properties is agriculture and livestock farming;
- access to the site for trucks transporting feed and livestock is existing;
- Water is already available.
- Located close to Mafikeng where the chickens are slaughtered.

**Environmental considerations:**

The property does not form part of a Critical Biodiversity Area (CBA), there is no Endangered or Critically Endangered Vegetation indicated on bioregional plans.

## 5 .2 LAYOUT ALTERNATIVES

No layouts alternatives have been considered, only one layout is available as alternative for the proposed poultry project. The preferred layout alternative which consists of the construction of (4)x 50 000 broiler units.

## 5.3. DESIGN ALTERNATIVE

In commercial poultry two main types of houses are used namely:

1. Mechanically ventilated coops (Battery cages) in which climate control are possible by means of extraction fans and cooling pads.
2. Naturally ventilated coops which depend on air displacement by winds (on the floor).

The preferred broiler design housing alternatives is Naturally ventilated open sided units.
This alternative is the most efficient and economical way to keep the chickens healthy. Economic considerations, electrical supply concerns, and ample labor availability are major drivers for naturally ventilated open sided units. Ventilation air removes excess heat, moisture, dust and odors from the building at the same time dilutes airborne disease organisms.

Open houses use natural ventilation, which relies mainly on wind and differences in temperature. If there is a strong wind blowing and the temperature inside the house is much higher than outside, natural ventilation works well. The hot air will rise out of the roof openings and be replaced by cool air, which sinks to the level of the birds. If there is no wind and the temperature inside and outside the house is the same, natural ventilation is not efficient. During calm, hot weather circulation fans may be needed to provide air flow (wind chill) over the chickens. Relying on natural ventilation systems for hot climate regions of the world demands effective wind potential. Each ventilation engineer has a comfort level with natural ventilation and the associated wind potential required. Wind potential is the percent time calm conditions persist in the heat of the summer. Local historical weather data can be used to make this assessment. Ventilated shelters must be exposed to the wind, so place the building on a site rather than a low place. Natural or Manmade barrier should be kept at least 100 feet away from the site where the prevailing wind enters the building. Wind breaks reduce natural air movement for a distance five to 10 times their height.

Proper design and construction details will ensure good distribution air movement. Eave heights should be six to nine feet above the outside grade. Roof slopes should rise four to five inches per running foot.

## 5.4 TECHNOLOGY ALTERNATIVE

The technology that will be used for this project will be manual were natural ventilation will be used. Temperature within the units will be regulated with heaters and fans powered by solar. Cleaning of the units be done manually with the use of biodegradable disinfectants brooms and brushes and hose pipe. Waste generated by chickens will fall into the saw dust that are used as bedding which will be removed stored for collection by Mr Pretorius the farmer or be composted in a lined compost pit. As an alternative to this part of the technological layout of the facility, the provision of electricity through solar energy generation must be considered as an alternative for partial or self-sustaining electricity provision to the facility. The following technologies for disposing the carcases were considered:

1. lined mortality pit, the pit must be dug and lined to prevent leachate from contaminating ground water, the carcasses will be placed and the pit will be closed using soil. Lime and salt must be added regularly to control odours.
2. Providing mortalities to predator farmers. The lion farmer is supplied with the mortalities. Mortalities are placed in the freezer awaiting collection and transporting the carcases. The preferred alternative is the use of mortality pit as it has the least environmental concerns.

***Rainwater Harvesting***

Rain water can be harvested during the raining season and the water can be used for watering the animals. Kwena Chicks must provide them with Jojo tanks to harvest water from the poultry units.

## 5.5 LANDUSE ALTERNATIVE

**Preferred land use alternative - Agricultural Activity**

No other land use alternatives were considered, considering that the historic land use of the site is for agriculture. The land has a very high agricultural potential therefore agriculture considered a viable option for the study area.

## 5.5 MOTIVATE FOR PREFERRED SITE, ACTIVITY AND TECHNOLOGY ALTERNATIVE

Very little economic activities have been developed in the rural communities. In trying to address this, the Department Agriculture and Rural Development have cooperatives that can establish ad run a poultry project. The poultry projects will enable communities to manage their development, by providing access economic activities. The poultry project will enhance community growth and development, by providing economic the site is preferred because:

- There are no archaeological, rare or endangered floras or fauna species including red data species present on any of the alternative sites.
- A tarred access road is adjacent to the proposed site of development.
- Water is available on site
- Potential farmers have been trained.
- Currently the farmers are running a profitable poultry
- Farmer's training has already been done so the farmers are knowledgeable on how to run a poultry.

## 5.6. CONSTRUCTION METHOD ALTERNATIVE

The proposed site of development is steep two construction methods have been considered namely the cu and fill and the stilts method.

Cut and fill refers to the process of levelling out the ground for the foundation by adding soil, removing it, or both. Soil may be brought in to "fill" the plot and make it level, or it can be dug ("cut") from the slope and either trucked out or used to shore up retaining walls.

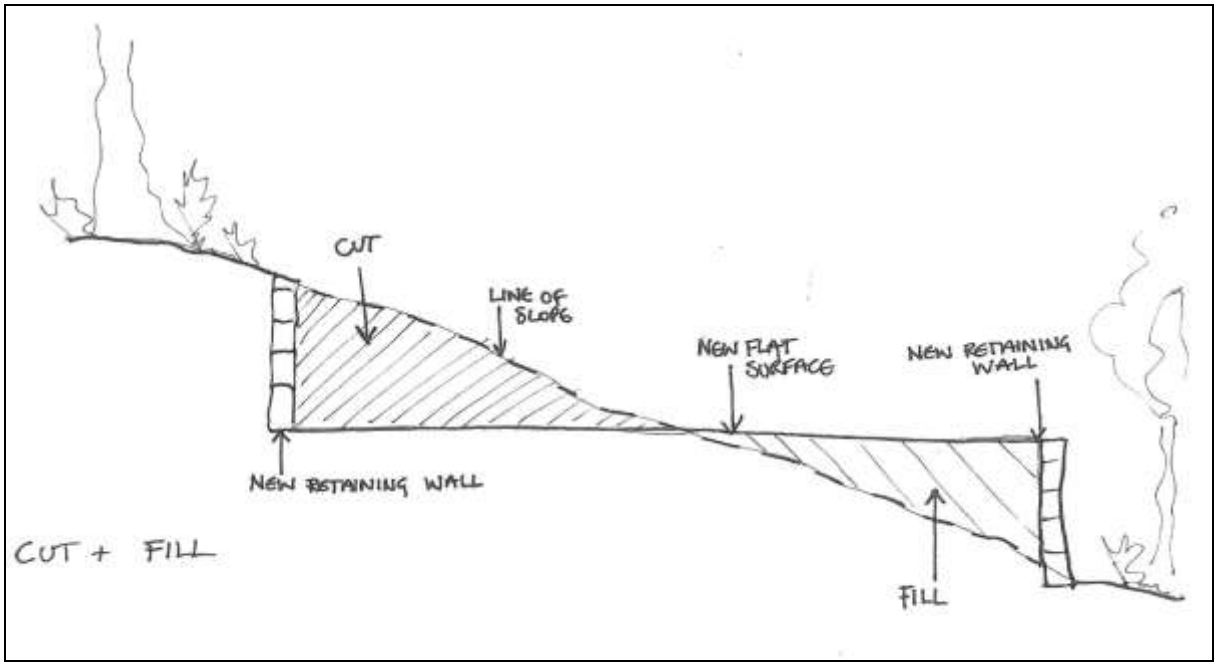



*Figure 3: An illustarion of the cut and fill method*

Using stilts is an alternative to cutting into the slope that involves using a crane to lift the structure onto supporting wood or steel columns. This can be a much more cost-effective method than cut and fill.

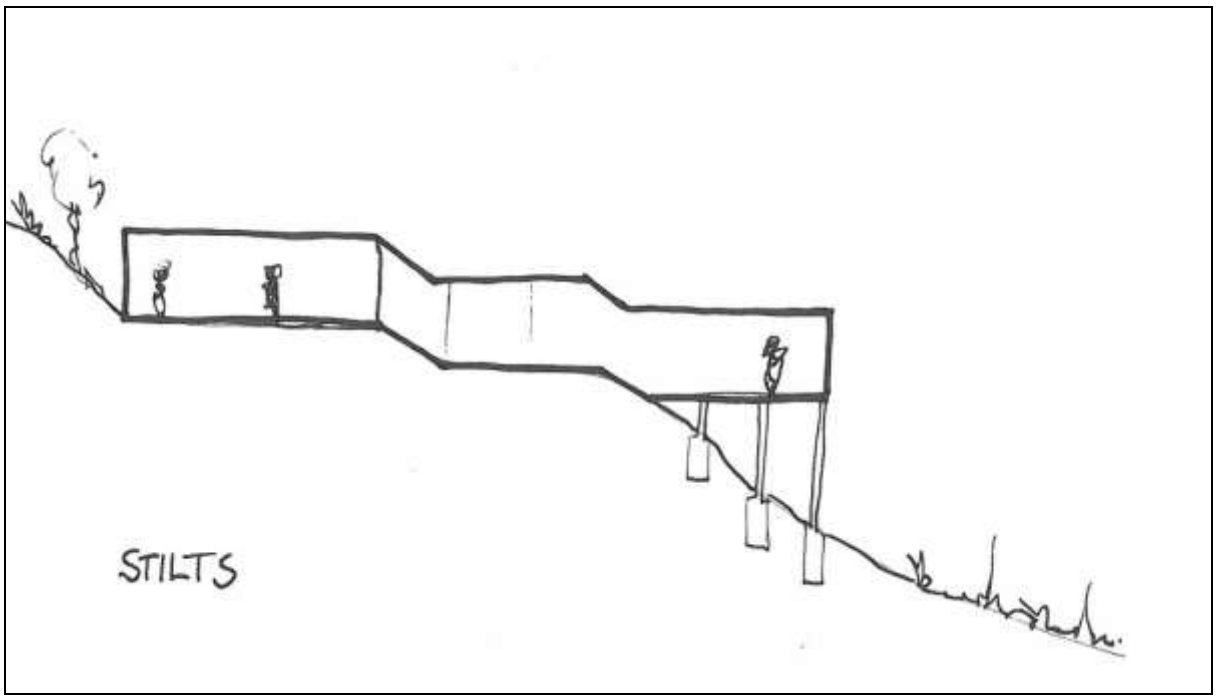



*Figure 3: An illustarion of the stilt method*

**5.6.1 COMPARISON OF THE METHODS.**

| Method | Advantages | Disadvantages |
|---|---|---|
| Cut and fill | The main advantage of earth cutting and filling to level ground surfaces is that it recycles the cut earth, eliminating the need to bring fill earth from elsewhere which greatly reduces the cost of any ground levelling project.<br><br>it allows contractors to recycle earth from a land site by both cutting and filling to create levelness as opposed to just filling in low spots in the land.<br><br>usable space after cutting and filling is larger. | The main disadvantage of using this process is how it results in filled areas of uncompressed, aerated earth that can prove to be unstable.<br><br>Filled areas can sink and turn into depressions as time goes on if not properly compressed before anything is built on the site.<br><br>Areas that decompress after the fact can cause extensive |

| | | |
|---|---|---|
| | | damage to whatever structure has been built on them.<br><br>Poor compaction can also lead to drainage problems in the filled area. |
| Stilts | Stilt structures are a great way to construct a home on unstable ground<br>Cheaper<br>Structures on stilts are better ventilated, with better airflow<br>minimise the ecological impact of construction and boost energy efficiency | houses on stilts can have structural defects due to building faults, neglect or direct damage to the stilts |

**Preferred construction method**

The cut to fill is the preferred method as it allows movement of people and machinery on the ground.

## 5.7. NO-GO ALTERNATIVE

The no-go option entails not constructing the broiler units on the proposed site, should the development of the facilities not go on the property will remain vacant. The Kwena Chicks would not have achieved its vision to improve the rural economy through agriculture. No creation of both temporary and permanent jobs during construction and operation would be achieved to the poverty-stricken community. No contribution will be made to the upliftment of the community and infrastructure development.

The implementation of the poultry is part of the diversification of the agricultural business associated with the existing farming operation. It forms part of the sustainability of agriculture in the region. It is thus not a consideration in that aspect. In terms of impacts on the environment, not implementing the poultry has no effect as the existing operations of poultry projects will continue.

Not implementing the poultry does not require the landowner to implement any of the changes and as such the status quo is a significantly more degraded cultural landscape than the option of implementing the new broiler units. The No-Go Option is therefore not the best practicable environmental option. Thus, if not developed this positive impact will not be seen.

**SECTION F**

## 6. DETAILS OF THE PUBLIC PPARTICIPATION PPROCESS UNDERTAKEN IN TERMS OF RREGULATION 41 OF THE REGULATIONS

Public participation is an essential and regulatory requirement for an environmental authorisation process and must be undertaken in terms of Regulations 39 to 44 of the Environmental Impact Assessment (EIA) Regulations GN R.326 (04 December 2014). Public participation is a process that is intended to lead to a joint effort by stakeholders, technical specialists, the authorities, and the proponent/developer who work together to produce better decisions than if they had acted independently. The public participation process is designed to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner and the following steps were undertaken as part of the public participation process to notify interested and affected parties:

| Authority/Organ of State | Contact person Name and Surname) | Tel No | e-mail | Postal address |
|---|---|---|---|---|
| Department of Forestry and Fisheries | Mr. Lufuno Nevhufumba | 082907 6118 | NevhufumbaL@daff.gov.za | Private Bag X2039 Mmabatho 2735 |
| Department of water and sanitation | Mr. Thabo Mojana | 012 336 7500 | tdmojana@dws.gov.za | 185 Francis Baard Street, Pretoria Central, Pretoria, 0001 |
| Department of Health | Ms. Stella Nel | 018 391 4000 | snel@nwpg.gov.za | Cnr 1st Street &, Sekame St, Mahikeng, 2745 |
| Department Rural | Mr. Thabang Mache | +27 (0) 18 487 9404 | thabang.mache@drdlr.gov.za | Mmabatho Unit 1, Mmabatho, 2790 |

| Authority/Organ of State | Contact person Name and Surname) | Tel No | e-mail | Postal address |
|---|---|---|---|---|
| Development and land Reform | | | | |

**G REGULATORY AUTHORITIES AND IDENTIFYING ALL INTERESTED AND AFFECTED PARTIES (I&AP'S):**

A register of IAPs was compiled as per Section 42 of the EIA Regulations, 2014. This included all relevant authorities, Government Departments, the Local Municipality, the District Municipality, relevant conservation bodies and non-governmental organisations (NGO's), as well as neighbouring landowners and the surrounding community. This register will be regularly updated to include those IAPs responding to the newspaper advertisements, site notice boards notification letters and Draft BA Report. A copy of the IAP Register is included as Appendix E5 of this report.

The regulatory authorities for this project were identified. The authorities contacted with regards to this project include:

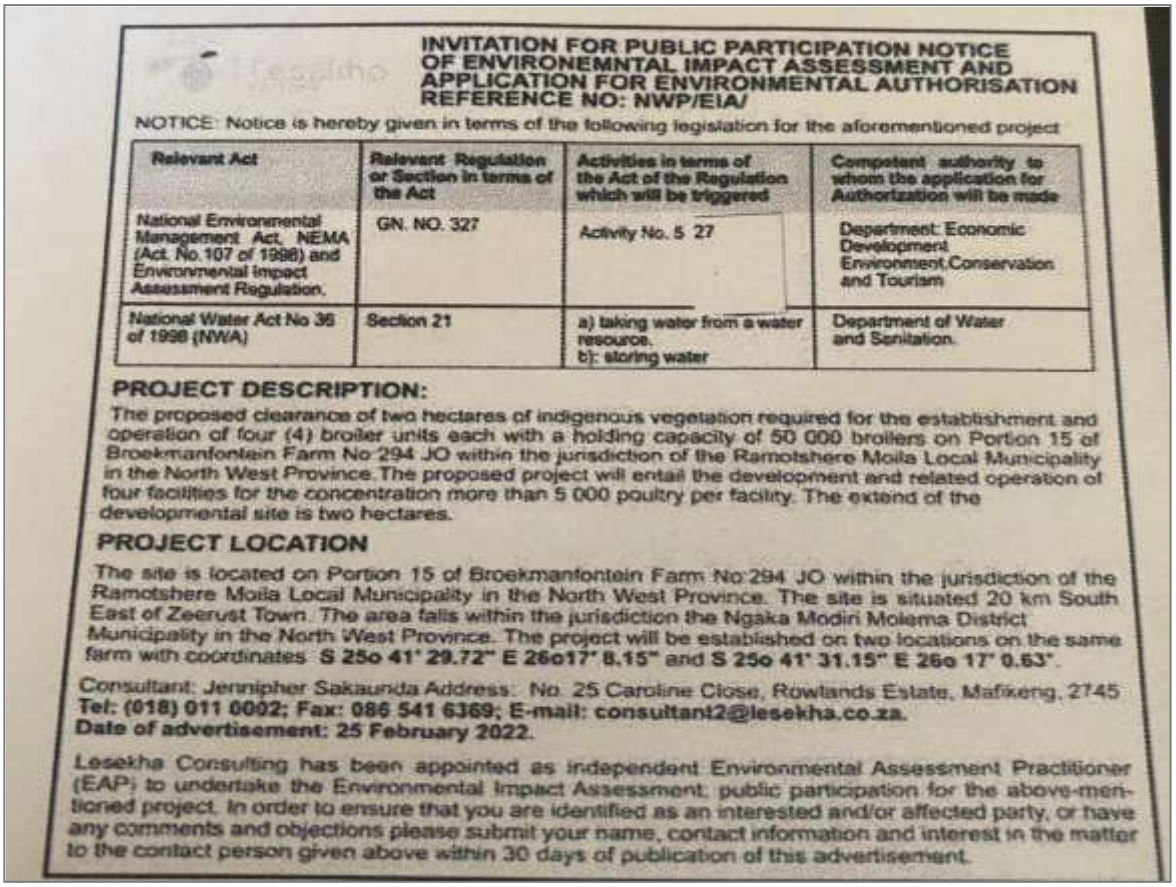
### 6.2 INFORMATION DOCUMENT (BID)

Background Information Documents and Reply forms notifying I&AP's of the application were compiled in English and were distributed to the I&APs via e-mail. All adjacent landowners/occupiers/users were hand-delivered copies of the BID.

