

**ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR) FOR PROPOSED EXPANSION OF  
MAKHALEMPONGO CHICKEN FARM LOCATED ON FARM KILLARNEY NO. 855 FT, MKHAMBATHINI  
LOCAL MUNICIPALITY, KWAZULU-NATAL**



*Makhalempongo  
Chicken (Pty) Ltd*  
*Reg. No.: 2010/013501/07*

Proposed expansion of Makhalempongo Chicken Farm by constructing 2 additional broiler houses.

Complied by



Mondli Consulting Services  
Number 6 Joseph Avenue  
New Era House Suite 9  
Glen Anil  
Durban North  
4022

September 2022

## Contents

<b>A. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) WHO PREPARED THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) .....</b>	<b>3</b>
<b>B. A DETAILED DESCRIPTION OF THE ASPECTS OF THE ACTIVITY THAT ARE COVERED BY THE EMPr AS IDENTIFIED BY THE PROJECT DESCRIPTION .....</b>	<b>4</b>
<b>C. A MAP .....</b>	<b>4</b>
<b>D. A DESCRIPTION OF THE IMPACT MANAGEMENT OBJECTIVES, INCLUDING MANAGEMENT STATEMENTS, IDENTIFYING THE IMPACTS AND RISKS THAT NEED TO BE AVOIDED, MANAGED AND MITIGATED AS IDENTIFIED THROUGH THE ENVIRONMENTAL IMPACT ASSESSMSNET PROCESS FOR ALL PHASES OF THE DEVELOPMENT INCLUDING .....</b>	<b>4</b>
(i) Planning and design.....	4
(ii) Pre-construction activities .....	5
(iii) Construction Activities.....	5
(iv) Rehabilitation of the environment after construction.....	6
(v) Where relevant, operation activities .....	6
<b>E. A DESCRIPTION OF PROPOSED IMPACT MANAGEMENT ACTIONS, IDENTIFYING THE MANNER IN WHICH THE IMPACT MANAGEMENT OUTCOMES CONTEMPLATED IN PARAGRAPH (D) WILL BE ACHIVIED, AND MUST, WHERE APPLICABLE, INCLUDE ACTIONS TO .....</b>	<b>7</b>
(i) <i>Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation .....</i>	<i>7</i>
<b>F. THE METHOD OF MONITORING THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (E).....</b>	<b>11</b>
<b>G. THE FREQUENCY OF MONITORING THE IMPLEMNETATION OF THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (E).....</b>	<b>12</b>
<b>H. AN INDICATION OF PERSONS WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS.....</b>	<b>12</b>
<b>I. THE TIME PERIODS WITH WHICH THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (E) MUST BE IMPLEMENTED.....</b>	<b>12</b>
<b>J. CONCLUSION.....</b>	<b>27</b>

**A. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) WHO PREPARED THE ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr):**

1. An EMPr must comply with section 24N of the Act and include -

(a) Details of -

(i) the EAP who prepared the report:

Business Name of EAP	Mondli Consulting Services		
Physical Address	6 Joseph Avenue, New Era House, Suite 9, Durban North		
Postal Address	P O Box 22536, Glenashley		
Postal Code	4022		
Telephone	0826799841	Cell	0824187708
Email	bm@mmcs.co.za mondlibee@gmail.com	Fax	031 5725647

(ii) The expertise of the EAP (including curriculum vitae)

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
BM Mthembu	Diploma in Nature Conservation Master's Degree (Environmental Studies Dissertation, Geography) Bachelor of Laws (LLB)	EAPASA registered EAP: No. 2018/168 in accordance with the prescribed criteria of Regulation 15(1) of section 24 H Registration Authority Regulation  Society of South African Geographers (Membership No. 28/09), confirmed to comply with the requirements set by South African Council for Natural Scientific Professions.	Has been involved in environmental and conservation field for over 20 yrs. Conducted EIAs for over 20 years including Strategic Env. Assessment.  Has been involved in the review and commenting on development projects impacting on the environment.
A Mhatu	Bachelor of Science Degree Ecology, Environment & Conservation and Geography	Awaiting outcome on SACNASP Application Registration with EAPASA is progress.	Has over 9 years' experience in conducting EIAs and EIA related work.

**B. A DETAILED DESCRIPTION OF THE ASPECTS OF THE ACTIVITY THAT ARE COVERED BY THE EMPr AS IDENTIFIED BY THE PROJECT DESCRIPTION;**

The proposed development is to expand the existing Makhalempongo Chicken Farm which currently has seven (7) broiler houses with the construction of two (2) broiler houses within the same property. The Environmental Management Programme has therefore been drafted to cover potential environmental impacts linked with the construction and operational aspects of the proposed development.

These aspects therefore include removal of vegetation, soil erosion, pollution, nuisance: dust & noise, stormwater management, soil contamination, alien plant invasion, ground water contamination and health and safety.

**C. A MAP AT AN APPROPRIATE SCALE WHICH SUPERIMPOSES THE PROPOSED ACTIVITY, ITS ASSOCIATED STRUCTURES, AND INFRASTRUCTRE ON THE ENVIRONMENTAL SENSITIVITIES OF THE PREFERED SITE, INDICATING ANY AREAS THAT SHOULD BE AVOIDED, INCLUDING BUFFERES**

There was no sensitivity map formulated at this stage as the site for the proposed expansion is within an existing Farm with no high sensitivity areas to be affected by the construction of the proposed broiler houses.

