

**DRAFT ENVIRONMENTAL MANAGEMENT  
PROGRAMME**

**FOR**

**S24G KHALINKOMO TOWNSHIP ESTABLISHMENT,  
WESSELSBRON**

**DESTEA REF NO: 24G/15/19/03 (AMENDED APPLICATION)**

**PREPARED FOR**



**PREPARED BY**



**NOVEMBER 2020**

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## **ABBREVIATIONS**

CARA	–	Conservation of Agricultural Resources Act (Act 43 of 1983)
DEO	–	Designated Environmental Officer
DESTEA	–	Department of Economic, Small Business Development, Tourism and Environmental Affairs
DWS	–	Department of Water and Sanitation
EA	–	Environmental Authorisation
EAP	–	Environmental Assessment Practitioner
ECO	–	Environmental Control Officer
EIA	–	Environmental Impact Assessment
EMPr	–	Environmental Management Programme
NLM	–	Nala Local Municipality
PSC	–	Project Steering Committee
RE	–	Resident Engineer
SAHRA	–	South African Heritage Resources Agency
SDF	–	Spatial Development Framework
WULA	–	Water Use License Application

## 1. INTRODUCTION

Free State Department of Human Settlements on behalf of Nala Local Municipality (“NLM”) appointed Vexocom (Pty) Ltd as project consultants for the Khalinkomo Township Establishment and they appointed NSVT Consultants as independent Environmental Assessment Practitioners (“EAP”) to lodge a S24G rectification and continuation application and subsequently to compile the Environmental Management Programme (EMPr) as part of the Environmental Impact Assessment (“EIA”) Process that should be undertaken to obtain and Environmental Authorisation (“EA”) for undertaking unlawful activities associated with the proposed formalization of the Khalinkomo Informal settlement in Wesselsbron. The competent authority is Environmental Authorisation from the Department of Economic, Small Business Development, Tourism and Environmental Affairs “DESTEA”. The Layout Map for the proposed development is attached hereto as **Appendix A**.

## 2. DETAILS OF PROPONENT AND ENVIRONMENTAL ASSESSMENT PRACTITIONER

### 2.1. DETAILS OF PROPONENT

<b>PROJECT PROPONENT</b>	Nala Local Municipality
<b>POSTAL ADDRESS</b>	P.O. Box 12 Bothaville 9660
<b>PHYSICAL ADDRESS</b>	8 Preller Street, Bothaville, 9660
<b>CONTACT PERSON</b>	Nokufa Elizabeth Radebe
<b>PHONE</b>	056 514 9200
<b>FACSIMILE</b>	056 515 3922
<b>CELL</b>	082 499 4708
<b>EMAIL</b>	nokufar@gmail.com
<b>FARM NAME</b>	Farm Oranjevlei 174, Wesselsbron
<b>LANDOWNER</b>	Nala Local Municipality

### 2.2. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

The curriculum vitae of the EAP is attached hereto as **Appendix B**.

<b>EAP</b>	NSVT Consultants		
<b>CONTACT PERSON</b>	Lorato Tigatedi <i>Pr. Sci. Nat.</i>		
<b>POSTAL ADDRESS</b>	P. O. Box 42452, Heuwelsig, Bloemfontein 9332		
<b>TELEPHONE</b>	(051) 430 1042	<b>FACSIMILE</b>	086 239 9133
<b>E-MAIL</b>	<a href="mailto:lorato@nsvt.co.za">lorato@nsvt.co.za</a>	<b>CELL</b>	082 784 8259
<b>QUALIFICATIONS</b>	B. Sc. (Natural Science) B. Sc. Hons (Wildlife) Masters in Environmental Management (Incomplete: Mini thesis outstanding)	<b>EXPERIENCE</b>	17 years working in the environmental management field as an EAP. She has completed

<b>EXPERTISE/ TRAINING</b>	Resources & Sustainability, Physical & Biological Environment, and Informatics		environmental impact assessment, basic assessment, drafting of EMPRs and environmental compliance monitoring for various development in various municipality within the Free State., North West, Northern Cape, and Eastern Cape Provinces.
	Project Management for Environmental Management		
	Social & Economic Sustainability		
	Use of Matrices in EIA		
	Public Participation Training		
	Introduction to Social Impact Assessment		
	Integrating HIV/Aids and Gender-related issues into EIA Process	<b>PROFESSIONAL AFFILIATE</b>	Environmental Assessment Practitioners of South Africa- 2020/2519
	Integrated Water Resources Management, Water Use Authorisation and Water Use License Application		South African Council for Natural Scientific Professions: Natural Scientist- 4000161/09
	One Environmental System		Member of International Association for Public Participation Southern Africa Affiliate- 2010/ZA/FS/0001
	Introduction to environmental Law		Member of International Association for Impact Assessment SA-2191

### 3. DEFINITIONS

***Environmental Management Programme:*** An environmental action plan or tool used to ensure that undue or reasonably avoidable adverse impacts of a development are prevented, and that positive impacts are enhanced. It thus addresses the how, when, who, where and what of integrating environmental mitigation and monitoring measures through the project development activities.

***Alien Vegetation:*** An undesirable plant growth which shall include, but not be limited to all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (“CARA”), 1983 regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

***Construction Activity:*** Any action taken by Nala Local Municipality, its contractors and sub-contractors, suppliers, or personnel during the construction process.

***Environment:*** The surroundings within which humans exist and that could be made up of the following:

- the land, water, and atmosphere of the earth;
- micro-organisms, plant, and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic, and cultural properties and conditions of the foregoing that influence human health and well-being.

***Environmental Aspect:*** An environmental aspect is any component of Nala Local Municipality, its contractors and sub-contractor’s construction activity that is likely to interact with the environment.

***Environmental Impact:*** An impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

***Environmental Authorization:*** A written decision from the competent authority that records its approval for undertaking the planned infill development and the conditions of approval which may include mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

