# GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE DEVELOPMENT AND EXPANSION FOR OVERHEAD ELECTRICITY TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE





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#### INTRODUCTION

#### 1. Background

The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) requires that an environmental management programme (EMPr) be submitted where an environmental impact assessment (EIA) has been identified as the environmental instrument to be utilised as the basis for a decision on an application for environmental authorisation (EA). The content of an EMPr must either contain the information set out in Appendix 4 of the Environmental Impact Assessment Regulations, 2014, as amended, (EIA Regulations) or must be a generic EMPr relevant to an application as identified and gazetted by the Minister in a government notice. Once the Minister has identified, through a government notice, that a generic EMPr is relevant to an application for EA, that generic EMPr must be applied by all parties involved in the EA process, including, but not limited to, the applicant and the competent authority (CA).

#### 2. Purpose

This document constitutes a generic EMPr relevant to applications for the development or expansion of overhead electricity transmission and distribution infrastructure, and all listed and specified activities necessary for the realisation of such infrastructure.

#### 3. Objective

The objective of this generic EMPr is to prescribe and pre-approve generally accepted impact management outcomes and impact management actions, which can commonly and repeatedly be used for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of overhead electricity transmission and distribution infrastructure. The use of a generic EMPr is intended to reduce the need to prepare and review individual EMPrs for applications of a similar nature.

#### 4. Scope

The scope of this generic EMPr applies to the development or expansion of overhead electricity transmission and distribution infrastructure requiring EA in terms of NEMA, i.e. with a capacity of 33 kilovolts or more. This generic EMPr applies to activities requiring EA, mainly activity 11 and 47 of the Environmental Impact Assessment Regulations Listing Notice 1 of 2014, as amended, and activity 9 of the Environmental Impact Assessment Regulations Listing Notice 2 of 2014, as amended, and all associated listed or specified activities necessary for the realisation of such infrastructure.

#### 5. Structure of this document

This document is structured in three parts with an Appendix as indicated in the table below:

Part	Section	Heading	Content
A		Provides general guidance and information and is <b>not</b>	Definitions, acronyms, roles & responsibilities and documentation and reporting.

Part	Section	Heading	Content
		legally binding	
В	1	Pre- approved generic EMPr template	Contains generally accepted impact management outcomes and impact management actions required for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of overhead electricity transmission and distribution infrastructure, which are presented in the form of a template that has been pre-approved.
			The template in this section is to be completed by the contractor, with each completed page signed and dated by the holder of the EA prior to commencement of the activity.
			Where an impact management outcome is not relevant, the words "not applicable" can be inserted in the template under the "responsible persons" column.
			Once completed and signed, the template represents the EMPr for the activity approved by the CA and is legally binding. The template <b>is not required</b> to be submitted to the CA as once the generic EMPr is gazetted for implementation, it has been approved by the CA.
			To allow interested and affected parties access to the pre-approved EMPr template for consideration through the decision-making process, the EAP on behalf of the applicant /proponent must make
			the applicant has a website, the EMPr should also be made available on such publicly accessible website.
	2	Site-specific information	Contains preliminary infrastructure layout and a declaration that the applicant/holder of the EA will comply with the pre-approved generic EMPr template contained in <u>Part B: Section 1</u> , and understands that the impact management outcomes and impact management actions are <b>legally binding</b> . The preliminary infrastructure layout must be finalized to inform the final EMPr that is to be submitted with the basic assessment report (BAR) or environmental impact assessment report (EIAR), ensuring that all impact management outcomes and actions have been either pre-approved or approved in terms of <u>Part C</u> .
			This section <b>must be</b> submitted to the CA together with the final BAR or EIAR. The information submitted to the CA will be considered to be incomplete should a signed copy of <u>Part B: section 2</u> not be submitted. Once approved, this Section forms part of the EMPr for the development and is legally binding.
С		Site-specific sensitivities / attributes	If any specific environmental sensitivities/ attributes are present on the site which require site-specific impact management outcomes and impact management actions, not included in the pre-approved generic EMPr, to manage impacts, these specific impact management outcomes and impact management actions must be included in this section. These specific environmental attributes must be referenced spatially and impact management outcomes and

Part	Section	Heading	Content
			impact management actions must be provided. These specific impact management outcomes and impact management actions must be presented in the format of the pre-approved EMPr template ( <u>Part B:</u> <u>section 1</u> )
			This section will not be required should the site contain no specific environmental sensitivities or attributes. However, if <u>Part C</u> is applicable to the site, it <b>is required</b> to be submitted together with the BAR or EIAR, for consideration of, and decision on, the application for EA. The information in this section must be prepared by an EAP, and must contain his/her name and expertise including a curriculum vitae. Once approved, Part C forms part of the EMPr for the site and is legally binding.
			This section applies only <b>to additional</b> impact management outcomes and impact management actions that are necessary for the avoidance, management and mitigation of impacts and risks associated with the specific development or expansion and which are not already included in <u>Part B: section 1</u> .
Apper	ndix 1		Contains the method statements to be prepared prior to commencement of the activity. The method statements are <b>not</b>
			required to be submitted to the competent authority.

## 6. Completion of part B: section 1: the pre-approved generic EMPr template

The template is to be completed prior to commencement of the activity, by providing the following information for each environmental impact management action:

- For implementation
  - a 'responsible person',
  - a method for implementation,
  - a timeframe for implementation
- For monitoring
  - a responsible person
  - frequency
  - evidence of compliance.

The completed template must be signed and dated by the holder of the EA prior to commencement of the activity. The method statements prepared and agreed to by the holder of the EA must be appended to the template as <u>Appendix 1</u>. Each method statement must be signed and dated on each page by the holder of the EA. This template, once signed and dated, is legally binding. The holder of the EA will remain responsible for its implementation.

#### 7. Amendments of the impact management outcomes and impact management actions

Once the activity has commenced, a holder of an EA may make amendments to the impact management outcomes and impact management actions in the following manner:

• Amendment of the impact management outcomes: in line with the process contemplated in regulation 37 of the EIA Regulations; and

• Amendment of the impact management actions: in line with the process contemplated in regulation 36 of the EIA Regulations.

# 8. Documents to be submitted as part of part B: Section 2 site-specific information and declaration

<u>Part B: Section 2</u> has three distinct sub-sections. The first and third sub-sections are in a template format. Sub-section 2 requires a map to be produced.

<u>Sub-section 1</u> contains the project name, the applicant's name and contact details, the site information, which includes coordinates of the corridor in which the proposed overhead electricity transmission and distribution infrastructure is proposed as well as the 21-digit Surveyor General code of each cadastral land parcel and, where available, the farm name.

<u>Sub-section 2</u> is to be prepared by an EAP and must contain his/her name and expertise including a curriculum vitae. This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout using the national web based environmental screening tool, when available for compulsory use at: <u>https://screening.environment.gov.za/screeningtool.</u> The sensitivity map shall identify the nature of each sensitive feature e.g. raptor nest, threatened plant species, archaeological site, etc. Sensitivity maps must identify features both within the planned working area and any known sensitive features in the surrounding landscape within 50m from the development footprint. The overhead transmission and distribution profile must be illustrated at an appropriate resolution to enable fine scale interrogation. It is recommended that <20 km of overhead transmission and distribution length is illustrated per page in A3 landscape format. Where considered appropriate, photographs of sensitive features in the context of tower positions must be used.

<u>Sub-section 3</u> is the declaration that the applicant/proponent or holder of the EA in the case of a change of ownership must complete, which confirms that the applicant/EA holder will comply with the pre-approved generic EMPr template in <u>Section 1</u> and understands that the impact management outcomes and actions are legally binding.

#### (a) Amendments to Part B: Section 2 – Site-specific information and declaration

Should the EA be transferred, <u>Part B: Section 2</u> must be completed by the new applicant/proponent and submitted with the application for an amendment of the EA in terms of Regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted as part of such an application for an amendment to an EA will be considered to be incomplete should a signed copy of <u>Part B: Section 2</u> not be submitted. Once approved, <u>Part B: Section 2</u> forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

## PART A – GENERAL INFORMATION

#### 1. **DEFINITIONS**

In this EMPr any word or expression to which a meaning has been assigned in the NEMA or EIA Regulations has that meaning, and unless the context requires otherwise –

"clearing" means the clearing and removal of vegetation, whether partially or in whole, including trees and shrubs, as specified;

"construction camp" is the area designated for key construction infrastructure and services, including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management;

"contractor" - The Contractor has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract, are in line with the Environmental Management Programme and that Method Statements are implemented as described.

"hazardous substance" is a substance governed by the Hazardous Substances Act, 1973 (Act No. 15 of 1973) as well as the Hazardous Chemical and Substances Regulations, 1995;

"method statement" means a written submission by the Contractor to the Project Manager in response to this EMPr or a request by the Project Manager and ECO. The method statement must set out the equipment, materials, labour and method(s) the Contractor proposes using to carry out an activity identified by the Project Manager when requesting the Method Statement. This must be done in such detail that the Project Manager and ECO is able to assess whether the Contractor's proposal is in accordance with this specification and/or will produce results in accordance with this specification;

The method statement must cover applicable details with regard to:

- (i) Construction procedures;
- (ii) Plant, materials and equipment to be used;
- (iii) Transporting the equipment to and from site;
- (iv) How the plant/ material/ equipment will be moved while on site;
- (v) How and where the plant/ material/ equipment will be stored;
- (vi) The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- (vii) Timing and location of activities;
- (viii) Compliance/ non-compliance; and
- (ix) Any other information deemed necessary by the Project Manager.

"slope" means the inclination of a surface expressed as one unit of rise or fall for so many horizontal units;

"solid waste" means all solid waste, including construction debris, hazardous waste, excess cement/ concrete, wrapping materials, timber, cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers);

"**spoil**" means excavated material which is unsuitable for use as material in the construction works or is material which is surplus to the requirements of the construction works;

"**topsoil**" means a varying depth (up to 300 mm) of the soil profile irrespective of the fertility, appearance, structure, agricultural potential, fertility and composition of the soil; and

"works" means the works to be executed in terms of the Contract

## 2. ACRONYMS and ABBREVIATIONS

CA	Competent Authority
cEO	Contractors Environmental Officer
dEO	Developer Environmental Officer
DPM	Developer Project Manager
DSS	Developer Site Supervisor
EAR	Environmental Audit Report
ECA	Environmental Conservation Act No. 73 of 1989
ECO	Environmental Control Officer
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
ERAP	Emergency Response Action Plan
EMPr	Environmental Management Programme Report
EAP	Environmental Assessment Practitioner
FPA	Fire Protection Agency
HCS	Hazardous chemical Substance
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEMW	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
Α	
MSDS	Material Safety Data Sheet
RI&AP'	Registered interested and affected parties
S	

## 3. ROLES AND RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) IMPLEMENTATION

The effective implementation of this generic EMPr is dependent on established and clear roles, responsibilities and reporting lines within an institutional framework. This section of the EMPr gives guidance to the various environmental roles and reporting lines, however, project specific requirements will ultimately determine the need for the appointment of specific person(s) to undertake specific roles and or responsibilities. As such, it must be noted that in the event that no specific person, for example, an environmental control officer (ECO) is appointed, the holder of the EA remains responsible for ensuring that the duties indicated in this document for action by the ECO are undertaken.

Responsible Person	Role and Responsibilities			
(s)				
Developer's Project	Role			
Manager	The Project Developer is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent			
(DPM)	authority (CA). Where required, an environmental control officer (ECO) must be contracted by the Project Developer to objectively monitor the implementation of the EMPr according to relevant environmental legislation, and the conditions of the environmental authorisation (EA). The Project Developer is further responsible for providing and giving mandate to enable the ECO to perform responsibilities, and he must ensure that the ECO is integrated as part of the project team while remaining independent.			
	Responsibilities			
	- Be fully conversant with the conditions of the EA;			
	<ul> <li>Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s);</li> <li>Issuing of site instructions to the Contractor for corrective actions required;</li> </ul>			
	<ul> <li>Monitor the implementation of the EMPr throughout the project by means of site inspections and meetings. Overall management of the project and EMPr implementation; and</li> </ul>			
	- Ensure that periodic environmental performance audits are undertaken on the project implementation.			
Developer Site	Role			
Supervisor (DSS)	The DSS reports directly to the DPM, oversees site works, liaises with the contractor(s) and the ECO. The DSS is responsible for the			
	day to day implementation of the EMPr and for ensuring the compliance of all contractors with the conditions and requirements stipulated in the EMPr.			
	Responsibilities			
	- Ensure that all contractors identify a contractor's Environmental Officer (cEO);			

**Table 0-1:** Guide to roles and responsibilities for implementation of an EMPr

Responsible Person (s)	Role and Responsibilities
	<ul> <li>Must be fully conversant with the conditions of the EA. Oversees site works, liaison with Contractor, DPM and ECO;</li> <li>Must ensure that all landowners have the relevant contact details of the site staff, ECO and cEO;</li> <li>Issuing of site instructions to the Contractor for corrective actions required;</li> <li>Will issue all non-compliances to contractors; and</li> <li>Ratify the Monthly Environmental Report.</li> </ul>
Environmental Control Officer (ECO)	Role The ECO should have appropriate training and experience in the implementation of environmental management specifications. The primary role of the ECO is to act as an independent quality controller and monitoring agent regarding all environmental concerns and associated environmental impacts. In this respect, the ECO is to conduct periodic site inspections, attend regular site meetings, pre-empt problems and suggest mitigation and be available to advise on incidental issues that arise. The ECO is also required to conduct compliance audits, verifying the monitoring reports submitted by the cEO. The ECO provides feedback to the DSS and Project Manager regarding all environmental matters. The Contractor, cEO and dEO are answerable to the Environmental Control Officer for non- compliance with the Performance Specifications as set out in the EA and EMPr. The ECO provides feedback to the DSS and Project Manager, who in turn reports back to the Contractor and potential and Registered Interested &Affected Parties' (RI&AP's), as required. Issues of non-compliance raised by the ECO must be taken up by the Project
	<ul> <li>Manager, and resolved with the Contractor as per the conditions of his contract. Decisions regarding environmental procedures, specifications and requirements which have a cost implication (i.e. those that are deemed to be a variation, not allowed for in the Performance Specification) must be endorsed by the Project Manager. The ECO must also, as specified by the EA, report to the relevant CA as and when required.</li> <li><u>Responsibilities</u></li> <li>The responsibilities of the ECO will include the following: <ul> <li>Be aware of the findings and conclusions of all EA related to the development;</li> <li>Be familiar with the recommendations and mitigation measures of this EMPr;</li> <li>Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them;</li> <li>Undertake regular and comprehensive site inspections / audits of the construction site according to the generic EMPr and applicable licenses in order to monitor compliance as required;</li> <li>Educate the construction team about the management measures contained in the EMPr and environmental licenses;</li> <li>Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective;</li> </ul> </li> </ul>

Responsible Person	Role and Responsibilities
(s)	
	<ul> <li>Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements;</li> <li>In consultation with the Developer Site Supervisor order the removal of person(s) and/or equipment which are in contravention of the specifications of the EMPr and/or environmental licenses;</li> <li>Liaison between the DPM, Contractors, authorities and other lead stakeholders on all environmental concerns;</li> <li>Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr;</li> <li>Validating the regular site inspection reports, which are to be prepared by the contractor Environmental Officer (cEO);</li> <li>Checking the cEO's record of environmental incidents (spills, impacts, legal transgressions etc) as well as corrective and preventive actions taken;</li> <li>Checking the cEO's public complaints register in which all complaints are recorded, as well as action taken;</li> <li>Assisting in the resolution of conflicts;</li> <li>Facilitate training for all personnel on the site – this may range from carrying out the training, to reviewing the training programmes of the Contractor;</li> <li>In case of non-compliances, the ECO must first communicate this to the Senior Site Supervisor, who has the power to ensure this matter is addressed. Should no action or insufficient action be taken, the ECO may report this matter to the authorities as non-compliance;</li> <li>Maintenance, update and review of the EMPr;</li> <li>Communication of all modifications to the EMPr to the relevant stakeholders.</li> </ul>
developer Environmental Officer (dEO)	Role The dEOs will report to the Project Manager and are responsible for implementation of the EMPr, environmental monitoring and reporting, providing environmental input to the Project Manager and Contractor's Manager, liaising with contractors and the landowners as well as a range of environmental coordination responsibilities.
	<ul> <li><u>Responsibilities</u></li> <li>Be fully conversant with the EMPr;</li> <li>Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures;</li> <li>Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s);</li> <li>Confine the development site to the demarcated area;</li> <li>Conduct environmental internal audits with regards to EMPr and authorisation compliance (on cEO);</li> <li>Assist the contractors in addressing environmental challenges on site;</li> <li>Assist in incident management:</li> <li>Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared;</li> </ul>