**D. A DESCRIPTION OF THE IMPACT MANAGEMENT OBJECTIVES, INCLUDING MANAGEMENT STATEMENTS, IDENTIFYING THE IMPACTS AND RISKS THAT NEED TO BE AVOIDED, MANAGED AND MITIGATED AS IDENTIFIED THROUGH THE ENVIRONMENTAL IMPACT ASSESSMSNET PROCESS FOR ALL PHASES OF THE DEVELOPMENT INCLUDING**

The main aim and objective of the monitoring exercise is to ensure the appraisal of environmental performance in line with the Environmental Management Programme (EMPr), EIA Regulations and National Environmental Management Act (NEMA) No. 107 of 1998 as amended. The KwaZulu – Natal Department of Economic Development, Tourism and Environmental Affairs is responsible for ensuring compliance to NEMA. The EMPr is also meant to provide objective feedback to Makhalempongo Chicken (Pty) Ltd during project construction and beyond, by making appropriate recommendations for remedial interventions where appropriate.

The monitoring deals with conformance and non-conformance measured against the EMPr. Any non-compliance observed during the construction period will be followed by an immediate remedial intervention. The environmental audit and monitoring will primarily focus on evaluating the measure of compliance with statutory requirements within the project site. The Developer is primarily responsible for ensuring compliance to the EMPr and other requirements and standards applicable for the operational phase of the proposed development.

The impact management objective is to ensure that measures are put in place for all potential negative impacts which may arise from the proposed construction. This includes environmental, health and safety and social aspects/impacts.

The identified impacts and risks will be managed and mitigated throughout the following phases of development:

**(i) Planning and design**

There are no significant impacts that are expected during this phase of the proposed development. However, it is important that the potential impacts for the construction and operational phases are well considered during the planning and design phase to ensure that where possible, the design and/or layout are altered to reduce impacts and that necessary financial provision is made for all mitigation and rehabilitation measures that need to be implemented throughout the different project phases.

## **(ii) Pre-construction activities**

There are also no anticipated impacts linked to pre-construction phase. However; failure to consider the aspects below will lead to some impacts occurring during the construction or operational phase.

### **Appointment of Environmental Control Officer (ECO)**

The appointment of the ECO is compulsory for this project. In addition, the ECO will have to notify the competent authority of the date when the construction will commence at least two weeks prior to the commencement. In addition, the ECO will also have to approve site clearance making sure that any species which may need to be transplanted are transplanted prior to the clearance. These all require for the ECO to be appointed well ahead of time to ensure that these and other activities can be completed to ensure adherence to the EA and EMPr.

### **Ablution Facilities**

There are waterborne ablution facilities on the site currently being used by workers on the Farm. These may be used during the construction phase. However, this will have to be agreed on between the appointed Contractor and Developer. Should the agreement be for the Contractor to supply chemical toilets for his workers, such services must be obtained on site to ensure that workers have access to toilets from the first day of work.

### **Waste Management**

The Contractor will need to communicate the planned waste disposal site prior to the commencement of construction and proof of disposal at the approved site will have to be kept on site throughout the construction phase.

### **Provision of clean drinking water**

The Contractor must ensure that there is clean drinking water available for workers throughout the construction phase.

### **Environmental Awareness**

Without the provision of environmental awareness training prior to the commencement of construction activities, workers will most likely be ignorant of environmental issues and act in ways that will cause environmental degradation including littering.

## **(iii) Construction Activities**

- **Stripping of topsoil, sub-soil and vegetation for the construction of the proposed structures**

Potential impacts include:

- Increased soil erosion.
- Sedimentation of wetland close to the site.
- Loss of indigenous plant species.
- Decreased bank stability.
- Decreased topsoil quality resulting in lowered plant growth rate.
- Where exposed surfaces are left undeveloped for an extended period of time, this will give opportunity for alien plants to proliferate on such areas.

- **Use and storing of potentially hazardous substances**

Impacts that can be associated with the use and storing of potentially hazardous substances are:

- Contamination of soil within and around the site;

- Contamination of ground and surface water with seeping of contaminants into soil and pollution of runoff;
- Potential health/safety risks with possibility of fire and other occurrences that can affect staff and surrounding community.
  
- **The movement of vehicles and/or plant to and from the site**  
Associated impacts include:
  - Reduced photosynthesis of nearby vegetation due to dust settling on leaves;
  - Trampling of vegetation outside of the development footprint due to vehicle movements;
  - Compaction of fertile soils leading to reduced soil quality and plant growth;
  - Plant die-offs due to hydrocarbon spills from vehicles;
  - Animal fatalities due to traffic related incidents.
  - Displacement due to increased noise and vibrations.
  
- **Waste Management**  
Associated impacts include:
  - Pollution during the construction phase may result from mismanagement of construction and general waste on site.
  - Visual impacts may result from waste being strewn around the site and not stored and disposed of accordingly.
  - Should chemical toilets be used during the construction phase, odour, contamination of surrounding area and pests (such as flies) may occur if they are not kept clean.
  
- **Nuisance: Noise and dust**  
Noise may be from construction vehicles, workers and construction works.
  
- **Socio-Economic**  
Employment opportunities will be created for locals during the construction phase.

**(iv) Rehabilitation of the environment after construction**

- **Decommissioning of the construction site, camp and laydown area.**  
The impacts that can be associated with the decommissioning of the construction site, camp and laydown area are:
  - Spillages of oils fuels and chemicals causing the contamination of soils, surface and ground water;
  - Hardened/ compacted soils reduce the vegetation growth;
  - Reinstatement of sub-standard topsoil reduces the growth and success of indigenous vegetation;
  - Proliferation of IAPS on site and into surrounding plant communities;
  - Introduction of exotic species through uninformed re-vegetation efforts.
  - Exposed, unsupported soil being eroded and causing erosion gullies;
  - Poor stormwater runoff, leading to erosion on site.