### **3. PROJECT DESCRIPTION**

#### **3.1. BACKGROUND INFORMATION**

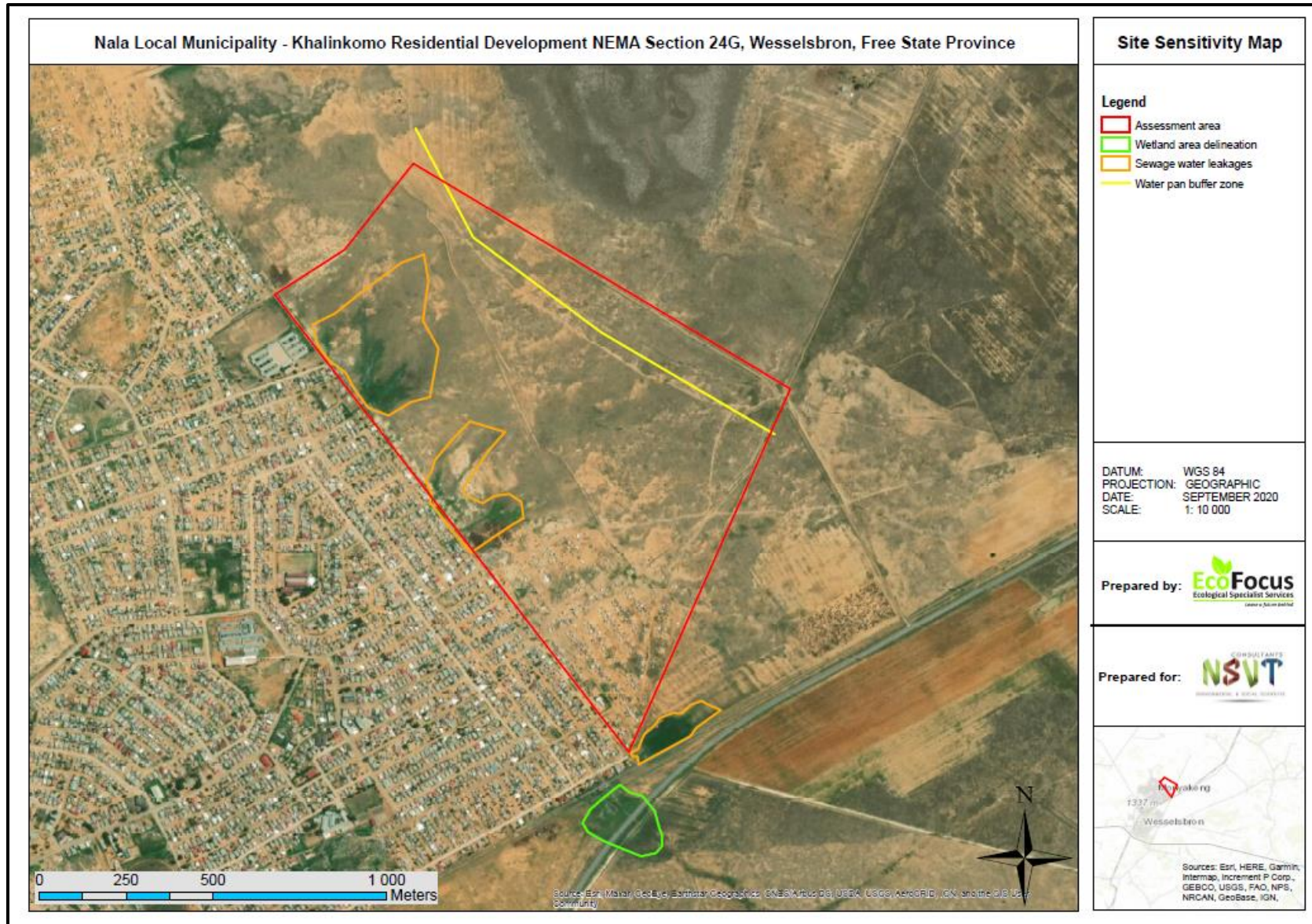
The Khalinkomo Informal Settlement, which is approximately 20 hectares is identified for formalization is located on Portion of Farm Oranjevlei in Monyakeng, Wesselsbron within the jurisdiction of NLM. However, as part of the formalization additional area of approximately 80 hectares to the north and north west has been incorporated in the development to meet the number of residential units required to address the housing backlog in the area, thus the total development footprint would be 102.59 hectares. It is located to the east of Monyakeng and is accessible via Provincial Road R515 through existing roads within Monyakeng. The proposed site is completely transformed but the additional area is vacant and undeveloped whereas the surrounding areas to the north, east and south are undeveloped and Monyakeng is bordering the western side with Provincial Road R719 and railway line in the south eastern side. The proposed site is earmarked for residential development in the Spatial Development Framework (“SDF”) of the Municipality.

#### **3.2 SENSITIVITY OF THE PROPOSED SITE**

The informal settlement site is completely transformed therefore has no areas that are considered sensitive and needs to be avoided but the additional area is located closer to a water pan, therefore it could be negatively affected by the development. The surrounding undeveloped areas are moderately disturbed and degraded due grazing activities that are not managed. Specialist studies which were conducted as part of the process are Ecological and Heritage Impact Assessments. From the findings of the studies, it was recommended that the development may go ahead as there are no sensitive, protected and/or threatened species of heritage artefacts that must be protected. However, a 250m protective buffer must be included in the layout and a detailed stormwater management plan must be compiled and submitted to Department of Water and Sanitation (“DWS”) for approval prior to commencement of construction activities. The Sensitivity Map indicating the artificial wetland, which is located approximately 100m south of the proposed site is shown in *Figure 1* below.



The Sensitivity Map is shown in *Figure 1* below:



**Figure 1: Sensitivity Map for the Proposed Site**



## 4 CHECKLIST FOR THE PROPOSED PROJECT

### 1. Give a detailed description of the development:

The municipality have unlawfully commenced with activities, which could have a harmful impact on the environment without obtaining an authorisation. The activity is transformation of land that was used for agricultural purposes without obtaining an environmental authorisation and for continuation, the proposed site will be subjected to clearance of indigenous vegetation on land that was used for agricultural purposes, *i.e.* informal grazing of livestock. The established settlement was also provided with a basic level of water supply, *i.e.* communal water standpipes and mast lights by the municipality. There are gravel access and internal roads although they are in poor condition and the housing and toilet structures are mostly corrugated iron with pit latrines as a sanitation facility. For the continuation of the development, it will be extended to an area towards the north, thus the total development footprint will be 102.59 hectares.

### 2. Give a brief description of the surrounding area:

The area to the north, east and south of the informal settlement is undeveloped. In the vicinity is a water pan, artificial wetland and Monyakeng, a formalised settlement on the western side.

### 3. Is the project significantly different from the surrounding land use?

No, it can be deemed as an extension of Monyakeng as to access the area you use the existing roads.

### 4. Are any of the following located on the site chosen for the development?

- i. River, stream, dam, wetland – Yes, water pan and wetland outside the 100m radius
- ii. Open space area – No
- iii. Residential (formal or informal settlement) – Yes, formal and informal settlement
- iv. Area of cultural importance, e.g. graveyards, old houses, museum, etc. – No

### 5. Will the project be considered a noisy intrusion to the neighbors?

No, the increased noise levels will be during construction and thereafter, it will be general noise levels of a residential area.

### 6. Would it be necessary to construct roads to access the proposed site?

No, but the existing roads will have to be upgraded or rehabilitated.

## 5 ENVIRONMENTAL MANAGEMENT PROGRAMME

### 5.1. INTRODUCTION

The EMPr has been divided into four different phases associated with the proposed development namely the pre-construction planning phase, the construction phase and operational phase. This EMPr will be implemented by Nala Local Municipality on approval by DESTEA. It must be read in conjunction with the contract documentation to ensure that the municipality works in an environmentally sensitive manner, so that impacts on the environment and neighbouring residents of Monyakeng are kept to a minimum and areas that are identified as sensitive are excluded from the construction footprint.

### 5.2 OBJECTIVES OF THE EMPR

The aim of the EMPr is to ensure that impact on the environment due to the proposed development is limited. To achieve this, the EMPr has the following objectives:

- ❑ To identify possible environmental impacts of the proposed activity on the environment and mitigation thereof.
- ❑ To provide information on construction activities associated with the identified environmental issues.
- ❑ To provide guidelines for the management of the identified environmental issues.
- ❑ To provide guidelines to the responsible persons from NLM to follow appropriate contingency plans in the case of various possible impacts.

### 5.3 RESPONSIBLE PERSON (S)

The implementation of this EMPr requires the involvement of various role players, each with specific responsibilities to ensure that the development is completed in an environmentally sensitive manner.

**The Developer:** NLM

Responsibility: To implement the final EMPr after approval by DESTEA before the commencement of the construction phase and ensure the proposed development complies with the National Environmental Management Act (Act 107 of 1998) (“NEMA”) requirements and EA conditions.

**Consulting Engineers:** Vexocom (Pty) Ltd

Responsibility: To undertake the detailed design for the proposed development and to ensure that necessary permits have been obtained prior to construction. To ensure the contractor sign the EMPr before commencement of construction and oversee the overall implementation of the project from construction phase to completion.