Responsible Person	Role and Responsibilities
(s)	
	- Assist the contractor in investigating environmental incidents and compile investigation reports;
	<ul> <li>Follow-up on pre-warnings, defects, non-conformance reports;</li> </ul>
	<ul> <li>Measure and communicate environmental performance to the Contractor;</li> </ul>
	<ul> <li>Conduct environmental awareness training on site together with ECO and cEO;</li> </ul>
	<ul> <li>Ensure that the necessary legal permits and / or licenses are in place and up to date;</li> </ul>
	<ul> <li>Acting as Developer's Environmental Representative on site and work together with the ECO and contractor;</li> </ul>
Contractor	Role
	The Contractor appoints the cEO and has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract are in line with the EMPr and that Method Statements are implemented as described. External contractors must ensure compliance with this EMPr while performing the onsite activities as per their contract with the Project Developer. The contractors are required, where specified, to provide Method Statements setting out in detail how the impact management actions contained in the EMPr will be implemented during the development or expansion for overhead electricity transmission and distribution infrastructure activities.
	Responsibilities
	<ul> <li>project delivery and quality control for the development services as per appointment;</li> </ul>
	<ul> <li>employ a suitably qualified person to monitor and report to the Project Developer's appointed person on the daily activities on-site during the construction period;</li> </ul>
	<ul> <li>ensure that safe, environmentally acceptable working methods and practices are implemented and that equipment is properly operated and maintained, to facilitate proper access and enable any operation to be carried out safely;</li> <li>attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones;</li> <li>ensure that contractors' staff repair, at their own cost, any environmental damage as a result of a contravention of the specifications contained in EMPr, to the satisfaction of the ECO.</li> </ul>
contractor	Role
Environmental Officer (cEO)	Each Contractor affected by the EMPr should appoint a cEO, who is responsible for the on-site implementation of the EMPr (or relevant sections of the EMPr). The Contractor's representative can be the site agent; site engineer; a dedicated environmental officer; or an independent consultant. The Contractor must ensure that the Contractor's Representative is suitably qualified to perform the necessary tasks and is appointed at a level such that she/he can interact effectively with other site Contractors, labourers, the Environmental Control Officer and the public. As a minimum the cEO shall meet the following criteria:

Responsible Person	Role and Responsibilities
(5)	
	Responsibilities
	<ul> <li>Be on site throughout the duration of the project and be dedicated to the project;</li> <li>Ensure all their staff are aware of the environmental requirements, conditions and constraints with respect to all of their activities on site;</li> <li>Implementing the environmental conditions, guidelines and requirements as stipulated within the EA, EMPr and Method Statements;</li> <li>Attend the Environmental Site Meeting;</li> <li>Undertaking corrective actions where non-compliances are registered within the stipulated timeframes;</li> <li>Report back formally on the completion of corrective actions;</li> <li>Assist the ECO in maintaining all the site documentation;</li> <li>Prepare the site inspection reports and corrective action reports for submission to the ECO;</li> <li>Assist the ECO with the preparing of the monthly report; and</li> <li>Where more than one Contractor is undertaking work on site, each company appointed as a Contractor will appoint a cEO representing that company.</li> </ul>

#### 4. ENVIRONMENTAL DOCUMENTATION REPORTING AND COMPLIANCE

To ensure accountable and demonstrated implementation of the EMPr, a number of reporting systems, documentation controls and compliance mechanisms must be in place for all overhead electricity transmission and distribution infrastructure projects as a minimum requirement.

#### 4.1 Document control/Filing system

The holder of the EA is solely responsible for the upkeep and management of the EMPr file. At a minimum, all documentation detailed below will be stored in the EMPr file. A hard copy of all documentation shall be filed, while an electronic copy may be kept where relevant. A duplicate file will be maintained in the office of the DSS (where applicable). This duplicate file must remain current and up-to-date. The filing system must be updated and relevant documents added as required. The EMPr file must be made available at all times on request by the CA or other relevant authorities. The EMPr file will form part of any environmental audits undertaken as prescribed in the EIA Regulations.

#### 4.2 Documentation to be available

At the outset of the project the following preliminary list of documents shall be placed in the filing system and be accessible at all times:

- Full copy of the signed EA from the CA in terms of NEMA, granting approval for the development or expansion;
- Copy of the generic and site specific EMPr as well as any amendments thereof;
- Copy of declaration of implementing generic EMPr and subsequent approval of site specific EMPr and amendments thereof;
- All method statements;
- Completed environmental checklists;
- Minutes and attendance register of environmental site meetings;
- An up-to-date environmental incident log;
- A copy of all instructions or directives issued;
- A copy of all corrective actions signed off. The corrective actions must be filed in such a way that a clear reference is made to the non-compliance record;
- Complaints register.

#### 4.3 Weekly Environmental Checklist

The ECOs are required to complete a Weekly Environmental Checklist, the format of which is to be agreed prior to commencement of the activity. The ECOs are required to sign and date the checklist, retain a copy in the EMPr file and submit a copy of the completed checklist to the DSS on a weekly basis.

The checklists will form the basis for the Monthly Environmental Reports. Copies of all completed checklists will be attached as Annexures to the Environmental Audit Report as required in terms of the EIA Regulations.

#### 4.4 Environmental site meetings

Minutes of the environmental site meetings shall be kept. The minutes must include an attendance register and will be attached to the Monthly Report that is distributed to attendees. Each set of minutes must clearly record "Matters for Attention" that will be reviewed at the next meeting.

#### 4.5 Required Method Statements

The method statement will be done in such detail that the ECOs are enabled to assess whether the contractor's proposal is in accordance with the EMPr.

The method statement must cover applicable details with regard to:

- development procedures;
- materials and equipment to be used;
- getting the equipment to and from site;
- how the equipment/ material will be moved while on site;
- how and where material will be stored;
- the containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- timing and location of activities;
- compliance/ non-compliance with the EMPr; and
- any other information deemed necessary by the ECOs.

Unless indicated otherwise by the Project Manager, the Contractor shall provide the following method statements to the Project Manager no less than 14 days prior to the commencement date of the activity:

- Site establishment Camps, Lay-down or storage areas, satellite camps, infrastructure;
- Batch plants;
- Workshop or plant servicing;
- Handling, transport and storage of Hazardous Chemical Substance's;
- Vegetation management Protected, clearing, aliens, felling;
- Access management Roads, gates, crossings etc.;
- Fire plan;
- Waste management transport, storage, segregation, classification, disposal (all waste streams);
- Social interaction complaints management, compensation claims, access to properties etc.;
- Water use (source, abstraction and disposal), access and all related information, crossings and mitigation;
- Emergency preparedness Spills, training, other environmental emergencies;
- Dust and noise management methodologies;
- Fauna interaction and risk management only if the risk was identified wildlife interaction especially on game farms; and
- Heritage and palaeontology management.

The ECOs shall monitor and ensure that the contractors perform in accordance with these method statements. Completed and agreed method statements between the holder of the EA and the contractor shall be captured in Appendix 1.

#### 4.6 Environmental Incident Log (Diary)

The ECOs are required to maintain an up-to-date and current Environmental Incident Log (environmental diary). The Environmental Incident Log is a means to record all environmental incidents and/or all non-compliance notice would not be issued. An environmental incident is defined as:

- Any deviation from the listed impact management actions (listed in this EMPr) that may be addressed immediately by the ECOs. (For example a contractor's staff member littering or a drip tray that has not been emptied);
- Any environmental impact resulting from an action or activity by a contractor in contravention
  of the environmental stipulations and guidelines listed in the EMPr which as a single event
  would have a minor impact but which if cumulative and continuous would have a significant
  effect (for example no toilet paper available in the ablutions for an afternoon); and
- General environmental information such as road kills or injured wildlife.

The ECOs are to record all environmental incidents in the Environmental Incident Log. All incidents regardless of severity must be reported to the Developer. The Log is to be kept in the EMPr file and at a minimum the following will be recorded for each environmental incident:

- The date and time of the incident;
- Description of the incident;
- The name of the Contractor responsible;
- The incident must be listed as significant or minor;
- If the incident is listed as significant, a non-compliance notice must be issued, and recorded in the log;
- Remedial or corrective action taken to mitigate the incident; and
- Record of repeat minor offences by the same contractor or staff member.

The Environmental Incident Log will be captured in the EAR.

4.7 Non-compliance

A non-compliance notice will be issued to the responsible contractor by the ECOs via the DSS or Project Manager. The non-compliance notice will be issued in writing; a copy filed in the EMPr file and will at a minimum include the following:

- Time and date of the non-compliance;
- Name of the contractor responsible;
- Nature and description of the non-compliance;
- Recommended / required corrective action; and
- Date by which the corrective action to be completed.
- The contractors shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the development site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. The ECO should be made aware of any complaints. Any non-compliance with the agreed procedures of the EMPr is a transgression of the various statutes and laws that define the manner by which the environment is managed. Failure to redress the cause shall be reported to the relevant CA for them to deal with the transgression, as it deems fit. The contractor is deemed not to have complied with the EMPr if, inter alia, There is a deviation from the environmental conditions, impact management outcomes and impact management actions , as approved in generic and site specific EMPr as relevant as set out in the EMPr, which deviation has, or may cause, an environmental impact.
- 4.8 Corrective action records

For each non-compliance notice issued, a documented corrective action must be recorded. On receiving a non-compliance notice from the DSS, the contractor's cEO will ensure that the corrective actions

required take place within the stipulated timeframe. On completion of the corrective action the cEO is to issue a Corrective Action Report in writing to the ECOs. If satisfied that the corrective action has been completed, the ECOs are to sign-off on the Corrective Action Report, and attach the report to the non-compliance notice in the EMPr file. A corrective action is considered complete once the report has signed off by the ECOs.

4.9 Photographic record

A digital photographic record will be kept. The photographic record will be used to show before, during and post rehabilitation evidence of the project as well used in cases of damages claims if they arise. Each image must be dated and a brief description note attached.

The Contractor shall:

1. Allow the ECOs access to take photographs of all areas, activities and actions.

The ECOs shall keep an electronic database of photographic records which will include:

- 1. Pictures of all areas designated as work areas, camp areas, development sites and storage areas taken before these areas are set up;
- 2. All bunding and fencing;
- 3. Road conditions and road verges;
- 4. Condition of all farm fences;
- 5. Topsoil storage areas;
- 6. All areas to be cordoned off during construction;
- 7. Waste management sites;
- 8. Ablution facilities (inside and out);
- 9. Any non-conformances deemed to be "significant";
- 10. All completed corrective actions for non-compliances;
- 11. All required signage;
- 12. Photographic recordings of incidents;
- 13. All areas before, during and post rehabilitation; and
- 14. Include relevant photographs in the Final Environmental Audit Report.
- 4.10 Complaints register

The ECOs shall keep a current and up-to-date complaints register. The complaints register is to be a record of all complaints received from communities, stakeholders and individuals. The Complaints Record shall:

- 1. Record the name and contact details of the complainant;
- 2. Record the time and date of the complaint;
- 3. Contain a detailed description of the complaint;
- 4. Where relevant and appropriate, contain photographic evidence of the complaint or damage (ECOs to take relevant photographs); and
- 5. Contain a copy of the ECOs written response to each complaint received and keep a record of any further correspondence with the complainant. The ECO's written response will include a description of any corrective action to be taken and must be signed by the Contractor, ECO and affected party. Where a damage claim is issued by the complainant, the ECOs shall respond as described in (section 4.11) below.

#### 4.11 Claims for damages

In the event that a Claim for Damages is submitted by a community, landowner or individual, the ECOs shall:

- 1. Record the full detail of the complaint as described in (section 4.10) above;
- 2. The DPM will evaluate the claim and associated damage and submit the evaluation to the Senior Site Representative for approval;
- 3. Following consideration by the DPM, the claim is to be resolved and settled immediately, or the reason for not accepting the claim communicated in writing to the claimant. Should the claimant not accept this, the ECO shall, in writing report the incident to the Developer's negotiator and legal department; and
- 4. A formal record of the response by the ECOs to the claimant as well as the rectification of the method of making payments not amount will be recorded in the EMPr file.
- 4.12 Interactions with affected parties

Open, transparent and good relations with affected landowners, communities and regional staff are an essential aspect to the successful management and mitigation of environmental impacts.

The ECOs shall:

- 1. Ensure that all queries, complaints and claims are dealt within an agreed timeframe;
- 2. Ensure that any or all agreements are documented, signed by all parties and a record of the agreement kept in the EMPr file;
- 3. Ensure that a complaints telephone numbers are made available to all landowners and affected parties; and
- 4. Ensure that contact with affected parties is courteous at all times;

#### 4.13 Environmental audits

Internal environmental audits of the activity and implementation of the EMPr must be undertaken. The findings and outcomes must be included in the EMPr file and be submitted to the CA at intervals as indicated in the EA.

An Environmental Audit Report must be prepared monthly. The report will be tabled as the key point on the agenda of the Environmental Site Meeting. The Report is submitted for acceptance at the meeting and the final report will be circulated to the Project Manager and filed in the EMPr file. At a frequency determined by the EA, the ECOs shall submit the monthly reports to the CA. At a minimum the monthly report is to cover the following:

- Weekly Environmental Checklists;
- Deviations and non-compliances with the checklists;
- Non-compliances issued;
- Completed and reported corrective actions;
- Environmental Monitoring;
- General environmental findings and actions; and
- Minutes of the Bi-monthly Environmental Site Meetings.

#### 4.14 Final environmental audits

On final completion of the rehabilitation and/or requirements of the EA a final EAR is to be prepared and submitted to the CA. The EAR must comply with Appendix 7 of the EIA Regulations.

#### PART B: SECTION 1: Pre-approved generic EMPr template

#### 5. IMPACT MANAGEMENT OUTCOMES AND IMPACT MANAGEMENT ACTIONS

This section provides a pre-approved generic EMPr template with aspects that are common to the development of overhead electricity transmission and distribution infrastructure. There is a list of aspects identified for the development or expansion of overhead electricity transmission and distribution infrastructure, and for each aspect a set of prescribed impact management outcomes and associated impact management actions have been identified. Holders of EAs are responsible to ensure the implementation of these outcomes and actions for all projects as a minimum requirement, in order to mitigate the impact of such aspects identified for the development or expansion of overhead electricity transmission and distribution infrastructure.

The template provided below is to be completed by providing the information under each heading for each environmental impact management action.

The completed template must be signed and dated on each page by both the contractor and the holder of the EA prior to commencement of the activity. The method statements prepared and agreed to by the holder of the EA must be appended to the template as Appendix 1. Each method statement must also be duly signed and dated on each page by the contactor and the holder of the EA. This template, once signed and dated, is legally binding. The holder of the EA will remain responsible for its implementation.

## 5.1 Environmental awareness training

mpact management outcome: All onsite staff are aware and understands the individual responsibilities in terms of this EMPr.							
Impact Management Actions	Implementa	Implementation			Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence of	
	person	implementation	implementation	person		compliance	
<ul> <li>All staff must receive environmental awareness training prior to commencement of the activities;</li> <li>The Contractor must allow for sufficient sessions to train all personnel with no more than 20 personnel attending each course;</li> <li>Refresher environmental awareness training is available as and when required;</li> <li>All staff are aware of the conditions and controls linked to the EA and within the EMPr and made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr;</li> <li>The Contractor must erect and maintain information posters at key locations on site, and the posters must include the following information as a minimum: <ul> <li>a) Safety notifications; and</li> <li>b) No littering.</li> <li>Environmental awareness training must include as a minimum the following: <ul> <li>a) Description of significant environmental impacts, actual or potential, related to their work activities;</li> <li>b) Mitigation measures to be implemented when carrying out specific activities;</li> <li>c) Emergency preparedness and response procedures;</li> <li>d) Emergency procedures;</li> <li>e) Procedures to be followed when working near or within sensitive areas;</li> </ul> </li> </ul></li></ul>	The Contractor and the Contractor Environmental Officer (cEO).	Induction presentation Toolbox talks Compulsory Environmental Awareness Training Sessions. Information Posters in accessible locations.	Start of construction and when a new employee starts work Weekly	The appointed Environmental Control Officer (ECO).	Monthly	Signed attendance register Employee interviews Contents of induction presentation and toolbox talks Poster displays An Environmental Site File should be compiled and maintained by the cEO for the duration of the construction phase. This file should include	

- Course material must be available and presented in appropriate
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## 5.2 Site establishment development

**Impact management outcome:** Impacts on the environment are minimised during site establishment and the development footprint are kept to demarcated development area.