**(v) Where relevant, operation activities;**

- **Waste Water Management**

The proposed houses will result in additional waste water which must be treated through existing treatment system. This may result in malfunction which would contaminate surrounding area including wetland area.

- **Operation of the Chicken Houses**
  - Odour from the proposed structures will add to the experienced odour.
  - Storage of mortalities prior to their disposal may cause odour and pests.
  - Poor waste management practice will have some environmental impacts.
- **Socio-Economic**

There are employment opportunities that will be created during the operation phase.

**E. A DESCRIPTION OF PROPOSED IMPACT MANAGEMENT ACTIONS, IDENTIFYING THE MANNER IN WHICH THE IMPACT MANAGEMENT OUTCOMES CONTEMPLATED IN PARAGRAPH (D) WILL BE ACHIVED, AND MUST, WHERE APPLICABLE, INCLUDE ACTIONS TO-**

***(i) Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation***

1. Planning and Design Phase

The design and layout of the proposed development must be holistically considered and all amendments necessary must be made prior to the commencement of construction to ensure that the design and layout implemented will have the least negative impacts.

The project team must also ensure that sufficient resources are allocated for mitigation measures required in the different project phases to be implemented especially in terms of allocation of financial resources which can often be a limiting factor.

2. Pre-Construction Phase

**Ablution Facilities**

- Provision of ablution facilities must be planned in such that workers will have access to clean and safe ablution facilities from the first day of work.
- Establishment of long-drop toilets is strictly forbidden.

**Provision of clean drinking water**

- The provision of clean drinking water for workers must be provided for. This is generally the responsibility of the Contractor for the construction phase and therefore this must form part of the agreements between the Developer and Contractor.

### **Environmental Awareness**

- Pre-construction environmental awareness must be conducted with the Contractor, Developer, ECO and EDTEA. This will include: -
  - Highlight of the conditions of the Environmental Authorization;
  - Explanation of the EMPr and mitigation measures contained therewith;
  - Explanation of responsibilities for the implementation of mitigation measures within the EMPr and
  - Signing of the EMPr by Contractor.
- All parties that will be part of the construction activities must be inducted prior to commencement of works.
- Environmental Inductions can also be made part of the toolbox talks once construction has commenced.
- The Approved EMPr must be kept on site at all times to ensure monitoring by organs of state with jurisdiction on site.

### **Waste Management**

- A waste disposal site must be agreed on between the Contractor and ECO.

## 3. Construction Phase

### **Stripping of topsoil, sub-soil and vegetation for the construction of the proposed structures**

- An ECO must be appointed timeously before the commencement of construction to monitor all construction activities including the clearance of vegetation.
- Topsoil that is stored on site during the construction phase must be checked before being used for backfilling.
- Topsoil must be sequentially removed in accordance with the requirements on site.
- All topsoil required for backfilling during rehabilitation must be adequately stored:
  - On a Flat surface;
  - Below two metres;
  - Suitably covered if stored for prolonged periods of time.
  - Separate from sub-soil and other stockpiles.
  - Not near watercourses.
- No clearance of vegetation must be allowed to take place outside of the construction footprint.
- Any indigenous plant species identified to occur within the area of disturbance, must be removed and relocated to other areas within the property. For this purpose, the appointed ECO must be given the opportunity to identify the trees on the site and whether any of them need to be transplanted/relocated.
- No protected species may be removed and/or destroyed without a valid permit.
- Alien plant eradication must take place for as long as there are exposed surfaces.
- Re-vegetation with indigenous grass must take place as soon as possible post-construction.
- Environmental induction must be made part of training for all workers on site during both the construction and operational phase and the issue of alien plants must be covered in these talks.

### **Soil Erosion**

- All hazardous substances must be stored on impermeable surfaces throughout the project life cycle.
- Storage areas where flammable substances are kept must be equipped with serviced fire extinguisher.
- Emergency procedures must be known to all workers and must be made part of site induction/training.
- All workers that handle potentially hazardous substances must be provided with the appropriate safety clothing.



### **Movement of vehicles and/or plant to and from site**

- Traffic signs must be erected throughout the site, demarcating the following:
  - Speed limits;
  - Sensitive areas; and
  - No-go areas
- Dust suppression must be implemented on all access roads. This practice must be carefully monitored by the ECO.
- Vehicular movement within the site/property must be kept at 30km/hr.
- Vehicles may only traverse designated areas and access roads.
- Heavy duty machinery must only be parked on designated areas.

### **Waste Management**

- Wind and scavenger proof containers must be made available and used for on-site waste storage.
- Waste from the waste storage containers must regularly be disposed of at the nearest landfill site that is permitted to handle and dispose of such waste.
- Waste disposal certificates/waybills must be kept on file as proof of safe waste disposal.
- Workers must be trained to exercise environmentally friendly behaviour including proper disposal of waste.
- Should chemical toilets be used for the construction phase, they must be regularly cleaned by the contractor that provided the toilets and kept clean at all times. .

### **Nuisance: Noise and dust**

- Noise Control Regulations (Regulations 154, 10 January 1992) of the Environmental Conservation Act (Act No. 73 Of 1989) must be adhered to.
- Noise levels on site must be kept as low as possible at all times throughout the construction phase.
- Construction workers must not be allowed to play any loud music on the site.
- Construction operations must be restricted to daylight period, Monday to Saturday, and must adhere to legally stipulated hours (7.00 – 18.00).
- Where required, construction vehicles must be fitted with silencers/noise mufflers.
- Unnecessary noise from the site must be avoided during both the construction with no loud music to be permitted.
- Slow speeds must be adhered to on the gravel road by all construction vehicles as per recommended speed limits for such roads.
- Where necessary, exposed surfaces must be water sprayed to dampen the soil and reduce the dust liberation.
- The neighbouring properties must be informed of the intended date of the commencement of construction activities and should be informed if any stages of the construction will be particularly noisy.