**The Environmental Control Officer (“ECO”):** To be appointed

Responsibility:

- ❑ To ensure that Nala Local Municipality implements the EMPr for the duration of the project from pre-construction to post-construction (decommissioning).
- ❑ To review the method statements with the resident engineer.
- ❑ To maintain a direct open line between the project consultants, beneficiaries, residents, contractor (representatives of the Project Steering Committee (“PSC”)) and the municipality.
- ❑ To audit the implementation of the EMPr and compliance to the environmental authorisation once a month until project completion.

**The Contractor:** To be appointed

Responsibility:

- ❑ To implement the EMPr and keep a copy on-site for the duration of the construction phase, as the obligations imposed by the document are legally binding.
- ❑ To comply with the Environmental Authorisation and undertake construction activities in an environmentally sensitive manner and rehabilitation of the proposed site post-development
- ❑ To undertake good housekeeping practices during the duration of the project.
- ❑ To ensure that adequate environmental awareness training takes place in the language of the Employees.

**Designated Environmental Officer (“DEO”):** To be appointed

Responsibility:

- ❑ To implement the EMPr.
- ❑ To maintain records of environmental queries for the duration of the construction.
- ❑ To resolve environmental issues during the construction phase of the project.

**The Project Steering Committee (Environmental Forum):** A committee that comprises of representatives of the Engineers, Beneficiaries, Local Community and Contractor.

Responsibility:

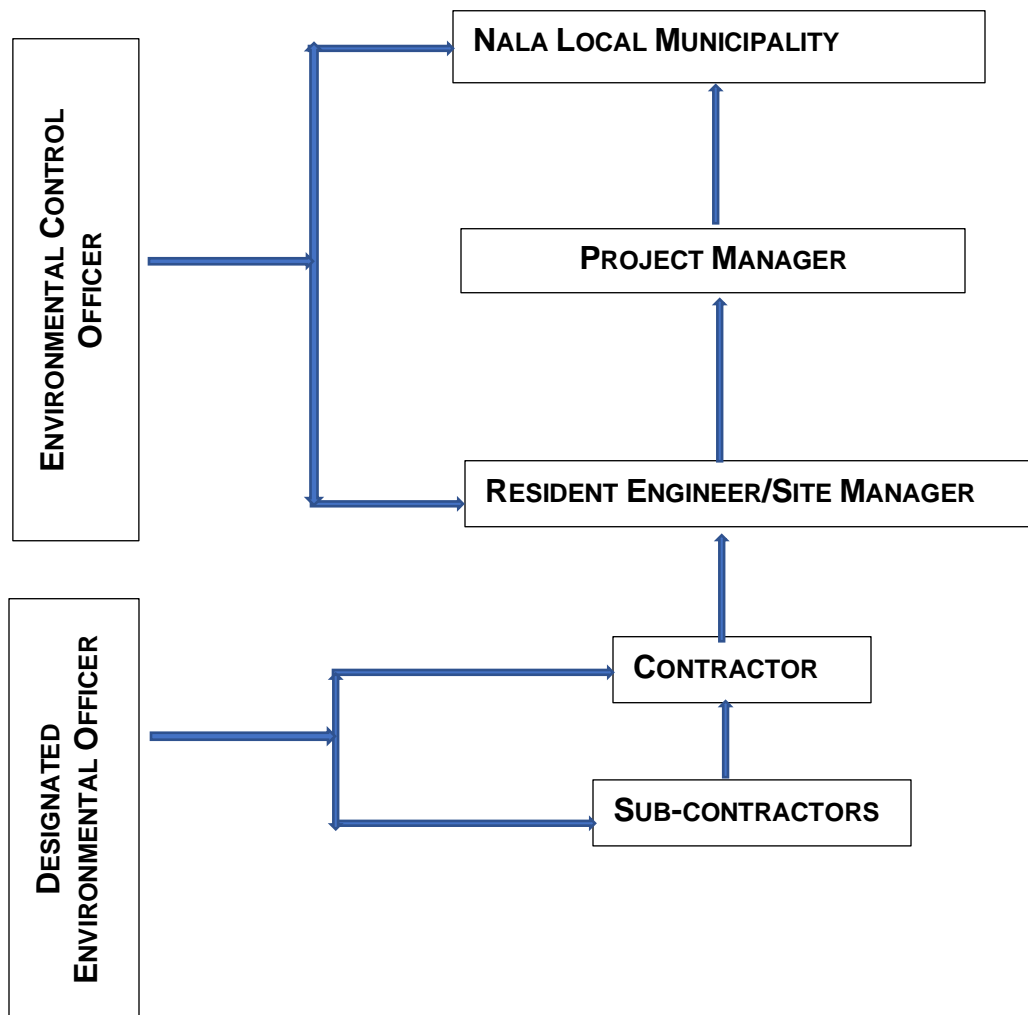
- ❑ To monitor the implementation of the EMPr.
- ❑ To assist in the sourcing of general workers from the local community and surrounding farms.
- ❑ To help ensure participation of local contractors during construction.
- ❑ To assist in resolving social or environmental issues that may arise during construction.

### 5.3.1. PROPOSED MECHANISMS FOR MONITORING COMPLIANCE WITH THE EMPR AND REPORTING THEREOF

The ECO must have adequate environmental knowledge to understand and implement this EMPr. They may not be someone appointed by the contractor, engineer or other party involved with the project. The ECO must be appointed and report to DLM only. If, in the opinion of the ECO, that there is a serious threat to or impact on the environment caused directly by the construction activities, the ECO may petition the Engineer to stop the works. Upon failure by the contractor or his workforce to show adequate consideration to the environmental aspects of this EMPr, the ECO may recommend to the engineer to have the contractor's representatives or any employee(s) removed from the site or the work suspended until the matter is remedied. If the transgression continues, the ECO in consultation with the Engineers may issue the contractor with a penalty.

### 5.3.2. ORGANIGRAM FOR REPORTING LINES

The organogram below depicts reporting lines for implementation of the EMPr.



## 5.4 METHOD STATEMENT

A method statement outlines construction activities to be undertaken with mitigation measures. The contractor must give a written statement to NLM at least two weeks before the activity so that any irregularities can be handled before construction commences and communicated to the workforce. The format of the method statement must clearly indicate the following:

1. Construction and Operational Procedures
2. Materials and Equipment used
3. How and where materials will be stored
4. When actions will be undertaken

Based on the EMPr specifications, the following method statements are required as a minimum:

- ❑ Site layout and establishment
- ❑ Handling of accidental spillages of hazardous substances
- ❑ Cement mixing
- ❑ Waste management procedures
- ❑ Wastewater management procedures
- ❑ Stormwater Management
- ❑ Erosion Remediation
- ❑ Traffic accommodation
- ❑ Fire control and emergency procedures

## 5.5 ENVIRONMENTAL AWARENESS TRAINING

NLM, workforce of the contractors and sub-contractors involved with the work in the construction phase are to be briefed on their obligation towards environmental protection and methodologies in terms of the EMPr prior to work commencing. The briefing must be done by the DEO prior to construction in the form of an on-site talk (toolbox talks) and demonstration. There should be records for the said presentation, which should be done in a language that will be easily understood by all. This should be done prior to commencement of construction activities and for new sub-contractors and general workers if construction has commenced.

The environmental training should, as a minimum include the following:

- ✚ The importance of conformance with all the environmental policies and legislation.
- ✚ The roles and responsibilities in achieving conformance with the EMPr.
- ✚ The environmental Impact, actual or potential, of their work activities.
- ✚ The mitigation measures required from specified operating procedures.
- ✚ The potential consequences of departure from specified operating procedures.