Impact Management Actions	Implementat	Implementation			Monitoring			
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
	person	implementation	implementation	person		of		
						compliance		
- A method statement must be provided by the contractor prior to any onsite	DSS	Method statement	Prior to site	dEO	Once-off as	Approved		
activity that includes the layout of the construction camp in the form of a	cEO	with layout plan of	establishment	ECO	method	method		
plan showing the location of key infrastructure and services (where		the construction			statements	statements		
applicable), including but not limited to offices, overnight vehicle parking		camp / laydown			are			
areas, stores, the workshop, stockpile and lay down areas, hazardous		area			submitted.	Approved		
materials storage areas (including fuels), the batching plant (if one is					Monthly	construction		
located at the construction camp), designated access routes, equipment					monitoring.	camp and		

	cleaning areas and the placement of staff accommodation, cooking and			laydown area
	ablution facilities, waste and wastewater management;			layout plan
-	Location of camps must be within approved area to ensure that the site			
	does not impact on sensitive areas identified in the environmental			
	assessment or site walk through;			
-	Sites must be located where possible on previously disturbed areas;			
-	The camp must be fenced in accordance with Section 5.5: Fencing and			
	gate installation; and			
-	The use of existing accommodation for contractor staff, where possible,			
	is encouraged.			

## 5.3 Access-restricted areas

Impact management outcome: Access to restricted areas prevented.									
Impact Management Actions	Implementat	ion		Monitoring					
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence			
	person	implementation	implementation	person		of			
						compliance			
- Identification of access restricted areas is to be informed by the	DSS	Weather-proof	Prior to site	dEO	Weekly	Barriers and			
environmental assessment, site walk through and any additional areas	cEO	barrier signage at	establishment	ECO	monitoring	signage			
identified during development;		boundaries of no-				maintained in			
- Erect, demarcate and maintain a temporary barrier with clear signage		go areas				good			
around the perimeter of any access restricted area, colour coding						condition with			
could be used if appropriate; and						evidence			
- Unauthorised access and development related activity inside access						included in			
restricted areas is prohibited.						monthly			
						reporting.			
						The ECO			
						must monitor			
						the site to			
						ensure that			

			all restricted
			areas have
			been
			demarcated
			(photographic
			evidence)
			and that
			construction
			is not taking
			place within
			these areas.

## 5.4 Access roads

Impact management outcome: Minimise impact to the environment through the planned and restricted movement of vehicles on site.									
Impact Management Actions	Implementati	ion		Monitoring					
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance			
<ul> <li>An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities;</li> <li>All private roads used for access to the servitude must be maintained and upon completion of the works, be left in at least the original condition</li> <li>All contractors must be made aware of all these access routes.</li> <li>Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense;</li> <li>Maximum use of both existing servitudes and existing roads must be made to minimize further disturbance through the development of new roads;</li> </ul>	DPM, Contractor and landowners	Written access agreement Compliance with conditions	Prior to site establishment and throughout construction period	dEO ECO	Weekly monitoring	The Contractor must provide the ECO with a copy of the access agreement, as well as any specific (agreed upon) conditions.			

- lı ti <i>p</i>	n circumstances where private roads must be used, the condition of he said roads must be recorded in accordance with <b>section 4.9</b> : <b>bhotographic record</b> ; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor:			Access roads used as agreed
- A a - A r	Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands Access roads must only be developed on a pre-planned and approved oads.			No complaints from 3rd parties about inappropriate access
				Monthly reporting on monitoring compliance.

## 5.5 Fencing and gate installation

Impact management outcome: Minimise impact to the environment and ensure safe and controlled access to the site through the erection of fencing and									
gates where required.									
Impact Management Actions	Implementati	on		Monitoring					
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence			
	person	implementation	implementation	person		of			
						compliance			
<ul> <li>Use existing gates provided to gain access to all parts of the area</li> </ul>	DSS	Access measures	Throughout	dEO	Monthly	Photographic			
authorised for development, where possible;	cEO	implemented	construction and	ECO	monitoring	evidence of			
<ul> <li>Existing and new gates to be recorded and documented in accordance</li> </ul>			the		of all fencing	access			
with section 4.9: photographic record;		Supervision	temporary		and gate	control (e.g.			
<ul> <li>All gates must be fitted with locks and be kept locked at all times during</li> </ul>			fencing prior to		installations	locks used as			
the development phase, unless otherwise agreed with the landowner;			the			prescribed			

-	At points where the line crosses a fence in which there is no suitable		commencement		
	gate within the extent of the line servitude, on the instruction of the		of the		
	DPM, a gate must be installed at the approval of the landowner;		Operational		
_	Care must be taken that the gates must be so erected that there is a		Phase.		
	gap of no more than 100 mm between the bottom of the gate and the				
	ground;				
_	Where gates are installed in jackal proof fencing, a suitable reinforced				
	concrete sill must be provided beneath the gate;				
-	Original tension must be maintained in the fence wires;				
_	All gates installed in electrified fencing must be re-electrified;				
_	All demarcation fencing and barriers must be maintained in good				
	working order for the duration of the development activities;				
_	Fencing must be erected around the camp, batching plants, hazardous				
	storage areas, and all designated access restricted areas, where				
	applicable;				
_	Any temporary fencing to restrict the movement of life-stock must only				
	be erected with the permission of the land owner.				
_	All fencing must be developed of high quality material bearing the				
	SABS mark;				
_	The use of razor wire as fencing must be avoided;				
_	Fenced areas with gate access must remain locked after hours, during				
	weekends and on holidays if staff is away from site. Site security will				
	be required at all times;				
-	On completion of the development phase all temporary fences are to				
	be removed;				
-	The contractor must ensure that all fence uprights are appropriately				
	removed, ensuring that no uprights are cut at ground level but rather				
	removed completely.				

## 5.6 Water supply management

Impact management outcome: Undertake responsible water usage.									
Impact Management Actions	Implementat	ion		Monitoring					
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence			
	person	implementation	implementation	person		of			
						compliance			
- All abstraction points or bore holes must be registered with the DWS	DSS	Monitoring of	Weekly	dEO	Daily	Monitoring			
and suitable water meters installed to ensure that the abstracted	cEO	levels of water		ECO	monitoring	records			
volumes are measured on a daily basis;		sources (if water is			by cEO and				
<ul> <li>The Contractor must ensure the following:</li> </ul>		obtained from the			monthly	Water use			
a. The vehicle abstracting water from a river does not enter or cross		natural			monitoring	audit reports			
it and does not operate from within the river;		environment)			by ECO				
b. No damage occurs to the river bed or banks and that the						Water			
abstraction of water does not entail stream diversion activities; and		Compliance with				conservation			
c. All reasonable measures to limit pollution or sedimentation of the		all water use				covered in			
downstream watercourse are implemented.		authorisation				toolbox talks			
<ul> <li>Ensure water conservation is being practiced by:</li> </ul>		conditions.							
a. Minimising water use during cleaning of equipment;									
b. Undertaking regular audits of water systems; and									
c. Including a discussion on water usage and conservation during									
environmental awareness training.									
d. The use of grey water is encouraged.									

## 5.7 Storm and wastewater management

Impact management outcome: Impacts to the environment caused by storm water and wastewater discharges during construction are avoided.								
Impact Management Actions	Implementat	ion	Monitoring					
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
	person	implementation	implementation	person		of		
						compliance		

_	Runoff from the cement/ concrete batching areas must be strictly	DSS	Contractor to	Ongoing	dEO	Weekly	Waste
	controlled, and contaminated water must be collected, stored and	cEO	develop a	throughout	ECO	monitoring	disposal
	either treated or disposed of off-site, at a location approved by the		stormwater	construction		by cEO with	records
	project manager;		management plan			monthly	
_	All spillage of oil onto concrete surfaces must be controlled by the use		for approval by the			reporting.	No evidence
	of an approved absorbent material and the used absorbent material		ECO. This should				of soil and
	disposed of at an appropriate waste disposal facility;		include:				water
_	Natural storm water runoff not contaminated during the development		Installation and				contamination
	and clean water can be discharged directly to watercourses and		maintenance of				
	water bodies, subject to the Project Manager's approval and support		silt traps				Silt trap
	by the ECO;		Use of absorbent				maintained
_	Water that has been contaminated with suspended solids, such as		materials at				and in use
	soils and silt, may be released into watercourses or water bodies only		concrete mixing				
	once all suspended solids have been removed from the water by		areas				No evidence
	settling out these solids in settlement ponds. The release of settled		Disposal of				of water
	water back into the environment must be subject to the Project		contaminated				contamination
	Manager's approval and support by the ECO.		water at suitable				from sources
			facility				on site

## 5.8 Solid and hazardous waste management

Impact management outcome: Wastes are appropriately stored, handled and safely disposed of at a recognised waste facility.								
Impact Management Actions	Implementat	ion	Monitoring					
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
	person	implementation	implementation	person		of		
						compliance		
– All measures regarding waste management must be undertaken using	DSS	Contractor to	Ongoing	dEO	Weekly	Contract with		
an integrated waste management approach;	cEO	develop a waste		ECO		waste		
- Sufficient, covered waste collection bins (scavenger and		management plan				contractor		
weatherproof) must be provided;		for approval of the						

– A :	suitably positioned and clearly demarcated waste collection site	ECO and should		Safe disposal
mu	ust be identified and provided;	include		certificates
– Th	ne waste collection site must be maintained in a clean and orderly	requirements for:		
ma	anner;	Segregated		Employee
– Wa	aste must be segregated into separate bins and clearly marked for	disposal bins		knowledge
ea	ach waste type for recycling and safe disposal;	All waste		and practice
– Sta	aff must be trained in waste segregation;	containers have		of waste
– Bir	ns must be emptied regularly:	lids		segregation
– Ge	eneral waste produced onsite must be disposed of at registered	Waste contractor		
wa	aste disposal sites/ recycling company:	appointed		No
– Ha	azardous waste must be disposed of at a registered waste disposal	Daily to weekly		overflowing
site		site cleanups		bins on site
– Ce	ertificates of safe disposal for general, hazardous and recycled waste			
mu	ust be maintained.			

## 5.9 Protection of watercourses and estuaries

Impact management outcome: Pollution and contamination of the watercourse environment and or estuary erosion are prevented.								
Impact Management Actions	Implementation			Monitoring				
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
	person	implementation	implementation	person		of		
						compliance		
- All watercourses must be protected from direct or indirect spills of	DSS	Spill control kits	Ongoing	dEO	Monthly	Spills		
pollutants such as solid waste, sewage, cement, oils, fuels, chemicals,	cEO	available on site		ECO		controlled		
aggregate tailings, wash and contaminated water or organic		and operators						
material resulting from the Contractor's activities;		trained to use				Evidence of		
<ul> <li>In the event of a spill, prompt action must be taken to clear the polluted</li> </ul>		them				operators		
or affected areas;						trained in spill		
<ul> <li>Where possible, no development equipment must traverse any</li> </ul>		Spills cleaned				prevention		
seasonal or permanent wetland		promptly to						
<ul> <li>No return flow into the estuaries must be allowed and no disturbance</li> </ul>		prevent water				No evidence		
of the Estuarine functional Zone should occur;		contamination				of water		

_	Development of permanent watercourse or estuary crossing must only			contamination
	be undertaken where no alternative access to tower position is	Designated and		from site
	available;	limited crossing		activities
_	There must not be any impact on the long term morphological	points for		
	dynamics of watercourses or estuaries;	watercourses		Watercourse
_	Existing crossing points must be favored over the creation of new			crossing
	crossings (including temporary access)	Watercourses to		points
_	When working in or near any watercourse or estuary, the following	be off-limits for		maintained
	environmental controls and consideration must be taken:	construction or as		and
	a) Water levels during the period of construction;	authorised by the		respected
	b) No altering of the bed, banks, course or characteristics of a	conditions of the		
	watercourse	water use license.		
	c) During the execution of the works, appropriate measures to			
	prevent pollution and contamination of the riparian environment			
	must be implemented e.g. including ensuring that construction			
	equipment is well maintained;			
	d) Where earthwork is being undertaken in close proximity to any			
	watercourse, slopes must be stabilised using suitable materials,			
	i.e. sandbags or geotextile fabric, to prevent sand and rock from			
	entering the channel; and			
	e) Appropriate rehabilitation and re-vegetation measures for the			
	watercourse banks must be implemented timeously. In this			
	regard, the banks should be appropriately and incrementally			
	stabilised as soon as development allows.			

# 5.10 Vegetation clearing

Impact management outcome: Vegetation clearing is restricted to the authorised development footprint of the proposed infrastructure.								
Impact Management Actions	Implementat	ion		Monitoring				
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence of		
	person	implementation	implementation	person		compliance		

Gene	ral:	DSS, cEO and	Areas of natural	Prior to site	dEO	Weekly	Proof and
		botanical	vegetation not to	establishment and	ECO	monitoring	record keeping
_	Indigenous vegetation that does not interfere with the	specialist	be disturbed	throughout		of	of transplanted
	development must be left undisturbed;	appointed to	clearly	construction and		demarcated	rare and
_	Protected or endangered species may occur on or near the	undertake	demarcated and	operational		areas.	medicinal
	development site. Special care should be taken not to damage such	floral search	protected	phases.			plants
	species;	and rescue.					
-	Search, rescue and replanting of all protected and endangered		Wood removed				Proof and
	species likely to be damaged during project development must be		from the site				record keeping
	identified by the relevant specialist and completed prior to any		provided to				of
	development or clearing;		communities				implementation
-	Permits for removal must be obtained from the Department of						of conditions of
	Agriculture, Forestry and Fisheries prior to the cutting or clearing of		Plant rescue plan				permits for
	the affected species, and they must be filed;		submitted and				transplanting
-	The Environmental Audit Report must confirm that all identified		implemented				protected
	species have been rescued and replanted and that the location of						species
	replanting is compliant with conditions of approvals;		On-site area for				
-	Trees felled due to construction must be documented and form part		transplanted				Community
	of the Environmental Audit Report;		species of				access to
-	Rivers and watercourses must be kept clear of felled trees,		conservation				wood removed
	vegetation cuttings and debris;		concern and				from the site
-	Only a registered pest control operator may apply herbicides on a		medicinal plants				
	commercial basis and commercial application must be carried out		Delevent normite				NO access to
	under the supervision of a registered pest control operator,		for removal of				protected
	supervision of a registered pest control operator or is appropriately		not removal of				aiteas or the
	trained;		protected species				Sile
-	A daily register must be kept of all relevant details of herbicide						No evidence of
	usage;		ilie.				introduction of
-	No herbicides must be used in estuaries;						alien plants
-	All protected species and sensitive vegetation not removed must be						
	clearly marked and such areas fenced off in accordance to Section						Alien nlants
	5.3: Access restricted areas.						controlled

Servitude:			
<ul> <li>Vegetation that does not grow high enough to cause interference</li> </ul>			
with overhead transmission and distribution infrastructures, or cause			
a fire hazard to any plantation, must not be cut or trimmed unless it			
is growing in the road access area, and then only at the discretion of			
the Project Manager;			
<ul> <li>Where clearing for access purposes is essential, the maximum</li> </ul>			
width to be cleared within the servitude must be in accordance to			
distance as agreed between the land owner and the EA holder			
<ul> <li>Alien invasive vegetation must be removed according to a plan (in</li> </ul>			
line with relevant municipal and provincial procedures, guidelines			
and recommendations) and disposed of at a recognised waste			
disposal facility;			
<ul> <li>Vegetation must be trimmed where it is likely to intrude on the</li> </ul>			
minimum vegetation clearance distance (MVCD) or will intrude on			
this distance before the next scheduled clearance. MVCD is			
determined from SANS 10280;			
<ul> <li>Debris resulting from clearing and pruning must be disposed of at a</li> </ul>			
recognised waste disposal facility, unless the landowners wish to			
retain the cut vegetation;			
<ul> <li>In the case of the development of new overhead transmission and</li> </ul>			
distribution infrastructures, a one metre "trace-line" must be cut			
through the vegetation for stringing purposes only and no vehicle			
access must be cleared along the "trace-line". Alternative methods			
of stringing which limit impact to the environment must always be			
considered.			