The purpose of the Background Information Document was to:

- Invite members of the public to register as I&AP's;
- Identify I&AP's;
- Inform them of the current application;
- Initiate a process of public consultation to record perceptions and issues;

## 6.3 ADVERTS AND ONSITE NOTICES



**INVITATION FOR PUBLIC PARTICIPATION NOTICE OF ENVIRONEMNTAL IMPACT ASSESSMENT AND APPLICATION FOR ENVIRONMENTAL AUTHORISATION REFERENCE NO: NWP/EIA/**

NOTICE: Notice is hereby given in terms of the following legislation for the aforementioned project

| Relevant Act | Relevant Regulation or Section in terms of the Act | Activities in terms of the Act of the Regulation which will be triggered | Competent authority to whom the application for Authorization will be made |
|---|---|---|---|
| National Environmental Management Act, NEMA (Act. No.107 of 1998) and Environmental Impact Assessment Regulation. | GN. NO. 327 | Activity No. 5 27 | Department: Economic Development Environment,Conservation and Tourism |
| National Water Act No 36 of 1998 (NWA) | Section 21 | a) taking water from a water resource. b): storing water | Department of Water and Sanitation. |

**PROJECT DESCRIPTION:**

The proposed clearance of two hectares of indigenous vegetation required for the establishment and operation of four (4) broiler units each with a holding capacity of 50 000 broilers on Portion 15 of Broekmanfontein Farm No 294 JO within the jurisdiction of the Ramotshere Moila Local Municipality in the North West Province.The proposed project will entail the development and related operation of four facilities for the concentration more than 5 000 poultry per facility. The extend of the developmental site is two hectares.

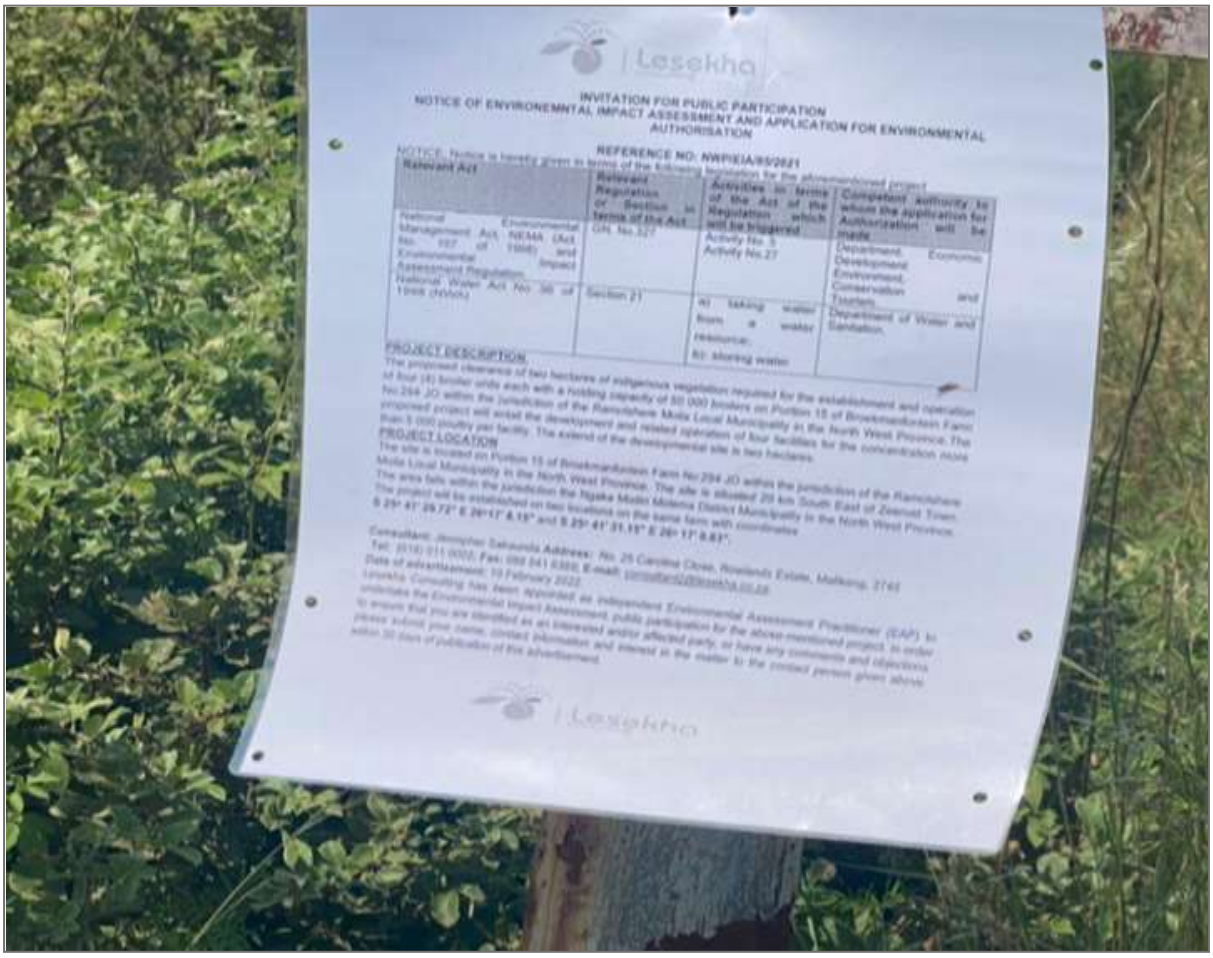
**PROJECT LOCATION**

The site is located on Portion 15 of Broekmanfontein Farm No 294 JO within the jurisdiction of the Ramotshere Moila Local Municipality in the North West Province. The site is situated 20 km South East of Zeerust Town. The area falls within the jurisdiction the Ngaka Modiri Molema District Municipality in the North West Province. The project will be established on two locations on the same farm with coordinates **S 25o 41' 29.72" E 26o17' 8.15"** and **S 25o 41' 31.15" E 26o 17' 0.63"**.

Consultant: Jennipher Sakaunda Address: No 25 Caroline Close, Rowlands Estate, Mafikeng, 2745
**Tel: (018) 011 0002; Fax: 086 541 6369; E-mail: consultant2@lesekha.co.za.**
**Date of advertisement: 25 February 2022.**

Lesekha Consulting has been appointed as independent Environmental Assessment Practitioner (EAP) to undertake the Environmental Impact Assessment, public participation for the above-mentioned project. In order to ensure that you are identified as an interested and/or affected party, or have any comments and objections please submit your name, contact information and interest in the matter to the contact person given above within 30 days of publication of this advertisement.

**ONSITE NOTICE**




A2 posters written in English were erected and displayed on refer to appendix E4 for the pictures of the onsite. An advertisement, informing people of the proposed activities, the public meeting and requesting readers to register as I&AP's, was placed in one local newspaper. Please refer to Appendix E2 for the Newspaper Advert.

**ADVERTISEMENT AND NOTICE**

| | | |
|---|---|---|
| Publication name | **Zeerust News** | |
| Date published | 25 February 2022 | |
| Site notice position | **Latitude (S)** | **Longitude(E)** |
| | 25º 43′ 31.92" | 26º 15′ 15.4" |
| | 25º 41′ 34.07″ | 26º 17′ 18.17″ |
| | 25º 41′ 25.40″ | 26º 17′ 06.40″ |
| Date placed | **17 February 2022** | |

## 6.5 COMMENTS RECEIVED

Comments received during the legislated 30-day public participation process will be incorporated into the final Basic Assessment Report.

## 6.6 CIRCULATION OF DRAFT BASIC ASSESSMENT REPORT FOR COMMENT

Copies of the Draft BA Report wiil be circulated to the following Key Stakeholders and IAPs for review and comment.

- Ward No.19 Councillor
- Department of Forestry and Fisheries
- Department of Water and Sanitation
- Department of Health
- Department Rural Development and Land Reform
- Ramotshere Moila Local Municipality
- Department of Agriculture and Rural Development
- Ngaka Modiri Molema District Municipality

All registered IAPs were notified of the availability of the Draft BA Report.

## 6.7 NOTIFICATION REGARDING THE DECISION FROM THE COMPETENT AUTHORITY

All registered I&APs will be notified of the decision made by the DEDECT on the application.

**Summary of issues raised by I&APs**

*(Complete the table summarising comments and issues raised, and reaction to those responses) Comments have been received from Interested and Affected Parties (I&AP's).*

Comments will be represented in the final BAR.

## SECTION G

## 7. THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE ALTERNATIVES. (THE ENVIRONMENTAL ATTRIBUTES DESCRIBED MUST INCLUDE SOCIO-ECONOMIC, SOCIAL, HERITAGE, CULTURAL, GEOGRAPHICAL, PHYSICAL AND BIOLOGICAL ASPECTS)

### 7.1. T BASELINE ENVIRONMENT

*Type of environment affected by the proposed activity.*

### 7.1. 1 DESCRIPTION OF SPECIFIC ENVIRONMENTAL FEATURES AND INFRASTRUCTURE ON THE SITE

The site is in Groot Marico, there is an existing access road that connects the site to R49. There are existing broiler units on site. There is a solar pumped borehole onsite with water tanks. There is an electrical connection onsite. The proposed site is predominantly covered by grassland with scattered trees.

### 3.1.1 Baseline Information

The Ramotshere Moiloa Local Municipality (RMLM) is a category B municipality, which is in the North West Province and is part of the Ngaka Modiri Molema District Municipality. The municipality was demarcated into 19 wards as part of the ward delimitation process towards the 2016 local government elections, as a result the municipal council has 19 ward councillors. Ramotshere Moiloa Local municipality covers a total area of 7 191.6 km² and shares borders with Botswana in the north, Moses Kotane and Kgetleng Rivier Local Municipalities in the east and Ditsobotla and Mafikeng Local Municipalities in the south. The municipality was named after a local chief of the Bahurutshe boo Moiloa, Kgosi Abram Ramotshere Pogiso Moiloa, who was opposed to white rule and its system of apartheid. The dominant economic activities in the municipal area are crop and livestock farming and small mining operations of minerals. The service industry is the dominant employer in the municipality and as a result there is a need to diversify the economy by investing more in agriculture and manufacturing. The location of the municipal area along the border with Botswana also contribute to the local economy due to cross border trades by the residents of Botswana and travellers passing through the municipality, especially through the N4 toll road. The area jurisdiction of Ramotshere Local Municipality has over 40 villages located from distances of up to 120km from the main town of Zeerust. As a result, the municipality is 70% rural, with the majority of its inhabitants living in villages, which are sparsely built and poorly serviced. The main urban centre in the municipality is the town of Zeerust, and some formal settlements at Ikageleng, Henryville, Olienhout Park, Shalimar Park, Welbedacht (Lehurutshe Town) and Groot Marico. Apart from serving as a commercial hub for the villages in the municipal area, Zeerust is also recognised

as a regional node located on the Platinum Corridor within the North West Province. Some of the main villages in the municipal area include; Lekgophung, Supingstad, Moshana, Serake, Rietpan, Motswedi, Dinokana, Lekubu, Mosweu, Ntsweletsoku, Mokgola. Borakalalo, and Gopane. The N4 highway passes through the municipality and therefore creates some benefits for the local economy. Most of the villages in the municipality falls under the traditional authorities and are led by Dikgosi or chiefs. Most of the population of the municipality belong to the Batswana Tribe and as such they speak Setswana as their native language as depicted in Figure 1 below. The figure shows that Setswana is spoken by about 84% of the population followed by Afrikaans (4.4%) and English (3.7%).

This section provides a general description of the environment in which the proposed borrow pit mining operation is proposed. The purpose of this section is to provide a perspective of the local environment within which the proposed mining operation will be located, with a view to identify sensitive issues/areas, such as wetlands or other ecological aspects, which need to be considered when conducting the impact assessment and designing the various components of the project.

### 3.2 CLIMATE

The North West Municipal Waste Water Treatment Report (2008) indicates that the province enjoys a continental climate characterised by a high variance between minimum and maximum temperatures. According to the South African Weather Services (2008), the daily maximum temperatures range from 17 to 31 Degrees Celcius in the summer and from 4 to 20 Degrees Celsius in the winter.

The highest ever recorded temperature is 40 Degrees Celsius in the months of December and January. The lowest ever recorded temperature is -6 Degrees Celsius in the months June and July. Annual rainfall totals approximately 539 mm, with the highest rainfall during the summer months between October and April (an average of 117 mm in January). Precipitation is very low in the winter months with an average of 3 mm falling in July. The highest recorded 24 hour rainfall is 99 mm in the month of March.

The North West State of the Province Report (2002) indicates that the climate of the province is characterised by well-defined seasons with hot summers and cool sunny winters. The climate and rainfall varies from the more mountainous and wetter eastern region to the drier, semi-desert plains of the Kalahari in the west. The rainy season usually occurs from October to March. The province is almost malaria-free with only isolated cases being reported.

### 3.3 WIND

The spatial and diurnal variability in the wind field of the Ramotshere Moiloa region differs between the day and night. Night-times are characterized by an increase in the number of calms and by the predominance of low velocity wind from the south-easterly sector. The impact of the mountainous range results in south-westerly winds reflecting the nocturnal (katabatic) air drainage from the range. Winds speeds within built up areas are generally lower. During the daytime, winds from the south-eastern sector are replaced by airflow with a northerly and westerly component. Increased wind velocities frequently exceed 5m/s.

### 3.4 VEGETATION

Vegetation type is one of the most important factors influencing bird distribution (Harrison et al, 1997), as it directly influences the species composition, abundance and range. Most of the vegetation within the study area has been radically altered in many areas, primarily by farming activity and human settlement. A total of approximately 183km² of the Ramotshere Moiloa Local Municipality is classified as medium high or high hyper diversity areas or high priority habitats (representing 5% of total municipal area).

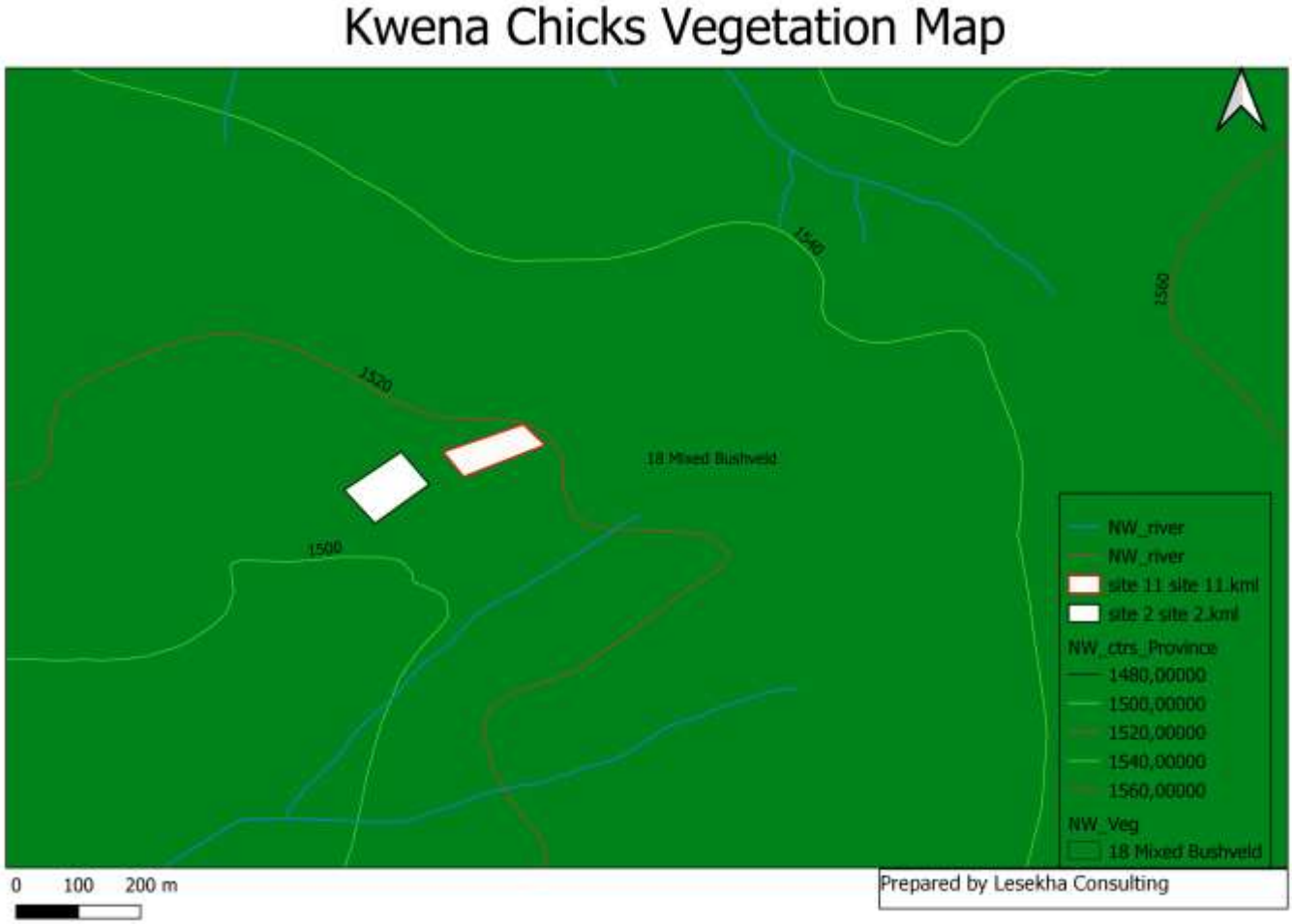



*Figure 4: Vegetation Map*

### 3.5 TOPOGRAPHY

The topography of the Ngaka Modiri Molema District Municipality can mainly be classified as “flat”, with 15% of the total area described as “mountainous” and 17% as “rolling”. The area classified as mountainous is mainly located in the Ramotshere Moiloa’ Local Municipality, including the study area. Within this municipality, 47% of the area can be classified as mountainous.