The basic rules of conduct, which must be considered for the duration of the project, are tabulated below.

**Table 1: Basic conduct rules during construction**

Do	Do Not
Use of toilet facilities provided and report	Make open fires for cooking, dedicated areas must be provided.
Clear your work areas of litter and building rubbish at the end of each day	Allow any cement bags or litter to be blown around
Report all petroleum leakages and/or spillages	Access the neighbouring properties without the owners' consent
Only emergency repairs of construction vehicles are allowed on the construction site	Dispose of cigarettes and burning matches randomly
Confine work and storage of equipment and comply with all safety procedures	Do not leave food lying around
Provide easily accessible fire extinguisher and in good working condition	Dump any waste material into the neighbouring waterbodies, i.e. water pan and wetland.
Use areas designated for food preparation	Leave any excavations without safety net barricading
Use all safety equipment and comply with all safety procedures	
Prevent excessive dust and noise	

## 5.6 RECORD KEEPING

There must be an up to date filing system at the site office for the duration of the project whereby method statements, environmental incidents report, training records, audit reports and public complaints register are kept. It is advised that photographs of the site must be taken pre-, during and post-construction as a visual reference. These records must be kept for a minimum of 2 years after completion of the project. It is therefore imperative that there be a file dedicated for Environmental Documentation.

## 5.7 PENALTIES

In cases of transgressions and non-compliance regarding the EMPr by the contractor, they must be liable to a penalty fine. Transgressions should be recorded in a dedicated register and be kept at the site office for the duration of the project.

The resident engineer will issue the penalties in terms of the severity of the environment; however, *Table 2* below may be used as a guideline.

**Table 2: Penalties for Transgressions**

TRANSGRESSION	PENALTY
Littering and defecation in the bush	R1000
Concrete mixing on the ground	R2000
Spillages	R1000-R10 000 depending on the magnitude)
Soil erosion	R2000
Veld fires	R5000

The penalty could be donated to an environmental charity in the area or any area that requires environmental protection/rehabilitation.

## 5.8. COMPLIANCE WITH ENVIRONMENTAL LEGISLATION

The compliance to the applicable Environmental Legislation must be undertaken before commencement of construction activities as shown in *Table 3* below.

LEGISLATION	APPLICABLE			APPLICATION SUBMITTED	
	YES	NO	N/A	YES	NO
Environmental Authorisation in terms of Section 24 of National Environmental Management Act (Act 107 of 1998)	X			X	
Water Use License in terms of Section 21(c) and (i) of the National Water Act (Act 36 of 1998)	<b>Unsure as the wetland is artificial- DWS Comments awaited</b>				
Permit in terms of National Environmental Management Act: Biodiversity Act (Act 10 of 2004)			X		
Section 38 of National Heritage Resources Act (Act 25 of 1999)			X		
Section 37 of the Mineral Resources Development Act (Act 29 of 2002)			X		
Waste Management License in terms of National Environmental Management: Waste Management Act (Act 59 of 2008)			X		

**Table 3: Applicable Environmental Legislation**

## 5.9. IMPACTS AND MITIGATION

The EMPr is outlined in *Table 4* below. Adherence to this plan during construction will ensure that the environmental impacts associated with the proposed development will be mitigated, thus promoting sustainable development during implementation of the project. The Contractor must familiarize himself with the requirements thereof, keeping in mind that this EMPr specifies the minimum performance specifications and that other site-specific requirements and possible additional requirements from relevant stakeholders (government departments), as outlined in the EA, must be complied with.



**Table 4: Environmental Management Programme**

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON (S)	OBJECTIVES	FREQUENCY
<b>1. PRE-CONSTRUCTION PHASE</b>					
Project Contract and Programme	Adherence to the EMPr	<ul style="list-style-type: none"> <li>◇ The environmental responsibilities must be formalized, and environmental awareness must be taught to the labourers in their preferred language as part of the toolbox talks.</li> </ul>	<b>RE &amp; CONTRACTOR</b>	Ensure that EMPr is adhered to	<u>Frequency</u> Prior to commencement of construction (Duration of project implementation)
Location of Camp and Depot	Environmental damage	<ul style="list-style-type: none"> <li>◇ Camp depot must be outside the water pan protective buffer</li> <li>◇ It must be in an area where the Monyakeng residents will not be inconvenienced.</li> <li>◇ The contractor must provide the RE with the layout plan of the camp depot for approval before commencement of the construction phase. The plan must include site offices, temporary fencing boundary, sanitation facilities, waste, stockpiling areas, etc. The parking of vehicles, storage of equipment and materials must strictly be confined to designated areas.</li> <li>◇ If located on the surrounding undeveloped areas, the area must be rehabilitated once the project is completed.</li> </ul>	<b>RE &amp; CONTRACTOR</b>	Prevent environmental damage and disturbance of neighboring land users	<u>Frequency</u> Once off
<b>MANAGEMENT ACTION</b>		A camp depot must be approved by the Resident Engineer (“RE”). Agreement should be in place between contractor and the landowner prior to commencement of construction phase. Photographs of the approved area prior to establishment and after must be kept for record keeping.			

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON (S)	OBJECTIVES	FREQUENCY
Water Supply	Source of water during the construction phase.	<ul style="list-style-type: none"> <li>◇ Potable water must be available at the camp depot, office site and construction site.</li> <li>◇ No boreholes should be established without DWS approval.</li> <li>◇ No water must be abstracted from any watercourse or waterbody without a water use license</li> </ul>	<b>RE, CONTRACTOR &amp; MUNICIPALITY OR WATER SUPPLIER</b>	To have clean water for the workforce. To prevent unlawful undertaking of water uses	Frequency Duration of the project implementation
<b>MANAGEMENT ACTION</b>		A written agreement between the contractor and water supplier must be in place. Container marked potable water must be placed at the construction site.			
Access Control	Uncontrollable movement of people and livestock, and construction materials	<ul style="list-style-type: none"> <li>◇ A fenced or suitably secure main site office and material storage area must be established.</li> <li>◇ Unauthorized entry must be prohibited.</li> </ul>	<b>RE &amp; CONTRACTOR</b>	Keep the site secure from trespassing or theft and keep the surrounding livestock out.	Frequency Duration of the project implementation
<b>MANAGEMENT ACTION</b>		Site access control, register and complaints book must be in place.			
Access route	Erosion and dilapidation of the access route	<ul style="list-style-type: none"> <li>◇ Upgrade the current access roads used during construction to an acceptable condition.</li> <li>◇ Proper maintenance must be done to ensure the quality of the access road is improved.</li> <li>◇ Implement erosion protection works at identified problem areas</li> </ul>	<b>RE &amp; CONTRACTOR</b>	Prevention of dilapidation of the existing access routes	Frequency Duration of the Project implementation
<b>MANAGEMENT ACTION</b>		ECO Audit checklist, Photographs depicting road condition pre- and post-construction			
Fauna	Destruction of Red Data Listed, Nationally and Provincially protected species	<ul style="list-style-type: none"> <li>◇ An additional ecological walkthrough during the flowering period of underground bulbous plant species, if deemed necessary by the DESTEA.</li> </ul>	RE, Contractor & Ecologist	Prevent loss of protected species	Frequency: Conducted prior to commencement of the project
<b>MANAGEMENT ACTION</b>		Appointment letter of Ecologist and the ecological report			