### **Socio-Economic**

- Terms of employment must be clearly explained to all workers.
- The Contractor and Developer must avoid making promises to the community especially those that will be hard to keep.
- The Contractor and Developer must consider giving some form of certification to workers for the skills they displayed during their employment period.
- Local community members must be considered for employment at different levels based on possession of required skills/experience.

- Suppliers from local areas must be considered where possible for materials required during the construction phase.
  
- **Health and Safety**
  - All requirements of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with.
  - Only workers with the required licenses may be permitted to operate plant, machinery and vehicles.
  - All workers must be provided with the necessary Protective Clothing (PPE) for the tasks they are expected to complete and use of such PPE must be enforced.
  - Standard road safety measures must be followed by all plant and vehicle drivers.
  - Extra caution must be exercised in areas with high number of people especially around schools at times that the school children are arriving/leaving school.
  - Workers must at all times be provided with clean drinking water.
  - Clean and hygienic mobile toilets must be provided for workers throughout the construction phase. Such toilets must regularly be serviced by an approved service provider to ensure that they are clean and safe to use at all times.
  - Emergency procedures must be explained to all workers in case of occurrences such as a fire breakout.
  
- 4. Rehabilitation of the environment after construction and where applicable post closure;  
**Decommissioning of construction site, camp and laydown areas**
  - Rehabilitation must be conducted on site, by adequately backfilling topsoil and reinstating indigenous vegetation.
  - Rehabilitation of the site must be monitored by an ECO.
  - Stormwater management must be implemented as per the stormwater management plan created for the site.
  - The site must be appropriately cleaned including cleaning of all spills observed.
  - Hardened surfaces that need to be revegetated must be ripped and soil loosened prior to the planting of vegetation.
  - Stockpiles must be cleared of IAPS and this must be checked before infill.
  - No stockpiles must be left behind after the construction phase, but rather must backfill and/or removed from site.
  
- 5. Operational Phase  
**Wastewater Management**
  - The wastewater system must be monitored regularly to ensure that any faults are picked up. Should an upgrade of the system be required, it must be upgraded accordingly with all necessary permits obtained prior to the upgrade.

### **Operation of the Chicken Houses**

- The applicable guidelines for the management of the chicken houses and associated odour must be adhered to including guidelines on aeration and cleaning out of the chicken houses.
- The storage of mortalities on the property must not result in any odour or environmental contamination.
- Waste management must be in such that there is no accumulation of waste on the site. Should there be an increase in frequency of waste disposal required to accommodate the additional waste, this must be arranged by the Developer.
- The Developer must ensure that none of the operation activities negatively affect the surrounding environment including the wetland located in proximity of the site.

### **Socio-Economic**

- People from the local community must be prioritize as much as possible with regards to employment opportunities.

## **F. THE METHOD OF MONITORING THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (E)**

### **1. Planning, Design and Pre-Construction Phase**

During these phases, environmental issues will need to be considered for decision making and therefore reported on any planning/pre-construction meetings that are held in connection with the development.

An Environmental Control Officer must be appointed prior to the commencement of construction activities.

The ECO will be responsible for monitoring compliance to pre-construction measures and liaising with EDTEA with regards to the conditions of the EA for the Development.

### **2. Construction Phase**

The appointed Environmental Control Officer must:-

- Conduct monthly site audits and monitor activities on site against what is set out in the EMPr and against conditions of the EA.
- Compile Environmental Compliance Reports which must be submitted to EDTEA.
- Findings of the audit conducted must be communicated with the project committee including the Contractor, Engineer and Developer. The ECO must within these reports highlight any non-compliances identified and actions to be taken to rectify the non-compliances and remedy the impacts of the non-compliance.

Monitoring must also be conducted by EDTEA who may visit the site whenever necessary to monitor compliance to the EMPr and EA.

The Contractor must appoint one of the workers to be responsible for the day to day monitoring of compliance to impact mitigation measures as contain within the EMPr. This is the person that will deal closely with the ECO and communicate any challenges faced in implementation of mitigation measures with the ECO.

The Contractor must obtain receipts/waybills for waste disposal and service of toilets. Such must be kept on file at all times for the ECO or officials to view upon request as proof of safe waste disposal and proof for safe and regular toilet servicing.

#### **G. THE FREQUENCY OF MONITORING THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (E)**

An on-site assessment/monitoring must be conducted once a month for the duration of the construction period. A single audit report for each month must be submitted to EDTEA as per contact details for their compliance and monitoring section.

Additionally, issues relating to environmental compliance must be discussed on the project meeting platform to ensure that the importance of compliance and environmental preservation is made clear to the team and that relevant parties are directed to take necessary action for on-site compliance.

#### **H. AN INDICATION OF PERSONS WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE IMPACT MANAGEMENT ACTIONS**

- Appointed ECO (Environmental Control Officer) – overall responsibility of environmental reporting, training and awareness and the overseer of the implementation of the whole EMPr and Specialists recommendations.
- Contractor / Site Engineer or Builder – responsible for all engineering or building related work on site, and project implementation.
- Makhalempongo (Pty) Ltd (Developer) – ensure adherence to the EMPr.
- EDTEA (Compliance Section) – inspections.

#### **I. THE TIME PERIODS WITH WHICH THE IMPACT MANAGEMENT ACTIONS CONTEMPLATED IN PARAGRAPH (E) MUST BE IMPLEMENTED**

All the stipulated mitigation measures are relevant for compliance throughout the different phases.

