

**DRAFT ENVIRONMENTAL MANAGEMENT  
PROGRAMME FOR THE  
DEVELOPMENT OF THE PROPOSED MAKWASE  
CRUSHER PLANT, RUSTENBURG LOCAL  
MUNICIPALITY, NORTH WEST PROVINCE**

**Prepared for:**

**MAKWASE PROJECTS (PTY) LTD**

PO Box 1902

Mooioi

0235

Tel: 072 714 6659

Email: [info.makwase@gmail.com](mailto:info.makwase@gmail.com)

**Prepared by:**

**BOBOLELE CONSULTING (PTY) LTD**

68 Hill of Good Hope

Springfield Street

Carlswald

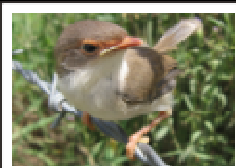
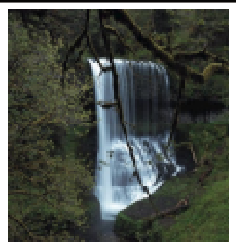
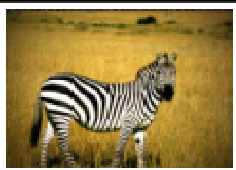
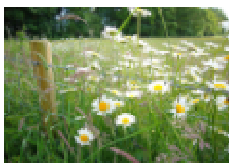
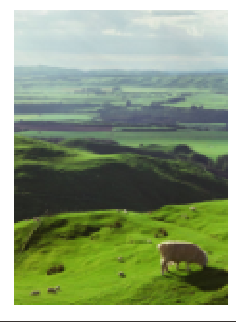
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Mobile: 083 287 4757

Fax: 086 460 7330

E-mail: [bobolele1@gmail.com](mailto:bobolele1@gmail.com)

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**BOBOLELE  
CONSULTING**

## Contents

<b>1. OVERVIEW</b> .....	<b>3</b>
1.1. Details of the Environmental Assessment Practitioner (EAP).....	3
1.2. Purpose of the Environmental Management Programme.....	3
1.3. Legal Requirements of EMPr.....	3
1.4. Structure of the EMPr.....	4
<b>2. DESCRIPTION OF THE ASPECTS OF THE ACTIVITY</b> .....	<b>5</b>
<b>3. ENVIRONMENTAL MANAGEMENT PROGRAMME IMPLEMENTATION</b> .....	<b>6</b>
3.1. Preamble .....	6
3.2. Structure and Contents of Tables.....	6
<b>4. PRE-CONSTRUCTION PHASE</b> .....	<b>7</b>
<b>5. CONSTRUCTION PHASE</b> .....	<b>10</b>
<b>6. OPERATIONAL PHASE</b> .....	<b>14</b>
<b>7. DECOMMISSIONING PHASE</b> .....	<b>17</b>
<b>8. MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT</b> .....	<b>17</b>
9.1 Reporting.....	17
9.2 Environmental Awareness Plan.....	17
<b>9. CONCLUSION</b> .....	<b>18</b>

## 1. OVERVIEW

This document represents the Environmental Management Programme (EMPr) for the proposed development of Makwase Crusher Plant on Portion 233 of the farm Kafferskraal 342 JQ, Rustenburg Local Municipality, North West Province.

### 1.1. Details of the Environmental Assessment Practitioner (EAP)

Name of the Practitioner: Thikhoi Motsoene  
Tel No.: 062 401 4013  
Fax No. : 086 460 7330  
E-mail address: bobolele1@gmail.com  
Qualifications: MEng. Environmental Engineering  
Pr. Sci. Nat. Affiliated - Pr. Sci. Nat. (SA) 400091/13

Ms Thikhoi Motsoene is a Principal Environmental Scientist at Bobolele Consulting with 15 years of experience in the environmental consultancy industry. She has extensive experience in Environmental Impact Assessments (EIAs), compilation, implementation, amendment and assessing of Environmental Management Programmes (EMPrs) in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA), Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) (MPRDA), environmental auditing, site assessments and assessing environmental compliance. She has solid knowledge and understanding of the NEMA, MPRDA, National Water Act 36 of 1998 (NWA) and subsequent regulations.

Please refer to Appendix A for proof of qualification, and professional registration.

