

## APPENDIX F: OTHER

Annexure A: Draft Environmental Management Programme

July 2018

# DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2006, as amended 2014

Prepared by:  
Henwood Environmental Solutions

Prepared for:  
Boschkom Estates Pty Ltd

**DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE  
CLEARING AND CULTIVATION OF APPROXIMATELY 17.46HA ON  
THE FARM BOSKOM, 1025 JT.**

H.E.S



Henwood Environmental Solutions

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DRAFT

## LIST OF ABBREVIATIONS/DEFINITIONS

EMPR	-	Environmental Management Programme
EIA	-	Environmental Impact Assessment
EIR	-	Environmental Impact Report
CLO	-	Community/Client Liaison Officer
MDALA	-	Mpumalanga Department of Agriculture and Land Affairs
DARDLEA	-	Department of Economic Development, Environment and Tourism
DWAF	-	Department of Water Affairs and Forestry
DME	-	Department of Minerals and Energy
SABS	-	South African Bureau of Standards
SAHRA	-	South African Heritage Resources Agency
ECO	-	Environmental Control Officer
ROD	-	Record of Decision

*A person appointed by the project manager, developer, engineer or farm management to oversee compliance to the EMPR. This person can be an internal appointment or an external consultant / specialist depending on the authorities' requirements.*

### Project Manager / Engineer

- Designated project manager / engineer for the clearing and cultivation project

### Proponent / Client / Developer

- Person or company responsible for proposing the project

### Farm management

- Person and/or company appointed to complete project

## SECTION A: DETAILS AND CREDENTIALS OF AUTHOR

Steven Henwood, as an Independent Environmental Consultant and Impact Assessor, has been appointed Boschkom Estates Pty Ltd to facilitate the Integrated Environmental Management (IEM) procedure, for the clearing and Clearing and cultivation of approximately 17.46ha on the Farm Boskom, 1025 JT.

### Environmental assessment practitioner:

### Contact person:

### Postal address:

### Postal code:

### Telephone:

### E-mail:

### Qualifications & relevant experience

### Professional affiliation(s) (if any)

S.J. Henwood		
Mr. Steven Henwood		
Po box 12340, Steiltes, Nelspruit		
Postal code:	1213	Cell: 078 672 3645
Telephone:	078 672 3645	Fax:
E-mail:	<a href="mailto:shenewood@mweb.co.za">shenewood@mweb.co.za</a>	
Qualifications & relevant experience	Nat. Dip. Nature Conservation	
Professional affiliation(s) (if any)	IAIASA	

## SECTION B: BACKGROUND

Steven Henwood, as an Independent Environmental Consultant and Impact Assessor, has been appointed Boschkom Estates Pty Ltd to facilitate the Integrated Environmental Management (IEM) procedure, for the clearing and Clearing and cultivation of approximately 17.46ha on the Farm Boskom, 1025 JT.

This document forms part and is appended to the Draft Basic Assessment report and will be submitted to as part of the Final EIR to be approved by the DARDLEA.

### Project Description

Nico Van Zyl (Boschkom Estates Pty Ltd) (the applicant) proposes clearing and cultivation of macadamias on the Farm Boskom, 1025 JT.

The proposed development site is adjacent to existing agricultural fields and therefore no new infrastructure will be developed on site. Although the site is zoned for Agriculture, it is currently undisturbed natural bush.

To this end the following components constitute the project:

#### Macadamia Farming:

- Macadamia trees will be planted on the suitable soils.
- A total area of 17.46ha is to be cleared and utilized for agriculture (macadamia tree)
- The trees will be farmed according to best practice standards.

See proposed layout for orientation and reference Appendix A.

G.P.S co-ordinates

25°	25'	18.8047"	30°	44'	49.8335"
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### KEY ENVIRONMENTAL ISSUES RAISED

A baseline description of the environment was gathered through visual inspections of the site and its surroundings, desktop studies as well as preliminary specialist findings. This information was used to assess the potential areas of study, as a result of the proposed development.

The key issues identified include:

- ♦ Access roads, maintenance, and potential erosion.
- ♦ Impact that the proposed clearing and cultivation may have on fauna and flora.
- ♦ Impact of the proposed fields on wet areas.
- ♦ General land degradation.
- ♦ Chemical use.
- ♦ Runoff

As a result of the above-mentioned anticipated impacts, the specialist studies as listed below, will be undertaken during the EIA phase of the process. Such specialist studies assist with the development of an understanding of the processes involved and the potential positive and negative impacts of the proposed development on both the social and biophysical environments:

1. Wetland Delineation and Functionality Assessment

2. Cultural and Historical Assessment
3. Ecological Sensitivity Assessment

## PUBLIC PARTICIPATION PROCESS

The Public Participation Process (PPP) was undertaken according to Regulation 54 of the EIA Regulations, 2014, and took into consideration the Public Participation 2010 Guideline Document (DEA, 2010).

The level of public participation was determined by taking into account the scale of the anticipated impacts of the proposed project, the sensitivity of the affected environment and the degree of controversy of the project, and the characteristics of the potentially affected parties. Based on the findings of the aforementioned consideration, there was no reason to elaborate on the minimum requirements of the public participation process outlined in the EIA Regulations, 2014 or use reasonable alternative methods for people desiring of but unable to participate in the process due to illiteracy, disability or any other disadvantage.

Potentially interested and affected parties were notified of the proposed application by –

- Fixing a notice board at a place conspicuous to the public. There was no reasonable alternative site.
- Placing an advertisement in a local newspaper, the Lowvelder. No official Gazette existed at the time of the application. The proposed activity shall not have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it will be undertaken.

- Giving written notice to owners and occupiers of land adjacent, and organs of state having jurisdiction in respect of the proposed activity. The applicant, Boschkom Estates Pty Ltd, is the owner of the land. Consequently, a Background Information Document (BID) was prepared and distributed via email.

## SECTION B: ROLE PLAYERS

### 1 RESPONSIBILITIES OF THE ROLE PLAYERS

#### 1.1 Developer

The developer remains ultimately responsible for ensuring that the development is implemented according to the requirements of the EMPR. Although the developer appoints specific role players to perform functions on his/her behalf, this responsibility is delegated. The developer is responsible for ensuring that sufficient resources (time, financial, human, equipment, etc.) are available to the other role players (e.g. the ECO, ELO and farm management) to efficiently perform their tasks in terms of the EMPR. The developer is liable for restoring the environment in the event of negligence leading to damage to the environment.

The developer must ensure that the EMPR is included in the tender documentation so that the farm management who is appointed is bound to the conditions of the EMPR. The developer must appoint an independent Environmental Control Officer (ECO) during the planning phase to oversee all the environmental aspects relating to the development.

Fourteen (14) days written notice must be given to the Department that the activity will commence. Commencement includes sites preparation. The notice must include a date on which it is anticipated that the activity will commence and must include the name and contact details of the appointed ECO.

Any changes to, or deviations from, the project description set out in the RoD must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the RoD to apply for further authorisation in terms of the regulations.

Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/or telephonic details, the applicant must notify the Department (DARDLEA) as soon as the new details become known to the applicant.

The holder of the authorisation (RoD) must submit an environmental compliance audit report to the Department within 30 days of completion of the clearing and cultivation phase. The environmental audit report must be compiled by an independent auditor, and must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the conditions of the RoD as well as this EMPR.

The holder of the RoD is responsible for compliance with the provisions for Duty of Care and Remediation of Environmental

Damage contained in Section 28 of the National Environmental Management Act, 1998 (Act 107 of 1998).

A copy of the Record of Decision must be kept at the property where the activity will be undertaken. The authorization must be produced to any authorised official of the department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorization who works or undertakes work at the property.

## **1.2 Farm management**

The farm management, as the developer's agent on sites, is bound to the EMPR conditions through his/her contract with the developer and is responsible for ensuring that she/he adheres to all the conditions of the EMPR. The farm management must thoroughly familiarise him/herself with the EMPR requirements before coming onto sites and must request clarification on any aspect of these documents, should they be unclear. The farm management must ensure that he/she has provided sufficient budget for complying with all EMPR conditions at the tender stage. The farm management must comply with all orders (whether verbal or written) given by the ECO, project manager or sites engineer in terms of the EMPR.

## **1.3 Environmental Control Officer (ECO)**

The Environmental Control Officer (ECO) is appointed by the developer as an independent monitor of the implementation of the EMPR. He/she must form part of the project team, appointed prior to commencement of clearing and cultivation (including clearing and cultivation camp selection and sites clearing) and be involved in all



aspects of project planning that can influence environmental conditions on the sites. Where possible, the ECO must attend relevant project meetings, conduct inspections to assess compliance with the EMPR and be responsible for providing feedback on potential environmental problems associated with the development. In addition, the ECO is responsible for:

- ❖ Liaison with relevant authorities;
- ❖ Liaison with farm management regarding environmental management; and
- ❖ Undertaking routine monitoring and appointing a competent person/institution to be responsible for specialist monitoring, if necessary.