For example: Mitigation measures for impacts related to construction activities must be implemented throughout the construction phase of the development.

The mitigation measures, responsibilities and time frames are indicated in the tables below for each of the different project phases.

**Pre- Construction Phase**

Activity	Management / Mitigation	Responsibility	Frequency / Timing
<b>A1 - Legislation, permits, agreements and EA requirements</b>	All members of the project team must adhere to all environmental legislation relevant to the project.	Contractor/Developer and ECO	Pre-, during and post construction.
	<ol style="list-style-type: none"> <li>1. The EMPr must be kept on site at all times.</li> <li>2. All members of the project team must be provided with adequate environmental training.</li> <li>3. Any and all mitigation measures that must be set up prior construction must be implemented.</li> <li>4. Monitoring and control programmes must be put in place to manage alien invasive plants.</li> <li>5. The working area is to be clearly demarcated and all construction work is to be kept within the demarcated area.</li> <li>6. All permits which may be required for sourcing of material and relocation of vegetation must be obtained from the relevant authorities.</li> </ol>	Contractor/Developer and ECO	Ongoing
<b>A2 - Access to site</b>  <i>Sound environmental principles must be followed</i>	<b>A2.1 Routing</b>		
	<ol style="list-style-type: none"> <li>a. Access route must be clearly marked and disturbance outside these areas is not permitted. Choice of access routes must take into account minimum disturbance to surrounding environment.</li> <li>b. This Farm must have strict access control to reduce the biohazard risks associated with vehicular transportation and pedestrian access on the Farm. The Contractor shall be made aware of this requirement by the Developer prior to construction commencing on site.</li> </ol>	Contractor/Engineer and ECO	Prior to moving onto site and during construction

<p><b>A3 – Setting up the construction camp/Site</b>  <i>Careful planning of the construction camp can ensure that time and costs associated with environmental management and rehabilitation are reduced.</i></p>	<p><b>A3.1 Layout &amp; Location</b></p>	<p>Contractor/ECO and Engineer</p>	<p>Pre-Construction/Site Set Up</p>
	<p>a. The positioning of the campsite, if any, must be agreed to between the ECO and Contractor.</p>		
	<p>b. Parking for staff and visitors needs to be adequately provided. The Contractor must also ensure that drainage on the camp site is such to prevent standing water and/or sheet erosion from taking place.</p>		
	<p><b>A3.2 Provision for Camp Waste Disposal</b></p>	<p>Contractor/ECO and Engineer</p>	<p>During site set-up and on-going</p>
	<p>a. Bins and / or skips must be provided at convenient intervals for the disposal of waste within the camp. The bins must be covered. Bins should have liner bags for efficient and safe disposal of waste.</p>		
	<p>b. At least three rubbish bins must be located at the construction camp for the collection of waste.</p>		
<p>c. Recycling and the provision of separate waste receptacles for different types of waste should be encouraged. Where possible, plastics, paper, glass and cans should be separated from other domestic waste for recycling. If waste is to be recycled, appropriately labelled waste receptacles must be made available.</p>			
<p>e. Any potentially hazardous containers must be punctured or disabled prior to disposal.</p>			
<p><b>A4. 1 – Education</b></p>			

<p><b>A4 – Education of site staff on general and environmental conduct</b></p> <p><i>These points need to be made clear to all staff on site before the project begins</i></p>	<p>a. The Contractor must ensure that all site personnel have a basic level of environmental awareness training. Environmental awareness posters must be used on site. The Contractor must submit a proposal for this training to the ECO for approval. Topics to be covered must include:</p> <ol style="list-style-type: none"> <li>1. What is meant by “environment”;</li> <li>2. Why the environment needs to be protected and conserved;</li> <li>3. How construction activities can impact the environment;</li> <li>4. What can be done to mitigate against such impacts;</li> <li>5. Awareness of emergency and spills response provisions;</li> <li>6. Social responsibility during construction e.g. being considerate to local residents.</li> <li>7. No alcohol/drugs to be present on site and no firearms permitted on site or in vehicles</li> <li>8. transporting staff to /from site, (unless used by security personnel).</li> <li>9. Prevention of noise and unsocial behaviour.</li> <li>10. Bringing pets on site is forbidden, and no harvesting of firewood from the site or for areas adjacent to it.</li> <li>11. Workers are to make use of facilities provided for them, as opposed to ad-hoc alternatives (e.g.</li> <li>12. the use of surrounding bush as a toilet facility is forbidden; fires for cooking).</li> <li>13. Driving under the influence of alcohol is prohibited.</li> <li>14. Trespassing on private/commercial properties bordering the site is forbidden.</li> <li>15. Other than pre-approved security staff, no workers shall be permitted to live on site unless</li> <li>16. deemed necessary due to the specific project.</li> </ol>	<p>Contractor/ECO and Engineer</p>	<p>During staff induction and on-going</p>
---	---	------------------------------------	--

	<p>b. It is the contractor’s responsibility to provide the site foreman with environmental training and to ensure that the foreman has sufficient understanding to pass this information onto the construction staff.</p> <p>c. Staff operating equipment shall be adequately trained and sensitized to any potential hazards associated with their tasks</p> <p>d. The Engineer / ECO must be on hand to explain more difficult / technical issues and to answer questions which may be raised.</p> <p>e. All employees must undergo the necessary safety training.</p>		
		Contractor/ECO and Engineer	During staff induction, followed by on-going monitoring
<b>A.5 Stormwater Management</b>	<b>A.5.1 Stormwater Management</b>		
	<p>a. On-site storm water controls shall be implemented prior to the start of construction. This includes the construction of attenuation structures, storage ponds or grassed swales which must be constructed prior to construction of the two additional broiler houses and roundabout or once pipe systems are functional in this catchment.</p>	Contractor/ECO and Engineer	During site set up and on going
<b>A.6 Cultural Environment</b>	<b>A.6.1 Protection of Cultural Environment</b>		
	<p>Prior to the commencement of construction, all the staff needs to know what possible archaeological or historical objective of value may look like, and to notify the Engineer / Contractor should such an item be uncovered.</p> <p>If any artefacts or graves are uncovered during construction, all work on site is to cease and AMAFA as well as the ECO is to be notified for comment. Construction may only commence once approval by AMAFA is granted.</p>	ECO / PM / C	During site set up and on-going.