### 1.2. Purpose of the Environmental Management Programme

The EMP has been included in the Basic Assessment Report (BAR) in order to provide a link between the impacts identified in the Basic Assessment (BA) process and the actual environmental management on the ground during project implementation and operation. The purpose of this document is to provide for environmental management throughout the various life-cycle stages of the proposed development. The following stages are included:

- ❖ Pre-construction;
- ❖ Construction;
- ❖ Operation; and
- ❖ Decommissioning.

Furthermore, this Environmental Management Programme (EMPr) aims for alignment and optimisation of environmental management processes with conditions of authorisation that may arise, thereby ensuring that identified environmental considerations are efficiently and adequately taken into account during all stages of development.

### 1.3. Legal Requirements of EMPr

Environmental Impact Assessment (EIA) Regulations were promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) as amended and the Environmental Impact Assessment Regulations, 2014 as amended. The proposed project triggers listed activities, requiring the submission of a BAR for Environmental Authorisation (EA) to the North West Department of Rural, Environment and Agricultural Development (DREAD).

In terms GN R 982 of December 2014 (as amended by GN R 326 of April 2017) 2010 the BAR must include any environmental management and mitigation measures proposed by the Environmental Assessment Practitioner (EAP). As such the applicant is required to submit an EMPr that complies with the notice. The EMPr must address the potential environmental impacts of the proposed activity on the environment throughout the project life-cycle i.e. impacts in respect of planning and design, construction activities, operation of the activity, rehabilitation of the environment and closure/decommissioning (if applicable).

The legislation hereby aims to ensure that effective environmental management is implemented throughout the life cycle of the project via the translation of Environmental Impact Assessment (EIA) management actions into the EMPr.

The EMPr aims to meet the EMP requirements as legislated by the NEMA Regulations. It should however be noted that no guideline or guidance exists in terms of best practice approach to Life-Cycle EMPrs. This document should thus be seen in an iterative context allowing for amendments throughout the life-cycle of the project, allowing for adjustments as new information is made available.