### 3.6 SOILS AND GEOLOGY OF THE SITE

The main soil types in the study area are eutrophic soils, dystrophic to mesotrophic soils, mesotrophic to eurotrophic soils and non calcarious soils. The soil types can be directly related to present and potential spatial distribution of agricultural development.

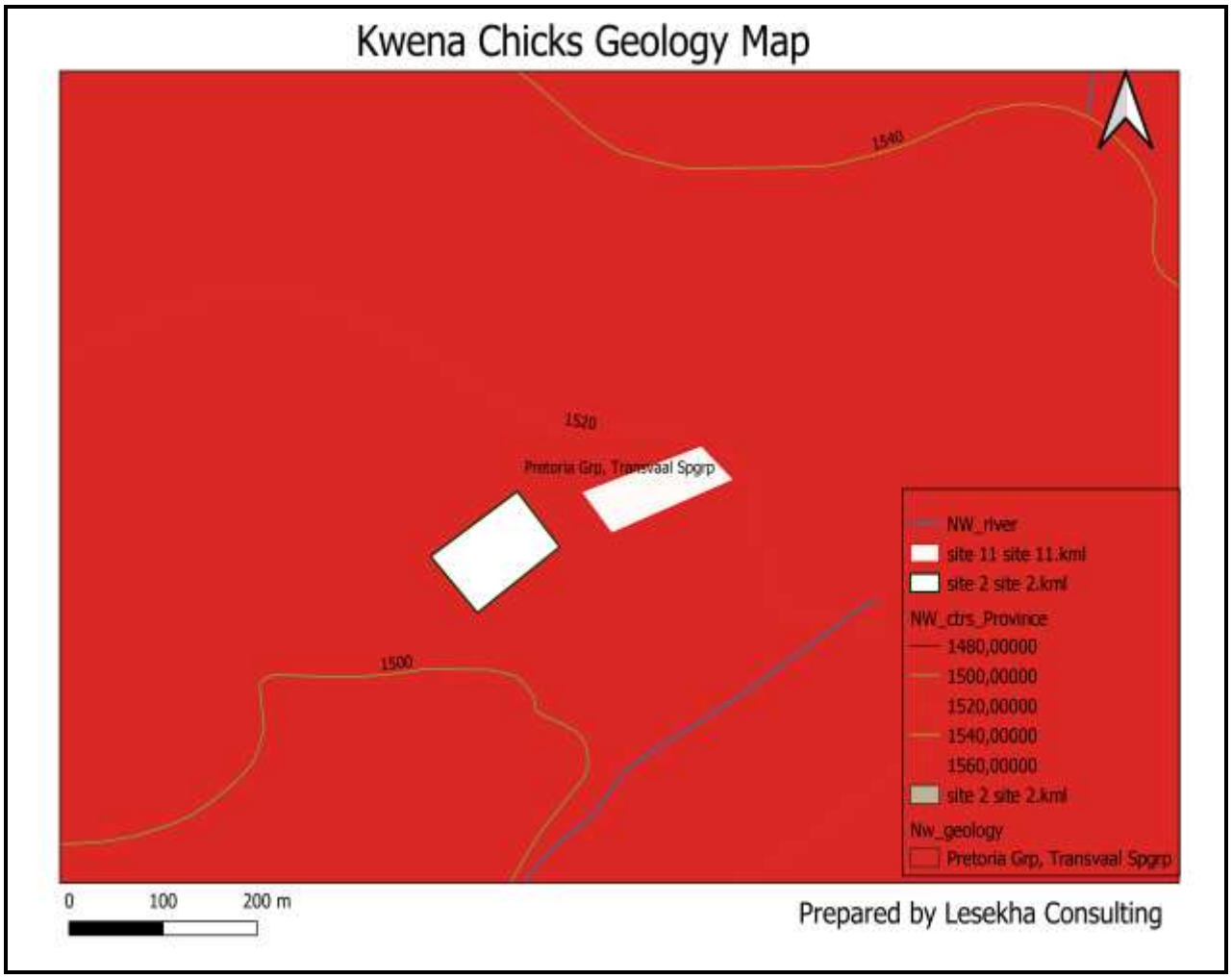



*Figure 5: Geology Map*

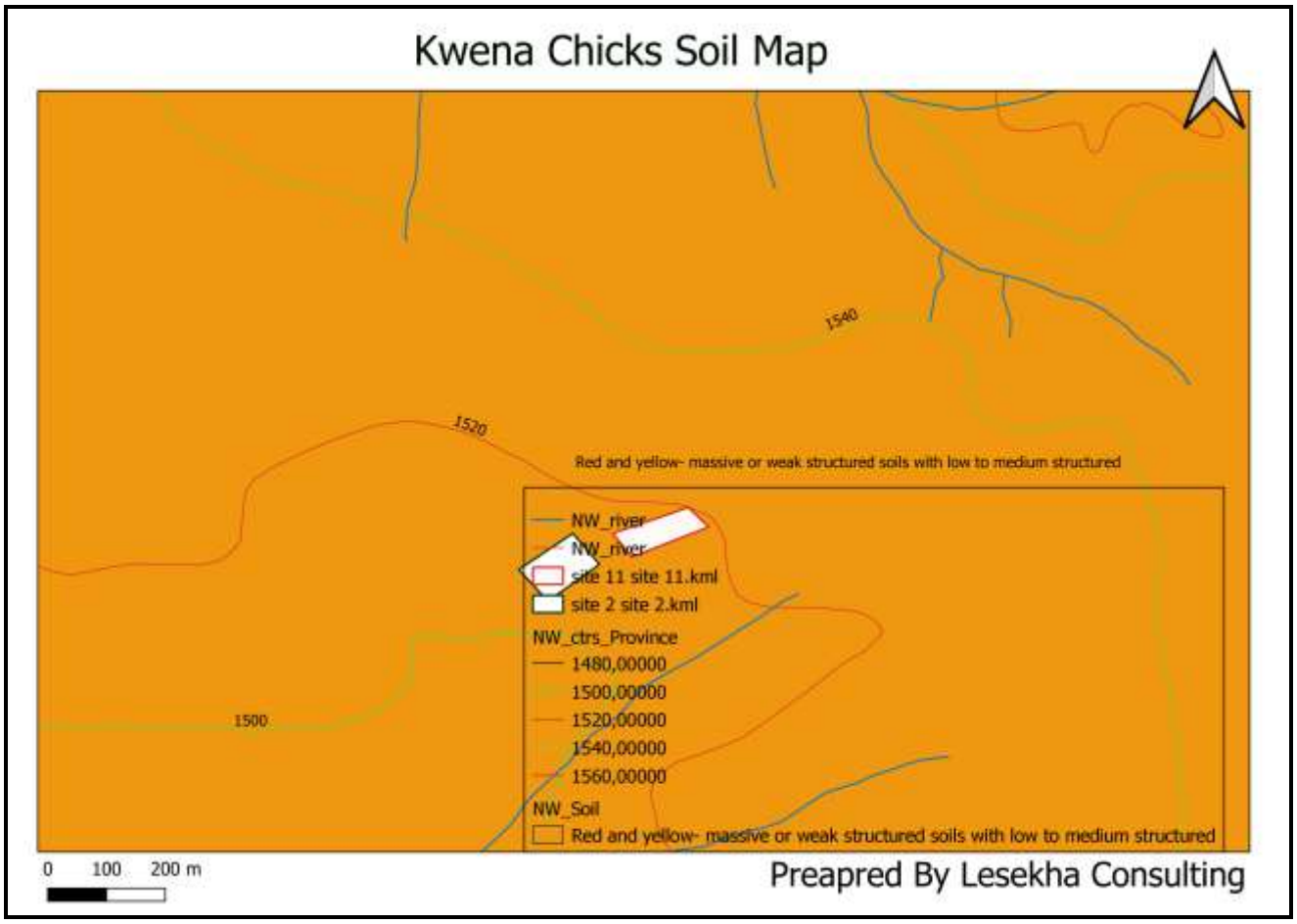



*Figure 6: Soil Map*

## 3.7. SOCIO-ECONOMIC CHARACTER

An analysis of the demographic, economic and service delivery profile of Ramotshere Moiloa Local Municipality is necessary for proper planning and development of the municipality. The information presented here should be used by both the public and private sector in planning for service delivery and improvement of the lives of the people of Ramotshere Moiloa. As indicated in the first chapter, Ramotshere Moiloa is a category B municipality, which is in the Ngaka Modiri Molema District of the North West Province. The municipality is predominantly rural and it shares a national border post with Botswana in its northern section. The N4 national route also passes through the main town of Zeerust and Groot Marico.

### 3.7.1 DEMOGRAPHIC PROFILE

The demographic profile provides an analysis of key population and household trends in the RMLM area. It also provides important information on the spatial distribution of development and development pressures. An understanding of this information is important for both the planners in the municipality and those that want to invest in the municipal area. This analysis provides us with valuable information

on the route the municipality must follow to develop its area and provide services equitable throughout its area of jurisdiction.

### 3.7.2 POPULATION DISTRIBUTION

The 2016 community survey conducted by Statistics South Africa, indicate that Ramotshere Moiloa is increasingly under pressure due to population growth. According to statistic South Africa, in 2011, the total population in Ramotshere Moiloa was approximately 152 664 and in 2016 the population was estimated at 157 690. Overall, the municipality experienced an annual population increase of 0.74% between 2011 and 2016. The growth in the population increase the pressure on the already overburden and old municipal services infrastructure. The projected growth in the population of the municipality is depicted in Figure 2 below. Figure 2 below indicate the projected population growth of the municipality from 2011 to 2035. The population of the municipality will grow on average at an annual rate of 0.74% which will amount to 184 867 people living in the municipal area by the 2035. The projected growth in the population will mean more people requiring more services from the municipality.

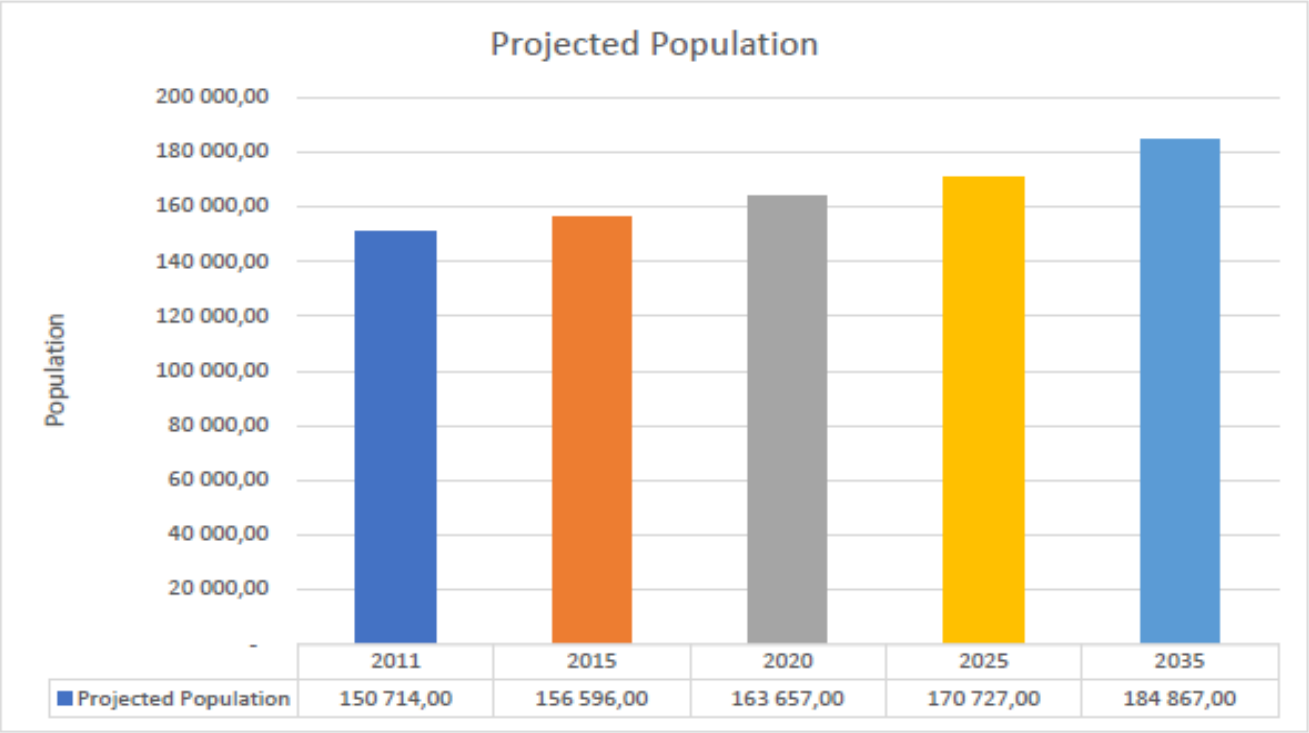



*Figure 7: population*

### 3.7.2. POPULATION DISTRIBUTION BY RACE

The distribution of the population of the municipality by race is depicted in Figure 3, below. As can be seen 96% of the municipality is black and Africans, followed by 2% Whites and 1% Coloured and 1% Indians. The proportion of Coloured people is insignificant at 0, 9% but have the highest growth rate since 2011 to 2016 at 60.38%.

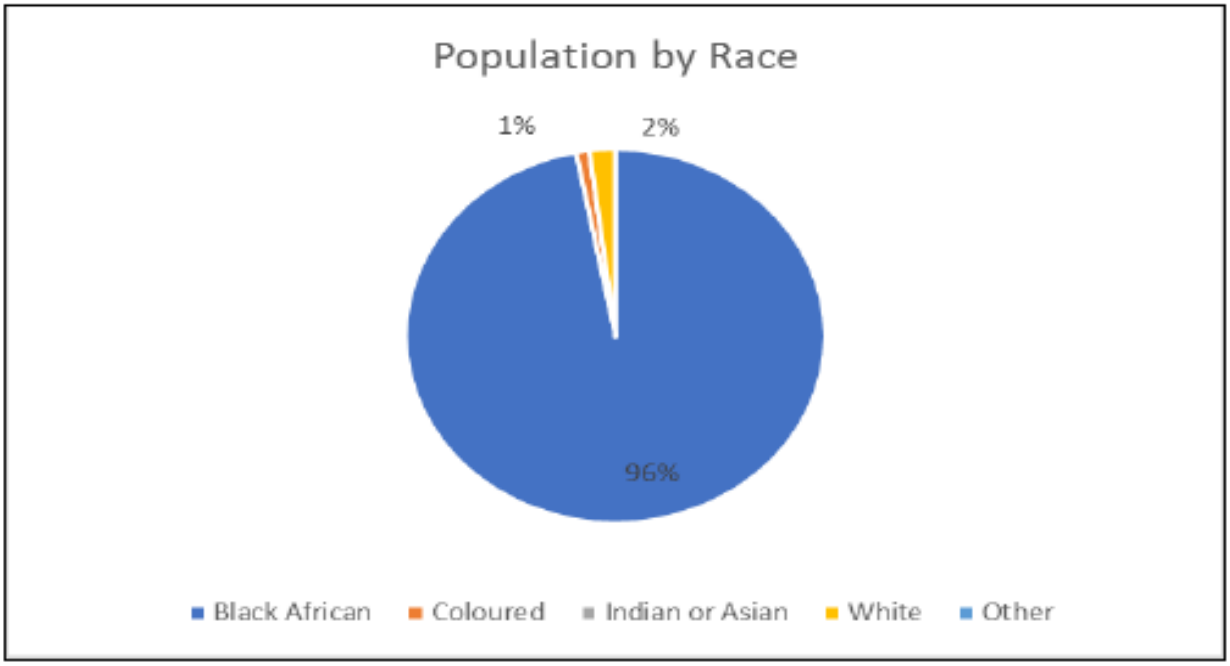



*Figure 8: population by race*

### 3.7.4 POPULATION DISTRIBUTION BY GEO-TYPE

Ramotshere Moiloa is predominantly predominantly rural. Statistics South Africa 2016, classify the distribution of a population according to the geographic area type (geo-type), areas are classified as either urban, traditional/tribal or farms areas. The population distribution for RMLM area is depicted in Figure 4 below, which indicate that 73.1% of the area is classified as tribal or traditional while 22.9% is classified as urban and 4% is classified as farms. The municipality has more than 40 villages and only one urban center in the form of Zeerust, hence most of the population reside in rural areas. The distribution of most of the population in rural and traditional areas poses serious challenges in the provision of services and the development of the municipality. The rural nature of the settlement poses several developmental challenges to the municipality, which emanates from the system of land ownership and the spatial patterns of the settlements in the rural area.

