



**24G Rectification Process for activities commenced with at Ekland Safaris, Makhado Local Municipality, Limpopo Province**

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Draft Environmental Management Programme –  
Section 24G process conducted for Ekland Safaris,  
near Louis Trichardt, Limpopo Province

**Manupont 124 (Pty) Ltd**

*Bringing ideas  
to life*

# Document control record

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# 1 Introduction

Manupont (Pty) Ltd, (henceforth Manupont), the owner of Ekland Safaris located between Louis Trichardt and Musina in the Limpopo Province, recently upgraded various facilities and infrastructure within the private reserve. Some of the activities undertaken within the reserve, constitute listed activities under the Environmental Impact Assessment (EIA) Regulations promulgated in terms of the National Environmental Management Act, 1998 (NEMA) (Act No. 107 of 1998). The development activities in question were commenced with during August 2017, and applicant were made aware of the requirement for an Environmental Authorisation (EA) by the Limpopo Department of Economic Development, Environment and Tourism (LEDET).

Manupont has undertaken to apply for an EA through a rectification process in terms of section 24G of NEMA. The upgrading and refurbishment included the following:

## Upgrading the fence surrounding Ekland Safaris:

The fencing included the construction of a double fence (Clearview fencing on the inner boundary and electric fencing on the outer boundary of the farm). The fencing activity also included the establishment of a patrol road, limited to 4m in width, located between the Clearview fence and the electric fence. The purpose of the double fence and patrol road is to aid in the protection of rhinos and other endangered wildlife on the property.

A number of storm water structures and culverts were also constructed as stream crossings to ensure that the patrol road and perimeter fence does not wash away during the rainy season. Some structures were existing structures which were refurbished, some were combined to form one water crossing and some structures were new.

## Upgrading of Main Lodge and surrounding area:

The Main Lodge at Ekland Safaris was an existing facility, constructed prior to 2003. The recent construction activities at the Main Lodge included the following:

- Refurbishment of 15 existing facilities;
- The construction of the following structures:
  - Two additional chalets;
  - Clinic (approximately 500m<sup>2</sup>);
  - Building for goods being received (approximately 500m<sup>2</sup>);
  - Laundry and garages (approximately 500m<sup>2</sup>);
  - Presidential Villa (approximately 1,500m<sup>2</sup>);
  - Spa and gym;
  - Two lifts along the cliff which connect the Owners Villa with the rest of the Chalets;
  - 480kl reservoir (approximately 600m<sup>2</sup>); and
  - Additional access roads to Main Lodge and the reservoir (all roads are restricted to 4m in width).

## Upgrading of Pienaar Lodge and surrounding area:

Pienaar Lodge was also constructed prior to 2003. The upgrading and refurbishment of Pienaar Lodge included the following:

- Seven existing units have been reconfigured into a five-suite lodge to accommodate eight guests;
- The following were constructed:
  - Drop off area (approximately 400m<sup>2</sup>);
  - Four additional buildings within the existing transformed area;
  - Laundry (approximately 300m<sup>2</sup>);

- Two buildings for staff accommodation (totalling approximately 500m<sup>2</sup>);
- 240kl reservoir (approximately 250m<sup>2</sup>) and
- Additional access road to the drop off area at the lodge (restricted to 4m in width).

#### Upgrading of road infrastructure:

Various existing main routes within Ekland Safaris were surfaced and some storm water culverts were constructed to avoid flooding of newly surfaced roads. These roads remained under 4m in width.

#### Transportation of water:

Water is transported to reservoirs through pipelines of various diameters:

- From the GG1 Reservoir to the Main Lodge Reservoir – 200mm HDPE Class 12 (20l/s) pipeline;
- From the Main Lodge Reservoirs to the Main Lodge – 150mm steel pipeline (32 l/s) and 140mm HDPE Class 20 (10l/s);
- From Pienaar Borehole to Pienaar Reservoir – 110mm uPVC (7l/s).

#### Resurfacing of existing airstrip:

The existing airstrip was also established prior to 2003. Since 2003, an area 1.1km in length by 12m in width has been surfaced, with the widest section of the surfaced area being 20m. Approximately 20m on both sides of the airstrip were kept clear of vegetation for safety purposes.

During the resurfacing of the airstrip, the width of the airstrip increased to approximately 18m with the widest surface area being 28m. The length of the airstrip remained the same at 1.1km.

#### Workshop and garages for vehicle storage:

A workshop of approximately 400m<sup>2</sup>, consisting of an area where vehicles are repaired and parked when not in use, was constructed on land that has previously been disturbed by agricultural activities. Citrus trees were affected by this activity and no indigenous vegetation was cleared.

#### Patel Gate:

Construction of the following has commenced at the gate that would serve as a delivery and distribution centre to the lodge and an entrance for all staff members:

- Changing rooms with shower facilities (approximately 300m<sup>2</sup>); and
- Security access building.

#### Sulphur Springs Day Spa:

The construction of the Sulphur Springs Day Spa included the construction of two buildings, totalling approximately 200m<sup>2</sup> in size. All structures were located outside the 32m buffer area of the spring and less than 300m<sup>2</sup> of indigenous vegetation was cleared for the construction of the Day Spa.