The ECO has the right to enter the sites and undertake monitoring and auditing at any time, subject to compliance with health and safety requirements applicable to the sites (e.g. wearing of safety boots and protective head gear).

#### **(a) Liaison with Authorities**

The ECO will be responsible for liaising with the Department. The ECO must submit monthly environmental compliance reports to the authorities. These reports must contain information on the farm management and developer's levels of compliance with the EMPR; a description of all activities on sites, problems identified, transgressions noted and remedial action implemented. All reports must reflect the Department's reference number on the cover. The ECO is to suggest corrective action measures to eliminate the occurrence of the non-compliance incidents. In order to keep a record of any impacts, the ECO must keep on-sites: an Environmental Sites Diary (which needs to be kept up-to-date),

copies of all reports submitted to the Department, a complaints register of all public complaints and the remedies applied to such complaints. The ECO must remain employed until all rehabilitation measures as well as sites clean-up are completed.

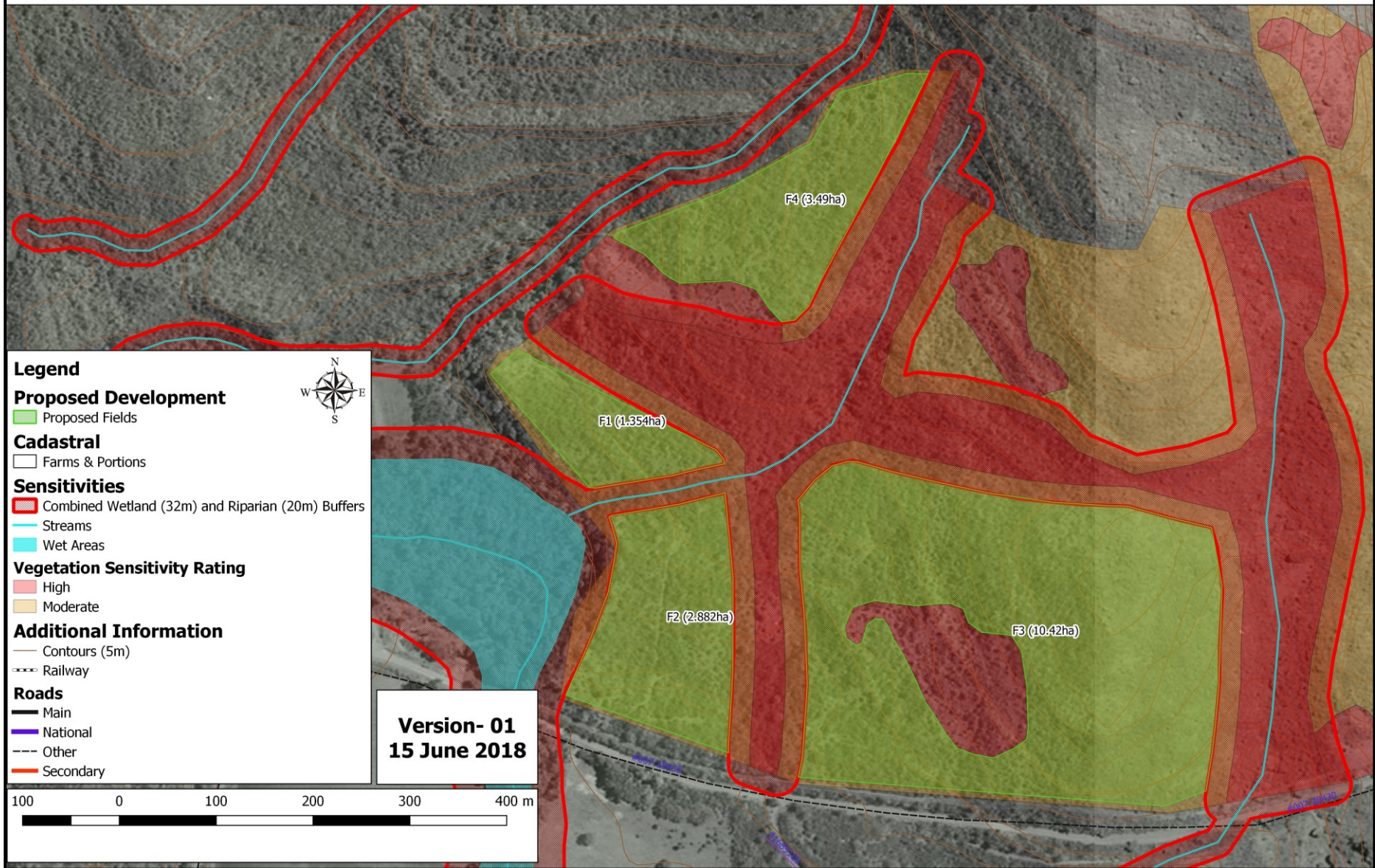
#### **(b) Liaison with Farm management**

The ECO is responsible for informing the farm management of any decisions that are taken concerning environmental management during the clearing and cultivation phase. This would also include informing the farm management of the necessary corrective action to be taken.

### **1.4 The Authorities**

The Department (DARDLEA) retains the right to monitor and/or inspect the proposed project during both clearing and cultivation and operational phases.

# Layout & Sensitivity Map - The clearing and cultivation of approximately 14.6 ha on the farm Boskom1025 JT.



## SECTION C: PLANNING AND DESIGN PHASE

<i>Issue/Activity</i>	<i>Action Required</i>	<i>Responsible person</i>	<i>Frequency</i>
1. <u>EMPR</u>	An approved ECO must be appointed before any clearing and cultivation activities commence. It is recommended that for the initial commencement phase the ECO is on sites once a week as a minimum, thereafter the frequency can be negotiated between the ECO and the farm management as required. This EMPR must be made binding to the farm management and possible farm managements and should be included in tender documentation for the clearing and cultivation contract. The farm management must also ensure that the clearing and cultivation crew is aware of the requirements set out in the EMPR for this development prior to commencing activities on sites.	Developer	<b>Prior to clearing and cultivation starting.</b>