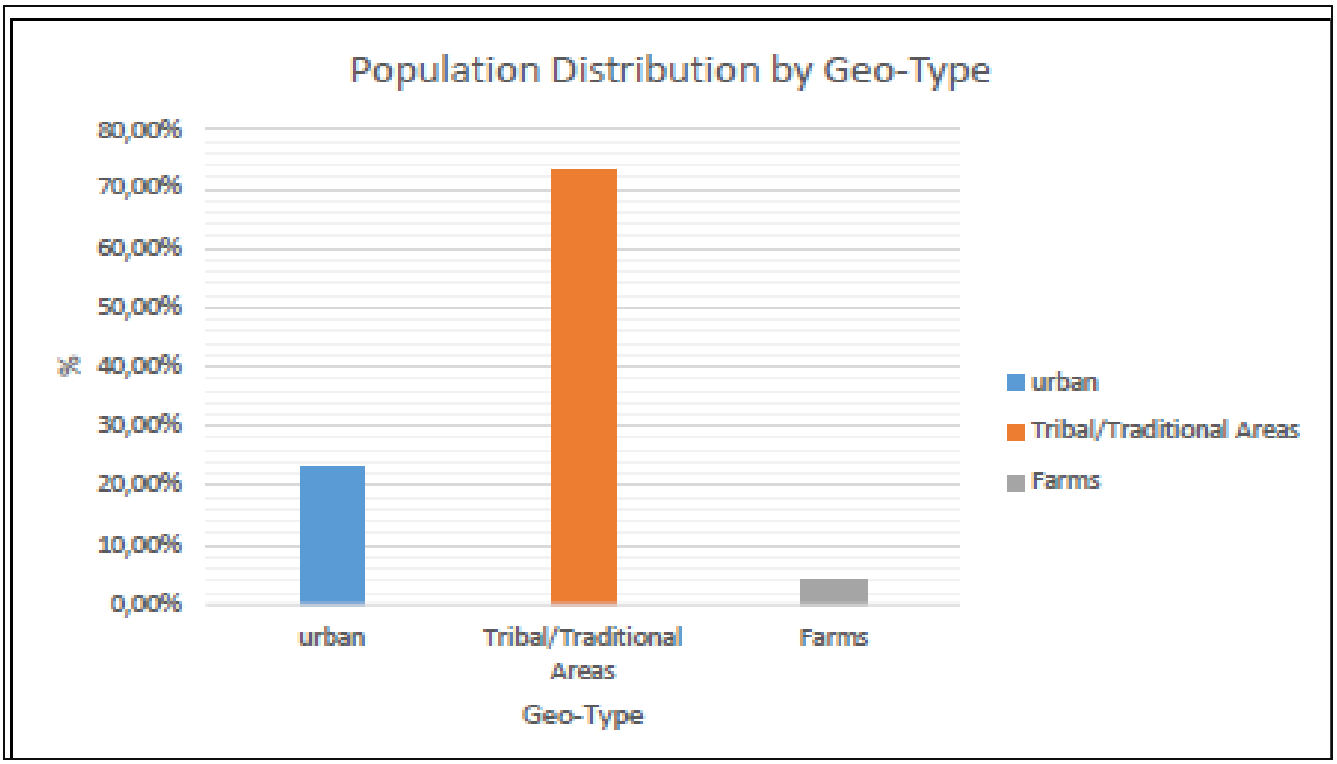



*Figure 9: population by geotype*

### 3.7.5 POPULATION DISTRIBUTION BY AGE AND GENDER

**• Sex ration**

The female population in Ramotshere Moiloa is higher than male population as be seen from Figure 5 below. This is normal for an area that does not have high employment opportunities as most of the males work and stay outside the municipal area.

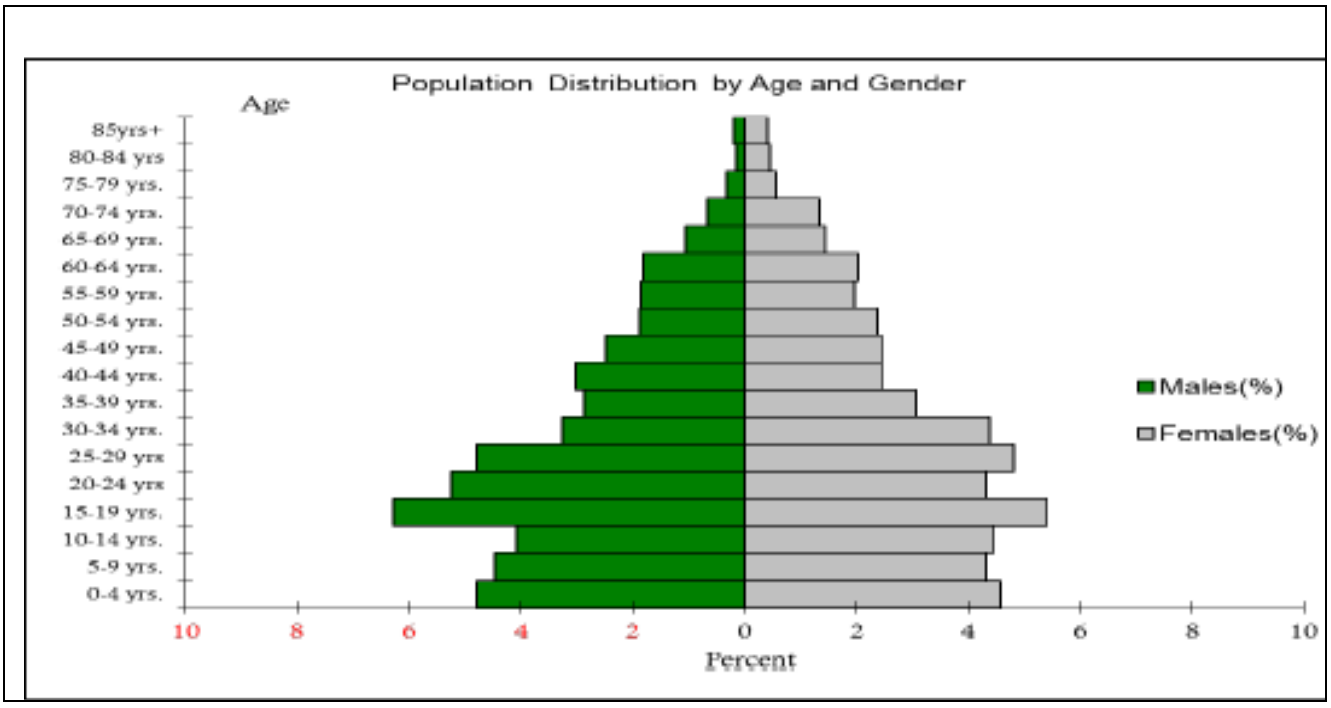



*Figure 10: population by age and gender*

• Age The pyramid in Figure 8 above indicates that a significant portion of the population of the municipality falls in the ages below 34 years, i.e., 64.6 % falls within this category. The high number of people who are young in the population contributes to the growth in the population. This growth requires the municipality to focus more on skills development and job creation. This can be regarded a reflection of a situation where RMLM is losing young adults to other areas in the province and elsewhere in search of employment opportunities. Young children were left behind to be cared for by elderly relatives (grandparents). These places emphasise the need for proper schooling and nursing facilities within the municipality

### 3.7.6 EDUCATION PROFILE

In terms of education, most of the population of the municipality have some form of education with only 15.5% of the population have no schooling, while about 28.8% have matric and only 5.8% have higher education According to Local Government Handbook, there has been a significant improvement in the education profile of the populations between 2011 and 2016. As depicted in Table 2 below the percentage of the population with no schooling decreased from 20.4 in 2011 to 15.5 in 2016. There was also an increase of 7% of the people with matric during the same period.

*Table 3: level of education*

| Level of education | 2011 | 2016 |
|---|---|---|
| No schooling | 20.4% | 15.5% |
| Matric | 20.7% | 28.8% |
| Higher Education | 6.0% | 5.8% |

Table 2 also indicate that the number of people with post matric education has gone down by about 0.2% for the period. Although this may be worrying, the reason can be attributed to the fact that due to limited job opportunities in the municipal area, job seekers with post matric education tend to seek and find work outside the municipality. The high percentage of the population with only matric will make it difficult for people to access the labour market. The municipality and other role players should invest in skilling this section of the population through learner ships and other targeted training initiatives.

### 3.7.8 Household Dynamics

The 2016 community survey indicated that Ramotshere Moiloa Local Municipality has 48 070 households, an increase of 6 715 households since the 2011 census. While on the other hand the average household size decreased from 3.5 to 3.3.

The type of houses in the municipal area are depicted in Table 3 below. As can be seen most households in the municipality stays in formal houses while 2 461 households stay in traditional houses. A worrying factor in the municipality is the high number of informal houses that have increased from 4 817 in 2011 to 7 262 in 2016 are in the municipal area. The mushrooming of informal settlements is worrying because they are normally accompanied by illegal land occupations. The informal settlements are concentrated on the 22% parts of the municipality which is urban in nature.

*Table 4: type of housing*

| Type of house | Number |
|---|---|
| Formal | 37 496 |
| Traditional | 2 461 |
| Informal | 7 262 |
| Other | 851 |

Regarding home ownership, 82% of houses are owned by residents, while 42% are headed by females. The high number of females headed households can also be attributed to the limited job activities available in the municipal area.

### 3.7.9 Household income.

Most of the households receive a monthly income of less than R3 500 per month, effective housing must be provided in the form of rental property as supposed to single dwelling houses which will be unaffordable for the population income category. Household subsidies are determined on the household's monthly income. Table 14 and indicates the change in monthly household income between 2001 and 2011. Households in RMLM are relatively poor with almost 14, 66% earning no income at all. 93, 90% of the households earn less than R12 800/month. There has been significant growth in the income bracket earning between R3 500 and R12 800/month (growth of 17, 46%) – a clear signal for rental or gap market housing options. Individual housing subsidies are available to low-income households, where an applicant wishes to buy a residential property for the first time. The subsidy can be used to buy an existing house including the property on which the house stands. It can

also be used to buy a house on a plot-andplan basis, or to finish an incomplete house. Households with an income of is less than R3 500, are eligible for a subsidy of R160 573. You do not have to repay this subsidy as it is not a loan. 14, 66% of the local municipality households earn no income at all and 14, 99% earn between R1 and R9 600 per annum.

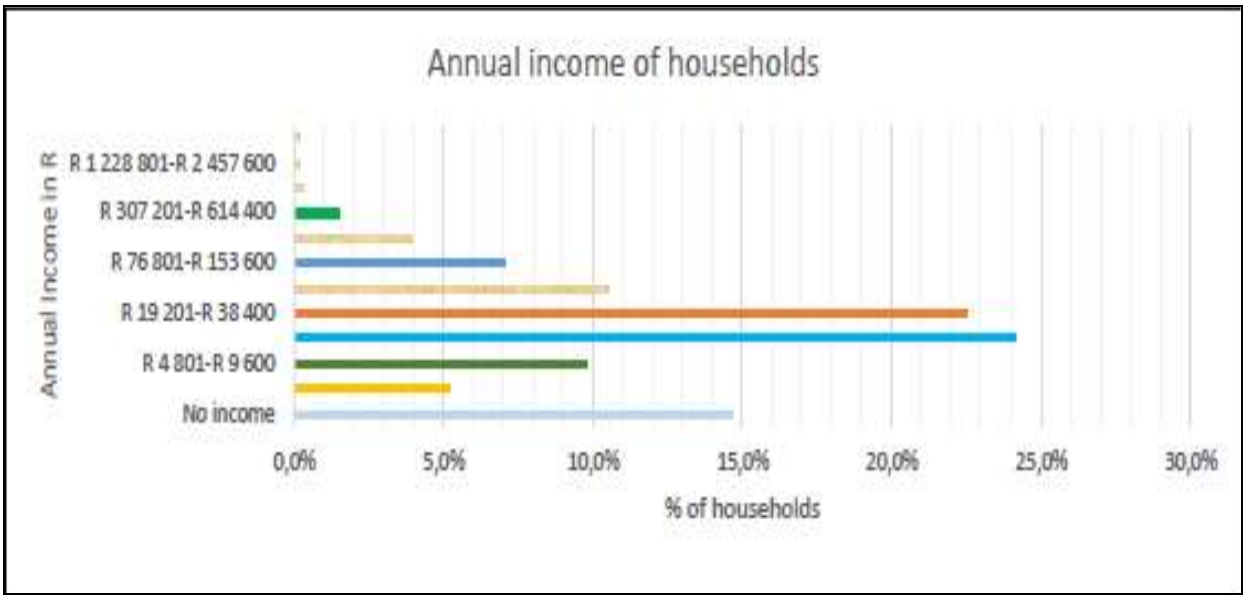



*Figure 10: Household income level*

### 3.8 ECONOMIC ANALYSIS

The economic and labour profile provides analysis of the key trends in the various economic and labour characteristics in RMLM area.

#### 3.8.1 Economically active people

The table below presents a summary of the percentage of economically active people and non-economically active people within the entire municipal area.

*Table 4: Labour force*

| Labour force | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|
| Not economically active | 77,98% | 79,66% | 80,13% | 79,85% |
| Economically active | 22,02% | 20,34% | 24,79% | 20,15% |

Indicates that little change in term of the number of economic active and non-economically active people has been taking place between the years 2010 and 2013.

## SECTION H

## 8. IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, 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.

### 8.1 IMPACT ASSESSMENT METHODOLOGY

#### 1) METHODOLOGY OF IMPACT ASSESSMENT

According to the DEA IEM Series guideline on "Impact Significance" (2002), there are a number of quantitative and qualitative methods that can be used to identify the significance of impacts resulting from a development. The process of determining impact significance should ideally involve a process of determining the acceptability of a predicted impact to society. Making this process explicit and open to public comment and input would be an improvement of the BA process. Lesekha Consulting approach to determining significance is generally as follows:

- Use of expert opinion by the specialists ("professional judgment"), based on their experience, a site visit and analysis, and use of existing guidelines and strategic planning documents and conservation mapping (e.g. SANBI biodiversity databases);
- Our approach is more a qualitative approach - we do not have a formal matrix calculation of significance as is sometimes done.

#### 2) SPECIALIST CRITERIA FOR IMPACT ASSESSMENT

The following methodology has been provided by the Lesekha Consulting for incorporation into assessments:

**Assessment of Potential Impacts**

The assessment of impact significance is based on the following conventions:

**Nature of Impact** - this review the type of effect that a proposed activity will have on the environment and should include “what will be affected and how?

**Spatial Extent** - this should indicate whether the impact will be:

- Site specific;
- Local (<2 km from site);
- Regional (within 30 km of site); or
- National.

**Duration** - The timeframe during which (lifetime of) the impact will be experienced:

- Temporary (less than 1 year);
- Short term (1 to 6 years);

- Medium term (6 to 15 years);
- Long term (the impact will cease after the operational life of the activity); or
- Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient).

**Intensity** - it should be established whether the impact is destructive or innocuous and should be described as either:

- High (severe alteration of natural systems, patterns or processes such that they temporarily or permanently cease);
- Medium (notable alteration of natural systems, patterns or processes; where the environment continues to function but in a modified manner); or
- Low (negligible or no alteration of natural systems, patterns or processes); can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making.

**Probability** - this considers the likelihood of the impact occurring and should be described as:

- Improbable (little or no chance of occurring);
- Probable (<50% chance of occurring);
- Highly probable (50 – 90% chance of occurring); or
- Definite (>90% chance of occurring).

**Reversibility** - this considers the degree to which the adverse environmental impacts are reversible or irreversible. For example, an impact will be described as low should the impact have little chance of being rectified to correct environmental impacts. On the other hand, an impact such as the nuisance factor caused by noise impacts from wind turbines can be considered to be highly reversible at the end of the project lifespan. The assessment of the reversibility of potential impacts is based on the following terms:

- High - impacts on the environment at the end of the operational life cycle are highly reversible;
- Moderate - impacts on the environment at the end of the operational life cycle are reasonably reversible;
- Low - impacts on the environment at the end of the operational life cycle are slightly reversible; or
- Non-reversible - impacts on the environment at the end of the operational life cycle are not reversible and are consequently permanent.

**Irreplaceability** - this reviews the extent to which an environmental resource is replaceable or irreplaceable. For example, if the proposed project will be undertaken on land that is already transformed and degraded, this will yield a low irreplaceability score; however, should a proposed development destroy wetland systems for example, these may be considered irreplaceable and thus be described as high. The assessment of the degree to which the impact causes irreplaceable loss of resources is based on the following terms:

- High irreplaceability of resources (this is the least favourable assessment for the environment);

- Moderate irreplaceability of resources;
- Low irreplaceability of resources; or
- Resources are replaceable (this is the most favourable assessment for the environment).