The Environmental Impact Assessment Regulations, Regulation GN 983 and GN 985 of 2014 (as amended in 2017), promulgated in terms of the National Environmental Management Act (NEMA), list activities which may not commence without obtaining Environmental Authorisation from the competent authority, in this case the Limpopo Department of Economic Development, Environment and Tourism (LEDET). In accordance with the NEMA 107 of 1998, and as per the requirement from LEDET, an Environmental Impact Assessment Report and Draft EMPr is required to apply for Environmental Authorisation as per Section 24G of the NEMA 107, 1998.

This application is therefore made to obtain approval for all the listed activities commenced with at Ekland Safaris prior to obtaining Environmental Authorisation.

### 1.1.1 Contact person and correspondence address of the EAP

Table 1: Details of the EAP

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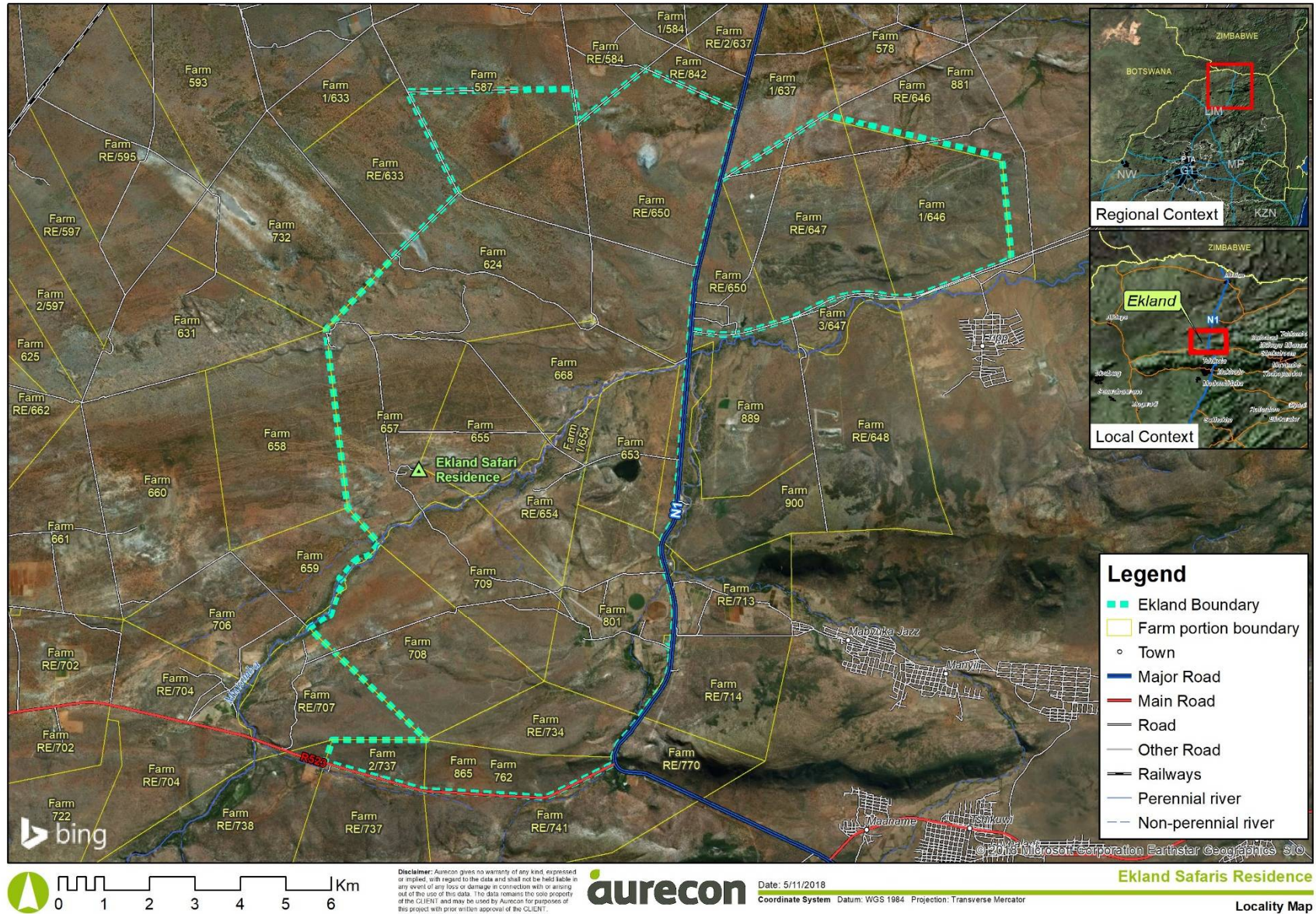


Figure 1 | Location of EklandSafaris within the Makhado Local Municipality, Limpopo Province.

## 1.1.2 Expertise of the EAP

The Environmental Impact Assessment process is managed by Ms Anne-Mari White, an environmental project leader with Aurecon. She is responsible for the overall management of the project, including client liaison, financial management and progress reporting. Ms White is an Environmental Consultant, who started her studies at the North-West University (NWU) and completed her Bachelor of Science: Environmental Management at the University of South Africa (UNISA) in 2007. In addition to her qualification, she completed short courses in soil classification and wetland delineations (Terrasoil Science), Geographic Information Systems (University of KwaZulu-Natal), and Environmental Impact Assessments (NWU). Ms White's Curriculum Vitae is attached as **Appendix G**.

## 1.2. Description of the aspects of the activity

The aspects of the activities covered in this Environmental Management Programme (EMPr) are discussed in this section according to listed activities and all other relevant activities.