<p><b>2. <u>Preparation for clearing and cultivation-</u></b></p> <p><i>Sound environmental principles need to be adopted in the preparation of the sites.</i></p>	<p>a) Erect a barrier demarcating the proposed sites.</p> <p>b) Ensure that perimeter marking is kept and maintained in good working order for the total duration of the clearing and cultivation project.</p> <p>c) The area outside of the proposed fields footprints (no development) as well as the buffers and riparian zones, need to be appropriately demarcated and staff need to be instructed to only conduct approved activities within these areas (i.e. alien invasive species removal). The proposed barrier needs to be checked by the ECO for efficacy.</p> <p>d) Do not use the sites for any other purpose other than for the proper carrying out of the Works under the Contract.</p> <p>e) Marking for surveying and other purposes must be done using pegs, beacons or rope and droppers.</p> <p>f) That all protected trees be identified before the development takes place to ensure that they are not damaged.</p> <p>g) An ECO needs to be appointed to oversee clearing and cultivation, including the identification and relocation of plants of conservation concern prior to clearing and sites preparation.</p> <p>h) The surveyor and farm management must clearly demarcate the centre or boundary of a servitude or footprint prior to clearing (for clearing and cultivation or surveying) so that the ECO can search for plants of conservation concern, mark them with danger tape and record protected plants that are going to be disturbed or destroyed. Searches also need to be carried out on temporary access roads and stockpile sites.</p> <p>i) The Developer must obtain a permit from the MTPA or a licence from the DWAF, to disturb or destroy protected plants before any clearing takes place.</p> <p>j) The developer must allocate a sufficient budget for rescuing and nursing plants of conservation concern, including translocation or transplanting, training, supervision, labour, black bags, compost, watering, maintenance and a nursery.</p> <p>k) The ECO must induct, and train (at least 2 full days) the farm</p>	<p>Farm management Farm management</p> <p>Farm management</p> <p>ECO</p> <p>Farm management</p> <p>ECO</p> <p>Farm management ECO/Specialist</p> <p>Farm management/ECO</p> <p>Farm management</p> <p>Farm management</p> <p>ECO</p>	<p><b>Once-off</b> <b>Continuous</b></p> <p><b>Prior to clearing and cultivation commencing</b></p> <p><b>Bi-weekly</b></p> <p><b>Continuous</b></p> <p><b>Once off</b></p> <p><b>Once-off</b></p> <p><b>Once-off</b></p> <p><b>Once-off</b></p> <p><b>Once-off</b></p> <p><b>Continuous</b></p> <p><b>Once-off</b></p>
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	<p>management's labourers and supervisor how to successfully translocate and transplant local plants.</p> <p>l) All plants of conservation concern, excluding large trees that exceed the capabilities of the contractor's excavator, must be either transplanted into a nursery, i.e. Aloe and bulbous sp. or translocated outside the working servitude, i.e. seedlings, saplings &amp; mature trees. Translocated trees will need to be watered. Rescued plants are to be used in landscaping and rehabilitation.</p> <p>m) The farm management may not dump cleared vegetation onto living plants unless it is on a site that has been searched for plants of conservation concern and approved by the ECO for stockpiling cleared vegetation.</p> <p>n) All areas, other than the clearing and cultivation areas (camp, roads and defined servitudes or footprints) are "no-go" areas. Demarcate (&amp; maintain) walking &amp; working areas with danger tape.</p> <p>o) Utilise the method of debushing most appropriate for the environment and species in question. Favour mechanical rather than chemical methods wherever possible.</p> <p>p) No vegetation on neighbouring properties may be damaged or utilised</p> <p>q) Exotic (invasive) flora – to be removed from the sites; a weed control program implemented and spread of exotic invasive species to be controlled</p> <p>r) Before any clearing and cultivation, borrowing and/or quarrying, the entire available topsoil layer (except in the area designated "no development") has to be stripped. Ensure that it is stockpiled separately from subsoil and rocky material.</p> <p>s) In the absence of a recognisable topsoil layer, strip the upper most 300mm of soil.</p> <p>t) Co-ordinate excavation to limit unnecessarily prolonged exposure of stripped areas and stockpiles. Retain vegetation and soil in position for as long as possible, removing it immediately ahead of clearing and cultivation / earthworks in</p>	<p>ECO/Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Once-off</b></p> <p><b>Continuous</b></p> <p><b>Once-off</b></p> <p><b>Once-off</b></p> <p><b>Once-off</b></p> <p><b>Once-off, monitor regularly</b></p> <p><b>Once-off, monitor regularly</b></p> <p><b>Once-off, monitor regularly</b></p> <p><b>Once-off, monitor regularly</b></p> <p><b>Once-off, monitor regularly</b></p>
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	<p>that area.</p> <p>u) Strip and stockpile herbaceous vegetation, overlying grass and other fine organic matter along with the topsoil.</p> <p>v) Do not strip topsoil when it is wet.</p> <p>w) Store stripped topsoil in an approved location and in an approved manner for later re-use in the rehabilitation process.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Once-off, monitor regularly</b></p> <p><b>Once-off, monitor regularly</b></p>
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<p><b>3. <u>Clearing and cultivation sites</u></b></p> <p><i>Careful planning of the Clearing and cultivation sites can ensure that time and costs associated with environmental management and rehabilitation are reduced.</i></p> <p><b><u>With regards to the establishment of the campsites, mitigation measures as detailed in the section to the right will only be applicable should the workforce of the appointed contractors stay overnight. This aspect will, therefore, have to be confirmed first, on sites prior to commencement of any activities.</u></b></p>	<p><b>3.1. Structures and accommodation</b></p> <p>a) Erect all temporary buildings and structures; including offices, workshops, and stores, within predetermined zones as per the approved sites plan.</p> <p>b) Erect all temporary and permanent labour housing within predetermined zones off the clearing and cultivation sites as per the approved sites plan and / or relevant Sketch Plans.</p> <p>c) Ensure that essential services (including showers, appropriate sanitation and drinking water facilities) are provided for all housing and/or campsites.</p> <p>d) Maintain essential services in a functional state. These may not be overloaded. Defects and inadequacies must be rectified immediately.</p> <p>e) Scavenger and weather proof bins will be provided in a suitable waste storage area for temporary storage. These bins will be emptied and transported to an appropriate facility once a week.</p> <p>f) Provide a designated place for food storage, preparation and consumption. Food storage must be separate from sleeping quarters and waste storage areas.</p> <p>g) Ensure that cooking facilities, as approved by the Project Manager is made available - preferably gas or electricity. Ensure regular checks of the mentioned facilities as per OSH Act and/or sites safety plan by the relevant appointed personnel.</p> <p>h) Allow for household amenities, such as washing and drying of clothes, as well as areas for social interaction.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management/ Project manager</p> <p>Farm management/ Project manager</p> <p>Farm management</p> <p>Farm management/ Project manager</p> <p>Farm management/ Project manager</p> <p>Farm management/ Project manager</p>	<p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p> <p><b>Continuous</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p>
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	<p>i) The Farm management must attend to drainage of the camp sites to avoid standing water and / or sheet erosion.</p> <p><b>3.2. Storage areas</b></p> <p>a) A suitable and safe area for storage of the clearing and cultivation material is to be provided: choice of location for storage areas must take into account prevailing winds, distance to water bodies (no storage within 100 m of the wetland) and general on-sites topography.</p> <p>b) Storage areas must be designated, demarcated and fenced if necessary</p> <p>c) Storage areas should be secure so as to minimise the risk of crime. They should also be safe from access by children/ animals etc.</p> <p>d) Hazardous materials such as fuel, oil, paint, herbicide and insecticides shall be stored in bermed areas or under lock and key, as appropriate, in well ventilated areas.</p> <p>e) Definitions of hazardous substances / materials are those that are potentially: poisonous, flammable, carcinogenic or toxic.</p> <p>f) Material Safety Data Sheets (MSDSs) shall be readily available on sites for all chemicals and hazardous substances to be used on sites. Where possible and available, MSDSs should additionally include information on ecological impacts and measures to minimise negative environmental impacts during accidental releases or escapes.</p> <p>g) Fire prevention facilities must be present at all storage facilities.</p> <p>h) Sufficient care must be taken when handling these materials to prevent pollution.</p> <p><b>3.3. Roads and Access</b></p> <p>a) Choice of access routes should take into account minimum disturbance to public and neighbours in close proximity to the sites.</p> <p>b) Wherever possible existing roads should be used to avoid the</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management/ Project manager</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Continuous</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b> <b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p>
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	disturbance of additional land or natural veld. c) Runoff from roads must be managed to avoid erosion and pollution problems.	Farm management	Initial set-up period
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<p><b>5. <u>Alien Invasive Species</u></b></p> <p><i>It is important at the outset of a project to establish a program for the eradication and control of alien invasive vegetation</i></p>	a. Areas such as watercourses, wetlands, riparian and pristine areas must be prioritised.	Farm management / ECO	<b>Prior to sites clearing and clearing and cultivation</b>
	b. Alien vegetation need only be eradicated on sites where the entire site is not cleared.	Farm management / ECO	<b>To be determined prior to sites clearing</b>
	c. The ECO is responsible for the identification of alien invasive species. The specie-specific method of control and eradication should be implemented.	ECO	<b>Prior to sites clearing</b>
	d. The ECO is responsible to provide the specific training required to implement the required control method. Only personnel who have been appropriately trained is allowed to engage in this activity.	ECO	<b>Prior to sites clearing</b>
	e. All personnel tasked to engage in the process of alien invasive vegetation control needs to receive proper training in the following: <ul style="list-style-type: none"> <li>- Methods and control measures.</li> <li>- Equipment and techniques</li> <li>- Types of herbicide (selective and non-selective)</li> <li>- Health and safety issues</li> <li>- Safety gear</li> </ul>	ECO / Farm management	<b>Prior to sites clearing</b>
	f. Prior to the actual eradication process the ECO or farm management must ensure the following: <ul style="list-style-type: none"> <li>- All personnel have adequate training required</li> <li>- All personnel have essential safety equipment</li> <li>- <b>Only identified alien species are targeted</b></li> <li>- Ensure correct application of herbicides</li> </ul>	ECO / Farm management	<b>Prior to sites clearing</b>
	g. Team supervisors must receive training in the following: <ul style="list-style-type: none"> <li>- Herbicide awareness. Basic training on the mode of action of herbicides.</li> <li>- Operator safety. Handling of concentrates and spray mixtures, personal hygiene and protective clothing.</li> <li>- Safe storage of products at depots and operational sites</li> </ul>	ECO / Farm	<b>Prior to sites clearing</b>







## SECTION D: CLEARING AND CULTIVATION PHASE

### 1. Maintenance of Clearing and cultivation sites

*Conscientious maintenance of the Clearing and cultivation sites can ensure that time and costs associated with environmental management and rehabilitation are reduced.*

**With regards to Ablutions Camp/sites Waste Disposal, Provision of Water and Provision of Food preparation and eating areas - mitigation measures as detailed in the section to the right will only be applicable should the workforce of the appointed contractors stay overnight. This aspect will, therefore, have to be confirmed first, on sites prior to commencement of any activities.**

### 1. **Maintenance of Access**

- a) Farm management should ensure that access roads are maintained in good condition by attending to potholes, corrugations and stormwater damage as soon as these develop.
- b) If necessary, staff must be employed to clean surfaced roads adjacent to clearing and cultivation sites where materials have been spilt.

### 2. **Surfaces**

- a) The Farm management must monitor and manage drainage of the camp sites to avoid standing water and soil erosion.
- b) The clearing and cultivation sites must be fenced off and demarcation of material lay down areas must precede all activities on sites.
- c) Run-off from the camp sites must not discharge into neighbouring properties or adjacent wetland/riparian belt.