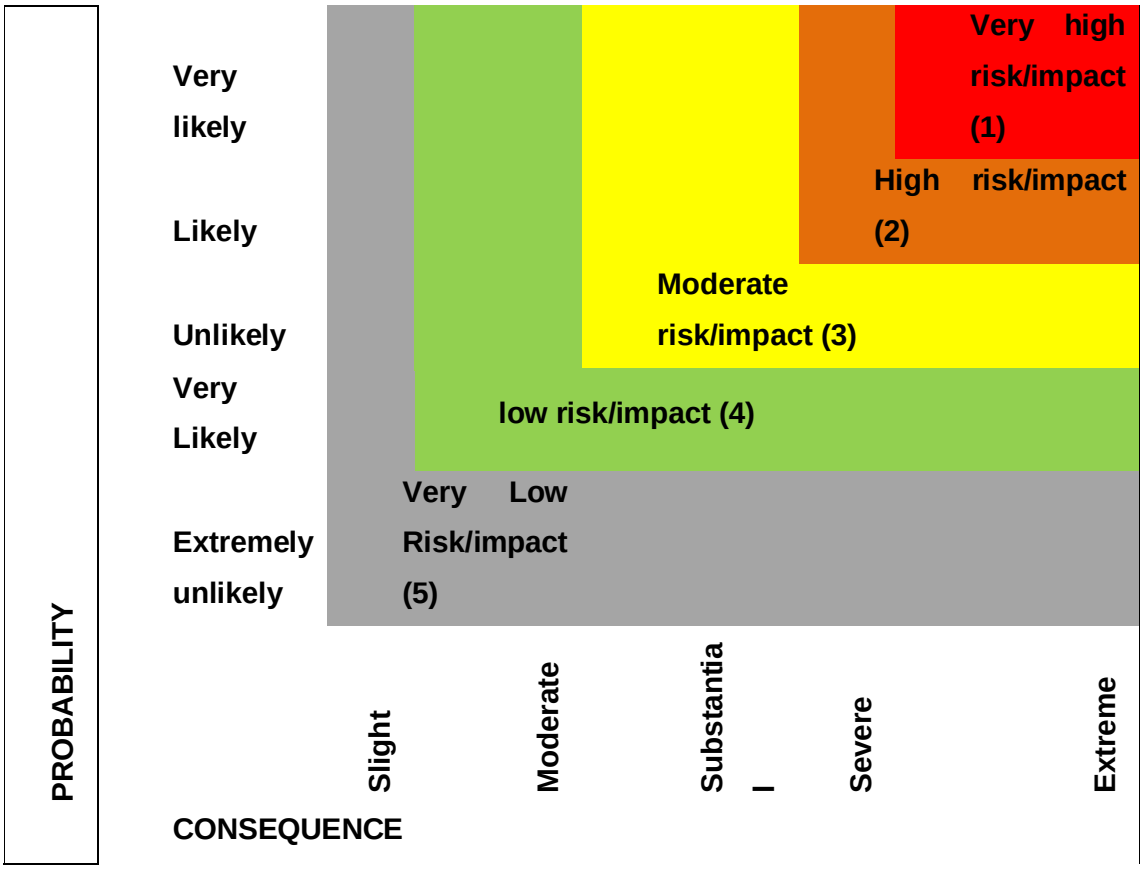



*Figure 11: Guide to assessing risk/impact significance as a result of consequence and probability.*

The status of the impacts and degree of confidence with respect to the assessment of the significance is stated as follows:

**Status of the impact:** A description as to whether the impact will be:

- Positive (environment overall benefits from impact);
- Negative (environment overall adversely affected); or
- Neutral (environment overall not affected).

**Degree of confidence in predictions**: The degree of confidence in the predictions, based on the availability of information and specialist knowledge. This should be assessed as:

- High;
- Medium; or
- Low.

Based on the above considerations, the specialist provides an overall evaluation of the significance of the potential impact, which should be described as follows:

- **Low to very low:** the impact may result in minor alterations of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated;
- **Medium:** the impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated; or
- **High:** Where it could have a “no-go” implication for the project unless mitigation or re-design is practically achievable. Furthermore, the following must be considered:
- Impacts should be described both before and after the proposed mitigation and management measures have been implemented.
- All impacts should be evaluated for the construction, operation and decommissioning phases of the project, where relevant.
- The impact evaluation should take into consideration the cumulative effects associated with this and other facilities which are either developed or in the process of being developed in the region, if relevant.

**Management Actions:**

- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, augmentation measures will be identified to potentially enhance these.
- Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure is ongoing effectiveness.

**Monitoring:**

Specialists should recommend monitoring requirements to assess the effectiveness of mitigation actions, indicating what actions are required, by whom, and the timing and frequency thereof.

**Cumulative Impact:**

Consideration is given to the extent of any accumulative impact that may occur due to the proposed development. Such impacts are evaluated with an assessment of similar developments already in the environment. Such impacts will be either positive or negative, and will be graded as being of negligible, low, medium or high impact.

**Mitigation:**

The objective of mitigation is to firstly avoid and minimise impacts where possible and where these cannot be completely avoided, to compensate for the negative impacts of the development on the receiving environment and to maximise re-vegetation and rehabilitation of disturbed areas. For each impact identified, appropriate mitigation measures to reduce or otherwise avoid the potentially negative

impacts are suggested. All impacts are assessed without mitigation and with the mitigation measures as suggested. Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

## 8.2. 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.

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

### a. LIST THE POTENTIAL IMPACTS ASSOCIATED WITH SITE ALTERNATIVES THAT ARE LIKELY TO OCCUR DURING THE PLANNING AND DESIGN PHASE

#### 8.2.1 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANINING PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INFRASTRUCTURE** | | | | | | | | | | | | |
| Design of broiler units must comply with health and safety guidelines. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | The broiler unit's designer must ensure that the Structures are designed and lined with impermeable substances (concrete) in accordance with advice from international best practice norms. Establish appropriate emergency procedures for accidental contamination of the surroundings. Waste recycling must be incorporated into the facility's operations as far as possible. Designate a secured, access restricted, sign posted | Very Low | 5 |

**8.2.1 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANINING PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | room for the storage of potentially hazardous substances such as herbicides, pesticides dips and medications. | | |
| **DESIGN OF THE BROILER UNITS** | | | | | | | | | | | | |
| Design of the broiler units is very crucial to ensure proper structure with enough space to unsure that there is good ventilation and maintenance of ambient temperature. | local | Short – term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | The broiler units must be designed to allow for the most efficient use of space and the maximisation of broiler numbers (50 000). The design layout will allow the owner to comply with new welfare legislation relating to the operation of broilers. Siting of units must not be in the windward direction so that the odors are blown away from the communities. | Moderate | 3 |
| **SKILL DEVELOPMENT** | | | | | | | | | | | | |
| Lack Of knowledge on running the broiler project | Local | Short-term | Likely | moderate | Very low | High | Low | Yes | Yes | Kwena Chicks must ensure that farm employees go through farmer training program to equip and capacitate them with knowledge on running the project. | Very low | 5 |
| **ACCESS TO MARKETS** | | | | | | | | | | | | |

### 8.2.1 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANINING PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Access to markets | Local | Short-term | Likely | Slightly | Very low | High | Low | Yes | Yes | The chickens will be supplied to Sumpreme Chickens in Mafikeng. | Very low | 5 |

**b. LIST THE POTENTIAL IMPACTS ASSOCIATED WITH SITE ALTERNATIVES THAT ARE LIKELY TO OCCUR DURING THE CONSTRUCTION PHASE**

### 8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ACCESS ROADS** | | | | | | | | | | | | |
| Biophysical impacts due to development and use of access roads during the establishment of the Broiler units. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | The access road is already there if another access road must be constructed the Following must be Followed:<br>No access roads must be constructed on a sensitive area.<br>Routing roads must be the same as the existing access track to the development site unless | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | tracks are impassable due to physical characteristics or unless they pass through or close to sensitive areas. Unnecessary compaction of soil by heavy vehicles must be avoided; construction vehicles must be restricted to demarcated access and turning areas. Agreed turning areas are to be formalized and used by contractors. No turning manoeuvres other than at the designated places must be permitted. Machine/vehicle operators must receive clear instructions to remain within demarcated access routes and operations/construction areas | | |
| Access to site | local | Short – term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | The contractor must ensure that the access roads leading to the construction are in good conditions. | Very Low | 5 |
| Housekeeping Establishment and Maintenance of storage | local | Short – | Likely | Moderate | Medium | Moderate | moderat | Yes | Yes | Storage areas of all the building materials and equipment's must | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| areas | | term | | | | | e | | | be designed, demarcated and fenced if necessary. Location of storage areas must take into account prevailing winds, distance to water bodies, boreholes and on-site topography. Storage areas must be secure and be safe from access by children and animals. Fire prevention facilities must be present at all storage facilities. Contractors/Developer must ensure that storage facilities are cleaned and maintained regularly and that leaking containers are disposed of without spillage onto the soil. | | |
| Risk associated with materials on site | local | Short – term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | All Material must be stable and well secured to avoid collapse and possible injury to site workers/residents. No materials are to be stored in unstable or high-risk areas such as in floodplains or on steep slopes. | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ENVIRONMENTAL EDUCATION & AWARENESS** | | | | | | | | | | | | |
| Various biophysical and sociological impacts due to poor staff conduct of contractor Staff Conduct on Site Social Environment & Affected Parties (IAPs). | local | Short – term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | The contractor/developer must always ensure proper supervision of employees. Staffs needs to be made aware of the following general rules which must be always followed. No alcohol or drugs are to be present on site. No firearms are allowed on site or in vehicles transporting staff to/from site, unless used by security personnel. Prevent excessive noise. No harvesting of firewood from the site or from the areas adjacent to it. | Moderate | 3 |
| **CULTURAL HERITAGE** | | | | | | | | | | | | |
| All the archaeological, historical or paleontological objects found on the development activity must not be disturbed | Local | Short-term | Likely | moderate | Very low | High | Low | Yes | Yes | Before construction starts, all staff must be informed regarding possible archaeological, historical or paleontological objects (e.g. tools, human's remains, fossils, etc) of value and what they look like. The | Very low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | engineer or contractor/developer must be notified must such an item be uncovered.<br><br>All work must cease immediately and SAHRA NWP must be notified if any archaeological, historical, or paleontological remains are discovered during development. | | |
| **SOIL** | | | | | | | | | | | | |
| Erosion of stockpiled material (sand and steel etc). | Local | Short-term | Likely | Slightly | Very low | High | Low | Yes | Yes | Material must be stockpiled in such a way that it cannot fall or cause injury or damage to properties or the natural environment. Stockpiles must not exceed 2m in height and must be covered if exposed to heavy wind or rain. Alternatively, low walls or berms must be constructed around the stockpiles. On completion of the construction all exposed soil must be re-vegetated, preferably with indigenous vegetation. Implementation of erosion | Very low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | control measures is essential. | | |
| **STORMWATER** | | | | | | | | | | | | |
| Poor storm water Management during construction can lead to erosion and loss of soil. | Local | Short term | Likely | Moderate | Very low | Moderate | Moderate | Yes | Yes | Stormwater control must be implemented during construction; however, this is a temporary impact of the proposal. A drainage system must be established for the construction camp. The drainage system must be regularly checked to ensure an unobstructed water flow. To reduce erosion and loss of soil/slit during rain, slit traps must be used on slopes and areas that are likely to erode during development.<br><br>If vegetation is to be removed, it must be done in phases to ensure that a minimum area of soil is exposed to potential erosion at any one time. Storm-water outfalls must be designed to reduce flow velocity and avoid | Moderate | 3 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | stream bank and soil erosion. Disturbed surfaces must be re-vegetated immediately after completion of construction activities in each area. Stormwater control must be implemented during construction; however, this is a temporary impact of the proposal. A drainage system must be established for the construction camp. Contaminated stormwater must not be allowed to enter the river. The drainage system must be regularly checked to ensure an unobstructed water flow. To reduce erosion and loss of soil/slit during rain, slit traps must be used on slopes and areas that are likely to erode during development.<br><br>If vegetation is to be removed, it must be done in phases to ensure that a minimum area of | | |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | soil is exposed to potential erosion at any one time. Storm-water outfalls must be designed to reduce flow velocity and avoid stream bank and soil erosion. Disturbed surfaces must be re-vegetated immediately after completion of construction activities in each area. | | |
| **IMPACTS ON WATER** | | | | | | | | | | | | |
| Impact on the regional water balance as a result of increased water usage. | Local | Short term | Likely | Slight | Very low | High | Low | Yes | Yes | Water is required during the construction phase for various purposes, such as earthworks, as well as to fulfil the requirements of construction personnel on-site. Where possible, water conservation must be practiced. Water conservation techniques include making construction personnel aware of the importance of limiting water wastage, as well as reducing water use during the cleaning of the site (such as sweeping the site before it is | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | being washed). Contractor must also ensure that the water infrastructure on site is monitored or leakages on a regular basis to prevent wastage. | | |
| **IMPACT ON FLORA** | | | | | | | | | | | | |
| Risk of alien invasive Encroachment into disturbed areas. | Local | Short term | Very likely | Severe | High | Low | Moderate | Yes | Yes | At present, there is no alien encroachment but must be controlled during construction. The establishment or spread of alien plant species on site must be monitored and the correct removal and disposal of alien plant species must be followed. Rehabilitation of disturbed areas must commence as soon as construction activities are completed in those areas. | Low | 4 |
| **IMPACT ON FAUNA** | | | | | | | | | | | | |
| Site clearing for construction activities leading to loss of species and habitat characteristics. | Local | Short term | Very likely | Severe | High | Moderate | Moderate | Yes | Yes | Appoint an Environmental Control Officer (ECO) prior to commencement of construction phase to ensure adherence to | Low | 4 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | EMPr guidelines, guidance of activities, planning, reporting to authorities, etc.<br><br>Limit site clearing to those areas required for construction at a time Delineation of the conservation area prior to commencement of construction activities.<br><br>The sensitive drainage line/wetland areas to be fenced off from all construction activities. Disturbance of mammals, birds, reptiles, other animals and their habitats must be prevented. If subterranean mammals are found in a construction area, construction must stop and the ECO must arrange for their capture and translocation to a safe area. | | |
| Damage and removal of | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Workers must be educated / trained on minimizing damage to | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Existing vegetation. | | | | | | | | | | vegetation during construction. Only vegetation that must be removed for the construction of the broiler units must be removed and the footprint | | |
| **NOISE** | | | | | | | | | | | | |
| Noise generated during construction can be nuisance. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Regarding unavoidable very noisy construction activities in the area, these must be screened off with acoustic screens where possible. However, if there no acoustic screening during exceptionally noisy construction period then warning to community members would be extremely important.<br><br>During construction activities, it must be ensuring that everyone on site comply with the requirement of the Occupational Health and Safety Act (Act 85 of 1993) and Employees must be issued with appropriate | Low | 4 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Personal Protective Equipment. | | |
| **REMOVAL OF ENDANGEREDVEGETATION** | | | | | | | | | | | | |
| Removal of endangered<br><br>Vegetation | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Regarding unavoidable very noisy construction activities in the area, these must be screened off with acoustic screens where possible. However, if there no acoustic screening during exceptionally noisy construction period then warning to community members would be extremely important. | Very Low | 5 |
| **TRAFFIC** | | | | | | | | | | | | |
| The construction phase is likely to have traffic for delivering earth moving vehicles and materials on site | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Access road with designated by road sign and speed limits.<br><br>Planning of utilizing access route. During the construction phase, suitable parking areas must be created and designated for construction trucks and vehicles.<br><br>• A construction supervisor | Low | 4 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | must be appointed to co-ordinate construction traffic during the construction phase (by drawing up a traffic plan prior to construction)<br><br>Road barricading must be undertaken where required and road safety signs must be adequately installed at strategic points within the construction site. | | |
| **HEALTH AND SAFETY IMPACT** | | | | | | | | | | | | |
| Health and safety impact | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | The safety of residents and construction workers is of great importance as people can be injured and in extreme circumstances death may even result. For these reasons it is very important that mitigations measures are strictly adhered to and enforced. Injury and loss of life is considered highly significant and once it has occurred cannot be reversed. | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | The overall significance of the potential death/injury to residents/construction workers is Insignificant provided that the mitigation measures, stipulated. All relevant Health and Safety legislation as required in South Africa must be strictly adhered to including the Occupational Health & Safety Act, 1993 (Act No.85 of 1993).<br><br>Potentially hazardous areas (i.e. trenches) must be demarcated and clearly marked. During construction, health and safety impacts can affect not only those working on the site, but they can also affect those residing in proximity, as well as those passing through/by the site. A good, clear interpretation of the Health and Safety Rules and Guidelines can help to prevent potentially dangerous and fatal incidents from | | |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | occurring. Before construction workers commence work, as well as during their work activities so as to prevent harm to themselves, either via machinery operation, construction materials or through improper ergonomics. The construction workers must not be allowed to meet the broilers on site. Should they need to visit the broiler units on site they must disinfect. | | |
| Health Impacts. Temporary accommodation of workers during construction phase would lead to the influx of job seekers to the area. Temporary workers combined with influx of unsuccessful job seekers can have a number of social impacts. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Health because of possibility of single men engaging in relations with local women, this could lead the increased risk of STD's, HIV and AIDS as well as unwanted pregnancies resulting in fatherless children. A potential increase in criminal and other illegal activities cannot be excluded. Contractors to procure products and services locally as far as possible. | Low | 4 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | To mitigate the above-mentioned impacts local laboures must be hired, and there would be HIV awareness induction to educate laboures about safe sex practices.<br><br>Influx of people not residing in the area looking for employment can be mitigated by requesting information from the project proponent on the construction process and the likely profile of a typical construction worker. Conduct a desk top study to determine the health profile of the area, including typical indicators such as HIV prevalence, etc. Interviews with municipal officials and other authority figures (such as the South African Police Service) to determine the current extent of social problems in the area and initiatives to combat them. | | |
| **WASTE GENERATION** | | | | | | | | | | | | |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Structuring of sewage waste during construction requires proper treatment. If sewage connection is not properly fitted it can have adverse impact on both biophysical and socio-economic environment | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | The contractors must be responsible for the maintenance of the chemical toilets. All incidents must be reported to the responsible site officer as soon as possible | Very Low | 5 |
| Improper storage and disposal of solid waste. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Due to the nature of the activity, waste is anticipated to be minimal. All solid waste generated during the construction process must be placed in a designated waste collection area within the site camp and must not be allowed to blow around the site, be accessible by animals, or be placed in piles adjacent to the skips/bins. All solid waste must then be disposed of at the nearest licensed landfill and safe disposal certificates must be always obtained and kept on site during construction. Separate skips/ bins for the | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | different waste streams must be available on site. The waste containers must be appropriate to the waste type contained therein and where necessary must be lined and covered. This must be monitored by the ECO | | |
| Littering around the site. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Littering is not permitted on the site and general housekeeping must be enforced. General waste bins must be readily available for litter disposal and general housekeeping. The EMPr must be followed during construction | Low | 4 |
| Improper disposal of rubble i.e. burying or Neglecting building rubble resulting in direct Mechanical damage to Surrounding vegetation and untidiness of the site. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Local | All excess material and rubble must be removed from the site so not to restrict the rehabilitation process. All excess material and rubble must go to an approved designated landfill and a safe disposal certificate must be obtained. Site workers must be trained in avoiding such impacts during induction training and regular | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | toolbox talks. | | |
| Improper disposal of toilet waste from chemical toilets resulting in contamination of the surrounding environment | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Chemical toilets must be placed within the construction camp and not near any river. The chemical toilets must be provided by a registered company and all effluent must be regularly disposed of at a licensed facility. Safe disposal certificates must be kept on record. | Very Low | 5 |
| Increase waste to<br><br>Landfill site. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Due to the nature of the activity, waste is anticipated to be minimal. Where possible, waste streams must be separated and recycled to limit the amount of waste being added to the landfill site. | Very Low | 5 |
| Lack of toilet facilities resulting in unsanitary Conditions. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Toilet facilities must be provided for all staff members as standard construction practice. These toilets must be regularly cleaned by a reputable company | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | and maintained in a clean state. This must be monitored in an EMPr. | | |
| **HAZARDOUS CHEMICALS** | | | | | | | | | | | | |
| Hazardous Substances & Materials (Those hazardous substances and materials which are potentially poisonous, flammable, carcinogenic or toxic. These could include: Diesel, petroleum, oil, bituminous products. Cement, Solvent based paints, Lubricants, Explosives, Drilling fluids. Pesticides, herbicides. Liquid petroleum gas. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Hazardous storage and refueling areas must be underlain with an impermeable liner to protect groundwater quality. If applicable; fuel tanks must meet relevant specifications and must be elevated so that leaks may be detected easily. Storage areas containing hazardous substances and materials must be clearly signed. If applicable; Staff dealing with these Materials and substances must be aware of their potential impacts and follow the appropriate safety measures. Handling, storage and disposal of potential hazardous materials, residues or their containers must be in accordance with | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | DWS requirements and specifications. Scheduled hazardous waste such as bitumen, tar, oils, etc., must be disposed of at -approved facilities. | | |
| Handling of Hazardous Materials | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | No vehicles transporting, placing or compacting asphalt or any other bituminous product may be washed on site. Powders, e.g. lime, must not be mixed during excessively windy conditions. All concrete mixing must take place on a designated, impermeable surface.<br><br>No vehicles transporting concrete to Construction site may be washed on site. Hazardous substances and materials are to be transported in sealed containers or bags. | Very Low | 5 |
| Hazardous Areas due to | Local | Short | Likely | Sligh | Medium | High | low | Yes | Yes | Potentially hazardous areas | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Construction Activities | | term | | t | | | | | | such as trenches are to be demarcated clearly marked so that warning about these areas is visible during the day and night. | | |
| **AIR QUALITY** | | | | | | | | | | | | |
| Construction activities have been the source of dust generated during construction activities.<br><br>Generation of fumes from vehicles emissions may pollute the air | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | To reduce dust entrainment water or an appropriate dust suppressant must be sprayed on topsoil of material storage site until such time as the material storage site to control dust.<br><br>There must be strict speed limits of dust road to prevent entrainment into the atmosphere.<br><br>All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs are to be performed on an impervious surface with | Low | 4 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | clean and dirty water separation systems in place | | |
| **VISUAL IMPACTS** | | | | | | | | | | | | |
| Visual impact | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Storage facilities, elevated tanks and other temporary structure on site must be located to have as little as possible visual impact. Lighting in the site or at construction sites must be pointed downwards and away from oncoming traffic and nearby residents. Appropriate positioning of spoil dumps needs to be implemented Ensure that building type and design must be compactable to future planned adjacent developments | Very Low | 5 |
| Dust generated from construction vehicles and other onsite activity. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Dust control measures (the use of a water cart / truck) must be used to wet exposed soil and thereby ensure that excessive dust levels are not experienced on site. The dust levels must be kept below the required SANBS standard to | Low | 4 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | ensure minimal impact on the surrounding community and the environment.<br><br>Areas that have been stripped of vegetation, existing exposed soil surface and sandy access route must be dampened regularly to avoid excessive dust, particularly during dry and windy conditions.<br><br>The time that stripped areas are left open to exposure must be minimized wherever possible.<br><br>Maintenance of existing vegetation helps control dust and prevents soil erosion. The ECO can order areas of vegetation to be fenced off during construction that remain out of bounds.<br><br>Construction vehicles must adhere to speed limit to avoid creating excessive dust. A | | |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | speed limit of 30km/hr must be adhered to on all dirt roads. Contractor must provide appropriate arrangement for cooking and for heating requirements open fires not allowed.<br><br>Spoil dumps need to be implemented Ensure that building type and design will be compactable to future planned adjacent developments | | |
| **TRAFFIC** | | | | | | | | | | | | |
| The construction phase is likely to have traffic for delivering earth moving vehicles and materials on site. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Access road with designated by road sign and speed limits Planning of utilizing access route | Very Low | 5 |
| **STORMWATER** | | | | | | | | | | | | |
| Erosion could result on losing material of being exposed at downstream. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Short-term impacts during construction are commitment to use the strategy to mitigate erosion. | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Steep slopes are prone to erosion. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | -Construction must be confined to developmental site<br>- grass cover must be maintained after construction.<br>-Use Erosion Control Blankets to Add Vegetation to Slopes<br>-Create Diversions to Help Drainage. | | |
| SECURITY | | | | | | | | | | | | |
| Construction camp requires security reason to keep materials and other equipment's safe due to increased number of personnel on site | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Security guards must be on site all the time to secure property from theft. To use advance technology, light, and alarm system. Weapons must not be allowed on site. No unauthorized personnel must access the site | Low | 4 |
| **SOCIO-ECONOMIC IMPACT** | | | | | | | | | | | | |
| Impact: Employment creation and skills development opportunities during the construction phase, which is expected to give rise to approximately several new jobs. | Local | Short term | Likely | Slight | Medium | High | low | Yes | Yes | Liaise with the client to maximise job creation opportunities during the construction phase.<br><br>-Enhance the use of local labour | Very Low | 5 |