## 5.11 Protection of fauna

Impact management outcome: Disturbance to fauna is minimised.					
Impact Management Actions	Implementation	Monitoring			

	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence
Ч	Jeison	Implementation	Implementation	person		compliance
<ul> <li>No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present;</li> <li>The breeding sites of raptors and other wild birds species must be taken into consideration during the planning of the development programme;</li> <li>Breeding sites must be kept intact and disturbance to breeding birds must be avoided. Special care must be taken where nestlings or fledglings are present;</li> <li>Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds;</li> <li>No poaching must be tolerated under any circumstances. All animal dens in close proximity to the works areas must be marked as Access restricted areas;</li> <li>No deliberate or intentional killing of fauna is allowed;</li> <li>In areas where snakes are abundant, snake deterrents to be deployed on the pylons to prevent snakes climbing up, being electrocuted and causing power outages; and</li> <li>No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or relocated without cananacity of a causing negative of and provincial ordinances may be removed and/or relocated without approximation of the market and provincial ordinances may be removed and/or relocated without approximate or the provincial ordinances may be removed and/or relocated without approximate or the provincial ordinances may be removed and/or relocated without approximate or approximation of a provincial ordinances may be removed and/or relocated without approximate or the provincial ordinances may be removed and/or relocated without approximate or the provincial ordinances may be removed and/or relocated without approximate or the provincial ordinances may be removed and/or relocated without approximate or the provincial ordinances may be removed and/or relocated without approximate or the pri</li></ul>	DSS EO	Areas of natural vegetation that provide habitat for animals not to be disturbed must be clearly demarcated and protected Implementation of training to prohibit hunting Any snakes, found within the development footprint, are removed by a suitably experienced snake handler.	Throughout construction	dEO ECO	Monthly	No evidence of hunting or trapping of animals on site Training records available w.r.t. hunting prohibition
# 5.12 Protection of heritage resources

Impa	Impact management outcome: Impact to heritage resources is minimised.								
Impa	act Management Actions	Implementat	ion		Monitoring				
		Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
		person	implementation	implementation	person		of		
							compliance		
_	Identify, demarcate and prevent impact to all known sensitive	DSS	Implement chance	Throughout	dEO	Monthly or	Chance finds		
	heritage features on site in accordance with the No-Go procedure in	cEO	finds procedure	construction	ECO	as required	records		
	Section 5.3: Access restricted areas;		immediately upon						
_	Carry out general monitoring of excavations for potential fossils,		uncovering				Training		
	artefacts and material of heritage importance;		heritage material				records w.r.t.		
_	All work must cease immediately, if any human remains and/or other						chance finds		
	archaeological, palaeontological and historical material are		Training in chance						
	uncovered. Such material, if exposed, must be reported to the		finds for all						
	nearest museum, archaeologist/ palaeontologist (or the South African		employees						
	Police Services), so that a systematic and professional investigation								
	can be undertaken. Sufficient time must be allowed to remove/collect								
	such material before development recommences.								

# 5.13 Safety of the public

Impact management outcome: All precautions are taken to minimise the risk of injury, harm or complaints.								
Impact Management Actions	Implementat	ion		Monitoring				
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
	person	implementation	implementation	person		of		
						compliance		
<ul> <li>Identify fire hazards, demarcate and restrict public access to these</li> </ul>	DSS	Maintain access	Throughout	dEO	Weekly or	Access		
areas as well as notify the local authority of any potential threats e.g.	cEO	control	construction	ECO	as required	control is		
large brush stockpiles, fuels etc.;						effective - no		

<ul> <li>All unattended open excavations must be adequately fenced or</li> </ul>	Site hazards are	unauthorised
demarcated;	clearly	access
<ul> <li>Adequate protective measures must be implemented to prevent</li> </ul>	demarcated	obtained
unauthorised access to and climbing of partly constructed towers and		
protective scaffolding;	Barriers at deep	Site hazards
<ul> <li>Ensure structures vulnerable to high winds are secured;</li> </ul>	excavations	signage
<ul> <li>Maintain an incidents and complaints register in which all incidents or</li> </ul>		installed and
complaints involving the public are logged.	Incidents and	maintained
	complaints	
	register accessible	Excavations
	at site entrance	fenced
		Updated and
		accessible
		incidents and
		complaints
		register

## 5.14 Sanitation

Impact management outcome: Clean and well-maintained toilet facilities are available to all staff in an effort to minimise the risk of disease and impact to								
ne environment.								
Impact Management Actions	Implementati	on		Monitoring				
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
	person	implementation	implementation	person		of		
						compliance		
<ul> <li>Mobile chemical toilets are installed onsite if no other ablution</li> </ul>	DSS	Sufficient toilets	Throughout	dEO	Weekly	Disposal		
facilities are available;	cEO	provided for the	construction	ECO		certificates		
<ul> <li>The use of ablution facilities and or mobile toilets must be used at all</li> </ul>		number of				available for		
times and no indiscriminate use of the veld for the purposes of		employees				effluent		
ablutions must be permitted under any circumstances;						disposal		

_	Where mobile chemical toilets are required, the following must be	Toilets within easy		
	ensured:	access to all work		No evidence
	a) Toilets are located no closer than 100 m to any watercourse or	areas		of ablution in
	water body;			the veld
	b) Toilets are secured to the ground to prevent them from toppling	Implementation of		
	due to wind or any other cause;	waste		Records of
	c) No spillage occurs when the toilets are cleaned or emptied and	management plan		toolbox talks
	the contents are managed in accordance with the EMPr;			w.r.t.
	d) Toilets have an external closing mechanism and are closed and			sanitation
	secured from the outside when not in use to prevent toilet paper from			
	being blown out;			No evidence
	e) Toilets are emptied before long weekends and workers holidays,			of overflowing
	and must be locked after working hours;			toilets
	f) Toilets are serviced regularly and the ECO must inspect toilets to			
	ensure compliance to health standards;			
—	A copy of the waste disposal certificates must be maintained.			

# 5.15 Prevention of disease

Impact Management outcome: All necessary precautions linked to the spread of disease are taken.								
Impact Management Actions	Implementati	on		Monitoring				
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
	person	implementation	implementation	person		of		
						compliance		
<ul> <li>Undertake environmentally-friendly pest control in the camp area;</li> </ul>	DSS	Environmentally	Throughout	dEO	Monthly	Pest control		
<ul> <li>Ensure that the workforce is sensitised to the effects of sexually</li> </ul>	cEO	friendly pest	construction	ECO		methods are		
transmitted diseases, especially HIV AIDS;		control methods				owl-friendly		
<ul> <li>The Contractor must ensure that information posters on AIDS are</li> </ul>		employed				and		
displayed in the Contractor Camp area;						scavenger		
<ul> <li>Information and education relating to sexually transmitted diseases to</li> </ul>		Hand sanitizer				friendly		
be made available to both construction workers and local community,		available at site						
where applicable;								

<ul> <li>Free condoms must be made available to all staff on site at central</li> </ul>	entry points and	Records of
points;	eating areas	toolbox talks
<ul> <li>Medical support must be made available;</li> </ul>		w.r.t. STDs
<ul> <li>Provide access to Voluntary HIV Testing and Counselling Services.</li> </ul>	Covid temperature	and Covid
, , , , , , , , , , , , , , , , , , , ,	and symptom	
	screening for all	Condoms
	entries to site.	available in
		toilets
	Implement	
	isolation and	Posters re
	testing protocol for	STDs and
	any employees	Covid are
	suspected of	displayed
	having Covid.	
		Records of
	Provision of	Covid
	medical guidance	screening
	and support,	
	where necessary.	

# 5.16 Emergency procedures

Impact management outcome: Emergency procedures are in place to enable a rapid and effective response to all types of environmental emergencies.									
Impact Management Actions	Implementati	on		Monitoring					
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence			
	person	implementation	implementation	person		of			
						compliance			
<ul> <li>Compile an Emergency Response Action Plan (ERAP) prior to the</li> </ul>	DSS	Emergency	Throughout	dEO	Monthly	Records of			
commencement of the proposed project;	cEO	Response and	construction	ECO		ERAP drill			
<ul> <li>The Emergency Plan must deal with accidents, potential spillages</li> </ul>		Action Plan:				testing			
and fires in line with relevant legislation;		training provided							

<ul> <li>All staff must be made aware of emergency procedures as part of</li> </ul>	to responders and	Evidence of
environmental awareness training;	plant tested	ERAP
<ul> <li>The relevant local authority must be made aware of a fire as soor</li> </ul>	as	training
it starts;	Display of	
<ul> <li>In the event of emergency necessary mitigation measures to cont</li> </ul>	in authority	Emergency
the spill or leak must be implemented (see Hazardous Substand	emergency	response
section 5.17).	response	numbers
	numbers.	displayed

#### 5.17 Hazardous substances

Impact management outcome: Safe storage, handling, use an	d disposal of h	azardous substand	ces.			
Impact Management Actions	Implementat	ion		Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence
	person	implementation	implementation	person		of
						compliance
<ul> <li>The use and storage of hazardous substances to be minimised and</li> </ul>	DSS	Hazardous	Throughout	cEO	Daily	MSDSs for all
non-hazardous and non-toxic alternatives substituted where possible;	cEO	chemical store	construction	ECO	monitoring	hazardous
<ul> <li>All hazardous substances must be stored in suitable containers as</li> </ul>		aligned with			by cEO	chemicals
defined in the Method Statement;		relevant legal				available
<ul> <li>Containers must be clearly marked to indicate contents, quantities</li> </ul>		requirements				
and safety requirements;						Bunding for
<ul> <li>All storage areas must be bunded. The bunded area must be of</li> </ul>		Bulk chemical				bulk
sufficient capacity to contain a spill / leak from the stored containers;		containers bunded				containers in
<ul> <li>Bunded areas to be suitably lined with a SABS approved liner;</li> </ul>		to 110%				good
<ul> <li>An Alphabetical Hazardous Chemical Substance (HCS) control sheet</li> </ul>						condition
must be drawn up and kept up to date on a continuous basis;		Hazardous				
<ul> <li>All hazardous chemicals that will be used on site must have Material</li> </ul>		chemicals control				Training
Safety Data Sheets (MSDS):		sheet maintained				records and
						knowledge of
						employees

		1		1	1	1
-	All employees working with HCS must be trained in the safe use of		Legally compliant			
	the substance and according to the safety data sheet;		signage for all			Hazardous
-	Employees handling hazardous substances / materials must be		chemical hazards			chemicals
	aware of the potential impacts and follow appropriate safety					control sheet
	measures. Appropriate personal protective equipment must be made		Approved method			for all
	available;		statement			chemicals on
_	The Contractor must ensure that diesel and other liquid fuel, oil and		requirements			site
	hydraulic fluid is stored in appropriate storage tanks or in bowsers;		implemented.			
_	The tanks/ bowsers must be situated on a smooth impermeable					All chemical
	surface (concrete) with a permanent bund. The impermeable lining					containers
	must extend to the crest of the bund and the volume inside the bund					labelled.
	must be 130% of the total capacity of all the storage tanks/ bowsers					
	(110% statutory requirement plus an allowance for rainfall);					No evidence
-	The floor of the bund must be sloped, draining to an oil separator;					of leakages
_	Provision must be made for refueling at the storage area by					or spills
	protecting the soil with an impermeable groundcover. Where					
	dispensing equipment is used, a drip tray must be used to ensure					Response /
	small spills are contained;					cleanup
_	All empty externally dirty drums must be stored on a drip tray or					records
	within a bunded area;					available for
_	No unauthorised access into the hazardous substances storage					all spillages
	areas must be permitted;					Evidence of
-	No smoking must be allowed within the vicinity of the hazardous					
	storage areas;					training and
-	Adequate fire-fighting equipment must be made available at all					spill response
	hazardous storage areas;					drille
-	Where refueling away from the dedicated refueling station is					uniis
	required, a mobile refueling unit must be used. Appropriate ground					Spill kits and
	protection such as drip trays must be used;					drip travs
-	An appropriately sized spill kit kept onsite relevant to the scale of the					available at
	activity/s involving the use of hazardous substance must be available					risk areas
	at all times;					and
						maintained

<ul> <li>An appropriate number of spill kits must be available and must be located in all areas where activities are being undertaken;</li> <li>In the event of a spill, contaminated soil must be collected in containers and stored in a central location and disposed of according to the National Environmental Management: Waste Act 59 of 2008. Refer to Section 5.7 for procedures concerning storm and wastewater management and 5.8 for solid and hazardous waste management.</li> </ul>	_	The responsible operator must have the required training to make use of the spill kit in emergency situations;			
	_	An appropriate number of spill kits must be available and must be located in all areas where activities are being undertaken; In the event of a spill, contaminated soil must be collected in containers and stored in a central location and disposed of according to the National Environmental Management: Waste Act 59 of 2008. Refer to Section 5.7 for procedures concerning storm and wastewater management and 5.8 for solid and hazardous waste management.			

# 5.18 Workshop, equipment maintenance and storage

Impact management outcome: Soil, surface water and groundwater contamination is minimised.							
Impact Management Actions	Implementat	ion		Monitoring			
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence	
	person	implementation	implementation	person		of	
						compliance	
<ul> <li>Where possible and practical all maintenance of vehicles and</li> </ul>	DSS	Dedicated vehicle	Throughout	dEO	Daily	Drip trays	
equipment must take place in the workshop area;	cEO	servicing facility	construction	ECO	monitoring	used when	
<ul> <li>During servicing of vehicles or equipment, especially where</li> </ul>		with impermeable			by cEO and	needed	
emergency repairs are effected outside the workshop area, a suitable		floor			monthly		
drip tray must be used to prevent spills onto the soil. The relevant					auditing and	No evidence	
local authority must be made aware of a fire as soon as it starts;		Drip trays and spill			reporting by	of oil and fuel	
<ul> <li>Leaking equipment must be repaired immediately or be removed</li> </ul>		kits available on			ECO.	spillages	
from site to facilitate repair;		site.					
<ul> <li>Workshop areas must be monitored for oil and fuel spills;</li> </ul>						Training	
<ul> <li>Appropriately sized spill kit kept onsite relevant to the scale of the</li> </ul>		Availability of drip				records and	
activity taking place must be available;		trays for leaking				knowledge of	
<ul> <li>The workshop area must have a bunded concrete slab that is sloped</li> </ul>		equipment.				employees	
to facilitate runoff into a collection sump or suitable oil / water						w.r.t. vehicle	
· · · · · · · · · · · · · · · · · · ·						maintenance	

congrater where maintenance work on vehicles and equipment can	Implementation of	
separator where maintenance work on vehicles and equipment can	implementation of	
be performed;	stormwater and	Response /
<ul> <li>Water drainage from the workshop must be contained and managed</li> </ul>	waste	cleanup
in accordance Section 5.7: Storm and waste water management.	management	records
	plans and method	available for
	statements.	all spillages
		Vehicles are
		well-
		maintained
		and do not
		show
		evidence of
		leakages
		Теакауез

# 5.19 Batching plants

Impact management outcome: Minimise spillages and contamination of soil, surface water and groundwater.						
Impact Management Actions	Implementati	ion		Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence
	person	implementation	implementation	person		of
						compliance
<ul> <li>Concrete mixing must be carried out on an impermeable surface;</li> </ul>	The Contractor	Erect temporary	Construction	dEO	Daily	No evidence
<ul> <li>Batching plants areas must be fitted with a containment facility for the</li> </ul>	and cEO	fencing around the	phase	ECO	monitoring	of excessive
collection of cement laden water.		batching plant/(s).			of batching	dust
<ul> <li>Dirty water from the batching plant must be contained to prevent soil</li> </ul>					plant/(S) by	generation
and groundwater contamination		The Waste			cEO.	due to
<ul> <li>Bagged cement must be stored in an appropriate facility and at least</li> <li>10 m away from any water sources, gullies and drains;</li> </ul>		Management Plan				batching.
A washout facility must be provided for washing of concrete		and Stormwater				_
associated equipment. Water used for washing must be restricted:		Management Plan				Proof of
······································		must be				Contractor's
		implemented				compliance

_	Hardened concrete from the washout facility or concrete mixer can	throughout the		with the
	either be reused or disposed of at an appropriate licenced disposal	Construction		Waste
	facility;	Phase.		Management
_	Empty cement bags must be secured with adequate binding material			Plan and
	if these will be temporarily stored on site;	Copies of all		Stormwater
-	Sand and aggregates containing cement must be kept damp to	waste removal		Management
	prevent the generation of dust (Refer to Section 5.20: Dust	slips must be kept		Plan
	emissions)	on record		i idii.
_	Any excess sand, stone and cement must be removed or reused			Conico of
	registered disposal facility:	Method		
_	Temporary fencing must be erected around batching plants in	Statements should		waste
	accordance with Section 5.5. Fencing and gate installation	be submitted for		removal slips
		approval, where		up to date
		required		and available
		i oquilou.		on site.
				Photographic
				evidence of
				temporary
				fencing
				erected
				around
				batching
				plant/(s)
				pionin (0).