### 3. **Ablutions**

- a) An adequate number of portable/ chemical toilets shall be supplied (1 toilet per 15 users is the norm). The use of septic tanks, soak ways or pit latrines is strictly prohibited.
- b) Do not locate any sites toilet, sanitary convenience, within a horizontal distance of 100m of the identified wetland or riparian zone.
- c) The Farm management is to ensure that open areas or the surrounding bush are not being used as a toilet facility.
- d) Regular inspections shall be carried out to ensure toilets are kept in a hygienic state.
- e) Chemical toilets are to be cleaned regularly and effluent disposed of off-sites at an approved municipal sewage system.

Farm management

**Weekly inspection**

Farm management

**When necessary**

Farm management

**Continuous**

Farm management

**Initial set-up period**

Farm management

**Initial set-up period**

Farm management

**Initial set-up period**

Farm management

**Initial set-up**

Farm management

**Weekly**

Farm management

**Weekly**

Farm management

**Weekly**

Farm management

**Once-off, monitor daily**

Farm management

**Initial set-up period**

	<p>f) Toilet paper shall be supplied to all toilets. Combine drinking water facilities with hand washing facilities near sites toilets.</p> <p>g) Toilet facilities will be screened and put as far away from the neighbours and roads as possible</p> <p><b>4. Camp/sites Waste Disposal</b></p> <p>a) Refuse generated from the campsites, clearing and cultivation area, storage area or any other area shall be collected and placed in suitable covered refuse bins on a daily basis. A litter patrol around the clearing and cultivation camp is to take place every day to collect any litter that may have been strewn around.</p> <p>b) Bins and/or skips should be emptied regularly and waste should be disposed of at a registered landfill sites.</p> <p>c) All refuse containers are to be covered at all times.</p> <p><b>5. Provision of Water</b></p> <p>a) Sufficient potable water shall be provided for drinking, cooking and ablutions.</p> <p>b) Great care is to be taken that the water supply is not contaminated in any way.</p> <p><b>6. Provision of Food preparation and eating areas</b></p> <p>a) Provide a designated place for food storage, preparation and consumption. Food storage must be separate from waste storage areas.</p> <p>b) Eating areas should be regularly serviced and cleaned to ensure the highest possible standards of hygiene and cleanliness.</p> <p>c) All litter throughout the sites should be picked up and placed in the bins provided</p> <p>d) Open fires should not be allowed. Fires for cooking should be limited to fire places designed for the purpose. Gas is more preferable</p>	<p>Farm management/ Project manager</p> <p>Farm management/ Project manager Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Once-off, monitor daily</b></p> <p><b>Weekly</b></p> <p><b>As required</b></p> <p><b>Daily</b></p> <p><b>Initial set-up period</b></p> <p><b>Daily</b></p> <p><b>Daily</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p> <p><b>Initial set-up period</b></p>
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<p><b>b) <u>Staff conduct</u></b></p>	<p><b>1. Environmental Education and Awareness</b></p> <p>a) Ensure that all sites personnel have a basic level of environmental awareness training.</p> <p>b) It is essential that clearing and cultivation personnel be made aware of the sensitivity of the “no development” zones (the pristine areas, koppies, grasslands, and wetlands) and that their movements be limited to the clearing and cultivation areas only, which needs to be enforced.</p> <p>c) It is the Farm management’s responsibility to provide the sites foreman with no less that 1 hour’s environmental training and to ensure that the foreman has sufficient understanding to pass this information onto the clearing and cultivation staff.</p> <p>d) Translators are to be used where necessary.</p> <p>e) The need for a “clean sites” policy also needs to be explained to the clearing and cultivation workers.</p> <p><b>2. Worker conduct on sites</b></p> <p>a) A general regard for the social and ecological well-being of the sites and adjacent areas (especially the untransformed areas), is expected of the sites staff.</p> <p>b) Workers need to be made aware of the following general rules:</p> <p>i.) No alcohol / drugs to be present on sites.</p> <p>ii.) No firearms allowed on sites or in vehicles transporting staff to / from sites, (unless used by security personnel).</p> <p>iii.) Prevent excessive noise.</p> <p>iv.) Prevent unsocial behaviour.</p> <p>v.) Bringing pets onto the sites is forbidden</p> <p>vi.) No harvesting of firewood from the sites or from the areas adjacent to it</p> <p>vii.) Clearing and cultivation staff are to make use of the facilities provided for them, as opposed to ad-hoc alternatives. (e.g.: fires for cooking; the use of surrounding bush as a toilet facility; are forbidden).</p> <p>viii.) Trespassing on private / commercial properties adjoining</p>	<p>Project manager / ECO</p> <p>Farm management / ECO</p> <p>Farm management</p> <p>Farm management Farm management</p> <p>Project manager /ECO</p> <p>Project manager</p>	<p><b>During staff induction &amp; ongoing</b></p> <p><b>During staff induction, to be monitored continuously</b></p> <p><b>Prior to moving onsite</b></p> <p><b>Continuous</b> <b>Continuous</b></p> <p><b>During staff induction &amp; ongoing</b></p> <p><b>During staff induction &amp; monitored on an ongoing basis</b></p>
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	<p>the sites is forbidden</p> <p>ix.) Driving under the influence of alcohol is prohibited.</p> <p><b>3. Fauna and Flora</b></p> <p>a) Capture/snaring of fauna is strictly prohibited</p> <p>b) Anyone found doing the above-mentioned will be prosecuted or disciplined</p> <p>c) Faunal species found should be translocated</p> <p>d) No vegetation on neighbouring properties (or in the untransformed “no development” zone) is to be used for firewood.</p> <p>e) Permits are required for removal, relocation and pruning of protected species (permits can be obtained from MPTA or DWS)</p>	<p>Farm management/ ECO</p> <p>Farm management</p> <p>ECO</p> <p>Farm management/ ECO</p> <p>Farm management/ ECO</p>	<p><b>Continuous</b></p> <p><b>As necessary</b></p> <p><b>As necessary</b></p> <p><b>Continuous</b></p> <p><b>As necessary</b></p>
<p><b>c) <u>Dust/Air pollution</u></b></p> <p><i>Main causes of air pollution is dust from vehicle movements and stockpiles, vehicle emissions and fires.</i></p>	<p>a) Phasing of operations will avoid the exposure of soil and sand for prolonged periods.</p> <p>b) If necessary, the clearing and cultivation sites shall be watered (or an appropriate alternative method used) to control possible dust fallout.</p> <p>c) Vehicles travelling to and from the clearing and cultivation sites must adhere to speed limits (40 km/h) so as to avoid producing excessive dust.</p> <p>d) Vehicles and machinery are to be kept in good working order and to meet manufacturer’s specifications for safety, fuel consumption etc.</p> <p>e) No fires are allowed on sites unless first cleared with the ECO and Project Manager.</p> <p>f) Stockpiles may cause dust and so must be managed in accordance with the guidelines in Materials Management in section 8.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management / ECO</p> <p>Farm management</p>	<p><b>Monitor daily</b></p> <p><b>Monitor daily</b></p> <p><b>Continuous</b></p> <p><b>Weekly</b></p> <p><b>As necessary</b></p> <p><b>Daily</b></p>