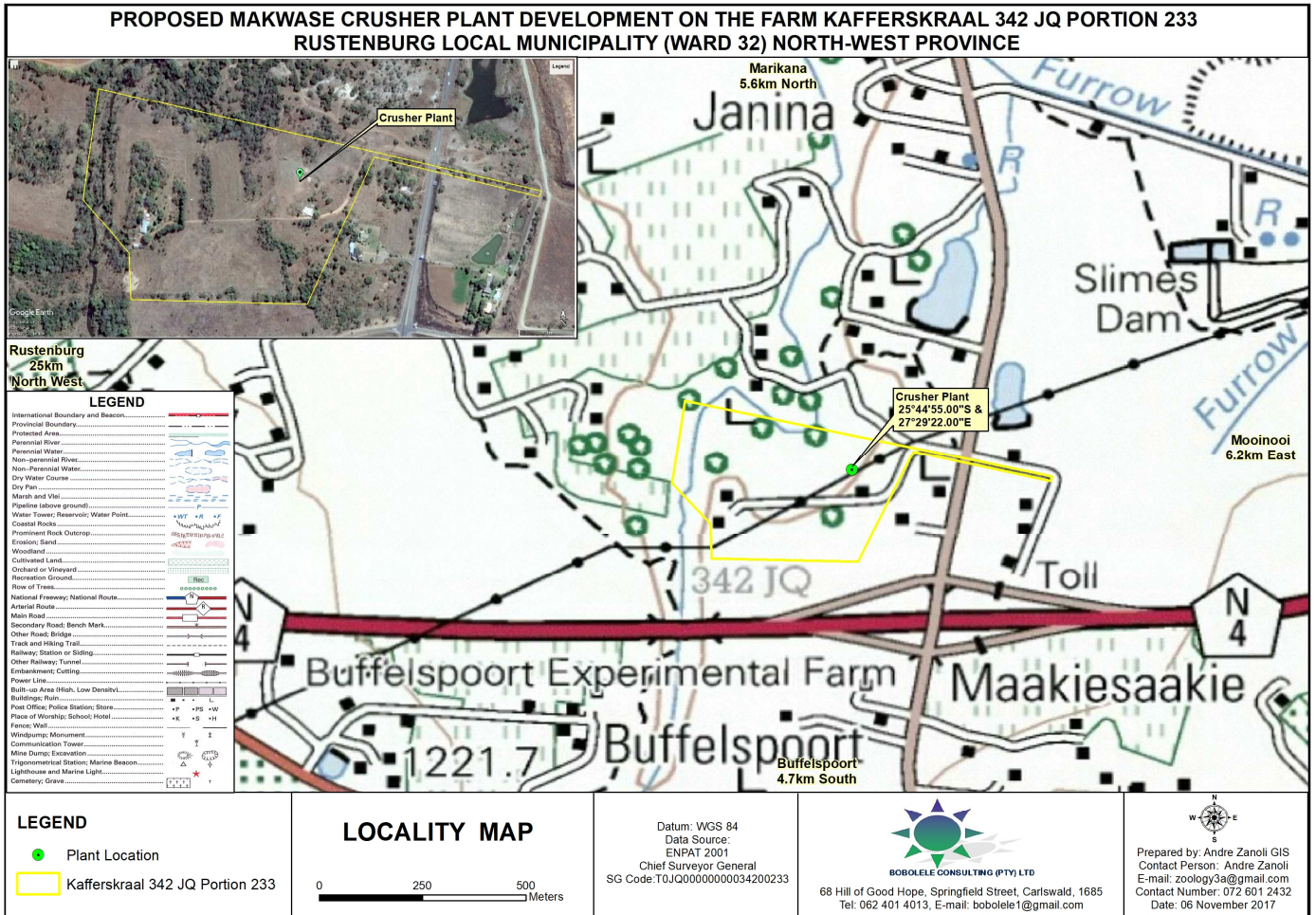
#### **1.4. Structure of the EMPr**

As discussed above, the EMPr aims to address environmental management throughout the project life-cycle, from planning and design, through construction, to operation and potential decommissioning. The EMPr has been structured to include the following sections:

1. Discussion summarising environmental management influencing the pre-construction of the Makwase Crusher Plant (Chapter 3);
2. Construction EMPr based on identified impacts and mitigation measures from the BAR (Chapter 4);
3. Operational EMPr based on identified impacts and mitigation measures from the BAR (Chapter 5); and
4. Decommissioning EMPr providing guidance on key considerations to be considered during decommissioning/closure (Chapter 6).

## 2. DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

Makwase Projects (Pty) Ltd intends to develop a Crusher Plant on Portion 233 of the farm Kafferskraal 342 JQ, Rustenburg Local Municipality, North West Province. The property is located north of the N4 Highway adjacent to the Buffelpoort / Marikana off-ramp, South of Tharisa Mine (Figure 1). The waste rock for the proposed project will be sourced from the Tharisa Mine Waste Rock Dump.



**Figure 1: Project Locality map**

Makwase Projects (Pty) Ltd propose to develop a Crusher Plant (Makwase Crusher Plant) on Portion 233 of the farm Kafferskraal 342 JQ within the Rustenburg Local Municipality and the Bojanala Platinum District Municipality of the North West Province. The site is situated north of the N4 Highway adjacent to the Buffelpoort / Marikana off-ramp, South of Tharisa mine.

Makwase Crusher Plant will be operated as a small business venture, crushing the waste rock for reuse as road building and construction material. The waste rock required for the proposed project will be sourced from the Tharisa mine Waste Rock Dump (WRD). The additional infrastructure and activities associated with the proposed project include:

- The machines used for the waste rock crushing include storage bin, vibrating screen, crusher, and stockpiling conveyor.
- The waste rock will be crushed and temporarily stockpiled at an already disturbed area before will be collected and removed.
- Proposed area to be disturbed in terms of the proposed Makwase Crusher Plant:
  - Crushing plant and parking area: approximately 0.5 ha (5 000 m<sup>2</sup>); and
  - Crushed waste rock storage area: approximately 3.5 ha (35 000 m<sup>2</sup>).

- Existing access roads to the property will be used during construction and operational phase.
- Electricity supply for the proposed Crusher Plant will be sourced from the existing electricity supply at the property. The electricity requirements will be less than 33kV.
- No sewage treatment facilities will be required for the operation of the proposed project. During the construction and operation phases of the project, existing ablution facilities on site will be utilised.

Potable water for domestic use and process water (if required) will be sourced from existing borehole on site. The use of groundwater from a borehole requires license from the Department of Water and Sanitation (DWS) and this process has been initiated.