### 1.2.1 Listed and Specified Activities

Table 2 | Listed and specified activities associated with the activities within Ekland Safaris

Listed activities as described in GN R 982 of 2014 (as amended in 2017)	Description of project activity
<p><b>GN R 983 Activity 12:</b></p> <p>The development of bridges or infrastructure or structures with a physical footprint of 100m<sup>2</sup> or more, where such development occurs within a watercourse.</p>	<p>The patrol road along the fence needs to cross watercourses at various points. For this reason, small bridges/culvert structures were constructed to ensure that the patrol road and perimeter fence does not wash away during the rainy season and to allow for the uninterrupted flow of water.</p>
<p><b>GN R 983 Activity 19:</b></p> <p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, pebbles or rock of more than 5 cubic metres from, a watercourse</p>	<p>As part of the construction process, the infilling, depositing or moving of soil within a watercourse was required during the construction of the bridges and culvert structures.</p> <p>An earth berm was also constructed within a watercourse to create a waterhole.</p>
<p><b>GN R 983 Activity 31:</b></p> <p>The decommissioning of existing facilities, structures or infrastructure for –</p> <ul style="list-style-type: none"> <li>(i) Any development and related operation activity or activities listed in Listing Notice 1, 2 or 3 of 2014;</li> <li>(ii) Any expansion and related operation activity or activities listed in Listing Notice 1, 2 or 3 of 2014</li> </ul>	<p>Some structures at the Main Lodge and Pienaar Lodge were also decommissioned (partly dismantled) during the refurbishment of those lodge</p>
<p><b>GN R 983 Activity 48:</b></p> <p>The expansion of</p> <ul style="list-style-type: none"> <li>(v) infrastructure or structures where the bridge is expanded by 100 square metres or more in size within</li> <li>(a) a watercourse</li> </ul>	<p>Some culvert structures were combined (expanded) to form one crossing.</p>



<p><b>GN R 985, activity 6:</b></p> <p>The development of resorts, lodges, hotels, and tourism or hospitality facilities that sleep 15 people or more</p> <p>i. Outside urban areas:</p> <p>(ee) within Critical Biodiversity Areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans</p>	<p>The facilities within Ekland Safaris will be commercially operated after its refurbishment, the listed activity applicable to the refurbishment is the development of a lodge and not just the expansion thereof. This activity is applicable to the Main Lodge, Pienaar Lodge, Leadwood Lodge and Rock Lodge.</p>
<p><b>GN R 985, activity 8:</b></p> <p>The development and related operation of above ground cableways and funiculars outside urban areas.</p>	<p>A lift has been constructed between the Main Lodge chalets and the Presidential villa.</p>
<p><b>GN R 985, activity 12:</b></p> <p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>Within:</p> <p>ii. Critical Biodiversity Areas identified in bioregional plans</p>	<p>Ekland Safaris falls within a Critical Biodiversity Area (CBA 2) as identified in the Limpopo Conservation Plan.</p> <p>More than 300 square metres of indigenous vegetation was cleared to make way for the fence and patrol road, the reservoirs, additional facilities at Main and Pienaar Lodges, the widening of the airstrip and structures at the main entrance and Patel Gate.</p> <p>Ekland Safaris does not yet have an approved Maintenance Management Plan and for this reason Activity 12 of GNR 985, 2014, is applicable.</p>

During the operation of Ekland Safaris, typical maintenance will also be required. These activities will include:

- General road repairs, gravel road construction, and road rehabilitation;
- Infrastructure maintenance and improvements;
- Erosion control;
- Cleaning/Clearing culverts;
- Bridge or culvert repairs;
- Alien invasive species control;
- Quarry and dam rehabilitation;
- Veld rehabilitation;
- Quarry usage; and
- Fire maintenance management.

Some of the maintenance activities listed above could require Environmental Authorisation under the Regulations (Government Notice [GN] No. R 982 of 2014, as amended) enacted in terms of the NEMA, as they could trigger listed activities in terms of GN No. R 983, R 984 and R 985 of 2014 as amended in 2017. The maintenance activities that could be triggered are listed below:

GN No. R 983 of 2014 (as amended in 2017), activity 19:

The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres form –

- (i) a watercourse;
- (ii) the seashore; or

(iii) the littoral active zone, an estuary or a distance of 100m inland of the high-water mark of the sea or an estuary, whichever distance is the greater –

But excluding where such infilling, depositing, dredging, excavation, removal or moving –

- (a) will occur behind a development setback;
- (b) is for maintenance purposes undertaken in accordance with a maintenance management plan;
- (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.

GN No. R 983 of 2014 (as amended in 2017), activity 27:

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

- (i) the undertaking of a linear activity; or
- (ii) maintenance purposes undertaken in accordance with a maintenance management plan.

Should these activities not be proposed for maintenance purposes in accordance with the approved Environmental Management Plan, Environmental Authorisation will be required before those activities can be commenced with.

### **1.3. Description of Impact Management Outcomes**

The impacts and risks that are to be avoided, managed and mitigated as identified in the Environmental Impact Assessment (EIA)-process are discussed in this EMPr for the operation and decommissioning activities of the Ekland Safaris infrastructure developments.