<p>d) <b><u>Soil Erosion</u></b></p>	<p><b>1. Topsoil stripping and stockpiling</b></p> <p>a) Once an area has been cleared of vegetation, the top layer (nominally 150mm) of soil should be removed and stockpiled in a designated area. Topsoil is to be handled twice only – once to strip and stockpile, and once to replace and level.</p> <p>b) Should there be a need to stockpile soil; those stockpiles must be covered in excessively windy conditions</p> <p>c) No stockpiles or clearing and cultivation materials may be stored or placed within any drainage line (including the wetland) on sites or in close proximity to stormwater drains.</p> <p>d) Position topsoil stockpiles on the higher side of a disturbed area.</p> <p>e) Ensure that all topsoil is stored in such a way and in such a place that it will not cause the damming up of water, erosion gullies, or wash away itself.</p> <p>f) Do not stockpile topsoil in heaps exceeding <b>2m</b> in height.</p> <p>g) Protect topsoil stockpiles from erosion.</p> <p>h) Fencing may not cause erosion and may not impede the flow of any watercourse or natural drainage. Fencing must be monitored throughout the clearing and cultivation phase, and any signs of erosion resulting from it must be remedied immediately.</p> <p>i) Remove exotic / invasive plants and broad leaf weeds that emerge on topsoil stockpiles</p> <p>j) Ensure that topsoil is at no time buried, mixed with spoil (excavated subsoil), rubble or building material, or subjected to compaction or contamination by vehicles or machinery. This will render the topsoil unsuitable for use during rehabilitation.</p> <p>k) The Farm management will be held liable for the replacement of any topsoil rendered unsuitable for use during rehabilitation, for reasons due to his negligence or mismanagement on sites.</p> <p><b>2. Exposed surfaces</b></p> <p>a) The time that stripped areas are exposed shall be minimised</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management / ECO</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Once-off, monitor regularly</b></p> <p><b>As required</b></p> <p><b>Once-off, monitor regularly</b></p> <p><b>Once-off, monitor regularly</b></p> <p><b>Once-off, monitor regularly</b></p> <p><b>Once-off, monitor regularly</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p>
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	<p>wherever possible.</p> <p>b) Top soiling and revegetation shall commence immediately after the completion of an activity and at an agreed distance behind any particular work front.</p> <p>c) Stormwater control (See 5) and wind screening should be undertaken to prevent soil loss from the sites.</p> <p>d) Side tipping of spoil and excavated materials shall not be permitted – all spoil material shall be disposed of as directed by the farm management.</p> <p>e) Soils that become compacted through the activities of the development must be loosened to an appropriate depth to allow seed germination.</p> <p>f) Structures to prevent erosion must be built in areas that are prone to erosion (especially steep roads)</p> <p><b>3. Surface water management</b></p> <p>a) No water may be abstracted from any surface water body without necessary permission from DWAF for the purpose of clearing and cultivation unless permitted in terms of the Contract.</p> <p>b) Monitor water consumption and ensure that all possible use is accounted for and areas of waste are identified (i.e. water used for surface wetting, for potable supply etc.).</p> <p>c) Repair identified leaks and address issues of water wastage as soon as these are identified.</p> <p>d) Where possible, recycle water on the clearing and cultivation sites.</p> <p>e) Avoid over-wetting, saturation and unnecessary runoff during dust control activities and irrigation.</p> <p>f) Ensure that water abstraction points, if permitted, (i.e. from rivers, dams, etc.) do not degrade or erode as a result of leaking pipes, spills, muddy conditions or wash-aways. Rectify problems as soon as they arise.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Project manager</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Monitor regularly</b></p> <p><b>Monitor regularly</b></p> <p><b>As each activity is completed</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>As required</b></p> <p><b>Where identified</b></p> <p><b>Prior to clearing and cultivation starting</b></p> <p><b>Monitor daily</b></p> <p><b>Whenever identified</b></p> <p><b>Whenever identified</b></p> <p><b>Monitor daily</b></p>
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<p><b>e) <u>Stormwater</u></b>  <i>Clearing and cultivation activities frequently result in diversions, of natural water flow resulting in concentration of flow and an increase in the erosive potential of the water. Measures in this section is aimed at reducing the erosive potential of stormwater.</i></p>	<p><b>1. General Principles</b></p> <p>a) Do not drain, fill or alter in any way, any <b>wetland</b>.</p> <p>b) Do not allow surface water or stormwater to be concentrated, or to flow down, cut or fill slopes without erosion protection measures being in place.</p> <p>c) Earth, stone and rubble is to be properly disposed of so as not to obstruct natural water pathways over the sites. i.e.: these materials must not be placed in stormwater channels, drainage lines or the wetland.</p> <p>d) Line overflow and scour channels with stone pitching along their length and at their points of discharge to prevent soil erosion. The point of discharge must be at a point where there is dense natural grass cover.</p> <p>e) Ensure that channels do not discharge straight down the contours. These must be aligned at such an angle to the contours that they have the least possible gradient.</p> <p>f) Locate any point of overland discharge at least 50m away from the wetland or drainage line. No surface stormwater generated as a result of the development may be directed directly into any watercourse.</p> <p>g) Surface water rich in sediments and other pollutants must be prevented from entering any watercourse, and all mechanisms for dissipating water energy must be implemented at the inception of the clearing and cultivation phase.</p>	<p>Project manager Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Monitor weekly</b> <b>Monitor daily</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>When the need arises</b></p> <p><b>Whenever the need arises</b></p> <p><b>Continuous.</b> <b>Prior to clearing and cultivation</b></p>
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<p><b>f) <u>Water Quality (Surface and groundwater)</u></b></p> <p><i>Water quality is affected by the incorrect handling of substances and materials. Soil erosion and sediment is also detrimental to water quality. Mismanagement of polluted run-off from vehicle and plant washing and wind dispersal of dry materials into rivers and watercourses are detrimental to water quality.</i></p>	<p><b>1. <u>General Principles</u></b></p> <p>a) Mixing / decanting of all chemicals and hazardous substances must take place either on a tray or on an impermeable surface. Waste from these should then be disposed of to a suitable waste site.</p> <p>b) The storage and handling of fuel, lubricants and other chemicals must be in especially demarcated impervious and bunded areas</p> <p>c) Every effort should be made to ensure that any chemicals or hazardous substances do not contaminate the soil or groundwater on sites. It is the holder of the RoD's responsibility to rectify any source of pollution from the development and to take appropriate measures to prevent any pollution of surface as well as groundwater.</p> <p>d) Care must be taken to ensure that run-off from vehicle or plant washing does not enter the ground water.</p> <p>e) Wash water must pass through a French drain system before entering the environment.</p> <p>f) Ensure that no stormwater is allowed to enter any drainage installation for the reception, conveyance, storage and / or treatment of sewage.</p> <p>g) Ensure that water passing through vehicle wash bays and workshops pass through oil baffles / oil traps / oils separators before passing into conservancy tanks.</p> <p>h) Treat all oil sludge collected in the said traps, including sump liners, as hazardous waste</p> <p>i) Take special care during rainy periods to prevent the contents of sumps and drip trays from overflowing.</p> <p>j) If water will be sourced from the on-sites boreholes, the water needs to be properly treated prior to human consumption. Untreated water can be used for all other activities such as washing of equipment, dust suppression, concrete mixing, compacting etc.</p> <p>k) Deflect any unpolluted water / runoff away from any dirty area</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management / Developer</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Regular Monitoring.</b></p> <p><b>Prior to start of clearing and cultivation – monitor regularly</b></p> <p><b>Regular Monitoring.</b></p> <p><b>Regular Monitoring</b></p> <p><b>Regular Monitoring</b></p> <p><b>Regular Monitoring</b></p> <p><b>Regular Monitoring</b></p> <p><b>Regular Monitoring</b></p> <p><b>Whenever the need arises</b></p> <p><b>During rainy periods</b></p> <p><b>Regular</b></p>
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	<p>l) Emergency contact numbers should be referred to in order to deal with spillages and contamination of aquatic environments.</p>	<p>Farm management Farm management</p>	<p><b>monitoring</b> <b>Regular monitoring</b> <b>Whenever required</b></p>
<p><b>g) <u>Wetland Protection</u></b>  <i>All requirements of the National Water Act, 1998 (Act 36 of 1998) must be complied with as prescribed by the Department of Water Affairs and Forestry (DWAF).</i></p>	<p>a) No activity such as clearing and cultivation camps, temporary housing, temporary ablution, stockpiling of topsoil, storing of equipment and material, disturbance of natural habitat, temporary access haul roads, impermeable surfacing, any other activity</p> <p>b) It is further recommended that no roads be constructed through the wetland.</p> <p>c) No channelling of water must take place (wetlands should retain diffuse flow),</p> <p>d) No stormwater or runoff from the roads is allowed straight into the wetlands without first slowing the flow and where possible filtering litter, etc.</p> <p>e) Alien vegetation should be removed from the wetland.</p> <p>f) An Emergency Preparedness Plan should detail potential risks and anticipate where and when incidents could occur, and what steps should be taken in the event that a spill occurs.</p>	<p>Farm management / ECO</p> <p>Farm management / ECO</p> <p>Farm management / ECO</p> <p>Farm management / ECO</p> <p>Farm management / ECO</p> <p>Farm management / ECO</p> <p>Farm management / ECO</p>	<p><b>Continuous</b></p> <p><b>Initial sites preparation</b></p> <p><b>Initial sites preparation</b></p> <p><b>Weekly monitoring</b></p> <p><b>Initial sites preparation</b> <b>Initial sites preparation</b></p>