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON (S)	OBJECTIVES	FREQUENCY
Power Supply	Safety Impacts	◇ A Safety Officer must be appointed to undertake safety audits.	<b>RE CONTRACTOR &amp;</b>	Implement safety measures	<u>Frequency</u> Once-off
<b>MANAGEMENT ACTION</b>		Appointment Letter of a Safety Officer			
Solid Waste	Littering/ Pollution of environment with waste materials	◇ Refuse bins with lids must be provided for different waste streams. ◇ System for regular waste removal must be set up. ◇ A Serviced Provider with the necessary accreditation to transport and dispose waste must be appointed.	<b>RE CONTRACTOR &amp;</b>	Implement proper handling of different streams of waste.	<u>Frequency</u> Once Off
<b>MANAGEMENT ACTION</b>		Method Statement for storing, handling, and disposal of waste and Record keeping of all records. Letter of Agreement for Handling of Hazardous Waste between Contractor and Service Provider.			
Sewage	Pollution of environment by waste materials	◇ Provide adequate sanitation facilities ◇ Letter of consent from a registered waste facility to allow the contractor to empty the toilets in their sewer system must be in the environmental document.	<b>RE CONTRACTOR &amp;</b>	Prevent environmental pollution	<u>Frequency</u> Once off
<b>MANAGEMENT ACTION</b>		Record keeping copies for emptying of chemical toilets. Written agreement between contractor and facility.			
Social & Socio-Economic Aspects	Dissatisfaction	◇ A project steering committee (PSC), which comprises of the municipality, Engineers, contractor, Beneficiaries, and community representatives must be convened and details of the project discussed. ◇ CLO appointed and PSC appointed	<b>RE, CONTRACTOR, WARD 3 COUNCILLOR, NLM</b>	Ensure satisfaction of workers and neighbouring land users	<u>Frequency</u> Monthly
<b>MANAGEMENT ACTION</b>		CLO appointed and PSC in place prior to commencement of construction activities.			

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON	OBJECTIVES	FREQUENCY
Health & Safety	Danger to the workforce, Khalinkomo Residents, neighboring Monyakeng, especially children and other landusers in the vicinity	<ul style="list-style-type: none"> <li>◇ The Contactor must provide employees with suitable equipment to protect them from hazards being presented and that will allow them to work without risk to the health in a hazardous environment, e.g. hard hats, gloves, boots, etc.</li> <li>◇ An emergency preparedness plan should be compiled and approved by the resident engineer and ECO before construction commences. A list of all emergency telephone numbers, i.e. fire, ambulance, ECO, engineers, etc. should be available all the time at various construction sites.</li> <li>◇ A medical first aid kit should be available on site for duration of the project.</li> <li>◇ Construction methods must adhere to the Occupational Health and Safety Act (Act 85 of 1993).</li> </ul>	<b>RE, CONTRACTOR, SAFETY OFFICER</b>	To avoid endangering of the people who works on site or live in the vicinity of the construction site.	<u>Frequency</u> Duration of the project implementation
<b>MANAGEMENT ACTION</b>		Signed records for issuing of PPE to the workforce. Risk register must be in place			
Water Quality	Contamination of the water pan	A comprehensive pan health assessment and aquatic bio-monitoring assessment must be conducted prior to commencement of the construction phase by a suitably qualified and experienced ecologist. Water samples of the pan must be collected directly downstream of the proposed project area on a minimum annual basis.	<b>RE, Contractor &amp;DEO</b>	To analyze water samples and obtain baseline condition	<u>Frequency</u> Annually prior to construction activities
<b>MANAGEMENT ACTION</b>		Results from an accredited laboratory			

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON	OBJECTIVES	FREQUENCY
<b>2. CONSTRUCTION PHASE</b>					
Sewerage	Pollution of the receiving environment.	<ul style="list-style-type: none"> <li>◇ Adequate sanitation facilities <i>i.e.</i>, 15 employees per facility must be provided with 50m from construction site.</li> <li>◇ They must always be kept clean and hygienic.</li> <li>◇ Effluent must not be discharged into the natural environment and defecating in the bush is prohibited.</li> <li>◇ No chemical toilets must be placed within 32m of the wetland and protective buffer zone of water pan.</li> </ul>	<b>RE, CONTRACTOR, DEO, &amp; ECO</b>	Provide facilities for adequate and accessible sanitation facilities, Prevent soil and water pollution.	<u>Frequency</u> Weekly
Water Supply	Source of potable water during the construction phase.	<ul style="list-style-type: none"> <li>◇ Potable water must be made available at the camp site and construction site in clearly marked containers.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	To provide the workforce with clean water.	<u>Frequency</u> Daily
Health & Safety	Increase chances of HIV/Aids transmission	<ul style="list-style-type: none"> <li>◇ HIV/Awareness Training must be provided for the workforce by an accredited service provider.</li> </ul>	<b>RE, CONTRACTOR, SAFETY OFFICER</b>	To decrease the risk of HIV/Aids transmission	<u>Frequency</u> Once for each and every personnel on site
Power Supply	Safety Impacts	<ul style="list-style-type: none"> <li>◇ Limit the power supply cables &amp; ensure the safety of the workers.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Avoid safety impacts	<u>Frequency</u> Daily
Energy Efficiency	Conserving of fossil fuels	<ul style="list-style-type: none"> <li>◇ Manual labour must be used as much as is feasible in order to conserve fossil fuels.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Conserving fossil fuels by using manual labour.	<u>Frequency</u> Daily

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON	OBJECTIVES	FREQUENCY
Solid Waste	Littering/ Pollution	<ul style="list-style-type: none"> <li>◇ Toolbox talks must include a component of waste management.</li> <li>◇ All waste must be appropriately separated, contained, and disposed of and be removed from the site to the registered landfill site in Wesselsbron.</li> <li>◇ Reduction, reuse, and recycling of waste must be introduced.</li> <li>◇ Illegal dumping must be forbidden.</li> <li>◇ No dumping of builders' rubble or other materials within the surrounding areas including the drainage lines and plans.</li> <li>◇ Good housekeeping practices.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	<p>Prevent littering and visual impact.</p> <p>Safeguard a healthy working environment.</p>	<u>Frequency</u> Weekly
Traffic Impact	Safety/ Traffic Impacts	<ul style="list-style-type: none"> <li>◇ Vehicle speed on the site must be limited speed to 40km/h.</li> <li>◇ Only drivers with valid licenses must be allowed to drive on the site.</li> <li>◇ In the event of abnormal vehicles, a permit must be obtained from the local Department of Traffic.</li> </ul>	<b>RE, CONTRACTOR, DEO, ECO &amp; SAFETY OFFICER</b>	Minimize the disruption to road users	<u>Frequency</u> Duration of the project
Topography	Disturbing the natural topography	<ul style="list-style-type: none"> <li>◇ Minimize the amount of excavation and earthworks needed by fitting the building or landscape design to the site topography rather than flatten the site to fit the building or landscape.</li> <li>◇ Restrict construction vehicle traffic to designated accesses to reduce damage to soils and vegetation.</li> </ul>	<b>RE, DEO &amp; ECO</b>	Minimize the disturbance of topography	<u>Frequency</u> Duration of the project