#### **1.3.1 Impact Management Outcomes**

As the construction activities have been completed, the impact management measures described in this section have been informed by the independent environmental assessment for the operational activities proposed. These measures have been proposed to mitigate negative impacts and enhance the positive benefits of the project and to, ultimately, achieve the impact management outcomes:

1. The operation and possible decommissioning activities are operated in an environmentally and socially responsible manner;
2. The EMPr prescribes practical measures for the mitigation of impacts identified during the EIA-process;
3. Roles and responsibilities for the environmental management and monitoring of the proposed activities are defined;
4. All employees and its contractors are aware of the environmental impacts of the activities at the site, thus enabling them to take timeous precautions against environmental damage;
5. Pollution or similar events are mitigated effectively; and
6. Regulatory requirements are complied with throughout.

The applicant has a legal obligation to comply with the EMPr and to ensure compliance by its contractors and agents, where applicable.

The EMPr describes mitigation measures designed to minimise or eliminate the significant adverse impacts that may be caused by the construction and operational activities of the lodge. This EMPr should be considered dynamic, as it should be amended if conditions change or more information becomes available.

#### **1.3.2 Management Statement**

A commitment is required from the applicant and its contractors in that they shall:

1. Take into consideration the surrounding environment;
2. Always behave professionally on and off site;

3. Ensure quality in all work done, both technical and environmental;
4. Resolve problems and claims arising from damage immediately to ensure an uninterrupted flow of operations;
5. Read and understand this EMPr and use it for the benefit of all involved;
6. Preserve the natural environment by limiting destructive actions on site and by using resources efficiently; and
7. Continually improve their environmental management strategies.

# 2 Impact Management Actions

This section forms the core of the EMPr. It provides a description of the proposed impact management actions by identifying the manner in which the impact management outcomes contemplated in section 1.3 will be achieved. These actions, outlined in Table , are shown for the operational phase of the project. It is the responsibility of the applicant to ensure that adequate resources are allocated to the achievement of these actions. The time period for the implementation of the EMPr will be throughout the lifetime of the project, or until such time as the EMPr is amended as a result of an environmental audit or if significant activity-changes take place.

Table 3 | Mitigation measures required for activities associated with the operational activities of the facilities at Ekland Safaris

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
Biodiversity	<ul style="list-style-type: none"> <li>Loss of vegetation and habitats;</li> <li>Loss of protected or Red Data Species;</li> <li>Increase in alien vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance of the areas surrounding the facilities</li> <li>Removal of vegetation for maintenance and operational activities</li> </ul>	<p><b>Objective(s):</b>                      Limited disturbance of local ecology, avoidance of vegetation and habitat loss;                      No introduction of alien and invasive plant species within the property boundaries of Ekland Safaris</p> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>During maintenance of access or patrol roads, or areas surrounding existing facilities, indigenous vegetation clearance must be kept to the absolute minimum required in order to maintain existing structures and infrastructure;</li> <li>No Red Data of protected plant species may be removed during maintenance activities, without obtaining the relevant permit for the removal or relocation of such plant species;</li> <li>Draft and implement an Alien Invasive Management Plan to ensure that alien and invasive vegetation does not establish on the property or the surrounding area. This plan should also guide removal of existing alien vegetation on the property;</li> <li>Use only locally available indigenous flora for landscaping purposes;</li> <li>The steel grid structure atop the concrete base (focus area 3 – refer to attached Aquatic Ecological Assessment, Appendix E3 of the Section 24G Report) be spaced a minimum of 150mm between the balusters to allow free movement of smaller faunal species through the fence (thus allowing for migratory movement), but still maintain security of the reserve;</li> <li>Prevent and pro-actively manage soil erosion;</li> </ul>	Site inspections	Yearly monitoring by an External Environmental Auditor (EEA)	Improvement of habitat integrity and ecology within Ekland Safaris.  Effective eradication and management of alien invasive species.

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<ul style="list-style-type: none"> <li>Do not use any electrocution apparatus to eliminate insects at night as many innocent invertebrates, reptiles and small mammals are also at risk; and</li> <li>Fire control should be implemented to avoid runaway fires which would threaten flora and fauna species and result in habitat loss.</li> </ul>			
Stormwater management	<ul style="list-style-type: none"> <li>Erosion</li> <li>Loss of valuable topsoil</li> <li>Flooding</li> </ul>	<ul style="list-style-type: none"> <li>Heavy rainfall periods during operation</li> <li>Poor stormwater control during maintenance activities</li> </ul>	<p><b>Objective(s):</b> To monitor and mitigate any possible flooding near facilities within Ekland Safaris; and Monitor, prevent and repair areas of erosion within the nature reserve.</p> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>The Reserve Manager must monitor stormwater infrastructure on and around the Reserve facilities and manage drainage at these facilities to avoid standing water, siltation and flooding during rain events;</li> <li>During maintenance activities, stormwater must be diverted away from the activities and temporary erosion protection measures must be implanted to prevent any erosion within the area;</li> <li>Existing earth berms constructed within watercourses must be reinstated with a minimum slope ration of 3:1, although 5:1 is recommended. This will prevent any further erosion from occurring and provide a stable enough slope for vegetation to establish;</li> <li>Where hard engineering structures are required to stabilise the earth berms or the spillway (due to extensive erosion), gabion baskets or reno mattresses should be used, in consultation with a civil engineer and a freshwater specialist. The use of these methods should be minimised as far as possible;</li> <li>If any maintenance activities require the removal of vegetation, then topsoil removal should precede the activity to ensure that replacement of topsoil and reinstatement of vegetation would be as effective as possible.</li> <li>Vegetation clearing preferably be done under guidance from a botanist / ecologist.</li> </ul>	Site inspections	Monthly by the Reserve Manager and yearly by an EEA	<p>No erosion within Ekland Safaris</p> <p>Stormwater control measures are implemented at areas prone to erosion.</p> <p>Flooding is limited on and around infrastructure</p>