	<p><b>4. Soil erosion -</b></p> <p>a) All topsoil removed during clearing of roads and housing footprints should be stockpiled for later use such as landscaping gardens and / or rehabilitating disturbed areas. Stockpiling must not take place within any drainage lines.</p> <p>b) Any steep road surfaces should have water-traps and drainage furrows constructed in order to direct water off the road as quickly as possible</p> <p>c) Cut-off drains diverting storm water around the perimeter of the development should be professionally designed to handle expected run-off and prevent erosion</p> <p>d) Outflow from cut-off drains and storm water diversions should be attenuated sufficiently to prevent erosion of receiving environment</p>	<p>Farm management / ECO</p> <p>Farm management / ECO</p> <p>Farm management / ECO</p> <p>Farm management / ECO</p> <p>Farm management / ECO</p>	<p><b>Initial sites preparation</b></p> <p><b>Weekly monitoring</b></p> <p><b>Weekly monitoring</b></p> <p><b>Weekly monitoring</b></p>
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<p><b>i) <u>Materials Management</u></b></p>	<p><b>1. Handling Hazardous Materials</b></p> <p>a) All concrete mixing must take place on a designated, impermeable surface.</p> <p>b) No vehicles transporting concrete to the sites may be washed on sites.</p> <p>c) Lime and other powders must not be mixed during excessively windy conditions.</p> <p>d) All substances required for vehicle maintenance and repair must be stored in sealed containers until they can be disposed of / removed from the sites.</p> <p>e) Hazardous substances / materials are to be transported in sealed containers or bags.</p> <p>f) Spraying of herbicides / pesticides should not take place under windy conditions and must comply with OHSAs specs and other chemical handling laws.</p> <p>g) The emergency numbers should be consulted should any accidents / spillages of hazardous substances and / or materials take place. The Project Manager is to outline an emergency plan for dealing with accidents / spillages of hazardous materials. This statement must be handed to the Farm management.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Project manager and Farm management</p>	<p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>As necessary</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Initial set-up / As necessary</b></p> <p><b>Initial set-up/ As necessary</b></p>
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<p><b>j) <u>Waste Management</u></b></p> <p><i>Definition: "Refuse" refers to all clearing and cultivation waste (such as rubble, asphalt millings, cement bags, waste cement, timber, cans, other</i></p>	<p><b>1. General waste management</b></p> <p>a) Refuse must be placed in the designated skips / bins which must be regularly emptied. These should remain within demarcated areas and should be designed to prevent refuse from being blown out by wind.</p> <p>b) In addition to the waste facilities within the clearing and cultivation sites, provision must be made for waste receptacles to be placed at intervals along the work front.</p> <p>c) Littering on sites is forbidden and the sites shall be cleared of litter at the end of each working day.</p> <p>d) Recycling is to be encouraged by providing separate</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Daily</b></p> <p><b>Continuous</b></p>
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<p>containers, wire and nails), household and office waste.</p> <p><b><u>With regards to Waste management and waste disposal mitigation measures as detailed in the section to the right will only be applicable should an additional camp and work area be needed. This aspect will, therefore, have to be confirmed first, on sites prior to commencement of any activities.</u></b></p>	<p>receptacles for different types of waste and making sure that staff are aware of their uses.</p> <p><b>2. Waste Disposal</b></p> <p><b>a) Solid</b></p> <p>i.) Where necessary, dedicate a storage area on sites for the collection of clearing and cultivation waste.</p> <p>ii.) Unless otherwise specified by the Project Manager, remove stored domestic waste to the nearest registered solid waste disposal facility.</p> <p>iii.) Ensure that solid waste is transported properly, avoiding waste spills en-route.</p> <p>iv.) No solid waste may be burned on sites</p> <p><b>b) Liquid</b></p> <p>i.) Any chemical toilets used on sites shall be cleaned regularly and waste disposed of by a registered waste contractor.</p> <p><b>c) Hazardous</b></p> <p>i.) Hazardous waste disposal must be carried out by an approved waste Contractor. Waybills for this should be provided.</p> <p>ii.) A sump (earth or other) must be created for concrete waste. This is to be de-sludged regularly and the cement waste is to be removed to a tip sites as approved by the local municipality.</p> <p>iii.) Collect any hazardous waste in receptacles located on a drip tray on sites pending disposal.</p> <p>iv.) Retain waste oils and batteries for recycling by the supplier wherever possible.</p> <p>v.) Regularly dispose of all hazardous waste not earmarked for reuse, recycling or resale at a registered hazardous waste disposal sites.</p> <p>vi.) Contain chemical spills, and arrange for cleanup / control by the supplier, or by professional pollution control personnel.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Before clearing and cultivation begins On a weekly basis</b></p> <p><b>Continuous</b></p> <p><b>Monitor weekly</b></p> <p><b>Continuous</b></p> <p><b>Monitor weekly</b></p>
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<p><b>k) <u>Social Impacts</u></b></p> <p><i>Regular communication between the Farm management and Interested and Affected Parties (I&amp;AP's) – especially the relevant neighbours and downstream users is important for the duration of the contract.</i></p>	<p>a) Farm management's activities and movement of staff to be restricted to designated clearing and cultivation areas.</p> <p>b) Clearing and cultivation must be limited to normal working hours and hours outside of game drive time. (07h00 – 17h00).</p> <p>c) Should the clearing and cultivation staff be approached by members of the public or other stakeholders, they should assist them in locating the Farm management, or provide a number on which they may contact the Farm management.</p> <p>d) Appropriate notification signs must be erected to warn the public of the dangers of the clearing and cultivation sites.</p> <p>e) The conduct of the clearing and cultivation staff when dealing with the public or other stakeholders shall be in a manner that is polite and courteous at all times.</p> <p>f) Disruption of access for local tenants of adjacent businesses must be minimised and must have the Engineer's/Project Manager's permission</p> <p>g) The Farm management is to inform neighbours in writing of disruptive activities at least 24 hours beforehand. This can take place by way approved of by the I&amp;AP's (especially the adjacent homes) and the Farm management.</p> <p>h) Any complaints received from the public during the clearing and cultivation period must be attended to as soon as possible and addressed to the satisfaction of all concerned.</p> <p>i) Farm management must take measures to discourage labourers from loitering.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Prior to clearing and cultivation</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>At least 24 hours prior to the activity taking place</b></p> <p><b>As the need arises</b></p> <p><b>Continuous</b></p>
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<p><b><u>l) Noise Pollution</u></b></p>	<p>a) Unless otherwise specified by the Project Manager, normal work hours will apply (i.e. from 07h00 to 17h00, Mondays to Saturdays).</p> <p>b) No loud music is permitted on sites.</p> <p>c) Noise from labourers to be controlled</p> <p>d) Noise suppression should be applied to all clearing and cultivation equipment</p> <p>e) <b>If noise levels at the boundaries of the sites exceed 7dB</b> above ambient levels, then the local health authorities are to be informed.</p> <p>f) Notify adjacent landowners of after-hours clearing and cultivation work and of any other activity that could cause a nuisance.</p> <p>g) Respond to community complaints with regard to noise generation, taking reasonable action to eliminate and/or minimise the impact.</p> <p>h) Where complaints cannot be addressed to the satisfaction of all parties, then the Farm management will, upon instruction by the Project Manager, provide an independent and registered Noise Monitor to undertake a survey of the noise output levels. Recommendations to reduce noise to legislated levels must be implemented.</p>	<p>Farm management/ Project Manager</p> <p>Farm management Farm management Farm management</p> <p>Farm management</p> <p>Farm management Farm management</p> <p>Farm management/ Project manager</p>	<p><b>Continuous</b></p> <p><b>Continuous</b> <b>As necessary</b> <b>As necessary</b></p> <p><b>As necessary</b></p> <p><b>As necessary</b> <b>As necessary</b></p> <p><b>As necessary</b></p>
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<b>m) <u>Visual Impacts</u></b>	a) In terms of all infrastructure, it is recommended the access road and all structures be planned so that the unnecessary clearing of vegetation is avoided. This implies making use of already disturbed sites rather than pristine areas wherever possible and avoiding large tree specimens and dense established vegetation areas.	Farm management	<b>Bi-weekly or as necessary</b>
	b) Mitigation of visual impacts associated with the clearing, albeit temporary, entails proper planning, management and rehabilitation. In addition, it is vital that vegetation is not unnecessarily cleared or removed.	Farm management	<b>Continuous</b>
	c) The fields must be maintained in a neat and visually acceptable state throughout the operational life.	Farm management	<b>As necessary</b>

<p>d) <b><u>Archaeological Artefacts</u></b></p>	<p>a) Clearing and cultivation personnel must be sensitised to the requirements of the South African Heritage Resources Act (SAHRA).</p> <p>b) Should any material of cultural or archaeological significance be encountered during clearing and cultivation, all activities must cease immediately and SAHRA must be informed accordingly.</p> <p>c) Artefacts can only be moved once a permit is obtained from SAHRA.</p> <p>d) Should any activity be planned for the historical buildings on-sites (those older than 60 years), the relevant permits and authorisation needs to be applied for according to SAHRA.</p>	<p>Farm management/ ECO</p> <p>Farm management/ ECO</p> <p>Specialist</p> <p>Farm management/ ECO</p>	<p><b>As necessary</b></p> <p><b>Prior to clearing and cultivation</b></p> <p><b>As necessary</b></p> <p><b>As necessary</b></p>
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<p>e) <b><u>Sites Clean-up and rehabilitation</u></b></p>	<p>a) All structures are to be removed from sites.</p> <p>b) The area that previously housed the clearing and cultivation sites is to be checked for spills of substances such as oil, paint etc. and these should be cleaned up.</p> <p>c) All hardened surfaces within the clearing and cultivation sites area should be ripped, all imported materials removed, and the area shall be top soiled and regressed</p> <p>d) The Farm management must arrange the cancellation of all temporary services.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Project completion</b></p> <p><b>Project completion</b></p> <p><b>Project completion</b></p> <p><b>Project completion</b></p>
<p>f) <b><u>Traffic</u></b></p>	<p>a) All heavy vehicles travelling to and from the sites will follow dedicated heavy vehicle routes to avoid roads that are not suited to these vehicles.</p> <p>b) Clear traffic signs and signals will be installed on-sites to provide for safe traffic movement.</p> <p>c) An on-sites speed limit will be enforced.</p>	<p>Farm management</p> <p>Farm management</p> <p>Farm management</p>	<p><b>Daily</b></p> <p><b>Daily</b></p> <p><b>Daily</b></p>