**Construction Phase**

Activity	Management / Mitigation	Responsibility	Frequency / Timing
<p><b>Access to the site</b></p>	<ul style="list-style-type: none"> <li>• Broiler Farms need to have strict access control at their farms to reduce the biohazard risks associated with vehicular transportation and pedestrian access on their farms.</li> <li>• The Contractor shall ensure that all vehicles and staff follow strict Bio-Security procedures at all times.</li> <li>• Access to other farms outside of the property shall be prohibited, and enforced by the Contractor.</li> <li>• All access roads within the property need to be maintained in a good condition by addressing problems associated with construction traffic such as potholes, corrugations and storm water damage as soon as these are apparent. This should be conducted on a weekly basis or after heavy rains by the Project Engineer.</li> <li>• Unnecessary compaction of soil on site by heavy vehicles must be avoided as far as possible and construction vehicles need to be restricted to demarcated access, haulage routes and turning areas.</li> <li>• The wetland areas close to the site must be treated as no-go areas.</li> </ul>	<p>Contractor/ECO</p>	<p>Construction Phase</p>
<p><b>Ablution Facilities</b></p>	<ul style="list-style-type: none"> <li>• Should chemical toilets be used, they must be located adjacent to the Site Establishment Office (containers). These must be serviced weekly by the supplier and service records are to be filed on site.</li> <li>• The Contractor should designate eating areas to the approval of the Engineer. Strict control shall be enforced to ensure that no waste is left in these designated areas.</li> <li>• Ablution facilities and eating areas must be kept clean at all times.</li> </ul>	<p>Contractor/ECO</p>	<p>During construction</p>

<p><b>Management of Site and Construction Camp</b></p>	<ul style="list-style-type: none"> <li>• The Contractor must monitor and manage drainage and runoff from the camp site to avoid standing water and soil erosion.</li> <li>• The Contractor shall ensure that all litter is collected daily from the work and camp areas. Similarly, all bins and/or skips should be regularly emptied and their waste disposed of at a registered landfill site.</li> <li>• All waybills are to be filed on site. The Contractor shall ensure that the camp site, working &amp; eating areas are maintained in a clean, hygienic and orderly state.</li> </ul>	<p>Contractor/ECO</p>	<p>Construction Phase</p>
<p><b>Vegetation Removal</b></p>	<ul style="list-style-type: none"> <li>• Vegetation removal must be minimized.</li> <li>• The construction area must be demarcated and all areas beyond the demarcated area must be treated as no-go areas.</li> <li>• The appointed ECO must be given the chance to mark indigenous vegetation on the site prior to the commencement of removal of vegetation on site.</li> <li>• Where indigenous vegetation as marked needs to be removed, the correct procedure must be followed.</li> <li>• All areas cleared for construction purposes must be re-vegetated with indigenous vegetation/grass upon completion of construction works with no areas to be left bare.</li> </ul>	<p>Contractor/Developer and ECO</p>	<p>Pre-, during and post construction.</p>

<p><b>Soil Erosion</b></p>	<ul style="list-style-type: none"> <li>• Soil erosion must be reduced by controlling the amount of space that is cleared of vegetation.</li> <li>• Once an area has been cleared of vegetation, the top layer (nominally 150mm) of soil should be removed and stockpiled in a designated area approved by the engineer and ECO. Only the amount of soil determined to be used for rehabilitation must be kept on site. The rest of the excavated material must be disposed of at in a manner that must be approved by the ECO.</li> <li>• Cleared areas must be developed as soon as possible and not left bare for extended periods of time.</li> <li>• Stormwater management on site must be in such that the erosion potential of the stormwater is reduced or the stormwater is directed away from exposed surfaces.</li> <li>• Areas where vegetation had been removed for construction purposes must be promptly re-vegetated once the work on that particular section has been completed. Vegetation used must be indigenous trees or grass.</li> <li>• General requirements for stockpiles are that they should be situated in an area that should not obstruct the natural water pathways on site. Topsoil stockpiles will be kept separate from other stockpiles, shall not be compacted, and shall not exceed 2m in height unless otherwise allowed by the Engineer.</li> <li>• The construction of a berm consisting of sand bags or a low brick wall can be placed around the base of the stockpile for retention purposes.</li> <li>• They should be maintained free of alien vegetation and weeds by regular weeding. Stockpiles shall be kept free of any contaminants whatsoever, including paints, building rubble, cement, chemicals, oil, etc.</li> </ul>	<p>Contractor/Engineer and ECO</p>	<p>Throughout the Construction Phase</p>
----------------------------	---	------------------------------------	--