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<ul style="list-style-type: none"> <li>Clean stormwater should be channelled away from containment ponds, using bunds, culverts or drains, to ensure it does not become contaminated;</li> <li>Adequate freeboard should be provided to prevent stormwater overflowing from ponds;</li> <li>The time that topsoil stripped areas are exposed during maintenance activities must be minimised where ever possible; and</li> <li>Topsoil covering and revegetation must commence immediately after the completion of an activity.</li> </ul>			
Ground and Surface water	<ul style="list-style-type: none"> <li>Ground and surface water pollution</li> <li>Sedimentation of watercourses</li> <li>Compaction of wetland soils;</li> <li>Excessive water consumption</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance activities within watercourses</li> <li>Sanitation and waste management</li> </ul>	<p><b>Objective(s):</b></p> <ul style="list-style-type: none"> <li>To prevent any pollution of ground and surface water resources;</li> <li>Prevent compaction of wetland soils</li> <li>Prevent sedimentation within watercourses.</li> </ul> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>During maintenance activities of the Sulphur Spring Spa, no personnel may be permitted to enter the wetland area, unless it entails maintenance activities of the wetland;</li> <li>It is recommended that no further landscaping takes place at Sulphur Springs as to allow indigenous wetland species to establish and proliferate;</li> <li>Above and underground fuel storage installations should adhere to the relevant SABS specifications;</li> <li>Fuel containers exceeding 200 litres capacity should be stored in a manner that will prevent escape of contents to the environment in the case of accidents;</li> <li>Fuel containers should be stored in a secure weatherproof building or within a secondary containment compound;</li> <li>Implement a groundwater management and monitoring programme for groundwater;</li> <li>Measure water levels within the respective boreholes as presented in Section 10 of the attached Geo-Hydrogeological Report, Appendix E5 of the Section24G Report;</li> <li>The spread of alien invasive species must be controlled;</li> <li>No fertilisers may be added to the wetland at Sulphur Springs as to encourage wetland vegetation growth and the</li> </ul>	<p>Site inspections and monitoring of water consumption</p> <p>WUL compliance monitoring</p>	<p>Monthly by Reserve Manager and yearly by an EEA</p> <p>Refer to Table 14 of the Hydrogeological Report for monitoring requirements.</p>	<p>No contamination of water resources</p> <p>No degradation of wetland areas</p>

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<p>release of spring water into the wetland must be controlled to promote zonation of the wetland;</p> <ul style="list-style-type: none"> <li>Where earth berms were placed within watercourses, sufficient water quantities must be released (via spillway during high flow periods or pipe outlet during low flow periods) to ensure ongoing functioning of the river system and ensure maintenance of the downstream Mutamba River water habitat, biota and water quality (aimed at meeting the resource quality objectives for the Mutamba River);</li> <li>Where hard engineering structures are required to stabilise the earth berms or the spillway (due to extensive erosion), gabion baskets or reno mattresses should be used, in consultation with a civil engineer and a freshwater specialist. The use of these methods should be minimised as far as possible;</li> <li>All disturbed areas must be revegetated with indigenous vegetation species. A graminoid mix is recommended to be established on the earth berms, while appropriate facultative riparian species be considered for the portions of the Ephemeral Drainage Lines (EDLs) where erosion gullies will be rehabilitated;</li> <li>Spillages of any potentially hazardous materials should be cleaned immediately to avoid contamination of runoff;</li> <li>An Emergency Response Plan should be implemented including the actions to be taken in the event of groundwater contamination occurring;</li> </ul> <p>The conditions contained in the Water Use Licence (WUL) must be adhered to; and</p> <ul style="list-style-type: none"> <li>Water consumption must be within the limits authorised within the WUL</li> </ul>			
Heritage resources	<ul style="list-style-type: none"> <li>Destruction and/or disturbance of archaeological or paleontological resources</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance activities</li> <li>Excavations</li> </ul>	<p><b>Objective(s):</b></p> <ul style="list-style-type: none"> <li>To prevent the destruction/disturbance of heritage resources e.g. graves which must still be identified and demarcated</li> </ul> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>Graves located within the boundaries of Ekland Safaris must be identified and demarcated to ensure that maintenance activities do not damage or infringe upon them or the family's right to access these sites;</li> </ul>	<p>Site inspection</p> <p>Maintenance monitoring</p>	<p>Continuous by Reserve Manager and yearly by an EEA</p>	<p>No impact on heritage and paleontological resources</p> <p>No loss of heritage resources</p>