**8.2.2 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| This impact is rated as positive | | | | | | | | | | and local skills as far as reasonably possible.<br><br>-Where the required skills do not occur locally, and where appropriate and applicable, ensure that relevant local individuals are trained.<br><br>-Ensure that an equitable percentage allocation is provided for local labour employment as well as specify the use of small-to-medium enterprises and training specifications in the Contractors contract.<br><br>Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible. | | |

**C. NO-GO ALTERNATIVES**

**IMPACTS OF THE NO GO OPTION**

The 'No Go' alternative means that the proposed development of the broiler units will not continue and the *status quo* will remain

**NO GO ALTERNATIVE**

***Direct impacts:***

Without the proposed development, the location will remain in its current a vacant state. This no-action alternative, presents environmental concerns, as the site in its current state is prime but underutilized. From a socio-economic perspective, the no-action alternative will definitely not yield any benefit to the proponent and the surrounding communities. This alternative will mean that the project does not proceed.

**Advantages**

- Air pollution from dust because of the construction process will not occur
- There will not be soil compaction because of heavy machinery use
- There will be no soil or water contamination
- The existing site will remain un-cleared which will result in no clearance of indigenous vegetation

***Disadvantage***

- The vision's for the Kwena Chicks to establishment of four 50 000 Broiler units would have not be met.
- The long-term objective of providing economic activities will not be met
- A number of potential employment opportunities will not be realized.
- There will be no additional facility to drive socio-economic development
- There will be no secondary development as a result of the project
- The improvement in infrastructure as a result of the project will not be realized
- The value of land might improve but it will remain underdevelopment
- Chicken market supplied by small scale farmers won't be realized.

***Indirect impacts:***

- There are no indirect impacts during the construction phase for the No-go Option.

***Cumulative impacts:***

- There are no cumulative impacts during the construction phase for the No-go Option.

### d. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

#### 8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GASES AND AIR EMISSIONS** | | | | | | | | | | | | |
| Concerns regarding greenhouse gas emissions and climate change. During operation stage it is envisaged that the proposed poultry farm operation activities will generate air emissions primarily odours, dust, refrigerators and exhaust emissions. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | Nuisance odours will emanate from broilers manure management and mortality pit used for disposing broilers carcasses. Dust might emanate from feed storage, loading and unloading as well as waste management activities.<br>Exhaust emissions such as CO, NOX and SOX will be generated from vehicles carrying feed and chicken meat.<br>However, the level of air pollution originating from the above-mentioned sources are expected to be low, localized and will be confined within the project site. With appropriate mitigation | Very Low | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | measures in place no serious impacts are expected on people and the environment in general. The impact can be highly improved/eliminated with mitigation. Therefore, the impact is negative and of low significance. | | |
| **OUDORS** | | | | | | | | | | | | |
| Odors may occur from the mortality pit and chicken excrement/ compost. | Local | Long term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | The broiler units must be positioned opposite the windward wind direction such that the odor are blown away from the Community<br>**Management of Odours**<br>In order to control odours emanating from chicken waste in the broiler units the proposed project will take the following measures:<br>-optimizing the frequency of broiler units clean-out;<br>-frequent addition of lime and salt into broiler mortality pits and ensuring that the pit is closed at all times. | Very Low | 5 |

### 8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | -maintaining low dust levels since odours are absorbed and carried by dust particles;<br>-maintaining recommended stocking densities;<br>-making use of modern technology and replacing malfunctioning and/or old, inefficient equipment;<br>-install adequate ventilation that shall achieve maximum possible dilution of odour strength during broiler units cleanout; | | |
| Impact on the fauna as a result of noise, lights and dust from the chicken houses leading to sensory disturbance | Local | Long term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | Minimise sensory disturbance of fauna by minimizing essential lighting, noise, and preventing unnecessary light and noise pollution, especially on nocturnal animals. | Low | 4 |
| **SPREAD OF AILMENTS AND PATHOGENS** | | | | | | | | | | | | |
| During operation phase of the proposed project there is a risk of disease transmission from chickens to humans.<br>. | Local | Long term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | The main diseases associated with poultry are caused by *Staphlococcus hyicus* and Salmonella species which are found in chicken manure.<br>Both pathogens can cause | Very Low | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | diarrhoea, cramping, fever, nausea and vomiting in humans. Respiratory hazards could also be a potential source of disease transmission and infection of the lungs. Particular jobs, such as shed clean out, must be completed using respiratory protection. Therefore, the impact is negative and of low significance. Employees working with chickens will undergo medical tests to ensure they are not carriers of these pathogens which can be passed on to the chickens. | | |
| **Diseases Control** | Local | Long term | Likely | Moderate | Medium | Moderate | moderate | Yes | Local | Potential for Spread of Animal Pathogens. For disease control, register the project with the Department Agriculture and Rural Development Veterinary Services<br>-Establish sound biosecurity protocols for the entire operation that control animals, feed, equipment, and personnel, | Very Low | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | entering the facility (for example, quarantine periods for new animals, washing and disinfecting equipment, showering and protective clothing and footwear for personnel, and keeping out stray animals, rodents and birds);<br>-Control farm animals, equipment and personnel and public entering the facility (e.g. quarantine periods for new animals, washing and disinfecting crates, disinfection and coverage of shoes before entry into chicken housing zones, and providing protective clothing to personnel);<br>-Medical testing of personnel to avoid carriers of pathogens working with chickens;<br>-Prevent the interaction of chickens with feed, as this interaction could be a factor in the spread of diseases.<br>-Vehicles that go from farm to farm (e.g. transport of | | |

### 8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | veterinarians, farm suppliers, buyers, etc.) must be subject to special precautions such as limiting their operation to special areas with biosecurity measures, spraying of tires and treating parking areas with disinfectants;<br>-Sanitize broiler units' areas;<br>-Establish a detailed animal health program supported by the necessary veterinary and laboratory capability.<br>-Identify and segregate sick chickens and develop management procedures for adequate removal and disposal of mortalities<br>**Common Diseases In chickens**<br>• Fowl Cholera<br>• Coccidiosis<br>• Fowl Pox<br>• Salmonellosis<br>• Newcastle Disease<br>• Avian Influenza | | |
| **Vaccinations**<br>Vermin is one of the | Local | Long term | Likely | Slight | Medium | High | low | Yes | Local | Vermin is one of the factors that can lead to a decrease in | Low | 4 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| factors that can lead to a decrease in productivity in a farm | | | | | | | | | | productivity in a broiler farm. Vermin is described as parasites, infestations and undesirables (insects, rats) which lead to mortalities and need to be managed. Vaccination is an important way of preventing diseases. Different regional epidemic situations require suitably adapted vaccination programmes. Vaccination, at the current operation is guided by the advice of a qualified veterinarian and animal's health service so the vaccination at the proposed broiler units will follow suite. Only healthy chickens must be vaccinated. There are various methods of vaccination:<br>-Drinking water vaccinations;<br>-Spray vaccinations;<br>-Aerosol spray; and<br>-Eye drop.<br>Chicken must be vaccinated on a regular basis. A veterinary doctor must be called whenever there are signs diseases or outbreak. | | |

### 8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | The farmers must be trained on how to identify sick animals together with the medication to use. | | |
| **MORTALITY** | | | | | | | | | | | | |
| The broiler project has a significantly low mortality rate therefore it is not anticipated that there will be a low number of mortalities. | local | Long term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | The broiler project has a significantly low mortality rate the current mortality rate is at 3%, therefore it is not anticipated that there will be a high number of mortalities. However, all mortalities that may occur will be disposed of in the mortality pits which must be closed immediately after disposing the carcass to mitigate odors. Addition of enzymes will aid to the decomposition process. Alternatively, carcasses must be frozen then supplied to predator farmers once the farmers have been identified.<br>Carcasses must be examined by a veterinary doctor in the event where the cause of death is not understood. | Moderate | 3 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mass mortalities**<br>Mass mortalities due to disease outbreaks are usually state controlled operations. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Local | Mass mortalities will be investigated promptly, and the following must done:<br>-Notify the state veterinarian.<br>-The state/department vet must visit the site.<br>-The state vet will place the property, or the specific site or house that is infected, under quarantine.<br>-Depending on the disease and severity, the chickens can be slaughtered on site or transported to an abattoir with a Red Cross permit. | Very Low | 5 |
| **Ventilation**<br>Heat stress in chickens is a serious problem for the poultry industry. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Local | Heat stress in broiler chickens is a serious problem for the poultry industry. Mortality during extremely hot weather can be significant, especially when combined with high humidity. Under normal conditions, chickens do a good job of cooling themselves with physiological and behavioural mechanisms but these mechanisms fail at high | Very Low | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | temperatures.<br>One of the keys to minimizing mortalities and production losses during hot weather is proper ventilation system design. There must be enough air movement in the coops to take out the dust, hot air and the smell of ammonia. The broilers need fresh, cool air in order to stay healthy.<br>As mentioned above chickens do not function well in high temperatures which is why there will be a room just before entry to the coops where water will be kept and when the temperature is too high this water must be sprayed as very small water droplets that float inside the coops, these droplets remove heat as they evaporate this is known as fogging and will take place automatically in response to the rise in temperature. The optimum environmental temperature for broiler chickens | | |

### 8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | is $18^0$ C-$24^0$C. | | |
| **Provision of Water** | Local | Long term | Likely | moderate | Very low | High | Low | Yes | Yes | Cool, clean and fresh water must be always available in the entire facility. The nipple system must be used to supply broilers with water. The nipple drinker line in the start tier can be adjusted in height, there must be two nipples per cage therefore, an adequate water supply is provided. This system reduces the probability of leaks, keeps dirt out thus, water is kept clean.<br>Water from rivers, dams is not hygienic; it can be polluted with pathogens such as *E.coli* especially if this water is contaminated with manure. Water that must be used at the farm must be disinfected by the use of chlorine to kill any pathogens. Water must be tested twice, before and after the rain season. | Very low | 5 |
| **FEED MANAGEMENT** | | | | | | | | | | | | |
| Lack of adequate feed | Local | Long | Likely | Slightl | Very low | High | Low | Yes | Yes | The farmers must ensure that | Very | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| can result in mortalities | | term | | y | | | | | | they have adequate feed by storing feed in silos enough for a month. They can also enter into agreements with feed producer so that feed is developed to the farm weekly. Feed will be placed in the trough. The most important advantage of this is that the chickens can reach the feed without standing in it. This system prevents any contamination of the feed which could impact negatively on biosecurity. | low | |
| **WASTE MANAGEMENT** | | | | | | | | | | | | |
| The operational management of the broiler project must include a responsible and integrated waste management approach to ensure that soil and water resources on the property (especially within the open space corridors) are protected and not | Local | Long term | Likely | Moderate | Very low | Moderate | Moderate | Yes | Yes | The following measures must be implemented to avoid pollution on the property and properly manage the waste generated during the operation of the property:<br>**General Waste & Litter**<br>-The disposal of all general waste other than organic waste must take place at a landfill licensed in terms of Section 20 of | Moderate | 3 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| contaminated with pollutants. Pollutants may take the form of solid waste (litter & household general waste) or contaminated stormwater run-off. | | | | | | | | | | the Environmental Conservation Act, 1989 (Act No. 73 of 1989) and the National Environmental Management: Waste Act, 2008 (NEM:WA, Act No 59 of 2008).<br>-The property must be kept clean and tidy and free of any wind-blown litter or waste.<br>-All outside bins and waste storage containers must be covered, tip-proof, weather-proof and scavenger proof.<br>-Any temporary waste disposal and storage area (where the farm's household waste is temporarily stored) must be bunded with drain connection into sewerage system (to prevent waste leachate from entering stormwater run-off) and fenced off (to prevent wind-blown litter).<br>-No burning or dumping of household, garden or construction waste may take place anywhere on the property and especially not in the open space areas. | | |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | -**Organic Waste**<br>The organic material, notably bedding needs to be disposed of in the correct manner. Currently, the organic waste is moved to another farm for composting and used as manure in the fields. .<br>The bedding must only be stored in the facility for a maximum period of 3 days after which it will be loaded onto a truck and transported.<br>Alternatively, organic waste must be composted in a lined pit to prevent ground water pollution on site to reduce transport costs.<br>The farmers must use the manure for the vegetable gardens as well as suppling it to the other farmers and nurseries. | | |
| Improper management and disposal of carcasses as well as access fodder, chemicals such as pesticides and any other operational waste may cause contamination of | Local | Long term | Likely | Moderate | Very low | Moderate | Moderate | Yes | Yes | Environmental contamination can be avoided by ensuring that excrement, carcasses, feed, and other operational waste and hazardous materials are appropriately and effectively contained and disposed of | Low | 4 |