## 5.20 Dust emissions

Impact management outcome: Dust prevention measures are applied to minimise the generation of dust.								
Impact Management Actions	Implementat	Implementation Monitoring						
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence		
	person	implementation	implementation	person		of		
	compliance							

_	Take all reasonable measures to minimise the generation of dust as	Contractor	Dust suppression	Throughout	dEO	Daily	No evidence
	a result of project development activities to the satisfaction of the	cEO	methods as direct	construction	ECO	monitoring	of excessive
	ECO;		by the ECO and			by cEO.	dust
_	Removal of vegetation must be avoided until such time as soil		cEO				generation
	stripping is required and similarly exposed surfaces must be re-						due to
	vegetated or stabilised as soon as is practically possible;		Separate topsoil				construction
_	Excavation, handling and transport of erodible materials must be		and subsoil during				
	avoided under high wind conditions or when a visible dust plume is		site clearance and				Dust control
	present;		stockpile				measures
_	During high wind conditions, the ECO must evaluate the situation and		separately				implemented
	make recommendations as to whether dust-damping measures are						
	adequate, or whether working will cease altogether until the wind		Spread topsoil on				Vehicles do
	speed drops to an acceptable level;		the surface after				not speed on
_	Where possible, soil stockpiles must be located in sheltered areas		final shaping				site
	where they are not exposed to the erosive effects of the wind;						
_	Where erosion of stockpiles becomes a problem, erosion control		Adherence to				Maintain the
	measures must be implemented at the discretion of the ECO;		speed limits by				complaints
_	Vehicle speeds must not exceed 40 km/h along dust roads or 20		vehicles				register by
	km/h when traversing unconsolidated and non-vegetated areas;						monitoring
_	Straw stabilisation must be applied at a rate of one bale/10 m <sup>2</sup> and		Straw stabilization				and
	harrowed into the top 100 mm of top material, for all completed		for completed				addressing
	earthworks;		earthworks				complaints
_	For significant areas of excavation or exposed ground, dust						received
	suppression measures must be used to minimise the spread of dust.						related to
					1	1	aust.

# 5.21 Blasting

Impact management outcome: Impact to the environment is minimised through a safe blasting practice.							
Impact Management Actions	Implementati	ion		Monitoring	Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence	
	person	implementation	implementation	person		of	
						compliance	
<ul> <li>Any blasting activity must be conducted by a suitably licensed</li> </ul>	DSS	Method statement	Throughout	dEO	As needed	No evidence	
blasting contractor; and	cEO	by blasting	construction	ECO	during	of damage	
<ul> <li>Notification of surrounding landowners, emergency services site</li> </ul>		contractor			blasting	from flyrock	
personnel of blasting activity 24 hours prior to such activity taking					events.		
place on Site.		Use only low				No	
		impact blasting				complaints	
		methods e.g.				from	
		blasting blankets,				neighboring	
		micro-charges				residents	
		covering with soil				about	
						blasting noise	
		Inform				or flyrock	
		surrounding					
		communities and					
		landowners about					
		planned blasting					
		activities					

## 5.22 Noise

Impact Management outcome: Prevent unnecessary noise to the environment by ensuring that noise from development activity is mitigated.							
Impact Management Actions	Implementati	ion		Monitoring	Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence	
	person	implementation	implementation	person		of	
						compliance	
<ul> <li>The Contractor must keep noise level within acceptable limits,</li> </ul>	DSS	Work only during	Throughout	dEO	Daily	Records of	
Restrict the use of sound amplification equipment for communication	cEO	daylight hours	construction	ECO	monitoring	staff code of	
and emergency only;					by cEO	conduct	
<ul> <li>All vehicles and machinery must be fitted with appropriate silencing</li> </ul>		Maintain vehicles				training	
technology and must be properly maintained;		in good condition					
<ul> <li>Any complaints received by the Contractor regarding noise must be</li> </ul>						Staff	
recorded and communicated. Where possible or applicable, provide		Staff code of				knowledge of	
transport to and from the site on a daily basis for construction		conduct				code of	
workers;		developed and				conduct and	
<ul> <li>Develop a Code of Conduct for the construction phase in terms of</li> </ul>		communicated				evidence in	
behaviour of construction staff. Operating hours as determined by the						their	
environmental authorisation are adhered to during the development						behaviour	
phase. Where not defined, it must be ensured that development							
activities must still meet the impact management outcome related to						No evidence	
noise management.						of noise	
······································						complaints in	
						complaints	
						register	

# 5.23 Fire prevention

Impact management outcome: Prevention of uncontrollable fir	es.					
Impact Management Actions	Implementati	on		Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence
	person	implementation	implementation	person		of
						compliance
<ul> <li>Designate smoking areas where the fire hazard could be regarded as</li> </ul>	DSS	Designated	Throughout	dEO	Weekly	Pressure
insignificant;	cEO	smoking areas	construction	ECO		gauges on
<ul> <li>Firefighting equipment must be available on all vehicles located on</li> </ul>						extinguishers
site;		Services fire-				indicate it is
<ul> <li>The local Fire Protection Agency (FPA) must be informed of</li> </ul>		fighting equipment				<b>a</b>
construction activities;		-				Servicing
<ul> <li>Contact numbers for the FPA and emergency services must be</li> </ul>		Emergency				records for
communicated in environmental awareness training and displayed at		numbers for Fire				extinguisners
a central location on site;		Association				show it has
<ul> <li>Two way swop of contact details between ECO and FPA.</li> </ul>		displayed				sonviced in
		uispiayeu				the past year
						the past year
						Records of
						fire-fighting
						training and
						drills
						Emergency
						numbers for
						Fire
						Protection
						Association
						displayed

# 5.24 Stockpiling and stockpile areas

Impact management outcome: Reduce erosion and sedimentation as a result of stockpiling.							
Impact Management Actions	Implementati	ion		Monitoring	Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence	
	person	implementation	implementation	person		of	
						compliance	
<ul> <li>All material that is excavated during the project development phase</li> </ul>	DSS	Soil stockpiles	Throughout	cEO	Daily	Minimal	
(either during piling (if required) or earthworks) must be stored	cEO	maintained and	construction	ECO	monitoring	evidence of	
appropriately on site in order to minimise impacts to watercourses,		protected to			by cEO	erosion from	
watercourses and water bodies;		prevent erosion as				soil stockpiles	
<ul> <li>All stockpiled material must be maintained and kept clear of weeds</li> </ul>		per approved					
and alien vegetation growth by undertaking regular weeding and		method statement				Evidence of	
control methods;						clearance of	
<ul> <li>Topsoil stockpiles must not exceed 2 m in height;</li> </ul>		Covering materials				exotic	
<ul> <li>During periods of strong winds and heavy rain, the stockpiles must</li> </ul>		placed on				vegetation	
be covered with appropriate material (e.g. cloth, tarpaulin etc.);		stockpiles to					
<ul> <li>Where possible, sandbags (or similar) must be placed at the bases of</li> </ul>		prevent erosion				Stockpiles	
the stockpiled material in order to prevent erosion of the material.		when necessary				<2m high	

# 5.25 Finalising tower positions

Impact management outcome: No environmental degradation occurs as a result of the survey and pegging operations.							
Impact Management Actions	Implementati	on		Monitoring			
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence	
	person	implementation	implementation	person		of	
						compliance	
<ul> <li>No vegetation clearing must occur during survey and pegging</li> </ul>	DSS, cEO and	Walkdown	Prior to	dEO	Once-off	Clearance of	
operations;	botanical	assessment of	construction	ECO		vegetation	
<ul> <li>No new access roads must be developed to facilitate access for</li> </ul>	specialist	proposed pylon				only at	
survey and pegging purposes;		positions by				confirmed	

<ul> <li>Project manager, botanical specialist and contractor to agree on final tower positions based on survey within assessed and approved</li> </ul>	biodiversity specialist.	tower
areas;		providence
<ul> <li>The surveyor is to demarcate (peg) access roads/tracks in</li> </ul>	Walkdown	Tower
consultation with ECO. No deviations will be allowed without the prior	assessment to	positions
written consent from the ECO.	take place on foot	pegged by
	or in 4x4 vehicle,	specialists
	keeping to existing	
	access roads and	Walkdown
	servitude roads.	assessment
		report
	Produce	
	walkdown	
	assessment report	
	that documents	
	walkdown findings	
	and agreed	
	positions of	
	pylons.	

## 5.26 Excavation and installation of foundations

Impact management outcome: No environmental degradation occurs as a result of excavation or installation of foundations.									
Impact Management Actions	Implementation Monitoring								
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence			
	person	implementation	implementation	person		of			
						compliance			
<ul> <li>All excess spoil generated during foundation excavation must be</li> </ul>	DSS	Spread soil	During	dEO	Once-off	Soil			
disposed of in an appropriate manner and at a recognised disposal	cEO	excavated from	construction	ECO		excavated			
site, if not used for backfilling purposes;		pylon foundations				from pylon			
		over surrounding				foundations			

<ul> <li>Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes;</li> <li>Management of equipment for excavation purposes must be undertaken in accordance with Section 5.18: Workshop equipment maintenance and storage; and</li> <li>Hazardous substances spills from equipment must be managed in accordance with Section 5.17: Hazardous substances.</li> <li>Batching of cement to be undertaken in accordance with Section 5.19: Batching plants;</li> <li>Residual cement must be disposed of in accordance with Section 5.8: Solid and hazardous waste management.</li> </ul>	area or use it as fill elsewhere Compliance with approved waste management plan.	spread over surrounding area or used as fill elsewhere. Copies of waste disposal certificates updated and available on site
--	---	--

# 5.27 Assembly and erecting towers

Impact management outcome: No environmental degradation	occurs as a re	sult of assembly a	nd erecting of tow	ers.			
Impact Management Actions	Implementat	ion		Monitoring	Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence	
	person	implementation	implementation	person		of	
						compliance	
<ul> <li>Prior to erection, assembled towers and tower sections must be</li> </ul>	DSS	Lowest impact	During and	dEO	Once-off for	Site	
stored on an elevated surface (suggest wooden blocks) to minimise	cEO	construction	immediately after	ECO	each tower	inspection	
damage to the underlying vegetation;		methods	construction			during	
<ul> <li>In sensitive areas, tower assembly must take place off-site or away</li> </ul>		appropriate to the				construction	
from sensitive positions;		site conditions				confirms that	
<ul> <li>The crane used for tower assembly must be operated in a manner</li> </ul>		based on				the lowest	
which minimises impact to the environment;		topography,				impact	
<ul> <li>The number of crane trips to each site must be minimised;</li> </ul>		proximity to				methods	
<ul> <li>Wheeled cranes must be utilised in preference to tracked cranes;</li> </ul>		existing				appropriate	

_	Consideration must be given to erecting towers by helicopter or by	transmission lines,		for site
	hand where it is warranted to limit the extent of environmental impact;	availability of		conditions
_	Access to tower positions to be undertaken in accordance with	existing access		are used.
	access requirements in specified in Section 8.4: Access Roads;	roads and degree		
_	Vegetation clearance to be undertaken in accordance with general	of existing		Site
	vegetation clearance requirements specified in Section 8.10:	disturbance.		inspection
	Vegetation clearing;			after
_	No levelling at tower sites must be permitted unless approved by the	Implementation of		construction
	Development Project Manager or Developer Site Supervisor;	and compliance to		confirms that
_	Topsoil must be removed separately from subsoil material and stored	relevant method		the extent of
	for later use during rehabilitation of such tower sites;	statements and		damage has
_	Topsoil must be stored in heaps not higher than 1m to prevent	management		been limited
	destruction of the seed bank within the topsoil;	plans.		to the
_	Excavated slopes must be no greater that 1:3, but where this is			immediate
	unavoidable, appropriate measures must be undertaken to stabilise			footprint of
	the slopes;			the
_	Fly rock from blasting activity must be minimised and any pieces			powerline.
	greater than 150 mm falling beyond the Working Area, must be			
	collected and removed;			
_	Only existing disturbed areas are utilised as spoil areas;			
_	Drainage is provided to control groundwater exit gradient with the			
	spill areas such that migration of fines is kept to a minimum;			
_	Surface water runoff is appropriately channeled through or around			
	spoil areas;			
_	During backfilling operations, care must be taken not to dump the			
	topsoil at the bottom of the foundation and then put spoil on top of			
	that;			
_	The surface of the spoil is appropriately rehabilitated in			
	accordance with the requirements specified in Section 5.29:			
	Landscaping and rehabilitation;			
-	The retained topsoil must be spread evenly over areas to be			
	rehabilitated and suitably compacted to effect re-vegetation of such			
	areas to prevent erosion as soon as construction activities on the site			

is complete. Spreading of topsoil must not be undertaken at the			
beginning of the dry season.			

# 5.28 Stringing

Impact management outcome: No environmental degradation	occurs as a re	sult of stringing.					
Impact Management Actions	Implementat	ion			Monitoring		
	Responsible	Method of	Timeframe	for	Responsible	Frequency	Evidence
	person	implementation	implement	ation	person		of
							compliance
<ul> <li>Where possible, previously disturbed areas must be used for the siting</li> </ul>	DSS	Lowest impact	During	and	dEO	Once-off	Site
of winch and tensioner stations. In all other instances, the siting of the	cEO	construction	immediately	after	ECO		inspection
winch and tensioner must avoid access-restricted areas and other		methods	construction				during
sensitive areas;		appropriate to the					construction
- The winch and tensioner station must be equipped with drip trays in		site conditions					confirms that
order to contain any fuel, hydraulic fuel or oil spills and leaks;		based on					the lowest
- Refueling of the winch and tensioner stations must be undertaken in		topography,					impact
accordance with Section 5.17: Hazardous substances;		proximity to					methods
- In the case of the development of overhead transmission and		existing					appropriate
distribution infrastructure, a one metre "trace-line" may be cut through		transmission					for site
the vegetation for stringing purposes only and no vehicle access must		lines/foundations,					conditions
be cleared along "trace-lines". Vegetation clearing must be undertaken		availability of					are used.
by hand, using chainsaws and hand-held implements with vegetation		existing access					
being cut off at ground level. No tracked or wheeled mechanised		roads and degree					Site
equipment must be used;		of existing					inspection
- Alternative methods of stringing which limit impact to the environment		disturbance.					after
must always be considered e.g. by hand or by using a helicopter;							construction
- Where the stringing operation crosses a public or private road or		Implementation of					confirms that
railway line, the necessary scaffolding/ protection measures must be		and compliance to					the extent of
installed to facilitate access. If, for any reason, such access has to be		approved method					damage has
		statements and					been limited

	closed for any period(s) during development, the persons affected	management		to the
	must be given reasonable notice, in writing;	plans.		immediate
-	No services (electrical distribution lines, telephone lines, roads,			footprint of
	railways lines, pipelines, fences etc.) must be damaged because of			the
	stringing operations. Where disruption to services is unavoidable,			powerline.
	persons affected must be given reasonable notice, in writing;			
-	Where stringing operations cross cultivated land, damage to crops is			No damage
	restricted to the minimum required to conduct stringing operations, and			to existing
	reasonable notice (10 workdays minimum), in writing, must be			services and
	provided to the landowner;			cultivated
_	Necessary scaffolding protection measures must be installed to			areas is
	prevent damage to the structures supporting certain high value			evident.
	agricultural areas such as vineyards, orchards, nurseries.			