## SECTION E: OPERATIONAL PHASE

<p><b>1. <u>Performance evaluation and record keeping</u></b></p> <p><i>To provide guidance during self-performance evaluations of the operation</i></p>	<p>a) Compile a checklist applicable to the sites and the needed permits from the aspect register and the legal requirements specified and ensure that it is completed once a year. The checklist should typically include all identified aspects (as provided in the above document).</p> <p>b) During this evaluation, specific attention should be given to the effectiveness of the EMPR's and other proposed mitigation measures.</p> <p>c) Ensure that all information obtained from changed process etc. is relayed to all the applicable documents</p>	<p>Land owner</p> <p>Land owner</p> <p>Land owner</p>	<p><b>Annually</b></p> <p><b>Annually</b></p> <p><b>When necessary</b></p>
<p><b>2. <u>Eradication of alien floral species</u></b></p>	<p>a) The use of alien invasive plants for landscaping is prohibited, and a long-term management plan for the eradication and control of existing alien invasive plants should be implemented.</p> <p>b) It is recommended that after the alien plant species are removed, the natural grass or indigenous vegetation from the area be allowed to cover the bare areas where the alien vegetation used to be.</p>	<p>Land owner</p> <p>Land owner</p>	<p><b>Once-off, monitoring</b>      <b>regular</b></p> <p><b>Once-off, monitoring</b>      <b>regular</b></p>
<p><b>3. <u>Erosion</u></b></p>	<p>a) The stormwater system, especially the discharge points, must be inspected and damaged areas must be repaired if required</p> <p>b) Litter blocking the stormwater system must be removed.</p> <p>c) Regular maintenance of the stormwater system must be undertaken. This should include removal of blockages, and monitoring of stability of stormwater structures to prevent any signs of erosion.</p>	<p>Land owner</p> <p>Land owner</p> <p>Land owner</p>	<p><b>Continuous, monitoring</b>      <b>bi-annual</b></p> <p><b>Bi-weekly</b></p> <p><b>Bi-weekly, especially during rainy seasons</b></p>

<p><b>4. <u>Water quality</u></b></p>	<p>a) Any damages to the sewage system must be repaired immediately</p> <p>b) The stormwater system, especially the discharge points, must be inspected and damaged areas must be repaired if required.</p> <p>c) Monitoring of the quality of the water should be done quarterly and sent to DWAF.</p>	<p>Land owner Land owner Land owner/ Specialist  Land owner/ Specialist</p>	<p><b>Monitor regularly</b></p> <p><b>Continuous, bi-annual monitoring</b></p> <p><b>Quarterly</b></p>
<p><b>5. <u>Ecological Monitoring</u></b></p>	<p>a) Regular removal of alien species</p> <p>b) Removal of any litter</p> <p>c) Monitoring of stormwater entering the system [It is recommended that the stormwater management systems be designed in such a way that the natural flow regime (velocity of the water) of the wetlands are not exceeded by 50% in the event of 1:10 year flood to prevent the possibility of erosion in the wetland].</p> <p>d) Farm management are prohibited from harvesting wood or plants from the surrounding plant communities.</p> <p>e) Farm management should be permitted to use plants rescued during clearing and cultivation for landscaping their gardens.</p> <p>f) Activities in the “natural bush” and drainage areas must be strictly managed, no quad bikes, motorcycles and off-road vehicles may be permitted in these areas.</p> <p>g) Appropriate conservation measures must be developed and implemented in conjunction with the MTPA in the event of recording any threatened/near threatened species on the sites.</p>	<p>Land owner / Specialist  Land owner  Specialist Land owner Specialist  Land owner/lodge staff  Land owner/lodge staff  Land owner/lodge staff  Land owner/lodge staff</p>	<p><b>Continuous, bi-annual monitoring</b></p> <p><b>Continuous</b></p> <p><b>Annually</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p> <p><b>Continuous</b></p>

<p><b>6. <u>Pesticide Usage</u></b></p>	<p><b>General Mitigation:</b></p> <p>a) <i>Chemical control of pests on MAWECRO may not take the form of pesticides that pose unmanageable risk such as:</i></p> <ul style="list-style-type: none"> <li><i>i. Those containing Endocrine Disrupting Properties (EDP),</i></li> <li><i>ii. Those containing Persistent Organic Pollutants (POPs),</i></li> <li><i>iii. Those containing carcinogenic and immunotoxic potential,</i></li> <li><i>iv. Those containing formulations classified by WHO as Extremely Hazardous (class 1a) and Highly Hazardous (class 1b), as well as</i></li> <li><i>v. Pesticides associated with frequent and severe poisoning incidents.</i></li> </ul> <p>b) <i>To maintain healthy populations of natural enemies and pollinators, use pesticides sparingly and in accordance with the label and local regulations. Also consider these general guidelines for pesticide applications:</i></p> <ul style="list-style-type: none"> <li><i>i. Choose selective pesticides</i></li> <li><i>ii. Identify the pest and use resources available to determine which pesticides will specifically control that pest. Avoid broad-spectrum insecticides such as organophosphates, carbonates, and pyrethroids, which indiscriminately kill everything. Also avoid broad-spectrum herbicides, which reduce floral plants that attract pollinators.</i></li> <li><i>iii. Choose nonpersistent pesticides</i></li> <li><i>iv. Some pesticides leave residues that kill natural enemies and pollinators long after the initial application (residual toxicity); in addition to immediately killing them (contact toxicity).</i></li> <li><i>v. Choose less harmful formulations</i></li> <li><i>vi. Generally, dusts, powders, and microencapsulated</i></li> </ul>	<p>Land owner/lodge staff</p> <p>Land owner/lodge staff</p> <p>Land owner/lodge staff</p> <p>Land owner/lodge staff</p>	<p><b>Once-off, monitor continuously</b></p> <p><b>Once-off, continuous Monitor continuously</b></p> <p><b>As required</b></p>
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*pesticides are the most harmful to honey bees, and aerial spraying is the most hazardous method of application. Liquid solutions and granules are the least detrimental to pollinators.*

*vii. Spot-treat*

*Targeting your application to specific areas where the pest is a problem will reduce the harm to natural enemies and pollinators.*

*viii. Time applications*

*To protect pollinators and other fauna, avoid spraying when flowers are in bloom. Apply pesticides during the evening or early morning when pollinators are less active. Do not apply when temperatures will be especially low or when dew is expected. Risk of pesticide toxicity is prolonged under these conditions, since residues remain on plants longer.*

*c) Consider water management practices that reduce pesticide movement off-sites*

*d) Consult relevant publications.*

*e) Consider practices that reduce air quality problems:*

*i. When possible, reduce volatile organic compound (VOC) emissions by decreasing the amount of pesticide applied, choosing low-emission management methods, and avoiding emulsifiable concentrate (EC) formulations.*

*f) Protection of water quality:*

*i. Include instituting buffer zones, restricting aerial spraying in a certain proximity to surface water bodies.*

*g) Food Safety:*

*i. Insure that pesticides are properly labelled, and the producers apply those pesticides in accordance with the label. To ensure compliance with relevant*



*legislation.*

*h) Worker Protection:*

*i. The Occupational Health and Safety Act (OHSA). 1993 (Act No. 85 of 1993) regulates health and safety at the workplace for all workers. This Act places the onus on employers to maintain a safe workplace. The regulation makes provision for various mandatory safety measures to protect the health of workers handling hazardous chemicals, such as risk assessment, safety training, safe practices and medical, biological and environmental monitoring of all workplaces.*

*i) Pesticide disposal and container management*

*i. South Africa has enacted several laws in an attempt to ensure that toxic wastes are disposed of without becoming a danger to people or the environment. This legislation includes the Hazardous Substance Act, 1973 (Act No. 15 of 1973), the Environmental Conservation Act. 1989 (Act 73 of 1989), the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965), and the National Environmental Management Act, 1998 (Act 107 of 1998).*

**Specific Mitigation:**

*a) Before an application:*

*i. Ensure that spray equipment is properly calibrated to deliver the desired pesticide amount for optimal coverage.*

*i. Use appropriate spray nozzles and pressure to minimize off-sites movement of pesticides.*

*ii. Avoid spraying during these conditions:*

*iii. Wind speed over 8 km/h*

*iv. Temperature inversions*

*v. Just prior to rain or irrigation (unless it is specifically*

	<p><i>recommended, as when incorporating a soil-applied pesticide)</i></p> <ul style="list-style-type: none"><li><i>i. At tractor speeds over 3 km/h</i></li><li><i>ii. Identify and take special care to protect sensitive areas (for example, waterways or riparian areas) surrounding your application sites.</i></li><li><i>iii. Review and follow labelling for pesticide handling, personal protection equipment (PPE) requirements, storage, and disposal guidelines.</i></li><li><i>iv. Check and follow restricted-entry intervals (REI) and preharvest intervals (PHI).</i></li></ul> <p><i>b) After an application:</i></p> <ul style="list-style-type: none"><li><i>i. Record application date, product used, rate, and location of application.</i></li><li><i>ii. Follow up to confirm that treatment was effective.</i></li></ul>		
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<p><b>7. <u>Visual</u></b></p>	<p>a) In terms of all infrastructure, it is recommended the access road and all structures be planned so that the unnecessary clearing of vegetation is avoided. This implies making use of already disturbed sites rather than pristine areas wherever possible and avoiding large tree specimens and dense established vegetation areas.</p> <p>b) Mitigation of visual impacts associated with the clearing, albeit temporary, entails proper planning, management and rehabilitation. In addition, it is vital that vegetation is not unnecessarily cleared or removed.</p> <p>c) The fields must be maintained in a neat and visually acceptable state throughout the operational life.</p>	<p>Land owner/lodge staff</p>	<p><b>Weekly</b></p>
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Annexure C: Curriculum Vitae of EAP