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<ul style="list-style-type: none"> <li>All measures included within the Ancestral Grave Management Plan, must be adhered to; (attached as Appendix E2 of the Section 24G Report)</li> <li>A buffer zone of at least 50m must be implemented around identified graves to prevent disturbance within this buffer.</li> <li>Should any other heritage resources, archaeological sites or palaeontological finds (fossils) be uncovered during maintenance activities, such activities within the immediate vicinity must be stopped and reported to a heritage specialist who should investigate the find.</li> </ul>			
Waste Management	<ul style="list-style-type: none"> <li>Visual impact with waste accumulating / littering;</li> <li>Injury or death to animals;</li> <li>Health and safety hazard to people;</li> <li>Attract vermin and flies;</li> <li>Soil and groundwater pollution if septic tanks are not in optimal working condition</li> <li>Soil and water contamination through hazardous spillages during maintenance activities</li> </ul>	<ul style="list-style-type: none"> <li>General maintenance and operational activities</li> <li>Accumulation and disposal of waste</li> <li>Refuelling of vehicles on site</li> <li>Operation of septic tanks</li> </ul>	<p><b>Objective(s):</b></p> <ul style="list-style-type: none"> <li>To prevent all impacts associated with the accumulation, temporary storage and disposal of general and hazardous waste.</li> </ul> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>All waste generated within the boundaries of Ekland Safaris must be transported to one temporary waste storage facility, preferably located near the service entrance gate to enable easy access for the third-party contractor for the removal to a registered landfill site;</li> <li>Temporary waste storage facilities must be enclosed to prevent injury or death to animals;</li> <li>General waste must be recycled as far as possible to reduce the quantity of waste transported to the registered landfill site;</li> <li>Septic tanks must be inspected regularly to ensure optimal operation and reduce the possibility of pollution;</li> <li>Spillages of any potentially hazardous materials during maintenance and operational activities should be cleaned immediately to avoid soil contamination and contaminated soil should be disposed of at a registered hazardous waste site. Proof of disposal should be kept on file;</li> <li>Storage, mixing or decanting of all chemicals and hazardous substances must take place either on a tray or on an impermeable surface;</li> <li>Sufficient waste bins must be provided and must be scavenger proof; and</li> </ul>	Site inspection	Monthly by Reserve Manager and yearly by an EEA	<p>No littering on site</p> <p>Dedicated enclosed temporary waste storage facility</p> <p>Records for proof of waste disposal to a registered landfill site</p> <p>No hazardous soil contamination within any area where maintenance activities took place.</p>



Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			Separate waste bins should be provided for hazardous waste and a temporary storage area within a tray or impermeable surface should be established at the waste collection site.			
Socio-economic impact	<ul style="list-style-type: none"> <li>Social unrest due to use of non-local resources</li> <li>Economic impact on local community if local labour is not used</li> </ul>	<ul style="list-style-type: none"> <li>Employment of non-local resources during the operational phase</li> </ul>	<p><b>Objective(s):</b> To reduce the risk of social unrest due to employment not being sourced locally.</p> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>Ekland Safaris should investigate means to develop skills among local residents in order to undertake the required operational and maintenance services at the Reserve;</li> <li>The contractor should use local suppliers and labour as far as possible during the operational and maintenance phases of Ekland Safaris; and</li> <li>Training within the hospitality industry must be provided to all local employees.</li> </ul>	Continued validation	Continuous and audited by an EEA on a yearly basis	No social unrest.

Table 4 | Mitigation measures required for activities associated with the decommissioning activities of the facilities within Ekland Safaris

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
Biodiversity	<ul style="list-style-type: none"> <li>Loss of vegetation and fragmentation of habitat;</li> <li>Loss of important flora communities and individuals;</li> <li>Loss of faunal habitat and species diversity;</li> <li>Impairment of ecological corridors and functions;</li> </ul>	<ul style="list-style-type: none"> <li>Site disturbance during decommissioning</li> </ul>	<p><b>Objective(s):</b></p> <ul style="list-style-type: none"> <li>Limited disturbance of local ecology, loss of fauna and flora;</li> </ul> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>Limit the ecological disturbance and clearance activities during the decommissioning of facilities within Ekland Safaris</li> <li>The destruction or relocation of protected trees within the development footprint must be consulted with the Department of Agriculture, Forestry and Fisheries (DAFF) from whom permission must be obtained;</li> <li>The potential presence of important herbaceous plants within affected footprints must be investigated by a specialist (during their growth period) before</li> </ul>	Site inspections	Monthly by Environmental Control Officer (ECO) during rehabilitation phase and quarterly audits for the first year following the decommissioning phase.	<p>Alien invasive species are controlled and eradicated.</p> <p>All previously disturbed areas are revegetated</p>

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<p>decommissioning and if present these must be managed or relocated per the specialist's recommendation;</p> <ul style="list-style-type: none"> <li>Fires may only be made at designated safe areas and must be supervised at all times;</li> <li>Potential removal of medicinal plants must be monitored;</li> <li>Draft and implement an Alien Invasive Management Plan to ensure that alien and invasive vegetation does not establish on the property or the surrounding area.</li> <li>A botanical specialist should monitor the successful rehabilitation of the decommissioned area at least 12 months post closure to assess vegetation regrowth.</li> <li>All affected areas must be rehabilitated with indigenous vegetation which blends with the surrounding environment; and</li> <li>Continuous monitoring is required after revegetation, to ensure that vegetation establishes effectively.</li> </ul>			
Stormwater management	<ul style="list-style-type: none"> <li>Erosion</li> <li>Loss of topsoil</li> <li>Flooding</li> <li>Loss of vegetation cover</li> </ul>	<ul style="list-style-type: none"> <li>Decommissioning activities during heavy rainfall periods</li> <li>Poor stormwater control post closure</li> </ul>	<p><b>Objective(s):</b> To mitigate any possible erosion within the site where decommissioning activities are taking place.</p> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>The Reserve Manager must monitor remaining stormwater infrastructure on and around the Reserve facilities and manage drainage at these facilities to avoid standing water, siltation and flooding during rain events;</li> <li>During decommissioning activities, stormwater must be diverted away from the activities and temporary erosion protection measures must be implanted to prevent any erosion within the area;</li> <li>A freshwater ecologist should be appointed to assess the need and benefits or removing existing earth berms, gabions or reno mattresses which were constructed within watercourses. Should the earth berms remain, erosion protection measures should be implemented and monitored at least 2 years after decommissioning; and</li> <li>Topsoil covering and revegetation must commence immediately after the completion of a decommissioning activity.</li> </ul>	Site inspections	Continuous during decommissioning and quarterly audits by an ECO for the first year following the decommissioning phase	<p>No erosion within areas where facilities were decommissioned</p> <p>No flooding of decommissioned areas</p>