# 5.29 Socio-economic impacts

Impact management outcome: Socio-economic developme	nt is enhanced.									
Impact Management Actions	Implementat	ion		Monitoring						
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence of				
	person	implementation	implementation	person		compliance				
<ul> <li>Develop and implement communication strategies to facilitate</li> </ul>	DSS	Ensure regular	1 month prior to	dEO	Daily	Recorded				
public participation;	cEO	communication on	the start of	ECO	monitoring	grievances /				
<ul> <li>Develop and implement a collaborative and constructive approach</li> </ul>		construction	construction and		by cEO	informal				
to conflict resolution as part of the external stakeholder		progress through	throughout			complaints via				
engagement process, Sustain continuous communication and ligison with neighboring		established	construction			an incident and				
owners and residents		community				complaints				
<ul> <li>Create work and training opportunities for local stakeholders; and</li> </ul>		communication				register.				
		channels.								

<ul> <li>Where feasible, no workers, with the exception of security</li> </ul>	Grievance record	ECO must be
personnel, must be permitted to stay over-night on the site. This	available on site	notified of any
would reduce the risk to local farmers.	and updated.	complaints or
		grievances
	Communicate	within 48 hours.
	expected number	
	of local jobs and	Records of
	application	community
	procedure prior to	engagements
	construction.	(minutes,
		correspondence,
	No	social media
	accommodation	posts, etc.)
	on site, except for	
	security	
	personnel.	

# 5.30 Temporary closure of site

Impact management outcome: Minimise the risk of environme	Impact management outcome: Minimise the risk of environmental impact during periods of site closure greater than five days.								
Impact Management Actions	Implementat	ion		Monitoring					
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence			
	person	implementation	implementation	person		of			
						compliance			
<ul> <li>Bunds must be emptied (where applicable) and need to be undertaken</li> </ul>	DSS	Implement impact	Upon temporary	dEO	When	Site			
in accordance with the impact management actions included in	cEO	management	closure	ECO	required	conditions in			
sections 5.17: management of hazardous substances and 5.18		actions as			during	relation to			
workshop, equipment maintenance and storage;		specified			closure	required			
<ul> <li>Hazardous storage areas must be well ventilated;</li> </ul>						impact			
						management			
						actions will			

-	Fire extinguishers must be serviced and accessible. Service records			indicate
	to be filed and audited at last service;			compliance.
_	Emergency and contact details displayed must be displayed;			
_	Security personnel must be briefed and have the facilities to contact or			ECO to
	be contacted by relevant management and emergency personnel;			conduct site
-	Night hazards such as reflectors, lighting, traffic signage etc. must			inspection
	have been checked;			and report on
-	Fire hazards identified and the local authority must have been notified			compliance.
	of any potential threats e.g. large brush stockpiles, fuels etc.;			
_	Structures vulnerable to high winds must be secured;			
-	Wind and dust mitigation must be implemented;			
-	Cement and materials stores must have been secured;			
-	Toilets must have been emptied and secured;			
_	Refuse bins must have been emptied and secured;			
_	Drip trays must have been emptied and secured.			

# 5.31 Landscaping and rehabilitation

Impact management outcome: Areas disturbed during the development phase are returned to a state that approximates the original condition.							
Impact Management Actions	Implementat	ion		Monitoring			
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence of	
	person	implementation	implementation	person		compliance	
<ul> <li>All areas disturbed by construction activities must be subject to</li> </ul>	DSS	Embankments	Throughout	dEO	Daily	Embankments	
landscaping and rehabilitation; All spoil and waste must be disposed	cEO	vegetated by	construction	ECO	monitoring	vegetated or	
to a registered waste site and certificates of disposal provided;		topsoil placement			by cEO	otherwise	
<ul> <li>All slopes must be assessed for contouring, and to contour only</li> </ul>		and erosion				protected	
when the need is identified in accordance with the Conservation of		protection, with					
Agricultural Resources Act, No 43 of 1983		exception of those				Disturbed	
		kept free of				areas	
						revegetated	

_	All slopes must be assessed for terracing, and to terrace only when	vegetation for fire		and topsoil
	the need is identified in accordance with the Conservation of	control		spread
	Agricultural Resources Act, No 43 of 1983;			
_	Berms that have been created must have a slope of 1:4 and be	Implement		At least 90%
	replanted with indigenous species and grasses that approximates the	passive mitigation		coverage with
	original condition;	measures as		no bare areas
_	Where new access roads have crossed cultivated farmlands, that	prescribed by		more than
	lands must be rehabilitated by ripping which must be agreed to by	Botanical		5m <sup>2</sup> a year
	the holder of the EA and the landowners;	specialist in		after
_	Rehabilitation of tower sites and access roads outside of farmland;	Section 8.3 in		completion of
_	Indigenous species must be used for with species and/grasses to	conjunction with		construction
	where it compliments or approximates the original condition;	landowner		
_	Stockpiled topsoil must be used for rehabilitation (refer to Section	requests.		Stormwater
	5.24: Stockpiling and stockpiled areas);			diversion
_	Stockpiled topsoil must be evenly spread so as to facilitate seeding	Install gabions		strips
	and minimise loss of soil due to erosion;	around pylon		constructed
_	Before placing topsoil, all visible weeds from the placement area and	bases as		on steep
	from the topsoil must be removed;	necessary where		access roads
_	Subsoil must be ripped before topsoil is placed;	there is an erosion		in the
_	The rehabilitation must be timed so that rehabilitation can take place	risk		transmission
	at the optimal time for vegetation establishment:			line corridor.
_	Where impacted through construction related activity, all sloped	Embankments		
	areas must be stabilised to ensure proper rehabilitation is effected	that cannot be		
	and erosion is controlled :	vegetated		
_	Sloped areas stabilised using design structures or vegetation as	otnerwise		
	specified in the design to prevent erosion of embankments. The	protected e.g. by		
	contract design specifications must be adhered to and implemented	stone pitching		
	strictly;	All disturbed		
_	Spoil can be used for backfilling or landscaping as long as it is	All disturbed		
	covered by a minimum of 150 mm of topsoil.	areas to be		
_	Where required, re-vegetation including hvdro-seeding can be	nevegetated by		
	enhanced using a vegetation seed mixture as described below. A	and cooled if		
		anu seeueu, II		
		necessary but		

mixture of seed can be used provided the mixture is carefully	bearing the
selected to ensure the following:	Botanical
a) Annual and perennial plants are chosen;	specialist
b) Pioneer species are included;	mitigation
c) Species chosen must be indigenous to the area with the seeds	measures in mind.
used coming from the area;	
d) Root systems must have a binding effect on the soil;	Install raised
e) The final product must not cause an ecological imbalance in the	strips diverting
area	stormwater off the
	transmission line
	access roads on
	steep slopes to
	prevent erosion

## 6 ACCESS TO THE GENERIC EMPr

Once completed and signed, to allow the public access to the generic EMPr, the holder of the EA must make the EMPr available to the public in accordance with the requirements of regulation 26(h) of the EIA Regulations.

#### PART B: SECTION 2

## 7 SITE-SPECIFIC INFORMATION AND DECLARATION

#### 7.1 Sub-section 1: Contact details and description of the project

7.1.1 Details of the applicant:

Name of applicant: Umoyilanga (Pty) Ltd

Tel No: +27 41 506 4911

Fax no: -

Postal Address: See physical address

Physical Address: Waterfront Business Park, Building 5 (Ground Floor), 1204 Humerail, Port Elizabeth, 6000

7.1.2 Details and expertise of the EAP:

Wynand Loftus from Zutari Pty (Ltd)

Tel No: +27 44 805 5458

Fax No: +27 44 805 5454

E-mail address: wynand.loftus@zutari.com

Expertise of the EAP (Curriculum Vitae included): Appended

# 7.1.3 Project name: Proposed upgrade of the Gordonia-Avondale 132KV transmission line, Upington, Northern Cape

### 7.1.4 Description of the project:

Eskom requires that Umoyilanga (Pty) Ltd, a preferred bidder selected as part of the DMRE Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP), upgrade an existing portion of the 132 kV Gordonia-Garona transmission line as part of the works required for connecting the new Avondale Hybrid Solar project to the grid.

The existing 132 kV Gordonia-Garona transmission line is approximately 30 years old and runs from Upington, Northern Cape in an easterly direction and then later south towards Groblershoop for an approximate distance of 32 kilometres.

It is proposed to upgrade the physical components (e.g. conductor, pylons, etc.) of the existing transmission line to prevent potential future capacity issues and failure of the infrastructure. The capacity of the line will remain 132 kV. In other words, no increase in line capacity is proposed. Only the physical components are to be upgraded and existing removed.

The line is located inside a registered servitude and comprises of ninety-two (92) lattice pylon structures over an approximate distance of 32 kilometres. The line is accessed via existing access/farm roads and a service track running underneath the line within the existing servitude. Eskom undertakes routine inspections and maintenance on the line via the existing service track.

The proposed new monopole structures will be constructed along the existing centreline and thus inside the registered servitude, however the location of the structures will be different to the existing structures. Placing the new monopole structures at new locations (avoiding sensitive areas) will allow the contractor to finish construction within the timeframe that Eskom is able to make the line available for upgrade. It means that the contractor can construct the new foundations, transport parts to site and start assembly of new pylons at each location, prior to the Eskom line being handed over/shutdown. When the line is handed over to the contractor, the old line and existing lattice structures can be taken down and the new monopole structures can be fully assembled and erected and the new line can be strung. The old lattice structure and its foundations will be removed from site, appropriately disposed of and rehabilitated as per the EMPr requirements.

The proposed upgrade of the line will ensure that existing lattice structures are removed from any sensitive areas. Pylon locations should therefore avoid all sensitive areas identified by the specialist team during the EIA process.

## 7.1.5 Project location:

The proposed upgrading of the existing transmission line is east of Upington and runs just north and parallel to the N14.

Farm Name / Erf and Number	Portion	21-digit SG code	
Koras 412	2	C0280000000041200002	
Uizip 413	RE	C0280000000041300000	
Uitkomst 420	7	C0280000000042000007	
Uitkomst 420	11	C0280000000042000011	
Rouxville 605	RE	C028000000060500000	
Sandflats 653	RE	C028000000065300000	
Melkstroom 563	RE	C028000000056300000	
Kameelpoort 414	2	C0280000000041400002	
Avondale 410	1	C0280000000041000001	
UAP 418	18	C0280000000041800018	

#### Table 0-1: Property details for the proposed upgrading of the 132 kV transmission line

Erf 4350	0	C02800070000435000000



Figure 1: Locality map of the Gordonia-Avondale 132 kV transmission line

7.1.6 Preliminary technical specification of the overhead transmission and distribution:

- Length (existing transmission line): 32 km
- Length (new proposed line): 32 km
- Tower parameters:
  - Number and types of towers: 88 x 255 type lattice towers to be removed and upgraded with monopole towers.
  - Tower spacing (mean and maximum): Typically 132m 238m
  - Tower height (lowest, mean and height): Between 23m and 28m tower height with a maximum sag of 4.75m on the line.
  - Conductor attachment height (mean): Typically 18m
  - Minimum ground clearance: Typically 13m

### 7.2 Sub-section 2: Development footprint site map

This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout. The sensitivity map must be prepared from the national web based environmental screening tool, when available for compulsory use at: <a href="https://screening.environment.gov.za/screeningtool">https://screening.environment.gov.za/screeningtool</a>. The sensitivity map shall identify the nature of each sensitive feature e.g. raptor nest, threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features in the surrounding landscape. The overhead transmission and distribution profile shall be illustrated at an appropriate resolution to enable fine scale interrogation. It is recommended that <20 km of overhead transmission and distribution length is illustrated per page in A3 landscape format. Where considered appropriate, photographs of sensitive features in the context of tower positions shall be used.

#### Table 0-2: Screened Environmental Sensitivity

Theme	VeryHigh sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			Х	
Animal Species Theme			Х	
Aquatic Biodiversity Theme	Х			
Archaeological and Cultural Heritage Theme	X			
Civil Aviation Theme		Х		
Defence Theme	Х			
Paleontology Theme	Х			
Plant Species Theme				Х
TerrestrialBiodiversity Theme	Х			



Figure 2: Agriculture theme sensitivity according to the DFFE national web-based screening tool



Figure 3: Animal species theme sensitivity according to the DFFE national web-based screening tool



Figure 4: Aquatic Biodiversity theme sensitivity according to the DFFE national web-based screening tool



Figure 5: Archaeological and cultural heritage theme sensitivity according to the DFFE national web-based screening tool



Figure 6: Palaeontology theme sensitivity according to the DFFE national web-based screening tool



Figure 7: Civil aviation theme sensitivity according to the DFFE national web-based screening tool







Figure 9: Plant species theme sensitivity according to the DFFE national web-based screening tool



Figure 10: Terrestrial biodiversity theme sensitivity according to the DFFE national web-based screening tool.



 Job No: 1001408
 Map by: WL

 Projection: GCS\_WGS\_1984

Avondale-Gordonia Transmission Line - Basic Assessment Environmental Sensitivities: Map 1 (Pylon 1 to 25)

Figure 11: Combined sensitivity map 1 (pylons 1 to 23).



Job No: 1001408 Map by: WL Projection: GCS\_WGS\_1984 Avondale-Gordonia Transmission Line - Basic Assessment Environmental Sensitivities: Map 2 (Pylon 23 to 39)

Figure 12: Combined sensitivity map 2 (pylons 23 to 39).



Job No: 1001408 Map by: WL Projection: GCS\_WGS\_1984 Avondale-Gordonia Transmission Line - Basic Assessment Environmental Sensitivities: Map 3 (Pylon 39 to 55)

Figure 13: Combined sensitivity map 3 (pylons 39 to 55).



 Job No: 1001408
 Map by: WL

 Projection: GCS\_WGS\_1984

Avondale-Gordonia Transmission Line - Basic Assessment Environmental Sensitivities: Map 4 (Pylon 56 to 73)

Figure 14: Combined sensitivity map 4 (pylons 56 to 73).



 Job No: 1001408
 Map by: WL

 Projection: GCS\_WGS\_1984

Avondale-Gordonia Transmission Line - Basic Assessment Environmental Sensitivities: Map 5 (no sensitivities) (Pylon 73 to 92)

Figure 15: Combined sensitivity map 5 (pylons 73 to 92).
#### 7.1 Sub-section 3: Declaration

The proponent/applicant or holder of the EA affirms that he/she will abide and comply with the prescribed impact management outcomes and impact management actions as stipulated in <u>part B:</u> <u>section 1</u> of the generic EMPr and have the understanding that the impact management outcomes and impact management actions are legally binding. The proponent/applicant or holder of the EA affirms that he/she will provide written notice to the CA 14 days prior to the date on which the activity will commence of commencement of construction to facilitate compliance inspections.

Signature Proponent/applicant/ holder of EA

Date:

27 October 2021

#### 7.2 Sub-section 4: Amendments to site-specific information (Part B; section 2)

Should the EA be transferred to a new holder, <u>Part B: Section 2</u> must be completed by the new holder and submitted with the application for an amendment of the EA in terms of Regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted for an amendment to an environmental authorisation will be considered to be incomplete should a signed copy of <u>Part B: Section 2</u> not be submitted. Once approved, <u>Part B: Section 2</u> forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

#### PART C

#### 8 SITE-SPECIFIC ENVIRONMENTAL ATTRIBUTES

If any specific environmental sensitivities/attributes are present on the site which require more specific impact management outcomes and impact management actions, not included in the pre-approved generic EMPr template, to manage impacts, those impact management outcomes and actions must be included in this section. These specific management controls must be referenced spatially, and must include impact management outcomes and impact management actions. The management controls including impact management outcomes and impact management actions must be presented in the format of the pre-approved generic EMPr template. This applies only to additional impact management outcomes and impact management actions that are necessary.

If <u>Part C</u> is applicable to the development as authorised in the EA, it is required to be submitted to the CA together with the BAR or EIAR, for consideration of, and decision on, the application for EA. The information in this section must be prepared by an EAP and the name and expertise of the EAP, including the curriculum vitae are to be included. Once approved, <u>Part C</u> forms part of the EMPr for the site and is legally binding.

This section will **not be required** should the site contain no specific environmental sensitivities or attributes.