# Curriculum Vitae

## Steven James Henwood

### **General:**

Name: Steve Henwood  
Address: PO Box 12340, Steiltes, Nelspruit, 1213  
ID Number: 760927 5026 087  
Telephone No.: 082 455 0731 or 078 672 3645  
Email: [shenwood@mweb.co.za](mailto:shenwood@mweb.co.za)  
D.O.B.: 27 Sep 1976  
Marital Status: Married  
Gender: Male  
Dependants: One  
Drivers Licence: Code 10  
Home Language: English  
Second Language: Afrikaans  
Third Language: Shangaan (can converse basically in Zulu)  
Health: Excellent  
Criminal Offences: None

### **Education:**

#### **Secondary Education:**

School: St Martins High School, Rosettenville, JHB (1989 – 1994)  
Highest Standard Passed: Matric – Senior Certificate

#### **Teritary Education:**

Institution: Pretoria Technikon (1995 – 1997)  
Course: National Diploma in Nature Conservation

#### **Other Qualifications:**

Environmental Impact Assessment – Rhodes University and  
CES Environmental Consultants

GIS (Introduction to Geographic Information Systems) – South  
African Wildlife College - Conduct and plan an assessment  
(Theta)

FGASA level 3 SKS dangerous animals.

Advanced weapon handling through Adriaan Louw.

First Aid level 1 – St Johns and Save a Life First Aid Services.

Basic fire fighting and prevention certificate - Waldens Fire  
and Safety Services.

The Touch Company - Hospitality training - Interpersonal  
sales and service skills course.

**Work Experience:**

**(From the most recent position)**

April 2011 to date

Position:

Duties:

**Henwood Environmental Solutions, Nelspruit**

Director and Environmental consultant

Drafting BA and EIR reports

Environmental Planning

Environmental Management

Tourism Planning

Consult on various projects

Water & sewer pipelines

ECO projects

Mapping

Visual Impact Assessments

Jan 2008 to April 2011

Position:

Duties:

**Velcich & Louw Landscape Architects, Nelspruit**

Environmental consultant

Drafting BA and EIR reports

Environmental Planning

Environmental Management

Tourism Planning

Consult on various projects

Water & sewer pipelines

ECO projects

Mapping

Visual Impact Assessments

Dec 2007 – Jan 2008

Position:

Duties:

**Ninham Shand, Nelspruit**

Environmental consultant

Drafting BA and EIR reports

Consult on various projects

Water & sewer pipelines

Game lodge development

Shopping centre development

Non-compliance (24G)

Residential development

Advertising signage

Borrow pits and rehabilitation

School development

Nov 2006 – Dec 2007

Position:

Duties:

**Ecotechnik Environmental Consultants, Nelspruit  
(Company bought by Ninham Shand in Dec 2007)**

Environmental consultant

Drafting BA and EIR reports

Consult on various projects

Water & sewer pipelines

Game lodge development

Shopping centre development

Non-compliance (24G)

Residential development  
Advertising signage  
Borrow pits and rehabilitation  
School development

Jul 2006 – Oct 2006

**Makweti Safari Lodge, Welgevonden Game Reserve**

10 bedded 5\* safari lodge

Position:

Camp Management Couple

Duties:

Management of all aspects of the camp  
Acting as host to guests  
Supervising general daily running of the lodge  
Responsible for ensure high standards in all departments  
Game drives and walks  
Ensure vehicles are maintained and in good order  
Maintain fire breaks surrounding the lodge  
Check equipment is in good order  
Ensure rifles are kept in good condition and ensure control over rifle registers  
Assist with administration  
Liaise with other lodges Head Rangers with regards to game drive procedures and problems

May 2004 – Jul 2006

**Honeyguide Tented Safari Camps, Manyeleti Game Reserve**

Two 24 bedded 4\* tented safari camps situated in the Manyeleti Game Reserve

Position:

Lodge Management Couple

Duties:

Management of all aspects of two tented safari camps  
Acting as host to guests  
Supervising general daily running of the lodge  
Recruitment and training of new staff  
Responsible for ensure high standards in all departments  
Game drives and walks  
Ensure vehicles are maintained and in good order  
Supervision of rangers and trackers  
Check equipment is in good order  
Maintain working rosters for rangers and trackers  
Ensure rifles are kept in good condition and ensure control over rifle registers  
Prepare month end statistic reports  
Ensure petrol and diesel log books are kept up to date  
Liaise with other lodges Head Rangers with regards to game drive procedures and problems

Jul 2002 – Jan 2004

**Lukimbi Safari Lodge, KNP**

32 bedded 5\* game lodge, a concession situated in the Southern Kruger National Park

Position:

Head Ranger

Duties:

As below

Ranger and tracker training

Road building

Environmental liaising between KNP, DEAT and lodge

Dec 1998 – Jun 2002

**Idube Game Lodge, Sabi Sands Game Reserve**

20 bedded 4\* game lodge situated in the North West section of the Sabi Sands Game Reserve

Position:

Field Guide (Dec 1998 - Jul 2000)

Head Ranger (Aug 2000 – Jun 2002)

Duties:

Game drives and walks

Ensure vehicles are maintained and in good order

Supervision of rangers and trackers

Check equipment is in good order

Maintain working rosters for rangers and trackers

Ensure rifles are kept in good condition and ensure control over rifle registers

Prepare month end statistic reports

Ensure petrol and diesel log books are kept up to date

Liaise with other lodges Head Rangers with regards to game drive procedures and problems

Ensure that the bush is not abused by off road driving

Responsible for maintenance of roads

Responsible for necessary bush work, Environmental Management

Back-up for the manger while he was on leave

Drawing up policies for emergency procedures

Dec 1996 – Dec 1997

**Crocodile Bridge, Kruger National Park**

Position:

Student Field Guide for experiential training

Experience gained:

Game capture with Dr. Douw Grobler

Monitoring 'elephant contraception' (tracking and collecting data, problem animal control)

Veld evaluations (Grass surveys for KNP, veld assessment and carrying capacity for a number of game areas)

Controlled burning

Day and night drives

Bush braais

General information and interpretive services

Foot and vehicle patrols (anti-poaching, water points etc.)



Technikon Vacations: **Mountain Sanctuary Park**  
Position: Student Ranger  
Duties: Control block burns  
Service maintenance and use of chainsaws  
Maintenance of centrifugal pumps  
Maintenance and monitoring of game fences

Technikon Vacation: **Matetsi Private Game Reserve (Conservation Corporation), Zimbabwe**  
Position: Student Ecologist  
Duties: Involved in replenishing borehole pumps  
Anti poaching patrols  
Maintenance of roads and other general field work

Technikon Vacations **Makro, Woodmead**  
Position: Casual  
Duties: Performed duties in the accounts department

**Developed Abilities:**

Computer Knowledge: Microsoft Office  
Fagawi (GIS System)  
Arcview (GIS System)  
Global Mapper  
Photoshop CS  
Corel Draw  
Garmin Map Source

**Hobbies and Interests:**

Art – Painting and drawing  
Photography  
Reading  
Hiking  
Bird watching  
Geology  
Running  
Hockey  
Cricket  
Soccer



Annexure D: Declaration by EAP.

## 10.2 The Environmental Assessment Practitioner (EAP)

I ....., as the appointed environmental assessment practitioner (“EAP”) hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent (tick which is applicable):

	other than fair remuneration for work performed/to be performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
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	am not independent, but another EAP that is independent and meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
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- have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- will ensure compliance with the EIA Regulations 2014;
- will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the application;
- will take into account, to the extent possible, the matters listed in regulation 18 of the regulations when preparing the application and any report, plan or document relating to the application;
- will disclose to the proponent or applicant, registered interested and affected parties and the competent authority all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority or the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority (unless access to that information is protected by law, in which case I will indicate that such protected information exists and is only provided to the competent authority);
- will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- declare that all the particulars furnished by me in this form are true and correct;
- am aware that it is an offence in terms of Regulation 48 to provide incorrect or misleading information and that a person convicted of such an offence is liable to the penalties as contemplated in section 49B(2) of the National Environmental Management Act, 1998 (Act 107 of 1998).

\_\_\_\_\_  
Signature of the environmental assessment practitioner

\_\_\_\_\_  
Name of company

\_\_\_\_\_  
Date