### 8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| the local soils | | | | | | | | | | without detriment to the environment | | |
| Poor management of chicken excrement and excess fodder may increase breeding of invertebrate pests. Poor waste management and hygiene practices may also attract vertebrate pests. And may adversely affect the local/ indigenous fauna | Local | Long term | Likely | Moderate | Very low | Moderate | Moderate | Yes | Yes | Ensure that effective pest control that also does not affect non-target animals by controlling access and proliferation of pests as far as possible.<br>The mash wire on the broiler units prevents the entry of rodents and birds.<br>The bedding, chicken excrement and excess fodder must be kept for maximum period of 3 days before collected by the farmer to prevent the breeding of rodents and pests. | Low | 4 |
| **WATER MANAGEMENT** | | | | | | | | | | | | |
| Water resources in South Africa are under threat due to the changing weather patterns. | Local | Long term | Likely | Slight | Very low | High | Low | Yes | Yes | Although there is currently sufficient water allocated for agricultural activities on this property, it is highly recommended that every effort is made to minimise the unnecessary use of water. | Very Low | 5 |
| Increased water usage as a result of abstraction | Local | Long term | Likely | Slight | Medium | High | low | Yes | Local | Water conservation must still be practiced during the operational | Moderate | 3 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| from the borehole for the operational phase. | | | | | | | | | | phase water tanks for storage must be inspected regularly to insure there are no leakages. For the operation of the broiler units not a lot of water is used, each broiler takes about 0.2 litres of water a day therefore the impact is low. | | |
| **STORM WATER MANAGEMENT** | | | | | | | | | | | | |
| Storm water management, Soil and water pollution. Increased storm water discharge into the surrounding environment. | Local | Long term | Very likely | Severe | High | Low | Moderate | Yes | Yes | - rainwater harvesting into JoJo tanks will reduce the volume of storm water generated.<br>- all storm water must be directed into the surrounding vegetated area.<br>-Storm water must not be allowed to come into contact with effluent/<br>-Monitoring water quality of onsite borehole must be conducted.<br>-A suitable stormwater/surface water quality monitoring programme must be established and implemented.<br>-Regular inspections of | Low | 4 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | stormwater infrastructure must be undertaken to ensure that it is kept clear of all debris and weeds.<br>-Monitoring programmes must be implemented to ensure that no materials enter the surface water drainage system.<br>During the operational phase, the development must probably render a portion of the site with impermeable surfaces. This will result in increased storm water runoff post-development. The concrete slabs and coops will increase storm water runoff. | | |
| **SOIL CONTAMINATION** | | | | | | | | | | | | |
| Soil erosion impacts during operation. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | During operation phase no significant soil erosion impacts are expected as most of the actives will not lead to soil disturbance with However, carcases and manure (which contains considerable amounts of nutrients such as nitrogen, phosphorus, and other excreted | Low | 4 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | substances like antibiotics) can lead to significant soil erosion impact on site unless they are well mitigated. | | |
| Steep slopes on site | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | The site has steep slope, which when disturbed can cause significant erosion.<br>-The use of heavy machinery on the slope must be minimized.<br>-Grass cover must be maintained on the slopes<br>-Eroded or disturbed slopes must be mainntained. | | |
| The wash water from the disinfection area could contaminate the soil. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | The farmers must ensure that drip trays are always available to collect any fluid that may result from accidental spillage, overflow and/or servicing. All equipment that leaks must be repaired immediately and/or removed from the site when necessary.<br>Broiler units must be lined and bunded to avoid any run-offs of polluted water onto unprotected soil.<br>All wash water must be directed | Low | 4 |

### 8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | to the septic tank. Biodegradable sanitizers must be used. | | |
| **SECURITY** | | | | | | | | | | | | |
| The presence of chickens, expensive equipment and materials at the facilities will always attract thieves in the surroundings and could potentially pose a security risk to the well-field facilities. This impact is likely due to isolated nature of the sites from major police stations that could otherwise reduce the potentiality for criminal activities around the facilities. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | A provision of 24 hours security services and fencing of vulnerable areas of the facilities including buildings and wells will reduce the impacts to a low significance level. | Very Low | 5 |
| **BIOSECURITY REQUIREMENTS** | | | | | | | | | | | | |
| Biosecurity is a strategic and integrated approach that encompasses the policy and regulatory frameworks (including | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | In light of this, two documents provide the required standards for all poultry projects in South Africa, in terms of animal health, control and management of | Low | 4 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| instruments and activities) that analyse and manage risks in the sectors of food safety, animal life and health, and plant life and health, including associated environmental risk.<br>Biosecurity covers the introduction of plant pests, animal pests and diseases, and zoonoses, the introduction and release of genetically modified organisms (GMOs) and their products, and the introduction and management of invasive alien species and genotypes.<br>Biosecurity is a holistic concept of direct relevance to the sustainability of agriculture, food safety, and the protection of the | | | | | | | | | | diseases, control and management of effluent and control and management of water resources.<br><br>Micro-organisms (Pathogens) that cause disease are bought to a chicken farm through many ways. Pathogens can be carried in the air by people, vehicles, flies and rats. The chicken feed and drinking water can also be contaminated. All staff will undergo training before the farm starts operating.<br>Strict biosecurity measures are important in a broiler farm as diseases are easily transmitted. To ensure that no diseases are brought to the site and that people who exit the site do not contract any disease, there will be strict access control:<br>-Casual visitors will be kept out;<br>-The gates will be kept locked and the property will be fenced off; | | |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| environment, including biodiversity (Food & Agriculture Organisation of the United Nations, 2017). | | | | | | | | | | -Managers/visitors/service personnel must restrict themselves to only one farm per day;<br>-People will be inducted prior to entry i.e. disinfection of people (i.e. footbath at every coop) and also undergo disinfection when exiting the farm;<br>-Clean overalls and gumboots will be provided after disinfection; and<br>-Vehicles will be sprayed with disinfectants when entering and exiting the farm.<br>Staff will shower on site and wear clean protective clothing (Personal Protective Clothing). | | |
| **HEALTH AND SAFETY IMPACT** | | | | | | | | | | | | |
| Health and safety issues | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | In light of this, two documents provide the required standards for all poultry projects in South Africa, in terms of animal health, control and management of diseases, control and | Very Low | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | management of effluent and control and management of water resources.<br><br>**Micro-organisms** (Pathogens) that cause disease are bought to a chicken farm through many ways. Pathogens can be carried in the air by people, vehicles, flies and rats. The chicken feed and drinking water can also be contaminated. All staff will undergo training before the farm starts operating.<br>Strict biosecurity measures are important in a broiler farm as diseases are easily transmitted. In order to ensure that no diseases are brought to the site and that people who exit the site do not contract any disease, there will be strict access control:<br>-Casual visitors will be kept out;<br>-The gates will be kept locked and the property will be fenced off;<br>-Managers/visitors/service | | |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | personnel must restrict themselves to only one farm per day;<br>-People will be inducted prior to entry i.e. disinfection of people (i.e. footbath at every coop) and also undergo disinfection when exiting the farm;<br>-Clean overalls and gumboots will be provided after disinfection; and<br>-Vehicles will be sprayed with disinfectants when entering and exiting the farm.<br>Staff will shower on site and wear clean protective clothing (Personal Protective Clothing). | | |
| **SOCIO-ECOMOMIC IMPACT** | | | | | | | | | | | | |
| Farmers' training/capacity building<br>connection is not properly fitted it can have adverse impact on both biophysical and socio-economic environment | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | The Kwena Chicks Farm managers must be trained to ensure quality chickens are produced. | Very Low | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extension Services to Farmers | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | During operation the project expects to provide extension services to local farmers to promote production of better chickens. This can be enhanced through making use of local extension officers who have experience with the area and long-term working relation with the farmers; and taking on board local/traditional farming knowledge that will prove beneficial to the plan | Moderate | 3 |
| **Promotion of poultry Sector**<br>Poor markets will result in the unsustainability of the project. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | Promotion of Poultry Sector can be enhanced through the following measure(s):<br>-supply of chickens in the surrounding communities and target markets both locally and in other region;<br>-where practical, to provide extension services and/or training on better poultry farming skills.<br>-farmers must offer competitive price for farmers produce; | Low | 4 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | • Farmers to enter into a legal agreement with consumers to guarantee that the project will purchase their produce. | | |
| **Creation of Employment** | Local | Long term | Likely | Slight | Medium | High | low | Yes | Local | Potential positive environmental and socioeconomic impacts expected during different phases of the proposed project include the following:<br>-Local employment opportunities. It is expected that about 20 people will be employed during construction phase and 12 during operation phase. Employment will be in the form of managers, skilled labourers as well as unskilled labourers;<br>-The project will provide a reliable local market to small-scale broiler farming in the Regions;<br>-Extension services to small-scale farmers who will be a supplier of broiler chicken production;<br>-The project is likely to encourage the development of | Very Low | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | small-scale broiler chicken farms;<br>-Contribution to local socioeconomic development in the project area through money circulation and the multiplier effect;<br>-Contribution to government revenue through corporate tax; and annual NSSF contributions; and annual PAYE income tax of over 5 full-time employees;<br>-Health benefits from the supply of safe white meat;<br>-The project will directly and indirectly contribute to the socioeconomic development of the surrounding communities. Direct contributions could be done as part of corporate social responsibility (CSR) by supporting community development initiatives in areas such as agriculture, education, health, water, feeder roads etc. | | |
| **SOIL EROSION AND POLLUTION** | | | | | | | | | | | | |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Soil erosion impacts during operation. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | During operation phase no significant soil erosion impacts are expected as most of the activities will not lead to soil disturbance with exception of broiler chicken farming which if well managed can hardly lead to any significant erosion impacts on site. However, carcasses and manure (which contains considerable amounts of nutrients such as nitrogen, phosphorus, and other excreted substances like antibiotics) can lead to significant soil erosion impact on site unless they are well mitigated. | Very Low | 5 |
| **IMPACTS ON ROAD TRAFFIC** | | | | | | | | | | | | |
| Vehicles going into and from the project site facilities for any purposes will use public roads to access the broiler. | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | The anticipated additional vehicles every hour on roads around the site could not cause significant inconvenience to other road users including vehicles, motorcycles and pedestrians. The movements into and/or from the facilities and | Very Low | 5 |

**8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE**

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | off public roads into the facilities could impact negatively on traffic flow in the roads. This impact is periodic upon peak days when supplies are delivered to or products taken from the site. Given that proper planning is effected to ensure smooth traffic flow in the area, this impact is considered to be of low significance. | | |
| **VISUAL IMPACTS** | | | | | | | | | | | | |
| Visual impacts | Local | Long term | likely | Slight | Medium | High | low | Yes | Yes | The site is located in remote rural area far from the N12 road therefore no visual impacts would be experienced.<br>The site is located 700m metres from the Boskuil community therefore it does not have significant visual impacts. | Very Low | 5 |
| Aesthetics, Landscape Character and Sense of Place. Irresponsible and/or uncontrolled activities can have serious negative | Local | Long term | likely | Slight | Medium | High | low | Yes | Yes | Waste must be properly managed to avoid aesthetic impact and the landscape of the facilities must be appealing, grass must be planted. Maintaining cleanliness around | Moderate | 3 |

### 8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

| Potential Impacts | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| aesthetic impacts on the landscape. The most common of these impacts are due to litter of tin cans, paper and plastic bags. | | | | | | | | | | and within the facilities & Proper fencing and landscaping must be enforced | | |

### e. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING OR CLOSURE PHASE

The proposed development of the broiler units will be a permanent structure and as such there will be no decommissioning or closure phase. However, the impacts associated with decommissioning are listed below.

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INFRASTRUCTURE & SOIL** | | | | | | | | | | | | |
| All the rubble would need to be removed and disposed of Off-site. As a result, there will be a potential increase in the amount of waste sent to the landfill site . | Local | Long term | Likely | Slight | Medium | High | low | Yes | Yes | All permanent buildings must be removed from the site. Removals must be phased so that rehabilitation can begin and soil surfaces are not exposed for too long. All rubble must be removed to a licensed waste disposal facility. Alternative uses for all waste materials must be sorted and recycling must take place where possible. Infrastructure removal must be phased in order to reduce soil exposure and the risk of soil erosion. Rehabilitation must begin as soon as buildings are removed to ensure that soil is stabilised as soon as possible. Any fuel required on site must be stored in a bunded area with walls high enough to contain 110% of the total volume of the hazardous material. Care must be taken not to contaminate | Very Low | 5 |

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | soils on site. A full rehabilitation plan needs to be compiled for the soils to be adequately rehabilitated to their original state. | | |
| **SOLID WASTE POLLUTION** | | | | | | | | | | | | |
| Pollution of the surrounding environment as a result of the handling, temporary storage and disposal of solid waste. | Local | Long term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | General waste (i.e. building rubble, demolition waste, discarded concrete, bricks, tiles, wood, glass, plastic, metal, excavated material, packaging material, paper and domestic waste etc.) and hazardous waste (i.e. empty tins, paint and paint cleaning liquids, oils, fuel spillages and chemicals etc.) generated during the decommissioning phase must be stored temporarily onsite in suitable (and correctly labelled) waste collection bins and skips (or similar). Waste collection bins and skips must be covered | Very Low | 5 |

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | with suitable material, where appropriate.<br>-Should the on-site storage of general waste and hazardous waste exceed 100m$^3$ and 80 m$^3$ respectively, then the National Norms and Standards for the Storage of Waste (published on 29 November 2013 under GN 926) must be adhered to.<br>-Ensure that general waste and hazardous waste generated are removed from the site on a regular basis and disposed of at an appropriate, licensed waste disposal facility by an approved waste management Contractor. Waste disposal slips or waybills must be kept on file for auditing purposes as proof of disposal.<br>- Ensure that sufficient general waste disposal bins are provided for all personnel throughout the site. These bins must be emptied on a regular basis. | | |

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Appropriately time demolition /rehabilitation activities to minimise sensory disturbance to fauna. | | |
| **AIR POLLUTION IMPACTS** | | | | | | | | | | | | |
| Air Quality Impact: Emissions from decommissioning vehicles and generation of dust as a result of earthworks and demolition.. | Local | Long term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | Dust created during the removal of the buildings and associated infrastructure could potentially adversely affect nearby landowners. This potential issue must be managed through the damping down of exposed soils. The rehabilitation of the site must be made a priority in order to avoid dust becoming an issue in the surrounding areas. Ensure that cleared (excavated) areas and unpaved surfaces are sprayed with water (obtained from an approved source) to minimise dust generation.<br>-Approved soil stabilisers may be utilised to limit dust generation.<br>Ensure that decommissioning | Very Low | 5 |

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | vehicles travelling on unpaved roads do not exceed a speed limit of 40 km/hour. | | |
| **VISUAL IMPACT** | | | | | | | | | | | | |
| Potential visual intrusion of decommissioning activities on the existing views of sensitive visual receptors. | local | Long term | Likely | Moderate | Medium | Moderate | moderate | Yes | Yes | No specific mitigation measures are required other than standard site housekeeping and dust suppression. These are included below:<br>-The contractor(s) must maintain good housekeeping on site to avoid litter and minimise waste.<br>-Litter and rubble must be timeously removed from the work site and disposed at a licenced waste disposal facility.<br>-The project developer must demarcate decommissioning boundaries and minimise areas of surface disturbance.<br>Appropriate plans must be in place to minimise fire hazards and dust generation. Night lighting of the decommissioning site must be minimised within | Moderate | 3 |

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | requirements of safety and efficiency. | | |
| **NOISE IMPACT** | | | | | | | | | | | | |
| Noise generation from demolition activities (e.g. grinding, steel falling, use of angle grinders) during the decommissioning phase. | Local | Long term | Likely | Slightly | Very low | High | Low | Yes | Yes | A method statement, including detailed procedures, must be drawn up prior to any decommissioning of any structure.<br>-Decommissioning personnel must wear proper hearing protection, which must be specified as part of the Decommissioning Phase Risk Assessment carried out by the Contractor.<br>-The Contractor must ensure that all decommissioning personnel are provided with adequate PPE, where appropriate. | Very low | 5 |
| **HEALTH & SAFETY IMPACTS** | | | | | | | | | | | | |
| Potential health injuries to demolition staff during the decommissioning phase. | Local | Long term | Likely | Moderate | Very low | Moderate | Moderate | Yes | Yes | The Contractor must ensure that all decommissioning personnel are provided with adequate PPE for use where appropriate. | Moderate | 3 |

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Ensure that a skilled and competent Contractor is appointed. The Contractor must be evaluated during the tender/appointment process in terms of safety standards.<br>-The Contractor must ensure that all decommissioning personnel are provided with adequate PPE for use where appropriate.<br>-The Contractor must undertake a Decommissioning Phase Risk Assessment.<br>A Site Manager or Safety Supervisor must be appointed, in conjunction with the project manager, to monitor all safety aspects during the decommissioning | | |
| **WATER MANAGEMENT** | | | | | | | | | | | | |
| Water resources in South Africa are under threat due to the changing weather patterns. | Local | Long term | Likely | Slight | Very low | High | Low | Yes | Yes | Although there is currently sufficient water allocated for agricultural activities on this property, it is highly | Very Low | 5 |

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | recommended that every effort is made to minimise the unnecessary use of water. | | |
| **STORM WATER MANAGEMENT** | | | | | | | | | | | | |
| Storm water management, Soil and water pollution. Increased storm water discharge into the surrounding environment. | Local | Long term | Very likely | Severe | High | Low | Moderate | Yes | Yes | The Contractor must ensure that all decommissioning personnel are provided with adequate PPE for use where appropriate. Ensure that a skilled and competent Contractor is appointed. The Contractor must be evaluated during the tender/appointment process in terms of safety standards.<br>-The Contractor must ensure that all decommissioning personnel are provided with adequate PPE for use where appropriate.<br>-The Contractor must undertake a Decommissioning Phase Risk Assessment.<br>A Site Manager or Safety Supervisor must be appointed, in conjunction with the project | Low | 4 |

### 8.3.4 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

| POTENTIAL IMPACTS | Extent | Duration | Probability of impacts | Consequences | Significance of impact/risk | Reversibility of impacts | Irreplaceability | Can impact be avoided | Can impact be managed or mitigated? | Potential mitigation | Significance of residual risk | Ranking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | manager, to monitor all safety aspects during the decommissioning | | |
| **SOCIO-ECONOMIC IMPACTS** | | | | | | | | | | | | |
| Socio-economic impacts resulting in job losses. | Local | Long term | Very likely | Severe | High | Moderate | Moderate | Yes | Yes | Employees of the broiler units must be given sufficient notification of the closure of the facilities for them to search for alternative employment. All employees must be compensated for accordingly. Construction workers must be briefed on the dangers of the area | Low | 4 |

A complete impact assessment which include process undertaken to identify, assess and rank the impacts, the activity will impose on the site through the life of the activity in terms of EIA Regulation 2014, Appendix 1(i) and (j)of GN R.326 must be included as Appendix H.