### 8.1 Hydrology

Im	Impact management outcome: The resource quality (flow, water quality, habitat and aquatic biota) of watercourses (rivers and their tributaries, natural						
ch	channels, drainage lines, wetlands) are protected and incur minimal negative impact.						
Im	pact Management Actions	Implementa	ation		Monitoring		
		Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence of
		person	implementation	implementation	person		compliance
-	The layout planning must take cognisance of the sensitivity	DPM, DSS,	Pre-construction	Pre-construction	dEO & ECO	Weekly	No disturbance of
	layers as shown in Figures 11 to 15, to avoid these areas or	Constrctor &	planning and				aquatic features.
	cross such areas using existing tracks / roads or where the	cEO	establishment of	Weekly monitoring			
	impacts would be low or can easily be mitigated;		construction	of actions during			No additional
-	Where new access roads are required, they should avoid		layout map.	construction			access roads
	aquatic features. The ECO must be consulted on site if any						created.
	aquatic features are to be affected by monopole structures		Clear indication to				
	and a suitable location that avoids these features be		all workers of				Adequate
	determined in consultation with the project team.		authorized access				management of
	Stormwater mitigation measures must be guided by the		roads.				erosion.
	stormwater measures contained in the generic EMPr and						_
	implemented as per guidance from the ECO.		Demarcation of				Proper
-	The final detailed design and positions of the new		sensitive areas				management of
	monopole structures are to incorporate the aquatic		and no-go areas.				stormwater.
	sensitivities and avoid such areas and their respective		Induction				No signs of
	buffer zones as authorised in the EA.		presentation				spread of alien
-	All alien plant re-growth, which is currently low within the						invasive species.
	greater region must be monitored and should it occur, these		Toolbox talks				
	plants must be eradicated within the project footprints and						
	especially in areas near the proposed crossings;						
-	Prosopis (alien invasive riparian tree) is prevalent, thus care						
	in transporting any material, while ensuring that such						
	materials is free of alien seed, coupled with pre and post						
	alien clearing must be stipulated in the EMPr;						

- It is noted that the existing Eskom service track will be used to access the site. Should any vehicle have to drive outside of the existing track it must always avoid aquatic features or consult with the ECO for a suitable crossing where impacts will be the lowest. Site specific mitigations can be implemented as per the EMPr;
- Stormwater mitigation measures must be guided by the stormwater measures contained in the generic EMPr and implemented as per guidance from the ECO;
- Any stormwater systems or control measures must be inspected on an annual basis to ensure these are functional;
- The ECO must conduct erosion monitoring of areas where the existing access track crosses aquatic features and implement control measures where necessary as per the EMPr;
- Effective stormwater management must include measures to slow, spread and deplete the energy of concentrated flows thorough effective stabilisation and the re-vegetation of any disturbed areas; and
- Transmission lines Any areas disturbed during the operations of the transmission line, including the access tracks must be inspected on an annual basis for signs of erosion or scour. Where these are identified efforts to stabilise the areas (e.g. with reno mattresses, Gabions, Vegetation other suitable intervention) should be immediately implemented and monitored. It is suggested that all construction camps, lay down areas, batching plants or areas and any stores should be more 50 m from a watercourse and wetland. Chemicals used for construction must be stored safely on site and surrounded by bunds. Chemical storage containers must be regularly inspected so that any leaks are detected early;

_	Occurrences of erosion and sedimentation must be			
	monitoring during construction and addressed as soon as			
	possible to avoid losing this material into the drainage lines;			
_	Emergency plans must be in place in case of spillages onto			
	road surfaces and water courses;			
—	No stockpiling should take place within a water course;			
—	All stockpiles must be protected from erosion, stored on flat			
	areas where run-off will be minimised, and be surrounded			
	by bunds;			
-	Stockpiles must be located away from river channels; and			
_	The construction camp and necessary ablution facilities			
	meant for construction workers must be beyond the 48 m			
	buffer described previously.			

#### 8.2 Avifauna

Im	Impact management outcome: Minimise disturbance to avifauna.						
Im	pact Management Actions	Implementat	ion		Monitoring		
		Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence of
		person	implementation	implementation	person		compliance
_	For the Verreaux's Eagle and Martial Eagle nests, alternative nesting platforms of appropriate design are to be designed and constructed in consultation with BirdLife South Africa (BLSA) and the Endangered Wildlife Trust (EWT) in the immediate vicinity of the existing nests ;	cEO	Pre-construction survey Fire management	Pre-construction, construction and operational phases.	ECO	Monthly	Pre-construction survey report Approved method statements
	All vehicles must adhere to clearly defined and demarcated roads, no off-road driving should be allowed; Ensure that sufficient erosion control measures are constructed on all servitudes and access roads in the project area; No open fires should be permitted outside of designated areas;		Demarcation of sensitive areas and no-go areas.				Approved fire management plan Visual inspections report
-	Dismantling activities (including site access) must not occur within 1 000m of the identified Verreaux's Eagle or						Visual signage

ding f training
f training
f training
-

	All personnel should undergo an initial environmental			
	induction with regards to birds and in particular			
	awareness about not harming or collecting species or			
	eggs;			
-	Any birds directly threatened by the dismantling activities			
	should be removed to a safe location by the ECO or other			
	suitably qualified person;			
—	Pylons must conform to Eskom standards using bird			
	friendly monopole structures fitted with appropriate bird			
	perches on every pole to reduce the probability of			
	electrocutions;			
-	Flappers and bird flight diverters (BFDs) are to be			
	attached to the new OHPL in the areas identified as high			
	or very high SEI (5.2 km each side of the Verreaux's			
	Eagle nest and 5 km each side of the Martial Eagle nest)			
	and recently fledged birds:			
	The most appropriate and up to date marking devices			
_	(such as flappers and BEDs) must be selected in			
	consultation with the Endangered Wildlife Trust (EWT).			
_	Attach appropriate marking devices along the new OHPI			
	in accordance with installation guidelines to increase			
	visibility;			
_	Flappers and BFDs must be maintained and replaced			
	where necessary, for the life span of the project;			
—	An operational monitoring programme must be			
	implemented and include regular monitoring (e.g. during			
	maintenance activities) of the entire length of the OHPL			
	for collision and electrocution incidents for the lifespan of			
	the project; and			
-	Any collision incidents must be recorded and reported to			
	the EWT.			

#### **8.3 Botanical**

Impact management outcome: Minimise disturbance to botanical environment.							
Impact Management Actions	Implementat	Implementation			Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence of	
	person	implementation	implementation	person		compliance	
- Acitve mitigation: Avoid disturbance of the red sand dune	Contractor &	Pre-construction	Pre-construction,	dEO, cEO ECO	Weekly	Pre-construction	
on the farm Uizip. Apart from this being unstable sand and	cEO	survey	construction and		monitoring	survey report	
moderately sensitive habitat, the landowner is also			operational		of		
particularly concerned about disturbance if this habitat.		Demarcation of	phases.		protected	Approved method	
<ul> <li>Passive mitigation: Clean each pylon construction site, re-</li> </ul>		sensitive areas			species by	statements	
apply topsoil and then leave it to let nature take its course.		and no-go			cEO.	N# 11 //	
The grass seed in the soil will germinate and the 'white		areas.			Monthly	Visual inspections	
grasses' as described will colonize the disturbed sites.		la du ettere			monitoring	report	
That will create conditions for shrubs to grow as well.		Induction			OT		
<ul> <li>NO SEED OF FOREIGN GRASS SPECIES or other</li> </ul>		presentation			compliance	visual signage	
foreign 'rehabilitation species' should be introduced at any		and training on			by ECO.	Parricading	
of the construction sites.		netoctod				Damcaulity	
<ul> <li>In addition, if any plant of mesquite (Prosopis glandulosa</li> </ul>		species				Proof of training	
subsp. torreyana) are found post-construction, they should		species.				Froor of training	
be removed.		Toolbox talks					
<ul> <li>Plant species at coordinates as per table below (taken</li> </ul>		TOODOX MINS					
from Botanical Assessment as part of BAR) must be		Active and					
demarcated and protected where possible. Where not		nassive					
teasible, permits need to be obtained to relocate these		mitigation					
species.		measures					
		adhered to.					

#### Table 0-1: Table of plant species observed on site including their coordinates and restrictions.

Species	Coordinates	Restrictions
Boscia foetida subsp. Foetida	S 28°22'11.43" E 21°34'25.90"	Do not disturb. Barricade for protection.
Boscia albitrunca trees (shepherds' tree, witgatboom)		
Boscia foetida subsp. foetida is located $\pm$ 20 m from the pylon.	S 28°22'11.89" E 21°34'11.36"	Do not disturb. Barricade for protection.
Boscia albitrunca tree is $\pm$ 10 m from the pylon on the west side.	S 28°22'12.28" E 21°33'47.87"	Do not disturb. Barricade for protection.
Vachellia erioloba (camel thorn - a young tree).	S 28°22'12.43" E 21°33'34.46"	Do not disturb. Barricade for protection.
A Boscia albitrunca tree is located ± 30 m from the pylon.	S 28°22'12.70" E 21°33'20.87"	Do not disturb. Barricade for protection.
A Boscia albitrunca tree was recorded, not close to the pylon but it should be avoided.	S 28° 22' 12.19 " E 21° 32' 58.54	Do not disturb. Barricade for protection.
A V. erioloba tree	S 28° 22' 12.7 " E 21° 32' 56.2"	Do not disturb. Barricade for protection.
B. albitrunca shrubby bush was recorded within the 25 m radius of the pylon.	S 28° 22' 13.14 " E 21° 32' 57.11"	Do not disturb. Barricade for protection.
B. foetida subsp. foetida was found almost smothered by Phaeoptilum spinosum. This bush-clump should be avoided.	S 28° 22' 13.01 " E 21° 32' 56.61"	Do not disturb. Barricade for protection.
B. foetida subsp. foetida shrub is located near the pylon.	S 28° 22' 13.1 " E 21° 32' 42.63"	This plant should be avoided if possible.
B. foetida subsp. foetida is found within the 25 m radius of the pylon.	S 28° 22' 13.79 " E 21° 32' 27.82"	Do not disturb. Barricade for protection.
Two trees of Boscia albitrunca were recorded not far from the pylon.	S 28° 22' 13.61 " E 21° 32' 13.96"	Do not disturb. Barricade for protection.
Two Boscia foetida subsp. foetida shrubs and a small Vachellia erioloba tree are nearby but not withing the working zone.	S 28°22'14.01" E 21°32'00.37"	Do not disturb. Barricade for protection.
Hoodia officinalis subsp. officinalis was found. This species is listed as Near Threatened in the Red List of South African Plants.	S 28° 22' 15.37" E 21° 30' 47.71"	This plant is located within the 25 m radius working zone and should be carefully transplanted to a safe location if it is to be disturbed.

A plant of Vachellia erioloba (camel thorn) is next to the pylon.	S 28°22'18.99" E 21°27'06.76"	This tree should not be disturbed or if so, a permit would be required.
A Vachellia erioloba sapling is growing at the base of the pylon.	S 28°22'27.68" E 21°23'38.97"	A permit would be needed to disturb this plant
Vachellia erioloba – Two trees close to the pylon on SE side.	S 28°22'32.17" E 21°22'58.31"	Should be avoided or a permit would be required for disturbance or removal.
A young tree of Vachellia erioloba is growing at the base of the pylon.	S 28°22'16.12" E 21°29'51.40"	A permit would be required to remove this plant.
Two young Vachellia erioloba trees are within the 25 m working zone.	S 28°22'16.52" E 21°29'39.07"	A permit would be required to remove this plant.
Vachellia erioloba is close to the pylon so should be avoided is possible.	S 28°22'16.75" E 21°29'12.60"	A permit would be required to remove this plant.
V. erioloba – young tree at the base of the pylon	S 28°22'17.04" E 21°28'58.11"	A permit would be required to remove this plant.
young V. erioloba tree close to the pylon	S 28°22'18.70" E 21°27'19.16"	A permit would be required to remove this plant.
A Vachellia erioloba tree is within the 25 m working zone.	S 28°23'13.81" E 21°18'31.67"	A permit would be required to remove this plant.
A well-developed V. erioloba tree with White-browed Sparrow-weaver nests is near the pylon	S 28°24'30.43" E 21°18'27.30"	A permit would be required to remove this plant.
An old Boscia albitrunca tree is outside the 25 m working zone and must be avoided.	S 28°25'21.45" E 21°18'24.70"	Do not disturb
		Barricade for protection
Aloe claviflora – a single clump that must be conserved since this is a protected	S 28°25'53.38" E 21°17'38.43"	Do not disturb
		Barricade for protection
Euphorbia braunsii (protected)	S 28°25 <sup>°</sup> 53.62" E 21°17'43.32"	This protected plant should be moved and transplanted to a suitable site if avoidance is not possible.

#### 8.3 Heritage

Impact management outcome: Minimise disturbance to heritage resources and recommended by SAHRA.						
Impact Management Actions	Implementat	tion		Monitoring		
	Responsible	Method of	Timeframe for	Responsible	Frequency	Evidence of
	person	implementation	implementation	person		compliance
<ul> <li>38(4)a – The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objections to the proposed development;</li> <li>38(4)b – The recommendations of the specialists are supported and must be adhered to. No further additional specific conditions are provided for the development;</li> <li>38(4)c(i) – 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 (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;</li> <li>38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;</li> </ul>	Contractor & cEO If remains are discovered a qualified archaeologist must be appointed to undertake the work	Contact SAHRA should any remains or unmarked graves be unearthed. Induction presentation and training on identification of protected species. Toolbox talks	Pre-construction and construction	dEO, cEO ECO	Continuous monitoring during excavation activities.	Visual inspections report Appointment of archaeologist if needed Proof of training

- 38(4)e	- The following conditions apply with			
regard	s to the appointment of specialists:			
- With re	ference to the mitigation work noted above.			
a qual	fied archaeologist must be appointed to			
undert	ake the work in terms of the permit applied			
for as	noted above:			
If he with				
- If nerit	age resources are uncovered during the			
course	of the development, a professional			
archae	ologist or palaeontologist, depending on the			
nature	of the finds, must be contracted as soon as			
possib	le to inspect the heritage resource. If the			
powly	discovered beritage resources prove to be of			
newiy	discovered heritage resources prove to be or			
archae	ological or palaeontological significance, a			
Phase	2 rescue operation may be required subject			
to perr	nits issued by SAHRA;			

#### **APPENDIX 1: METHOD STATEMENTS**

To be prepared by the contractor prior to commencement of the activity. The method statements are **not required** to be submitted to the CA.

An example of a method statement template is provided below.

#### **METHOD STATEMENT**

CONTRACT:

DATE:

PROPOSED ACTIVITY (give title of method statement and reference number from specification)

WHAT WORK IS TO BE UNDERTAKEN (give a brief description of the works):

**WHERE ARE THE WORKS TO BE UNDERTAKEN** (where possible, provided an annotated plan and a full description of the extent of the works):

# START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:

START DATE:	END DATE:
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**HOW ARE THE WORKS TO BE UNDERTAKEN** (provide as much detail as possible, including annotated sketches and plans where possible)

#### APPENDIX 2: CV OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

### Wynand Loftus

#### **Senior Consultant**

Wynand is an environmental scientist with more than seven years' experience in environmental science, including environmental management, environmental impact assessments (EIAs), and environmental regulatory compliance. He has been involved in a range of projects across South Africa, including EIAs for municipal civil infrastructure and housing, renewable energy developments and environmental auditing and compliance monitoring.

He is experienced in managing full EIA processes, including, amongst others, compiling cost proposals for environmental advisory services; client interaction; budget management; conducting public participation processes (PPPs); compiling project reports such as EIA reports and environmental management programmes (EMPrs); and compiling of environmental maps in ArcView GIS.

Wynand is an experienced environmental control officer (ECO) on various infrastructure and borrow pit projects, with expertise in, amongst others, auditing and monitoring environmental compliance on site, compiling environmental audit reports, and conducting environmental induction training with contractors.

He obtained a Master of Technology in Nature Conservation in 2013 and a Bachelor of Technology in 2011, both from the Nelson Mandela Metropolitan University (NMMU) in South Africa. He is registered as a professional scientist with the South African Council for Natural Scientific Professions (SACNASP) and is a member of the International Association for Impact Assessment South Africa (IAIAsa).