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON	OBJECTIVES	FREQUENCY
Surface water quality and quantity of water pan	Contamination of water pan and impeding of water flow	<ul style="list-style-type: none"> <li>◇ No storage of construction material within the 250m protective buffer around the water pan.</li> <li>◇ Adequate stormwater management measures must be implemented for the entire assessment area during the construction and operational phases. This must be done to sufficiently manage stormwater runoff and clean/dirty water separation in order to prevent any significant contamination from occurring.</li> <li>◇ If hydrocarbons or other chemicals are to be stored on site during the new construction phase, the storage areas must be situated far away as practicably as possible from the water drainage area and pan. The storage area must be in the south-western portion of the assessment area.</li> <li>◇ Hydrocarbons and other chemical storage area, handling, usage, and spillage clean-up procedures must be developed, and all relevant construction personnel must be sufficient trained on and apply these procedures during the entire new construction phase.</li> <li>◇ Equipment to be properly maintained and serviced.</li> <li>◇ Any spillages must be reported to the Department of Water and Sanitation.</li> </ul>	<b>RE, CONTRACTOR &amp; DEO</b>	Prevent contamination and not disturb/alter flow of water	<u>Frequency:</u> Duration of the project



ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON	OBJECTIVES	FREQUENCY
Storm water	Contamination of storm water	<ul style="list-style-type: none"> <li>◇ Implementation of the stormwater management plan approved by DWS must be implemented</li> <li>◇ Storm water must be diverted away from the construction works.</li> <li>◇ Storm water control works must be constructed, operated, and maintained in a sustainable manner throughout the project.</li> <li>◇ Storm water leaving the construction site must not be contaminated by any substance produced, stored, dumped, or spilled on site.</li> <li>◇ No contaminated water must be allowed to flow freely into the drainage channels.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Avoid contamination of stormwater	<u>Frequency</u> Duration of project
Flora	Loss of vegetation	<ul style="list-style-type: none"> <li>◇ No Red Data or Protected/Threatened Species on site.</li> <li>◇ All declared alien plant species must be effectively cleared.</li> <li>◇ Construction activities must be confined to the development footprint.</li> <li>◇ No clearance of vegetation must be undertaken within 32m of a wetland and the 250m protective buffer around the water pan.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Prevent impacts on flora and destruction of Red Data Listed Species	<u>Frequency</u> Once off
Fauna	Disturbance to fauna in the area	<ul style="list-style-type: none"> <li>◇ No hunting, snaring, shooting, nest raiding or egg collection by the construction staff must be allowed.</li> <li>◇ Toolbox talks must include handling of animals.</li> </ul>	<b>RE, CONTRACTOR, DEO, AND ECO</b>	Prevent killings of animals and	<u>Frequency</u> Duration of the contract

ASPECT	POSSIBLE IMPACT	◇ MITIGATION PLAN	RESPONSIBLE PERSON	OBJECTIVES	FREQUENCY
Topsoil	Loss of Topsoil	<ul style="list-style-type: none"> <li>◇ Exposure of bare ground will be minimized.</li> <li>◇ Topsoil stripping must be limited to the development footprint.</li> <li>◇ It must be stored separately from the subsoil, i.e. no mixing of soils.</li> <li>◇ In situ material must be removed to an average depth of 1000mm.</li> <li>◇ Cleared and grubbed topsoil must be stockpiled as a top layer of at least 150mm thickness for backfilling of and rehabilitation purposes.</li> <li>◇ Soil conservation measures such as berms, gabions and mats must be used on-site to help reduce erosion.</li> <li>◇ No stockpiling of topsoil in the drainage line and pan nearby.</li> <li>◇ No topsoil stripping must be done on open space ervens.</li> <li>◇ Topsoil stockpiles must be kept free of weeds and litter free.</li> <li>◇ Topsoil stockpiles must not inconvenience the residents from accessing their properties without informing them prior if necessary.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Conserve and protect topsoil from erosion and deterioration	<u>Frequency</u> Weekly

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON	OBJECTIVES	FREQUENCY
Soil erosion	Erosion	<ul style="list-style-type: none"> <li>◇ Exposure of bare ground must be minimized, and topsoil stripping limited to the development footprint, excluding open spaces and they must be cordoned off.</li> <li>◇ Vehicular activities to be confined to the development footprint and access roads.</li> <li>◇ No construction activities within 32m of the wetland and protective buffer zone.</li> <li>◇ Erosion management measures must be implemented for the entire assessment area. This must be done in order to sufficiently manage storm water runoff and clean/dirty water separation in order to prevent any significant erosion from occurring.</li> </ul>	<b>RE, CONTRACTOR, DEO, AND ECO</b>	Prevent Soil Erosion	<u>Frequency</u> Weekly
Cement mixing	Pollution of soils, surface, and groundwater	<ul style="list-style-type: none"> <li>◇ Mixing of cement must be done on mortar boards or similar structures to contain surface run-off.</li> <li>◇ Cleaning of cement mixing equipment must be done on proper cleaning trays.</li> <li>◇ No cement or cement containers must be left lying around.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Avoid polluting the topsoil soil and water bodies around the designated servitude.	<u>Frequency</u> Duration of project
Air Quality	Nuisance and reduction in visibility	<ul style="list-style-type: none"> <li>◇ Occasional wetting of the access routes and construction site must be done by means of a water tanker to keep the dust levels low and vehicles must be driven at 40km/h maximum speed.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	To minimize the generation of dust from excavation work and associated visual impacts	<u>Frequency</u> Twice a day

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON	OBJECTIVES	FREQUENCY
Noise	Nuisance	<ul style="list-style-type: none"> <li>◇ Construction must be limited to normal contractors' working days and working hours.</li> <li>◇ Ensure that employees and staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.</li> <li>◇ Limit working hours of noisy equipment to daylight hours,</li> <li>◇ Fit silencers to the noisier construction equipment.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	To avoid excessive noise generation from site operations	<u>Frequency</u> Duration of Construction
Alien Invasive Species	Prevent the spreading of alien invasive species	<ul style="list-style-type: none"> <li>◇ Implement an adequate Alien Invasive Species Establishment Management and Prevention Plan compiled by a suitably qualified and experienced ecologist must be implemented.</li> <li>◇ A designated person must be appointed to keep the construction site weed-free.</li> <li>◇ All Category 1b and 2 alien invasive species individuals currently within the project area, must be actively eradicated and adequately disposed of in accordance with the National Environmental Management: Biodiversity Act (Act 10 of 2004); Alien and Invasive Species Regulations, 2014.</li> <li>◇ There should be a dedicated person responsible for the control of alien vegetation species during construction phase.</li> <li>◇ Construction vehicles must be cleaned before entering the construction site.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; DEO</b>	Prevent unnecessary dissemination of alien invasive species	<u>Frequency</u> Duration of the Project

ASPECT	POSSIBLE IMPACT	MITIGATION PLAN	RESPONSIBLE PERSON (S)	OBJECTIVES	FREQUENCY
Fire Hazard	Risk of veld fires	<ul style="list-style-type: none"> <li>◇ No open fires are permitted on the construction site, except under strictly controlled conditions subject to the National Veld and Forest Act, (Act No. 101 of 1998).</li> <li>◇ The workforce must be informed and advised on the associated risks, dangers and damage of property caused by accidental fires and how to prevent them.</li> <li>◇ Fire extinguishers must be made available at the construction site, and the laborers must be informed of their location and trained to use them.</li> <li>◇ Restrict smoking activities to demarcated smoking activities.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Prevent veld fires.	<u>Frequency</u> Daily
Vehicle Servicing Areas	Pollution	<ul style="list-style-type: none"> <li>◇ Vehicle servicing must be done at the identified camp depot on impermeable surfaces to minimize the likelihood of petrochemical spills on the soil. In the case of accidents, polluted soil must be appropriately treated or taken away to an appropriate disposal site.</li> <li>◇ Used spares must be collected and disposed of in the correct manner. Oils must be drained into a suitable container, transferred to a larger storage container, and then supplied to oil recycling companies.</li> <li>◇ Oil must under no circumstances be disposed off into the drainage lines or the ground.</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Prevent Soil pollution	<u>Frequency</u> Daily