### **3. ENVIRONMENTAL MANAGEMENT PROGRAMME IMPLEMENTATION**

#### **3.1. Preamble**

The point of departure for this EMPr is to ensure a proactive rather than reactive approach to environmental performance by addressing potential problems before they occur. Therefore the purpose of an EMPr is to provide management measures that must be implemented by Developers, Engineers and Contractors alike to ensure that the potential impacts of a proposed development are minimised. It must also be ensured that the generic EMP is maintained and upheld as a dynamic document in order for the project team to add or improve on issues that might be considered left out or not relevant to the project. In such instances the approving authority may authorise the Environmental Control Officer (ECO) to make such changes.

The following tables form the core mitigation measures appropriate to the planning and design, construction, operational and decommissioning phases of the project. The tables present the objectives to be achieved and the management actions that need to be implemented in order to mitigate the negative impacts and enhance the benefits of the project. Associated responsibilities, criteria/targets and timeframes are clearly specified.

#### **3.2. Structure and Contents of Tables**

The information is summarised in tabular format illustrating the activity, aspect, impact, mitigation measure, performance indicators, resources, schedule and verification. These criteria are listed and explained below:

The following components are identified/ described:

- ❖ Activity: component/ activity of the project for which the impact has been identified;
- ❖ Impact: the environmental impact identified and to be mitigated;
- ❖ Aspect: the aspect of the above activity which will be impacted;
- ❖ Mitigation measure: measures identified for implementation in terms of environmental management to reduce, rectify or contain the identified environmental impact
- ❖ Time period for implementation

## **4. PRE-CONSTRUCTION PHASE**

This section has been divided into subsections which outline how environmental considerations have informed and been incorporated into the planning and design phases of the proposed Makwase Crusher Plant. Detailed design is usually undertaken as part of the pre-construction phase as it is a costly undertaking which is generally only costed for once all required authorisations have been obtained. Thus, the planning and design phases discussed are limited to those associated with the pre-authorisation phases.

**Table 1: Pre-construction Phase EMP**

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION
<p>Site clearing of the footprint areas associated crusher plant and all proposed access roads – i.e.:</p> <ul style="list-style-type: none"> <li>• Removal of vegetation</li> <li>• Transportation of material</li> </ul>	<ul style="list-style-type: none"> <li>• Increased levels of fugitive dust.</li> <li>• Increased levels of ambient air pollutants; i.e. carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub>)</li> </ul>	Air Quality	<ul style="list-style-type: none"> <li>• Control level of fugitive dust through implementing dust suppression techniques.</li> <li>• Control level of ambient air pollutants through regular maintenance and services of all vehicles and equipment.</li> <li>• Monitor and control through updating and implementing dust monitoring programme of Makwase Projects.</li> </ul>	Throughout pre-construction phase (3-6 months)
	<ul style="list-style-type: none"> <li>• Removal/loss of soils and land use.</li> <li>• Soil contamination from hydrocarbon spills.</li> <li>• Increased erosion.</li> </ul>	Soils, land use and land capability	<ul style="list-style-type: none"> <li>• Minimise area of disturbance and clearing by limiting the footprint area to as small as practically possible.</li> <li>• Prevent accidental spills from vehicles and equipment used through regular maintenance and services of such machinery.</li> <li>• Control spills through effectively cleaning spills according to the Spill Management Plan.</li> <li>• Reduce erosion and compaction through:                             <ul style="list-style-type: none"> <li>○ Stockpiling soils.</li> <li>○ Vegetate and/or cover soil stockpiles.</li> <li>○ Install erosion berms, if required.</li> <li>○ Restrict vehicle movement to project related areas.</li> </ul> </li> </ul>	
	<ul style="list-style-type: none"> <li>• Removal/loss of natural vegetation and habitats</li> </ul>	Flora and Fauna	<ul style="list-style-type: none"> <li>• Minimise area of disturbance and clearing by limiting the footprint area to as small as practically possible.</li> <li>• Control access to construction site through demarcating access roads and construction areas.</li> <li>• Control through relocation of protected floral and/or faunal species.</li> <li>• Prevent trapping or hunting of fauna through environmental awareness plan.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Increase in silt load in runoff and erosion</li> </ul>	Surface Water	<ul style="list-style-type: none"> <li>• Control stormwater runoff through stormwater management measures.</li> <li>• Minimise stormwater runoff through conducting site clearing and construction during dry season.</li> <li>• Minimise area of disturbance and clearing by limiting the footprint area.</li> </ul>	



ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION
	<ul style="list-style-type: none"> <li>Surface water contamination</li> </ul>	Surface Water	<ul style="list-style-type: none"> <li>Monitor and control surface water quality through updating and implementing water monitoring programme of Makwase Projects.</li> <li>Control spills through effectively cleaning spills according to the Spill Management Plan.</li> <li>Prevent spills through placement of adequate bunded storage for chemicals and hazardous material.</li> <li>Prevent accidental spills from vehicles and equipment used through regular maintenance and services of such machinery.</li> </ul>	
	<ul style="list-style-type: none"> <li>Loss of Mean Annual Runoff (MAR)</li> </ul>	Surface Water	<ul style="list-style-type: none"> <li>Control stormwater runoff through stormwater management measures.</li> <li>Control flow regime through conducting site clearing and construction during dry season.</li> </ul>	
	<ul style="list-style-type: none"> <li>Groundwater contamination</li> </ul>	Groundwater	<ul style="list-style-type: none"> <li>Monitor and control surface water quality through updating and implementing water monitoring programme of MPM.</li> <li>Control spills through effectively cleaning spills according to the Spill Management Plan.</li> </ul>	
	<ul style="list-style-type: none"> <li>Increased ambient noise levels</li> </ul>	Noise	<ul style="list-style-type: none"> <li>Control through noise control measures and limiting pre-construction activities to day time periods.</li> </ul>	
	<ul style="list-style-type: none"> <li>Increased dust level</li> </ul>	Visual	<ul style="list-style-type: none"> <li>Control level of fugitive dust through implementing dust suppression techniques.</li> <li>Control through limiting pre-construction activities to day time periods.</li> </ul>	
	<ul style="list-style-type: none"> <li>Job creation</li> </ul>	Socio-Economic	<ul style="list-style-type: none"> <li>Enhance through adhering to Makwase Projects's local labour procurement policies.</li> </ul>	

## 5. CONSTRUCTION PHASE

The Construction EMPr aims to address mitigation measures pertaining to the construction phase as identified during the course of the Basic Assessment Process. Construction phase impacts identified by the BA and addressed by the EMPr include:

- ❖ Impact on ambient noise level;
- ❖ Impact of construction dust on surrounding area;
- ❖ Impact on heritage resources;
- ❖ Impact on the Fauna and Flora;
- ❖ Impact on watercourses;
- ❖ Alteration of natural landscape; and
- ❖ Impact of the proposed development on job creation.

**Table 2: Construction Phase EMPr**

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION
<ul style="list-style-type: none"> <li>Construction of crusher plant and associated access road.</li> <li>Transportation of material to and from sites</li> </ul>	<ul style="list-style-type: none"> <li>Increased levels of fugitive dust</li> <li>Increased levels of ambient air pollutants; i.e. carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub>)</li> </ul>	Air Quality	<ul style="list-style-type: none"> <li>Control level of fugitive dust through implementing dust suppression techniques.</li> <li>Control level of ambient air pollutants through regular maintenance and services of all vehicles and equipment.</li> <li>Monitor and control through updating and implementing dust monitoring programme of Makwase Projects.</li> </ul>	Throughout the construction phase (up to 12 months).
	<ul style="list-style-type: none"> <li>Removal/loss of soils and land use</li> <li>Soil contamination from accidental hydrocarbon spills</li> <li>Increased erosion</li> </ul>	Soils, land use and land capability	<ul style="list-style-type: none"> <li>Minimise area of disturbance and clearing by limiting the footprint area to as small as practically possible.</li> <li>Reduce erosion and compaction through:                             <ul style="list-style-type: none"> <li>Stockpiling soils.</li> <li>Vegetate and/or cover soil stockpiles.</li> <li>Install erosion berms, if required.</li> <li>Restrict vehicle movement to project related areas.</li> </ul> </li> <li>Prevent accidental spills from vehicles and equipment used through regular maintenance and services of such machinery.</li> <li>Control spills through effectively cleaning spills according to the Spill Management Plan.</li> <li>Rehabilitate the project disturbed areas as soon as possible once construction is completed.</li> <li>Rip and profile soils that have been compacted as a result of the construction activities.</li> </ul>	
	<ul style="list-style-type: none"> <li>Loss of natural vegetation and habitats</li> </ul>	Flora and Fauna	<ul style="list-style-type: none"> <li>Minimise area of disturbance to as small as practically possible.</li> <li>Control access to construction site through demarcating access roads and construction areas.</li> <li>Prevent trapping or hunting of fauna through environmental awareness plan.</li> </ul>	
	Increased in silt load in runoff	Surface Water		