<p><b>Pollution</b></p>	<ul style="list-style-type: none"> <li>• All workers must undergo environmental induction which must include best practice allowed on site such as waste disposal at the designated areas.</li> <li>• All waste within the site must be stored in a designated waste storage area. Closed bins must be used for storage of general waste.</li> <li>• Waste from the site must be regularly disposed of at the nearest landfill site and waybills/receipts must be kept as proof of safe waste disposal.</li> <li>• Waste must not under any circumstances be left to accumulate on site.</li> <li>• Waste on site may not be buried or burned.</li> <li>• All disposal of construction waste must be approved by the ECO and Engineer and must in such a manner that is does not culminate in on-site or off-site environmental.</li> </ul>	<p>Contractor/Engineer and ECO</p>	<p>Throughout the Construction Phase</p>
-------------------------	---	------------------------------------	--

<p><b>Soil Contamination</b></p>	<ul style="list-style-type: none"> <li>• There must be designated storage areas for potentially hazardous substances which must be equipped with a fire extinguisher. All storage of potentially hazardous substances including paint must be in line with the provisions of Hazardous Substances Act (Act 15 of 1973).</li> <li>• A spill kit must be provided on site and used to clean up any minor spills that occur on the site. Such soil must be stored as hazardous waste and be disposed of as advised by the Appointed ECO.</li> <li>• Spills must be reported to the Department of Human Settlements, Water and Sanitation, Mkhambathini Local Municipality, uMgungundlovu District Municipality and KZN Department of Economic Development, Tourism and Environmental Affairs.</li> <li>• All vehicles must be kept in good working condition and any spills/leaks observed must be attended to immediately. Drip trays must temporarily be placed under vehicles observed to be leaking until such time that they are serviced if they cannot be fixed immediately.</li> <li>• Drip trays must be provided and used accordingly when dealing with fuel and other hazardous substances.</li> <li>• Concrete mixing must only take place on mixing trays or on impermeable liners.</li> <li>• Concrete trucks must not be washed out or cleaned on the site or other area near the site, unless such cleaning will not cause any environmental harm.</li> </ul>	<p>Contractor/ECO and Engineer</p>	<p>During site set up and on going</p>
----------------------------------	--	------------------------------------	--

<p><b>Nuisance: Noise and Dust</b></p>	<ul style="list-style-type: none"> <li>• Noise Control Regulations (Regulations 154, 10 January 1992) of the Environmental Conservation Act (Act No. 73 Of 1989) must be adhered to.</li> <li>• Noise levels on site must be kept as low as possible at all times throughout the construction phase.</li> <li>• Construction workers must not be allowed to play any loud music on the site.</li> <li>• Construction operations must be restricted to daylight period, Monday to Saturday, and must adhere to legally stipulated hours (7.00 – 18.00).</li> <li>• The residents near the site must be informed when the construction phase of the proposed development is about to commence.</li> <li>• All construction vehicles and plant must adhere to the recommended speed limits for the road used to get to the site.</li> <li>• Where necessary, a water cart must be used to spray water on the road to reduce dust.</li> <li>• Vehicles traveling back and forth from the construction site must adhere to speed limits so as to avoid generating excessive dust. A speed limit of 30km/hour must be adhered to on site on all unsurfaced roads.</li> </ul>	<p>Contractor/ECO</p>	<p>Throughout Construction</p>
<p><b>Spread of Alien Plants</b></p>	<ul style="list-style-type: none"> <li>• Where alien plant species are observed growing on cleared spaces, they must be mechanically removed.</li> <li>• Exposed areas must be re-vegetated with indigenous plants upon completion of activities on the affected areas.</li> </ul>	<p>Contractor/Engineer and ECO</p>	<p>Throughout the Construction Phase</p>
<p><b>Staff Conduct</b></p>	<ul style="list-style-type: none"> <li>• The Contractor needs to monitor the performance of workers to ensure compliance with good environmental practices and general conduct as explained earlier during site the set-up phase, in which the employees undergo their environmental awareness induction training.</li> </ul>	<p>Contractor/Engineer and ECO</p>	<p>Throughout the Construction Phase</p>

<p><b>Socio-Economic</b></p>	<ul style="list-style-type: none"> <li>• The terms and conditions of employment must be clearly explained to those appointed including how much they will earn, when they will be paid and the payment method.</li> <li>• Use of local labour must be maximized as far as is allowed for within the budget for the development.</li> <li>• The Contractor along with the Developer must consider any possible form of certification for the workers to endorse the skills they displayed. Additionally, some of the workers may be sent to train for skills such as First Aid skill which they can use within the community but can also help with improving their employability.</li> <li>• Employee rights according to the Employment Act must be respected at all times.</li> </ul>	<p>Contractor/Engineer and Developer</p>	<p>Throughout the Construction Phase and for the duration of the project activity</p>
<p><b>Health and Safety</b></p>	<p>All requirements of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with.</p> <p>Only workers with the required licenses may be permitted to operate plant, machinery and vehicles.</p> <p>All workers must be provided with the necessary Protective Clothing (PPE) for the tasks they are expected to complete and use of such PPE must be enforced.</p> <p>Standard road safety measures must be followed by all plant and vehicle drivers.</p> <p>Extra caution must be exercised in areas with high number of people especially around schools at times that the school children are arriving/leaving school.</p> <p>Workers must at all times be provided with clean drinking water.</p> <p>Clean and hygienic mobile toilets must be provided for workers throughout the construction phase. Such toilets must regularly be serviced by an approved service provider to ensure that they are clean and safe to use at all times.</p>	<p>Contractor/Engineer/Health and Safety Officer and ECO</p>	<p>Throughout the Construction Phase</p>