ASPECT	POSSIBLE IMPACT	◇ MITIGATION PLAN	RESPONSIBLE PERSON (S)	OBJECTIVES	FREQUENCY
Areas of Paleontological, Cultural and/or Historical Importance	Disturbance of important scientific artefacts	<ul style="list-style-type: none"> <li>◇ Chance finds protocol must be developed it must be included in the Environmental Awareness training</li> <li>◇ If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit.</li> <li>◇ If the newly discovered heritage resources are considered significant, a Phase 2 assessment may be required. A permit from the responsible authority will be needed.</li> <li>◇ If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit must be alerted immediately.</li> <li>◇ If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2</li> </ul>	<b>RE, CONTRACTOR, DEO &amp; ECO</b>	Prevent disturbance of scientific heritage and/or cultural artefacts.	<u>Frequency</u> Duration of the Contract

		<p>rescue operation may be required subject to permits issued by SAHRA.</p> <ul style="list-style-type: none"> <li>◇ Any contraventions of the sections contained in Section 51(1) of the NHRA constitute as guilty of an offence and thus will be liable for a fine or imprisonment or both as set out in the relevant schedule.</li> <li>◇ Ongoing Heritage Monitoring must be carried out.</li> </ul>			
<b>MANAGEMENT ACTION</b>		<p>Photographic History Incident report by DEO Environmental Compliance Monitoring Reports</p>			
<b>3. POST CONSTRUCTION PHASE</b>					
Aesthetic view of the area	Aesthetic pollution	<ul style="list-style-type: none"> <li>◇ The contractor must rehabilitate the site when construction is completed, thus a detailed rehabilitation plan must be provided by the contractor.</li> <li>◇ The site must be kept clear of litter and all waste must be removed and disposed of at the registered landfill site.</li> <li>◇ All stockpiles must be handled as directed by the engineers.</li> <li>◇ Soil heaps must be flattened to match the adjacent ground and to help prevent soil erosion and encourage natural revegetation.</li> <li>◇ All excavations must be backfilled, levelled and compacted.</li> <li>◇ All surfaces hardened due to construction must be ripped and material imported thereto removed.</li> <li>◇ The original site topography must be restored as much as possible.</li> </ul>	<b>RE, CONTRACTOR, DEO, ECO AND NLM</b>	<p>Prevent pollution</p> <p>Restore pre-construction conditions to a greater extent.</p>	<p><u>Frequency</u> Monthly</p>



		<ul style="list-style-type: none"> <li>◇ A final audit must be completed before the contractor may leave the site to determine whether all requirements were met.</li> <li>◇ A meeting must be held between the various stakeholders to ensure that the site has been restored to a satisfactory condition.</li> </ul>			
<b>4. OPERATION PHASE</b>					
Environmental Degradation	Impact on the environment	<ul style="list-style-type: none"> <li>◇ The municipality must provide basic services to the area, i.e. power supply, water provision, electricity, and refuse removal.</li> <li>◇ Prevent establishment of illegal dumping site.</li> <li>◇ Monitoring and routine maintenance of proper stormwater drainage system should be in place.</li> <li>◇ Routine maintenance of access and internal roads should be in place.</li> <li>◇ Implement alien control measures.</li> <li>◇ Implement erosion management measures.</li> <li>◇ Water savings must be implemented.</li> <li>◇ Environmentally responsible water use practices and activities must be adopted.</li> <li>◇ Water conservation awareness initiatives must be provided for the community.</li> <li>◇ Adequate sewage management system must be in place.</li> <li>◇ Adequate leakage detection and prevention systems must be installed into the sewage management system.</li> </ul>	<b>NALA LOCAL MUNICIPALITY</b>	Maintenance of Bulk Infrastructure  Prevent environmental degradation	<u>Frequency</u> Infinite

## **6 AUDIT AND MONITORING**

Compliance monitoring provides useful information for gauging environmental performance throughout the duration of the project. The information obtained can be used to gauge how effective the mitigation plans in the EMPr are and determine whether the corrective actions undertaken are adequate and whether some modifications are required. The resident engineer (project manager) must monitor the overall aspects of the project, e.g. labor issues and complaints raised by the local community, so they can be addressed in conjunction with the PSC. A designated Environmental officer must be on site for the duration of the project to ensure that the conditions of the Environmental Authorization and EMPr are adhered to. The ECO must monitor construction activities at least once a month and the monthly reports must be compiled and presented to the PSC for discussion if needs be. On completion of the construction phase, post-rehabilitation, an environmental audit must be conducted by an experienced and qualified auditor.

**APPENDIX A**  
**LAYOUT OF THE PROPOSED DEVELOPMENT**



**APPENDIX B**  
**CURRICULUM VITAE OF EAP**

**NAME: Lorato Tigedi Pr. Sci. Nat. (400161/09)**

**Name of Firm: NSVT Consultants**

**Present Position: Director/ Environmental Assessment Practitioner  
1041/2**

**Phone: 051 430**

**Years with the Firm: 9 Years  
8259**

**Cell: 082 784**

**Mailing Address: 1 Fourth Street, Office 1A, Arboretum, 9301**

**E-mail:**

**lorato@nsvt.co.za**

**Date of Birth.: 1980-09-25**

**Nationality: South African**

**Education:**

<b>NAME OF INSTITUTION</b>	<b>DEGREE OBTAINED</b>	<b>DATES ATTENDED</b>
<b>University of the Free State</b>	<b>BSc. Natural Science (Zoology)</b>	<b>1999-2002</b>
	<b>BSc. Hons. Wildlife</b>	<b>2003-2004</b>
	<b>Masters in Environmental Management (Mini-thesis Outstanding)</b>	

**Professional Membership:**

<b>PROFESSIONAL AFFILIATION</b>	<b>MEMBERSHIP No.</b>
<b>Environmental Assessment Practitioners of South Africa (EAPASA)</b>	<b>2020/2519</b>
<b>South Africa Council for Natural Scientific Professions (SACNASP)</b>	<b>Natural Scientist (400161/09)</b>
<b>International Association for Impact Assessment South Africa Affiliate (IAIASa)</b>	<b>2191</b>
<b>International Association for Public Participation Southern Africa Affiliate</b>	<b>2010/ZA/FS0001</b>

**Key Experience:** Lorato Tigedi joined Geo Pollution Technologies (Free State) in 2003 and partnered with a Geohydrologist to establish Bokamoso Consultants as an environmental consultant, trading as NSVT Consultants. From 2004-2005 after completion of BSc Hons (Wildlife) she continued to study Master's in Environmental Management in 2006 but only completed the modules work and still have Mini-Dissertation. In 2011, she set up NSVT Consultants CC as a sole member. She has approximately 16 years in environmental consulting and have completed basic assessment, environmental impact assessment, waste management license and water use license applications for Free State, Northern Cape, North West, and Eastern Cape Provinces. She therefore has extensive knowledge regarding the competencies required to ensure implementation and alignment of environmental policy instruments such as EIA. For Continuous Professional Development, she has completed short courses in Planning for Effective Public Participation, Social Impact Assessment and Conflict Management, Introduction to Environmental Law, Introduction and Implementation of OHSAS 17001 and EMS 14001-2016 amongst other courses. Therefore, she possesses the technical expertise and scientific knowledge for conducting thorough environmental assessments. She has considerable public participation experience through her work in EIA and understand that an effective public participation process provides an opportunity for identifying problems during the EIA process and identifying opportunities that could be used in the decision-making process. Through her involvement in various projects, she has acquired analytical, problem-solving, and excellent research skills

**Current Employment:**

**Duration:** March 2011 to date      **Organization:** NSVT Consultants-Environmental and Social Scientists

**Project:** Environmental Compliance Monitoring for the Upgrading of 31km of widening and rehabilitation of N9 Sec 7 between Wolwefontein and Colesberg as well as the construction of a new access interchange at Colesberg which required the utilization of 10 borrow pits.