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION
	and erosion		<ul style="list-style-type: none"> <li>Control stormwater runoff through stormwater management measures.</li> <li>Minimise stormwater runoff through undertaking construction activities during dry season.</li> <li>Minimise area of disturbance to as small as practically possible.</li> </ul>	
	Surface water contamination	Surface Water	<ul style="list-style-type: none"> <li>Monitor and control surface water quality through updating and implementing water monitoring programme of Makwase Projects.</li> <li>Control spills through effectively cleaning spills according to the Spill Management Plan.</li> <li>Prevent spills through placement of adequate bunded storage for chemicals and hazardous material.</li> <li>Prevent accidental spills from vehicles and equipment used through regular maintenance and services of such machinery.</li> </ul>	
	Groundwater contamination	Groundwater	<ul style="list-style-type: none"> <li>Monitor and control surface water quality through updating and implementing water monitoring programme of Makwase Projects.</li> <li>Control spills through effectively cleaning spills according to the Spill Management Plan.</li> <li>Prevent contamination through implementation of clean and dirty water separation infrastructure.</li> <li>Prevent accidental spills from vehicles and equipment used through regular maintenance and services of such machinery.</li> </ul>	
	Increased ambient noise levels	Noise	<ul style="list-style-type: none"> <li>Control through limiting construction activities to day time periods.</li> <li>Control through encapsulating diesel generator of drilling machine.</li> </ul>	
	Damage to heritage sites	Heritage	<ul style="list-style-type: none"> <li>The grave site should be demarcated with danger tape for the duration of the construction phase and that a 10m buffer zone from the outer perimeter should be maintained.</li> </ul>	
	Alteration of natural landscape	Visual	<ul style="list-style-type: none"> <li>Control level of fugitive dust through implementing dust suppression techniques.</li> <li>Control through revegetation measurements and rehabilitation</li> </ul>	

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION
			<ul style="list-style-type: none"> <li>– only applicable at Ventilation Shaft.</li> <li>• Prevent littering through waste management control measures.</li> <li>• Avoid through directing artificial light sources towards construction site.</li> </ul>	
	Job creation	Socio-Economic	<ul style="list-style-type: none"> <li>• Enhance through adhering to Makwase Projects' local labour procurement policies.</li> </ul>	

## 6. OPERATIONAL PHASE

The potential positive and negative operational phase impacts identified as part of the BAR include:

- ❖ Increased fugitive dust
- ❖ Increased levels of ambient air pollutants; i.e. carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub>)
- ❖ Soil contamination from accidental hydrocarbon spills
- ❖ Loss of habitat/fauna species
- ❖ Surface water contamination
- ❖ Increased ambient noise level due to crushing activities
- ❖ Increased ambient noise level due to hauling activities
- ❖ Alteration of natural landscape
- ❖ Damage of heritage sites
- ❖ Positive impact on livelihoods
- ❖ Increased dust levels and associated health problems

**Table 3: Operational Phase EMP**

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION
Operation of Crusher Plant	<ul style="list-style-type: none"> <li>Increased fugitive dust</li> <li>Increased levels of ambient air pollutants; i.e. carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub>)</li> </ul>	Air Quality	<ul style="list-style-type: none"> <li>Control level of fugitive dust through implementing dust suppression techniques.</li> <li>Control level of ambient air pollutants through regular maintenance and services of all vehicles and equipment.</li> <li>Monitor and control through updating and implementing dust monitoring programme of Makwase Projects.</li> </ul>	Life of operation.
	Soil contamination from accidental hydrocarbon spills	Soil and land use	<ul style="list-style-type: none"> <li>Prevent accidental spills from vehicles and equipment used through regular maintenance and services of such machinery.</li> <li>Control spills through effectively cleaning spills according to the Spill Management Plan.</li> <li>Limit through restricting vehicle movement to areas of need.</li> <li>Prevent spills through placement of adequate bunded storage for chemicals and hazardous material.</li> </ul>	
	Loss of habitat/fauna species	Flora and fauna	<ul style="list-style-type: none"> <li>Prevent through waste management measures.</li> <li>Control through implementing the Spill Management Plan.</li> <li>Control through implementing Alien Plant Eradication Plan.</li> <li>Control level of fugitive dust through implementing dust suppression techniques, if required.</li> <li>Limit through restricting vehicle.</li> </ul>	
	Surface water contamination	Surface water	<ul style="list-style-type: none"> <li>Monitor and control surface water quality through updating and implementing water monitoring programme of Makwase Projects.</li> <li>Control spills through effectively cleaning spills according to the Spill Management Plan.</li> <li>Prevent accidental spills from vehicles and equipment used through regular maintenance and services of such machinery.</li> </ul>	
	Increased ambient noise level due to crushing activities	Noise	Control through noise control measures.	