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
Ground and Surface water	<ul style="list-style-type: none"> <li>Ground and surface water pollution</li> <li>Sedimentation of watercourses</li> <li>Compaction of wetland soils</li> </ul>	<ul style="list-style-type: none"> <li>Spillage of hazardous substances</li> <li>Sanitation and waste management</li> <li>Decommissioning activities within watercourses</li> </ul>	<p><b>Objective(s):</b></p> <ul style="list-style-type: none"> <li>To prevent any pollution of ground and surface water resources caused by decommissioning activities.</li> </ul> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>During decommissioning activities, no personnel may be permitted to enter any wetland areas;</li> <li>Landscaped areas should be returned to as near natural as possible;</li> <li>The spread of alien invasive species must be controlled;</li> <li>A freshwater ecologist should be appointed to assess the need and benefits or removing existing earth berms, gabions or reno mattresses which were constructed within watercourses. Should the earth berms remain, erosion protection measures should be implemented and monitored at least 2 years after decommissioning;</li> <li>All disturbed areas must be revegetated with indigenous vegetation species; and</li> <li>The conditions contained in the Water Use Licence (WUL) must be adhered to.</li> </ul>	Site inspections	Monthly monitoring by an ECO	<p>No contamination of water resources</p> <p>Ecological restoration of decommissioned areas</p>
Waste Management	<ul style="list-style-type: none"> <li>Soil and water pollution</li> <li>Littering</li> </ul>	<ul style="list-style-type: none"> <li>General decommissioning activities</li> <li>Storage and disposal of concrete waste</li> </ul>	<p><b>Objective(s):</b></p> <ul style="list-style-type: none"> <li>To prevent any soil and water pollution by waste</li> </ul> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>Spillages of any potentially hazardous materials should be cleaned immediately to avoid soil contamination;</li> <li>Spill kits must be available on site during decommissioning;</li> <li>Mixing or decanting of all chemicals and hazardous substances must take place either on a tray or on an impermeable surface;</li> <li>Sufficient waste bins must be provided and must be scavenger proof;</li> <li>Waste generated during the decommissioning of facilities, must be stored within a designated area and be disposed of on a regular basis. Concrete rubble which cannot be used by neighbouring communities, must be disposed of at a registered landfill site;</li> </ul>	Site inspection	Monthly by ECO	<p>No littering on site and no water or soil contamination</p> <p>No remaining building rubble post closure</p>

Aspect	Potential Impact	Activity	Actions to avoid, modify, remedy, control or stop action, activity or process causing pollution or environmental degradation	Monitoring Method	Frequency of Monitoring	Performance Indicator
			<ul style="list-style-type: none"> <li>Waste must be disposed of at a registered landfill site and not on any of the nearby properties;</li> <li>The temporary storage of waste, until it is removed to a registered landfill site, must not be accessible by any wildlife;</li> <li>Daily litter patrol must be done to ensure that all litter is placed within scavenger proof waste bins.</li> </ul>			
Dust	<ul style="list-style-type: none"> <li>Air pollution (Dust created during the decommissioning phase)</li> </ul>	<ul style="list-style-type: none"> <li>Decommissioning activities during windy conditions</li> <li>Disturbance of area, movement of heavy vehicles</li> </ul>	<p><b>Objective(s):</b> Minimise dust created on site during decommissioning.</p> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>Dust suppression on access roads within, to and from the site must be implemented. For example, water truck wetting dirt roads to and from the site;</li> <li>Vehicles travelling to and from the site must adhere to speed limits so as to avoid producing excessive dust. Speed limit of 40km/h must be adhered to on gravel roads</li> </ul>	Daily observation	Daily during decommissioning	<p>No excessive dust at the site and/or surrounding area</p> <p>No dust complaints from nearby communities</p>
Socio-economic impact	<ul style="list-style-type: none"> <li>Social unrest due to use of non-local resources</li> <li>Economic impact on local community if local labour is not used</li> </ul>	<ul style="list-style-type: none"> <li>Employment of non-local resources during the decommissioning phase</li> </ul>	<p><b>Objective(s):</b> To reduce the risk of social unrest due to employment not being sourced locally.</p> <p><b>Target(s):</b></p> <ul style="list-style-type: none"> <li>The contractor should use local suppliers and labour for the decommissioning of infrastructure at Ekland Safaris.</li> </ul>	Continued validation during decommissioning	Monthly during decommissioning	No social unrest.