	Emergency procedures must be explained to all workers in case of occurrences such as a fire breakout.		
<b>Heritage Impact</b>	<p>Where any heritage resources be uncovered during the construction phase, the measures below must be implemented.</p> <ul style="list-style-type: none"> <li>• Amafa must be contacted if any heritage objects are identified during earthmoving activities, and all development must cease until further notice.</li> <li>• Amafa must be contacted if any graves or heritage objects are identified during construction and the following procedure is to be followed: <ul style="list-style-type: none"> <li>▪ Stop construction</li> <li>▪ Report finding to local police station</li> <li>▪ Report to Amafa to investigate</li> </ul> </li> <li>• Sources of all-natural materials (including topsoil, sands, natural gravels, crushed stone, asphalt etc) must be obtained in a sustainable manner and in compliance with the heritage legislation.</li> <li>• No archaeological sites, nor artefacts, were noted in the study area, therefore no further mitigation is required.</li> </ul> <p>Chance Find Protocol has been inserted, should any Palaeontological Material be uncovered a Palaeontologist must be called in to investigate.</p>	Contractor/Engineer and ECO	Throughout the Construction Phase
<b>Social Impacts to the Neighbouring Residents</b>	The regular communication between the Contractor, Engineer and the I&AP's is important for the duration of the contract and would have been started during the Site Establishment/pre-Construction Phase. The Engineer and Contractor are responsible for on-going communication with the I&AP's. A Complaint's register should be kept at the site office. This should be in a duplicate format, with numbered pages. The I&AP's need to be made aware of the register and the methods of communication available to them. The Contractor needs		



	<p>to appoint a staff member(s) to act as liaison officer for formal consultation with I &amp;AP's in order to handle questions and explain the construction process and what it will entail. This register is to be tabled during monthly site meetings. Any queries or complaints that arise need to be handled by following a set protocol.</p> <p>There are a number of areas that need to be monitored in this respect.</p> <ul style="list-style-type: none"> <li>○ The disruption and safety of access for the local residents must be minimized at all costs and have the Engineer's permission.</li> <li>○ The Contractor is to inform the neighbours in writing of disruptive activities at least 24 hours beforehand. Leaflets can be circulated in postboxes giving the Engineer's and Contractor's details or other method of communication can be used that is approved by the Engineer.</li> <li>○ It is important that the Contractor's activities and movement of staff are restricted to the designated construction areas.</li> <li>○ Notice of particularly noisy activities such as jackhammers, blasting, drilling must be given to residents adjacent to the construction site at least 24 hours prior to the activity taking place.</li> <li>○ Noisy activities must be restricted to the times given in the project specification or General Conditions of Contract.</li> </ul>		
--	--	--	--

**Operation Phase**

Activity	Management / Mitigation	Responsibility	Frequency / Timing
<b>Odour</b>	<ul style="list-style-type: none"> <li>• Management of chicken droppings will be necessary including the regular cleaning of chicken droppings.</li> <li>• Drying of the droppings and ventilation in the broiler houses is important in managing the odours.</li> <li>• Waste management must be in such that there is no accumulation of any waste such as carcasses on the site. Waste disposal frequency must be increased in summer where warm temperatures cause quicker decay. The storage of mortalities on the property must not result in any odour or environmental contamination.</li> <li>• Keep area around the facility free of spilled manure and litter.</li> <li>• The existing waste management must continue to be implemented and any necessary adjustments to accommodate increased waste must be made.</li> </ul>	Developer	Throughout the operation phase
<b>Wastewater Management</b>	<ul style="list-style-type: none"> <li>• The wastewater system must be monitored regularly to ensure that any faults are picked up. Should an upgrade of the system be required, it must be upgraded accordingly with all necessary permits obtained prior to the upgrade.</li> </ul>	Developer	Throughout the operation phase
<b>Health Impacts</b>	<ul style="list-style-type: none"> <li>• Control rodents through effective sanitation, rodent proofing and extermination.</li> <li>• All waste on the site must be properly and regularly disposed of per the applicable standards for poultry farming.</li> <li>• All workers within the farm must be provided with the proper clothing for their work roles.</li> <li>• Emergency procedures must be explained to all workers.</li> <li>• All chicken houses and working areas must have proper ventilation.</li> </ul>	Developer	Throughout the Operational Phase

<p><b>Groundwater Contamination</b></p>	<ul style="list-style-type: none"> <li>The waste storage area on the site must have an impermeable floor and must be according to the applicable standards for safe storage of waste including carcasses.</li> </ul>	<p>Contractor/Engineer and ECO</p>	<p>Throughout the Operational Phase</p>
---	--	------------------------------------	---

**Decommissioning Phase**

The activity is not expected to have a decommissioning phase. However, upon completion of the construction phase:

The ECO must inform EDTEA of the upcoming completion of the construction phase.

A final site assessment must be conducted to ensure that:

- All rubble and any other waste has been removed from the site and properly disposed of.
- All disturbed areas have been re-vegetated accordingly.
- All areas which may have been contaminated have been cleared of contaminants and all other possible contaminants which will not be used for the operation phase have been removed from the site.
- All temporary services which had been commissioned for the purpose of the construction phase must be decommissioned without any harm to the environment.
- A final report must be submitted to EDTEA on rehabilitation measures implemented and recommendation on whether any further action is required.

EDTEA will need to be informed of the intended commencement of the operational phase as set out in the EA issued for the project.

**J. CONCLUSION**

According to the National Environmental Management Act, 1998 everyone must take reasonable measures to ensure that they do not pollute the environment. In this regard the reasonable measures will include informing and educating employees about environmental risks of their activities and instill a sense of environmental consciousness.

It is therefore, crucial that all recommendations are adopted and effected to the letter during all phases of this development as part of the mitigation measures. It must also be kept in mind that the Environmental Management Programme is a live document, that need adjustment as the need arise, as long as such changes are in the interest of the environment.