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION
	Increased ambient noise level due to hauling activities	Noise	Control through noise control measures. Reduce through undertaking hauling activities during day time periods.	
	Alteration of natural landscape	Visual	<ul style="list-style-type: none"> <li>• Control level of fugitive dust during maintenance activities through implementing dust suppression techniques, if required.</li> <li>• Prevent littering through waste management control measures.</li> <li>• Limit through landscaping and use of appropriate non-reflective infrastructure / equipment.</li> </ul>	
	Damage to heritage sites	Heritage	Once the construction phase of the development has been completed that the site should be properly fenced-in, with an entrance gate each, to provide ease of access for community members and descendants of the deceased.	
	Positive impact on livelihoods	Socio-Economic	Enhance through: <ul style="list-style-type: none"> <li>• Retaining employees;</li> <li>• Implementing skills development policy in line with Social and Labour Plan;</li> <li>• Adhering to Makwase Projects' local labour procurement policies.</li> </ul>	
	Increased dust levels and associated health problems	Socio-Economic	Control through implementing complaints register to record complaints.	



## 7. DECOMMISSIONING PHASE

It is highly unlikely that decommissioning should be proposed in the near future. However should decommissioning of the poultry farm be proposed the materials used and its associated infrastructure would need to be disposed of at an approved landfill site. Materials will be recycled where appropriate.

## 8. MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT

- ❖ Monitoring of Impact Management Actions
- ❖ Functional Requirements for Monitoring
- ❖ Responsible persons
- ❖ Monitoring and reporting frequency and Time period for implementing impact management actions

Impacts Requiring Monitoring Programmes	Functional Requirements for Monitoring	Roles and Responsibilities	Monitoring and Reporting Frequency and Time Periods For Implementing Impact Management Actions
Fugitive dust	Dust fallout monitoring during the construction and operational phase of the crusher plant.	Environmental officer	During Construction and Operations – Monthly.
Noise	Noise monitoring to be done monthly during construction and quarterly during operation.	Environmental officer	During Construction – Monthly / quarterly. During Operation – Quarterly / annually.
Surface water	Continue with current surface water programme in the crusher plant area	Environmental officer	During Construction and Operations – Monthly / quarterly.

### 9.1 Reporting

Based on the outcome of this assessment and the level of impacts that may be associated with the proposed project, it is recommended that the frequency of conducting and reporting on a performance assessment can be every year.

*This recommendation will be in line with Section 26(e) of the NEMA EIA Regulations of 2014, which states that:*

*The frequency of auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMP, and where applicable the closure plan, in order to determine whether such EMP and closure plan continuously meet mitigation requirements and addresses environmental impacts, taking into account processes for such auditing prescribed in terms of these Regulations: provided that the frequency of the auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMP may not exceed intervals of five years; the frequency of the auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMP may not exceed intervals of five years.*

### 9.2 Environmental Awareness Plan

The environmental risks associated with employees work will be made available through the existing communication structures and in accordance with their training schedule at Makwase Projects.

## 9. CONCLUSION

In conclusion it should be noted that the EMPr should be regarded as a living document and changes should be made to the EMPr as required by project evolution while retaining the underlying principles and objectives on which the document is based.

The compilation of the EMP has incorporated impacts and mitigation measures from the Makwase Crusher Plant BAR as well as incorporating principles of best practice in terms of environmental management. By identifying the impacts, mitigation measure, performance indicators, responsibilities, available resources, potential schedule, and verification responsibility the EMPr has provided a platform on which both the construction phase and the operational phase EMPrs can be founded. The EMPr has ensured that the individual EMPrs will be able to incorporate mitigation measures based on the project in its entirety as opposed to phase specific measures.

**APPENDIX A: PROOF OF QUALIFICATIONS AND PROFESSIONAL REGISTRATION**

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