### 8.3 THE POSITIVE AND NEGATIVE IMPACTS THAT THE PROPOSED ACTIVITY

**Positive impacts**

- Job creation
- Improved investment and growth in local economy
- Improved service delivery and standards of living.
- Development of the site will increase surrounding property value.
- Reduction of crime
- Growth of the Rural Economy
- Improved nutrition on the local Communities

**Negative Impacts**

- Hazard can be eliminated if compliance to the EMPr is strictly adhered too. The hazards that must be anticipated are:
- Noise generated during the construction phase, which is not going to be significant as construction will occur during the day.
- **Dust Generation;** Dust will also be controlled during a dust management plan as set out in the Environmental Management Programme.
- **Hydrocarbon spillages**. All the necessary precaution measures will be taken as clearly set out in the Environmental Management Programme.
- Poor management of topsoil. Topsoil management prior, during and after construction has been clearly described in the Environmental Management Programme. Contractors need to strictly adhere to these mitigation measures.
- Groundwater pollution
- Increased demand for services.
- Littering of site
- Odour
- Spreading of infections
- Erosion

## 8. 4 THE OUTCOME OF THE SITE SELECTION MATRIX. FINAL SITE LAYOUT PLAN

*Table 12: showing the selection Matrix*

| Environmental Consideration | Site Evaluation site | |
|---|---|---|
| | Yes | No |
| Within an unstable area (fault zone, seismic zone, dolomite, sinkholes) | | x |
| Within 500m of water resource | | x |
| Availability of land | x | |
| Accessibility in terms of road networks | x | |
| Nodality with respect to market | x | |

## 8.5 STATEMENT MOTIVATING THE PREFERRED SITE.

Alternative A (preferred alternative)

- The magnitude of the impacts is low i.e. natural and social functions and process are not affected or minimally affected. From the significance analysis of the impacts, none have higher impacts. This study therefore reflects that no social, environmental, economic or institutional reasons have been identified by this preliminary investigation as to why the proposed development should not proceed. Assuming compliance with the stipulated mitigation measure the perceived negative impacts of the proposed project will be minimized.
- There are no archaeological, rare or endangered floras or fauna species including red data species present on any of the alternative sites.
- Water and electricity are already onsite
- Site is located close to the market
- Other broiler units have already been established on site.

## 8.6 FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS AND RISKS THE ACTIVITY WILL IMPOSE ON THE PREFERRED SITE

*Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)*

**1) Project screening and understanding the baseline environment**

In order to identify and fatal environmental or social flaws that the project may encounter, an initial project screening was conducted where all knowledge sources of the area are assessed and analysed. Site visits to determine the possible impacts the proposed project may have, and highlights which impacts need to be studied further. The description of the baseline environmental and socio-economic conditions above provides information on receptors and resources that have been identified as having the potential to be significantly affected by the proposed Project. It also describes baseline conditions that have been used to make the assessment. The description of the baseline is aimed at providing sufficient detail to meet the following objectives:

- To identify the key conditions and sensitivities in areas potentially affected by the proposed Project;
- To provide a basis for extrapolation of the current situation, and development of future scenarios without the proposed Project;
- To provide data to aid the prediction and evaluation of possible impacts of the proposed Project;
- To understand public concerns, perceptions and expectations regarding the proposed Project;
- To allow the proposed Project to develop appropriate mitigation measures; and
- To provide a benchmark to assess future changes and to assess the effectiveness of mitigation measures.

**2) Public Participation**

The key principle of consultation is to ensure that the views of the public are taken into. The objective is to ensure the assessment is robust, transparent and has considered the full range of issues or perceptions, and to an appropriate level of detail.

**3) Assessment of Impacts and Mitigation**

Please see **(vi)** for the Impact Assessment Methodology used to identify, assess and rank the potential impacts associated with the development.

The identified risks and impacts for this study, specifically the proposed site, were identified in terms of the environmental studies for this site and the socio-economic need of the surrounding area.

## SECTION I

## 9. ENVIRONMENTAL IMPACT STATEMENT

### SUMMARY OF THE KEY FINDINGS OF THE ENVIRONMENTAL IMPACT ASSESSMENT

The proposed broiler facility site can be divided into two main areas, which is natural and transformed land, mostly because of the developments done on site, grazing activities and possible past clearing activities that have occurred in the area. The natural area is a grassland with a few indigenous species, the main potential environmental impacts associated with the proposed project include:

**Air quality and dust emission**

Vehicles transporting feed and broilers to and from the site, as well site preparation activities, excavation, processing and decommissioning activities will result in the generation of fugitive dust. Air quality emissions will also include the oudor from the compost site and the mortality pit on site. Air quality emissions will be of low to very low significance. The recommended mitigation measures in this report should reduce the potential for these impacts on the ambient air quality.

**Groundwater quantity and quality**

It is expected that environmental impacts on groundwater will occur as result of potential manure and wash water being on site. The significance is expected to be of low significance and thus low risk of groundwater contamination on a local scale. Monitoring and the implementation of the recommended mitigation measures can reduce the potential hydrogeological impacts to the environment.

**Surface water**

It is expected that environmental impacts on surface water will occur as result of potential manure and wash water being on site. The significance is expected to be of low significance and thus low risk of groundwater contamination on a local scale. Monitoring and the implementation of the recommended mitigation measures can reduce the potential hydrogeological impacts to the environment.

**Soil and water resources contamination**

The potential impact of contamination will arise throughout the life cycle of the proposed broiler units because of contaminants such as fuels, waste material on site, seepage of waste water, spills etc. These possible contaminants need to be managed and prevented

through an effective Emergency Response Plan and Stormwater Management Plan, as well as the development of an appropriate Groundwater Monitoring Plan in order to reduce the significance of these impacts.

**Loss of vegetation and faunal habitat**

Vegetation loss is unavoidable during the activities of the proposed development and operation of the broiler units. The developmental footprint of the proposed broiler units will impact on the natural vegetation and faunal habitats. Recommended mitigation measures described in the assessment must be adhered to t reduce the impacts from moderate to low and special care must be taken to manage any species of special concern.

**Noise generation**

Noise generation because of vehicles transporting the feed and the broilers to the market and noise from the broilers on site is likely to impact on the surrounding receptors in the nearby village. All reasonable measures need to be implemented to minimise noise levels to the nearby residents throughout the life cycle of the proposed broiler units. Due to the nature and size of the proposed project and this impact is expected to be of very low significance.

**Topography and Visual Alteration**

Storage of material and equipment on site, vehicular activities, stockpiling of topsoil and buildings will alter the visual environment in the area. The impacts will be of moderate to low significance at the different phases and activities of the project. All reasonable measures need to be implemented to minimise and limit these impacts where possible, incorporating the recommended mitigation measures of the specialists included in this report. Rehabilitation of the disturbed areas to have a neutral visual impact on the area.

**Soil erosion**

Construction activities on site will result in exposed soil, which could result in soil erosion. Erosion can lead to destruction of natural habitats and sedimentation of nearby watercourses. This impact will have a low probability of occurrence with implemented mitigation measures and ultimately low impact.

**Destruction of features of heritage importance**

If there are any heritage resources (palaeontology, possible archaeology and the cultural landscape) that will be encountered during the construction or operational of the proposed development would be impacted when the site is cleared and then excavated. The impacts would be direct but of very low significance. It is recommended that the Environmental Control Officer (ECO) and staff must be made aware of the possibility of uncovering fossils

such as wood in the gravels and large stromatolites in the dolomite bedrock. With this plan in place the significance of impacts would be reduced from low to very low.

**Land capability reduction**

Removal of soil for excavation and site preparation during the construction and operation phase will impact the land capability in that it will prevent the support of vegetation growth thereof. The removed soil must be stockpiled and managed correctly to minimise this impact. Soil replacement during rehabilitation has the potential to impact on the land capability as it will support the growth of vegetation.

**Establishment and spread of alien plant species**

Alien plant invasion is expected to occur in disturbed areas, however with the implementation of mitigation measures this impact can be reduced from moderate to low. This must be mitigated through the establishment of an alien invasive management plan to ensure the establishment of indigenous vegetation.

**Socio-economic**

Based on the environmental assessment presented in this report it is the conclusion of this Basic Assessment that the proposed project will have relatively low impacts on the environment. With effective implementation management and mitigation measures, as well as recommended monitoring plans suggested in this report and those of the specialists', the significance of most potential environmental impacts on site from an environmental perspective will be reduced to low-very low. There will be potential impacts on vegetation and habitat, groundwater, soil, dust, air quality and visual environment because of earthworks associated with the activity, influx and movement of vehicles, infrastructure, waste and waste water generated by the project as a whole. The Environmental Management Programme supporting this BA outlines adequate methods and mitigation measures that need to be implemented for the identified impacts to not pose any environmental flaws associated with the proposed development and operation of the broiler units.

Assuming all phases of the project adhere to the conditions stated in the EMPr it is believed that the impacts associated with the proposed construction will have limited to no significant, adverse, long term environmental impact on the surrounding environment.

Positive impacts associated with construction include:

- Local economic growth and development;
- Employment opportunities and skills development; and

It is perceived that these impacts will be long term and have sustainable benefits.

It must be ensured that the construction phase, in no way, hampers the health of any of the ecological systems, and that post-construction rehabilitation leaves the surrounding environments in an as good, if not better, state. After the construction phase of the project, the contractors must ensure that all hazardous materials are removed from the site.

## 9.2 PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPR;

*Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation.*

The EMPr addresses the environmental impacts associated with the project during Construction, Operation, Decommissioning and Post Closure Phases of the proposed project. The objectives of the EMPr will be to provide detailed information that will advise the planning design of the project in order to avoid and/or reduce impacts that may be detrimental to the environment. The following environmental management objectives are recommended for the proposed development and operation of the Kwena Chicks Broiler units and associated infrastructure:

- Development planning must restrict the area of impact to a minimum and designated areas only.
- Waste management measure must be put in place
- Monitor and prevent contamination, and undertake appropriate remedial actions.
- Promote health and safety of workers.
- Measures to manage odour must be put in place
- Ground water monitoring must be undertaken
- Limit the visual and noise impact on receptors.
- Avoid impact on possible heritage finds.
- Limit dust and other emissions to within allowable limits.
- Manage soils to prevent erosion.
- Manage Erosion on site

## 9.3 ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.

*Any aspects which must be made conditions of the Environmental Authorisation*

The following aspects as recommended by the EAP are emphasised to be included as conditions in the Environmental Authorisation:

In order to achieve appropriate environmental management standards and ensure that the findings of the environmental studies are implemented through practical measures, the recommendations from this study are included within an EMPr.
The EMPr must be used to ensure compliance with environmental specifications and management measures. The implementation of the EMPr for the life cycle phases of the project is vital in achieving the appropriate environmental management standards as detailed for this project. The proponent is not negated from complying with any other statutory requirements that is applicable to the undertaking of the activity. Relevant key legislation that must be complied with by the proponent includes inter alia:

- Provisions of the National Environmental Management Waste Act (No. 59 of 2008);
- Provisions of the National Water Act, 1998 (Act No 36 of 1998);
- Provisions of the National Heritage Resources Act, 1999 (Act No. 25 of 1999).
- Provisions of the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)
- Provisions of the National Environmental Management: Protected area Act, 2003 (Act 57 of 2003).
- Provisions of the Animal Diseases Act, 1991 (Act No. 35 of 1984).
- Provisions of the Animal Improvement Act 1998 (Act No. 62 of 1998).
- Provisions of the Animal Protection Act, 1962 (Act No. 71 of 1962)

In addition, the following key conditions should be included as part of the authorisation:

- The proponent must appoint a suitably experienced (independent) Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation / rehabilitation measures and recommendations are implemented and to ensure compliance with the provisions of the EMPr.
- Mortalities are to be disposed of in mortality pits for decomposition or alternatively the carcasses can be kept in the freezer then to supplied predator farms
- All organic wastes must be composted in lined composting pits
- Odor control measures to be put in place.
- The development must be limited to the proposed footprint.
- Ensure that excrement, carcasses, feed, and other operational waste and hazardous materials are appropriately and effectively contained and disposed of without detriment to the environment.

- Detect and control pest infestations before they become a problem through frequent and careful cleaning, monitoring and control.
- The monitoring of the construction site must be carried out by a qualified Environmental Compliance Officer (ECO) with proven expertise in the field so as to ensure compliance to the Environmental Management Programme (EMPr).
- The EMPr of this proposed project must form part of the contractual agreement and be adhered to by both the contractors and the applicant. The applicant must also ascertain that there is representation of the applicant on site, at all times of the project, ensuring compliance with the conditions of the EMPr and specialist reports, and Environmental Authorisation thereof.

**9.4 DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE.**

*(Which relate to the assessment and mitigation measures proposed)*

- All information provided by Lesekha Consulting was correct and valid at the time it was provided;
- The EAP does not accept any responsibility in the event that additional information comes to light at a later stage of the process;
- All data from an unpublished research is valid and accurate; and
- The scope of this investigation is limited to assessing the potential environmental impacts associated with the proposed development and operation of the broiler units.

**9.4 OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED**

From the outcomes of this assessment it is the view of the EAP that a positive environmental authorisation be issued for this project since it will have positive social and economic contribution, It is however acknowledged that there will be impacts on the biophysical environment; conversely with the implementation of the mitigation measures outlined in this report and the EMPr as well as through adequate environmental monitoring and enforcement those impacts can be successfully mitigated.

From the findings it is clear that the proposed project of development of the Broiler units is desirable since the development will contribute positively to the local communities. It is therefore concluded that the proposed project has sufficient merit for its approval. Impacts are localized and mostly associated with proximity to the site, however the overall impacts after implementation of mitigation measures is a low negative significance.

It is believed that the proposed project does not hold a fatal flaw that would restrict the project from taking place. The mitigation measures identified on the above, the development impacts are manageable and the project can be approved. The contractors on site must comply with the general findings and mitigation measures. The impacts are minimum and insignificant. Vegetation will not be tempered with. Dust depressant will be used to reduce dust generated during construction.

### 9.5 RECOMMENDATION OF PRACTITIONER

The EAP recommends that proposed project be granted an Environmental authorisation as from the environmental impact assessment findings, the magnitude of the impacts is low i.e. natural and social functions and process are not affected or minimally affected. From the significance analysis of the impacts, none have higher impacts. This study therefore reflects that no social, environmental, economic or institutional reasons have been identified by this preliminary investigation as to why the proposed development should not proceed. Assuming compliance with the stipulated mitigation measure the perceived negative impacts of the proposed project will be minimized.

The activity is being undertaken on land that has been significantly transformed and will not pose a threat to the biodiversity of the area. The activity is consistent with the land use and operation of the property and its zonation. The activity is consistent with municipal and national commitments to the enhancing agricultural business.

## 10 AN UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP

I Lesego Senna (name of person representing EAP) of Lesekha Consulting (name of company) declare that the information provided is correct and relevant to the activity/ project and that, the information was made available to interested and affected parties for their comments. All specialist (s) reports are relevant for the competent authority to make informed decision.

03 March 2022

**SIGNATURE OF EAP** **DATE**