## 2.1. Mechanisms for Monitoring Compliance with Impact Management Actions

### 2.1.1. Monitoring of Change in Baseline

The objective of the environmental monitoring system (Table ) is to:

- Prevent and/or minimise the environmental impact associated with the operation and decommissioning activities;
- Ensure conformance with the environmental objectives;
- Ensure timeous implementation of the environmental strategies and implementation programme;
- Act as a pollution early-warning system;
- Check compliance with license requirements; and
- Ensure consistent auditing and reporting protocols.

Table 5 | Environmental Monitoring Programme for Ekland Safaris

Aspect	Issue	Purpose	Monitoring points	Frequency	Sampling Method	Variables
Biodiversity / Land use management	Soil erosion	To pro-actively identify soil erosion to rectify prior to serious degradation	Clean water channels / discharge point	Routinely (monthly)	Field survey	-
	Alien vegetation	To monitor conformance with alien vegetation programme	Throughout Ekland Safaris	Monthly (during eradication programme)	Survey	Area (hectares)
Waste	Waste generation and management	To determine volume of waste generated and disposed	Ekland Safaris Waste Disposal Area	Weekly	Contractor report	Waste types
Water consumption	Amount of water consumed	To monitor whether water abstraction and consumption are in line with the WUL	Borehole monitoring points as stipulated within the WUL	Monthly	Water abstracted on a monthly basis	As per the WUL

### 2.1.2. Performance Auditing and Reporting

In order to ensure compliance with the EMPr and WUL, the following is committed:

- Conduct the performance assessment and monitoring of the EMPr / WUL on an ongoing basis.
- Compile and submit to the LEDET a report on the performance assessment of the EMPr.
- Compile and submit to the DWS a report on the performance assessment of the WUL in accordance with the conditions set in the WUL.
- The performance assessments of the EMP / WUL and the compilation and submission of the reports will occur annually from the date of approval.

- Manupont 124 (Pty) Ltd will appoint a responsible person(s), in writing, who will monitor all environmental aspects of the operations on a regular basis. Mechanisms and responsibilities for implementation of the Impact Management Actions to ensure compliance with the EMPr / WUL are shown in Table .

Table 6 | Mechanisms and responsibilities for implementation of Impact Management Actions

Source Activity	Impacts Requiring Monitoring Programmes	Functional Requirements for Monitoring	Roles and Responsibilities	Monitoring and Reporting Frequency	Period for Implementation
Impact on biophysical environment as a result of activities conducted	Biophysical environment	Implementation of environmental monitoring programme	Environmental department in line with the recommendations by the specialists	Annual review of monitoring programme or if major change in operations	Ongoing / Operational phase
Impact on biophysical and social environment as a result of activities conducted	Biophysical and social environment	Implement internal environmental awareness programme	Reserve Manager	Ongoing review Include in annual induction programme	Ongoing / Operational phase
Vegetation clearing and rehabilitation	Encroaching / spreading of alien vegetation	Initiate alien vegetation programme	Reserve Manager	Annual review	Ongoing / Operational phase
Impact on aquatic systems and drainage lines	Aquatic systems and drainage lines	Maintenance of clean and dirty water system	Applicant with the assistance of a qualified engineer and environmental officer	After a large rain event	Ongoing / operational phase
EMPr / WUL Compliance Review	All impacts described in the EMP	Internal review of compliance, conformance to environmental objectives and strategies and the implementation thereof	External Environmental Auditor	Annually	Ongoing / operational phase

## 2.2. Environmental Awareness Plan

### 2.2.1. Manner in Which the Applicant Intends to Inform His or Her Employees of Any Environmental Risk Which May Result from Their Work

#### Environmental Awareness on Site

All employees of the applicant, as well as contractor teams involved in work at Ekland Safaris, are to be briefed on their obligations towards environmental controls and methodologies in terms of this EMPr. It is recommended that the briefings take the form of an onsite talk and demonstration by the Contractor's Environmental Control Officer (ECO). The education/awareness programme should be aimed at all levels of management and workers within the contractor team. All new employees arriving on site shall undergo this training. Environmental induction must be done according to the applicant's Environmental Management System (EMS) and must include all aspects of the site specific EMPr.

Toolbox talks are to be used as a tool for continuous training of employees. Toolbox talks must be conducted in an interactive way to ensure that employees understand the content and purpose of the specific EMPr requirements. Relevant environmental site matters, incidents and issues shall form part of the Contractor's toolbox talks. The Contractor shall record the environmental subjects discussed.

An effort must be made by the applicant/contractor to assess the training needs of workers on site. Cognisance must be taken of the specific work to be undertaken at the time and, if necessary, additional training on environmental requirements must be conducted to ensure all workers understand the risks involved as well as how to adequately implement mitigation measures.

A signed register documenting all employees' environmental training and awareness programmes must be kept on record for verification purposes.

#### Recordkeeping

The contractor is responsible for maintaining all records in relation to the EMPr requirements on site. Such records must be made available to the ECO on request during monthly audits, as well as at any time as requested by the ECO, auditor or project managers. Recordkeeping must be done in an orderly fashion with the intent of ensuring easy reference.

### 2.2.2. Manner in Which Risks Will Be Dealt with in Order to Avoid Pollution or Degradation of the Environment

The following documents will be used as reference for identifying and managing impacts:

- Approved EMPrs; and
- Approved EAs and WUL's;

The applicant and contractors will be responsible for the implementation of the required mitigation measures in order to avoid pollution or degradation of the environment. Appropriate implementation of the recommended mitigation measures specified in the EMPr will be monitored through regular site audits by an ECO.



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to life*

**Document prepared by**

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