**Client:** South African National Resources Agency SOC Limited Eastern Region

**Project:** Environmental authorisation applications for a new landfill sites in Mantsopa Local Municipality.

**Client:** Bigen Africa

**Project:** Environmental Authorisation application and Environmental Compliance Monitoring for a new interchange, overhead and pedestrian bridge.

**Client:** UWP Consulting Engineers

**Project:** Waste management license applications for development of new treatment plant.

**Client:** ISA & Partners

**Project:** Application for rectification for upgrading the treatment works without obtaining an Environmental Authorisation in Vredefort

**Client:** Sobek Engineering

**Project:** Environmental Authorisation application for development of new residential areas including associated infrastructure in Phumelela Local Municipality, Dihlabeng Local Municipality, Tswelopele Local Municipality.

**Client:** Phethogo Consulting Engineers

**Project:** Environmental Authorisation application for development of new residential area including associated infrastructure in Metsimaholo Local Municipality and Maluti-a-Phofung Local Municipality.

**Client:** YB Mashalaba & Associates

**Project:** Basic Assessment, Water use License and Environmental Compliance Monitoring, for the Ficksburg Pipeline from Meulspruit Dam to the water treatment plant.

**Client:** Flagg Consulting Engineers

**Project:** Environmental Impact Assessment for the proposed residential area in Mafube Local Municipality

**Client:** Pula Strategic Resource Management

**Project:** Environmental Compliance Monitoring for the Construction of a feeder pipeline to connect reservoir 8 with the existing water supply network, Section F, Botshabelo, Mangaung Metropolitan Municipality, Free State Province

**Client:** Flagg Consulting Engineers

**Project:** Basic Assessment for a new 132kV powerline from Rouxville substation to Melkspruit substation in Aliwal North

**Client:** Eskom Free State Operating Unit

**Project:** Environmental Services for the proposed pipeline from Luiperdsvallei to the Bultfontein Water treatment plant.

**Client:** Selatile Moloi Consulting Engineers

**Project: Basic Assessment for the proposed Jan Kempdorp infill residential development.  
Project: Basic Assessment for the proposed expansion of Jan Kempdorp Cemetery  
Client: Phokwane Local Municipality**

**Project: Environmental Services for the proposed potable water pipeline from Lindley Water Treatment to the reservoir in Leratswana within Nketoana Local Municipality.  
Client: RTT Consulting Engineers**

**Project: Environmental Service for the Routine Maintenance of the National Route 8 Section 8 and National Route 10 Section 8 to 11.  
Client: Damians Contractors**

**Project: Environmental Services for the Routine Maintenance of the National Route Section 5 to Section 8.  
Client: Expidor Contractors**

**Position: Director and Environmental Assessment Practitioner**

**Responsibilities: Business Operations, Marketing, Project Management, Community/Social Facilitation, Internal EIA Evaluation and associated administration work, Environmental Screening to determine whether the Basic Assessment or Environmental Impact Assessment is required including integrated application processes, Initial assessment of site to identify potential environmental constraints, Collate and review project information, i.e. civil reports, layout plans, etc., Team co-ordination, Consult with the Competent Authority to ensure the project is compliant with applicable national requirements and social legal requirements and policies, Consult with relevant Stakeholders per requirements of the National Environment Act of 1998, Compilation of Environmental Reports, Compilation of Progress Reports (Weekly or Monthly as required), Undertake public participation process, Compilation of construction EMP since no Basic Assessment/Environmental Impact Assessment was required, Initial screening (considering sensitivity/environmental flaws) of borrow pits and selection of suitable ones, Compilation of EMPR as part of mining permit application for borrow pits, Approval of EMPRs and obtaining mining permit applications, and Mentoring of Environmental Management Undergraduates**

**Previous Employment:**

**Duration: March 2004 to February 2011      Organization:      Bokamoso      Consultants-  
Environmental Scientists and Geohydrologist**

**Project: Environmental Impact Assessment for the upgrading of the wastewater treatment works in Dewetsdorp  
Client: Ninham Shand Consulting Engineers**

**Project: Application for exemption from conducting EIA process for the upgrading of the treatment works in Marquard**

**Application for exemption from conducting EIA process for the upgrading of the treatment works in Senekal  
Client: ISA & Partners Consulting Engineers**

**Project: Environmental Impact Assessment for a new access road in Mount Arthur  
Client: Thuso Development Consultants**

**Project: Environmental Impact Assessment for the upgrading of D313 road from Morokweng to Vorstershoop  
Client: Babereki Consulting Engineers**



**Project: Environmental Impact Assessment for the upgrading of the wastewater treatment plant in Jan Kempdorp**  
**Client: Phokwane Local Municipality**

**Project: Environmental Impact Assessment for the upgrading of wastewater treatment works in Jagersfontein**  
**Client: Phethogo Consulting Engineers**

**Project: Community facilitation and public participation process for the resettlement planning and environmental authorisation application for Khuis Community**  
**Client: regional Land Claims Commission Northern Cape**

**Position: Environmental Consultant**  
**Responsibilities: Site visits, undertake public participation process and compile public participation report and/or comments and responses report, compilation of basic assessment and scoping report, compilation of environmental management plan, liaison with stakeholders and competent authorities, Water use License Applications, Waste Management License Applications, Environmental Compliance Monitoring,**

**Duration: March 2003 to February 2004**                      **Organization: Geo Pollution Technologies (Bloemfontein)**

**Project: Application for rezoning and closure of the landfill site in Thaba Nchu and Botshabelo**  
**Client: Mangaung Local Municipality**

**Project: Environmental Impact Assessment for the wastewater treatment works in Ladybrand**  
**Client: Kwezi V3 Consulting Engineers**

**Project: Environmental Impact Assessment for the new reservoir in Ladybrand**  
**Client: Trubuild Consulting Engineers**

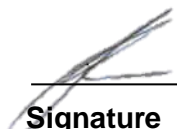
**Position: Junior Environmental Consultant**  
**Responsibilities: Site visits, undertake public participation process and compile public participation report and/or comments and responses report, compilation of basic assessment and scoping report, compilation of environmental management plan, liaison with stakeholders and competent authorities.**

**References:**

<b>CONTACT NAME</b>	<b>ORGANISATION</b>	<b>CONTACT NUMBER</b>
Mamofolo Matebele	Babereki Consulting Engineers	076 141 4940
Solomon Munthali	Uqoloma Consulting Engineers	071 875 8952
Christiaan Vermaak	Tucana Solutions	082 703 5680

**Consent:**

**I confirm that the above CV is an accurate description of my qualifications and experience in environmental management, waste management license applications, which included basic assessment and environmental impact assessment processes, water use license and mining permit and rights applications, environmental compliance monitoring, public participation, stakeholder engagements and social facilitation.**

  
\_\_\_\_\_  
**Signature**

2020-11-00  
\_\_\_\_\_  
**Date**