### Experience

The Improvements and Management of Gravel Roads for 2020/21, 2021/22 and 2022/23, Western Cape Province, South Africa, Provincial Government of the Western Cape (PGWC): Department of Transport and Public Works (DTPW), Senior Consultant/Environmental Control Officer (ECO

Zutari was appointed to assist the Western Cape DTPW with the improvement and management of gravel roads on the provincial road network. Main role on the appointment is ECO work on gravel roads – environmental induction and training, monitoring compliance with the EMPr, providing environmental advisory services and ensuring that rehabilitation is done, and that mining takes places to ensure good rehabilitation can be achieved. Also assist the DTPW with obtaining landowner approvals for temporary expropriation of land for gravel mining.

#### Qualifications

MTech Nature Conservation BTech Nature Conservation NDip Nature Conservation Aquaculture Certificate

**Professional registrations** 

Professional Scientist, South African Council for Natural Scientific Professions (SACNSP)

Member, International Association for Impact Assessment South Africa (IAIAsa)

#### Specialisation

Impact Assessments, Environmental Management Programmes (EMPr), Environmental Control Officer (ECO) and Legislation

### 7

years in industry

# Namdeb wind monitoring campaign, Namibia, Namdeb, 03/2020 - 12/2021, Senior Consultant to Project Manager

Zutari was appointed to investigate conduct a technical pre-feasibility study of a wind farm to provide electricity for Namdeb's diamond mines along the southern Namibian coastline. Responsible for compilation of environmental screening report and submission to the Namibian Ministry of Environment, Forestry and Tourism.

# Nuweveld wind farms, Western Cape Province, South Africa, Red Cap Energy (Pty) Ltd (Red Cap), 03/2019 - 12/2021, Senior Consultant to Project Manager

Appointed to facilitate three environmental impact assessments (EIAs) for the proposed Nuweveld wind farms, and to undertake one basic assessment (BA) process for an approximately 120 km gridline connection. Involved with all delivery related tasks, including compiling reports, full responsibility for the Environmental management Programme (EMPr), conducting site inspections, conducting public participation processes and managing spatial data.

# Materials supply for gravel roads, Western Cape Province, South Africa, Provincial Government of the Western Cape (PGWC): Department of Transport and Public Works (DTPW), 02/2015 - 02/2021, Senior Consultant/Environmental Control Officer (ECO)

Appointed to assist with the material supply and planning, design and control aspects for the maintenance of gravel roads in the Central Karoo and Eden District Municipalities. Services include engineering geology, environmental studies, materials source identification and project management. The contract primarily entails locating and proving suitable material sources for the re-gravelling of 300 km and maintenance activities of 45 000 km of all gravel roads in the two identified district municipalities. Obtaining approval for the use of material sources was a challenge due to the associated environmental and legal aspects, where legal approval was required from the Department of Mineral Resources (DMR) and from the Department of Environmental Affairs and Development Planning (DEADP). Responsible for carrying out basic assessment (BA) processes to apply for environmental authorisation and mining permits from the DMR. The BA included all relevant authority correspondence and public participation processes (PPPs). Also responsible for carrying out environmental control officer (ECO) duties at various borrow pits throughout the Garden Route and Central Karoo District Municipalities, including site inspections, compiling monthly ECO reports, monitoring mining activities, and corresponding with the two district municipalities.

# Environmental advisory services to the Mossel Bay Local Municipality, Western Cape Province, South Africa, Mossel Bay Local Municipality, 01/2019 - 06/2021, Senior Consultant

Appointed on a municipal panel to provide environmental advisory services, including environmental impact assessments (EIAs), basic assessments (BAs) and environmental management programmes (EMPrs). Responsible for compiling and submitting an environmental applicability checklist to the local environmental, competent authority. Also responsible for facilitating the BA and EIA processes.

# Environmental advisory services to George Local Municipality, Western Cape Province, South Africa, George Local Municipality, 02/2019 - 02/2021, Senior Consultant

Appointed to carry out the basic assessment (BA) environmental process for remedial works along Rooidraai Road in Herolds Bay. Responsible for compiling basic assessment reports (BARs), the public participation process (PPP), and the application form. Duties include corresponding with and managing environmental specialists and liaising with environmental competent authority.

# Mossel Bay Upgrading of Informal Settlements Programme (UISP), Western Cape Province, South Africa, Mossel Bay Local Municipality, 01/2017 - 12/2019, Senior Consultant

Appointed to provide project management services for informal settlement upgrading in the Mossel Bay Local Municipality via the UISP, as a follow on to the National Upgrading Support Programme (NUSP). Aurecon's scope of works included the project planning, procurement of requisite planning and environmental permissions and

implementation oversite for 22 informal settlements. Responsible for coordinating environmental processes and project management, including four (4) Section 24G processes and one (1) amendment application, facilitating specialist inputs and assessments, and corresponding and interacting with relevant organs of state and authorities.

#### Basic assessment (BA) for the Koeris Wind Energy Facility (WEF) temporary fuel storage facility, Northern Cape Province, South Africa, Mainstream Renewable Power, 10/2018 - 10/2019, Senior Consultant

Appointed to facilitate the requisite basic assessment (BA) environmental process for the construction of a temporary fuel storage facility for the construction period of the Koeries Wind Energy Facility (WEF) in Springbok. Responsible for carrying out the full BA process, including compiling a basic assessment report (BAR) and environmental management programme (EMPr), conducting a full public participation process (PPP) and carrying out all project management related duties.

# Environmental planning and compliance for the Working for Wetlands Programme 2017-2019, National, South Africa, Department of Environmental Affairs (DEA), 11/2016 - 06/2019, Senior Consultant

Zutari, in association with GroundTruth, was appointed to undertake the planning and approval processes for the Working for Wetlands Programme for the period 2017-2019. The programme has been mandated to rehabilitate damaged wetlands and to protect pristine wetlands. The methodology followed constitutes three phases. The coarse-scale planning (Phase 1) entails the identification of degraded wetlands for rehabilitation purposes; the detailed planning (Phase 2) is for the identification and design of rehabilitation interventions and obtaining environmental authorisations in terms of the National Environmental Management Act no 107 of 1998 (NEMA) and Phase 3, the provision of implementation support, includes setting out and signing off constructed interventions and monitoring and evaluating wetland rehabilitation projects. Responsible for the compilation of basic assessment reports (BARs), the public participation process (PPP) and application form as well as conducting site inspections.

# Ladismith West flood damage repair, Western Cape Province, South Africa, Hatch Goba, 01/2016 - 03/2017, Environmental Control Officer (ECO)

The project entailed providing environmental control officer (ECO) services for the construction and repair of stream crossings along a provincial road. Work was carried out within watercourses and sound environmental management was particularly important. Responsible for conducting site inspections and compiling the ECO reports to ensure compliance with the environmental maintenance management plan (MMP). Also responsible for conducting environmental induction training with the contractor and his staff, informing them of the environmental sensitivity of the site, identifying no-go areas, and educating staff on the importance of practising sound environmental management.

# Saffraan Rivier maintenance management plan (MMP), Western Cape Province, South Africa, Private client, 2015 - 03/2017, Consultant/Environmental Control Officer (ECO)

The appointment involved providing environmental advisory services to a private landowner in Oudtshoorn, including correspondence with the competent authority and the compilation of a road management plan and an environmental maintenance management plan (MMP) for the property. Responsible for compiling a road rehabilitation plan and MMP for the farm and acting as environmental control officer (ECO) on the river rehabilitation and alien clearing activities.

#### Midbrak sewer upgrades and pump station (Great Brak River), Western Cape Province, South Africa, V3 Consulting Engineers, 2016 - 03/2017, Environmental Control Officer (ECO)

The project involved providing environmental control officer (ECO) services for the construction of a main sewer line and pump station. Responsible for conducting site inspections and compiling ECO reports, the post-construction audit report, and post-rehabilitation audit reports. The rehabilitation comprised the re-planting a variety of coastal forest species along the pipeline alignment and watering the plants every fortnight. Also

responsible for conducting environmental induction training with the contractor and his staff, informing them of the environmental sensitivity of the site, identifying no-go areas and educating staff on the importance of practising sound environmental management.

# Environmental audit for the Garden Route Casino, Western Cape Province, South Africa, Garden Route Casino, 07/2018 - 06/2019, Senior Consultant

The project involved providing environmental advisory services and the complete requisite environmental audit for the Garden Route Casino and determining the best way forward for the casino to comply with its responsibilities. Responsible for correspondence with the local environmental competent authority regarding the regulatory environmental audit requirements applicable to the Garden Route Casino. Also responsible for carrying out the environmental audit, compiling an audit report and submitting the report to the competent authority.

# Beaufort West 22 kV power lines, Western Cape Province, South Africa, Eskom, 2015 - 2016, Environmental Control Officer (ECO)

The project involved providing environmental control officer (ECO) services for the construction of six 22 kV powerlines through undeveloped land in Beaufort West. Responsible for ECO services.

#### Environmental impact assessment (EIA) for the extension of ashing facilities at Kriel Power Station, Mpumalanga Province, South Africa, Eskom, 08/2016 - 11/2017, Senior Consultant

Appointed to undertake an environmental impact assessment (EIA) for the extension of an ash dam facility at the Kriel Power Station. The EIA was postponed after the scoping phase was completed in 2011 due to further geotechnical investigation being required for the preferred site. In 2016, Aurecon's appointment was amended to allow for a new EIA process to be undertaken in terms of the latest environmental legislation. Responsible for comparing 2014 National Environmental Management Act (NEMA) EIA regulations with the amended 2017 NEMA EIA Regulations and listing similarly listed activities.

#### Environmental impact assessment (EIA) for the Hotazel Solar Park, Northern Cape Province, South Africa, juwi Renewable Energies (Pty) Ltd, 05/2016 - 10/2017, Senior Consultant

The project comprised entailed an environmental impact assessment (EIA) for the development of a 200 MW solar photovoltaic (PV) facility, including a utility scale battery storage facility, as well as transmission line. Aurecon's services included environmental management and advisory, transport assessments, hydrological assessments and stormwater planning. Responsible for assisting the project leader with public participation process (PPP).

# Herold Meander mixed-use development, Western Cape Province, South Africa, Sonqua Consulting, 01/2016 - 03/2017, Consultant

The project involved a mixed-used development (i.e. agricultural village) comprising various agricultural components, including amongst others hops farming, small scale product processing, flower farming, honey farming, an aquaculture facility, and grazing for livestock). The housing component and infrastructure included package plant wastewater treatment works (WWTWs), a reservoir and pipelines. The development also has various tourism activities and a community hall. Responsible for carrying out the scoping and environmental impact assessment (EIA) processes, which included compiling environmental reports, and public participation and project management duties such as specialist management and consultation with authorities.

# Basic assessment (BA) process for the Bitou Public Safety Centre, Western Cape Province, South Africa, SMEC, 2015 - 2016, Consultant

The project involved a full basic assessment (BA) process for the Bitou Public Safety Centre in Plettenberg Bay. Responsible for compiling reports, including the basic assessment report (BAR) and environmental management plan (EMP); conducting a full public participation process (PPP); and all project management related duties.

# Brandwacht Mediclinic amendment application, Western Cape Province, South Africa, Atterbury Property Developments, 2015 - 2016, Consultant

The project involved a Part 2 amendment application process, which included compiling an impact statement report and public participation, for the Brandwacht Mediclinic in Stellenbosch. The original decision was appealed and therefore an amendment application was submitted via the Western Cape Minister of Environmental Affairs' Office. Responsible for coordinating the amendment application process.

#### Uitvlug Section 24G application, Western Cape Province, South Africa, Private client, 2014 - 2016, Consultant

The project involved carrying out a full environmental Section 24G process for the illegal construction of a road and vegetation clearance in Oudtshoorn. Responsible for carrying the Section 24G rectification process.

#### Henque waste management licence (WML), Western Cape Province, South Africa, Henque Waste, 2015, Consultant

Responsible for carrying out a full waste management licence (WML) application for a waste management and sorting facility.

# Sonskynvallei Phase 3 municipal housing project, Western Cape Province, South Africa, Mossel Bay Local Municipality, 2014 - 2015, Consultant

The project entailed providing environmental advisory services and carrying out a full basic assessment (BA) environmental process for the municipal housing development in Sonskynsvallei. Infrastructure upgrades associated with the project included increasing the capacity of an existing water reservoir, and constructing a new bulk water pipeline and sewer rising main. Specialist assessments included archaeological, botanical, heritage, traffic and visual assessments. Responsible for carrying out a full BA process, including the compilation of environmental reports such as a basic assessment report (BAR) and environmental management programme (EMPr); conducting a full public participation process (PPP) and all project management related duties, including specialist management and consultation with authorities.

# Golden Valley Municipal Housing Project, Western Cape Province, South Africa, George Local Municipality, 2014, Consultant

The project entailed providing environmental advisory services and carrying out a full basic assessment (BA) environmental process for the municipal housing development in Golden Valley, Blanco, George. The project proposal included the establishment of serviced erven, streets and top structures. Responsible for carrying out a full BA process, including the compilation of environmental reports such as a basic assessment report (BAR) and environmental management programme (EMPr); conducting a full public participation process (PPP) and all project management related duties, including specialist management and consultation with authorities.

# Conville Municipal Housing Project, Western Cape Province, South Africa, George Local Municipality, 2014, Consultant

The project entailed providing environmental advisory services and carrying out a full basic assessment (BA) environmental process for the municipal housing development comprising of Community Residential Units (CRU, 2 storey walk-ups) in Conville, George. Responsible for carrying out a full BA process, including the compilation of environmental reports such as a basic assessment report (BAR) and environmental management programme (EMPr); conducting a full public participation process (PPP) and all project management related duties, including specialist management and consultation with authorities.

# Thembalethu N2 Municipal Housing Project, Western Cape Province, South Africa, George Local Municipality, 2014, Consultant

The project entailed providing environmental advisory services and carrying out a full basic assessment (BA) environmental process for the municipal housing development in Golden Valley, Blanco, George. The project proposal included the establishment of serviced erven, streets and top structures. Responsible for carrying out a full BA process, including the compilation of environmental reports such as a basic assessment report (BAR) and environmental management programme (EMPr); conducting a full public participation process (PPP).

# Metrogrounds Municipal Housing Project, Western Cape Province, South Africa, George Local Municipality, 2014, Consultant

The project entailed providing environmental advisory services and carrying out a full basic assessment (BA) environmental process for the municipal housing development in Golden Valley, Blanco, George. The project proposal included the establishment of serviced erven, streets and top structures. Responsible for carrying out a full BA process, including the compilation of environmental reports such as a basic assessment report (BAR) and environmental management programme (EMPr); conducting a full public participation process (PPP) and all project management related duties, including specialist management and consultation with authorities.

### Erf 325 East Municipal Housing Project Amendment Application, Western Cape Province, South Africa, George Local Municipality, 2014 - 2017, Consultant

Compilation of Impact Statement Report in support of an application to amend the existing Environmental Authorisation and assist the project manager with public participation related tasks e.g. placing adverts and compiling and distributing notifications.

#### Pre-Feasibility Environmental Constraints Analysis for George Municipality Housing Infill, Western Cape Province, South Africa, George Local Municipality, 2014 - 2017, Consultant

Investigated various proposed infill housing sites throughout George. Compilation of a pre-feasibility constraints report which included presenting the sites spatially with all the relevant (and available) desktop based environmental GIS information and determining whether further environmental investigations in terms of NEMA would be required. A recommendation relating to the required environmental approvals were also made.

### **APPENDIX 3: CHANCE FOSSIL FINDS PROCEDURE**

#### Monitoring Programme for Palaeontology – to commence once the excavations begin.

- 1. The following procedure is only required if fossils are seen on the surface and when excavations commence.
- 2. When excavations begin the rocks and must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (plants, insects, bone, coal) should be put aside in a suitably protected place. This way the project activities will not be interrupted.
- 3. Photographs of similar fossil plants must be provided to the developer to assist in recognizing the fossil plants in the shales and mudstones (for example see Figures 4, 5). This information will be built into the EMP's training and awareness plan and procedures.
- 4. Photographs of the putative fossils can be sent to the palaeontologist for a preliminary assessment.
- 5. If there is any possible fossil material found by the developer/environmental officer/miners then the qualified palaeontologist sub-contracted for this project, should visit the site to inspect the selected material and check the dumps where feasible.
- 6. Fossil plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site a SAHRA permit must be obtained. Annual reports must be submitted to SAHRA as required by the relevant permits.
- 7. If no good fossil material is recovered then no site inspections by the palaeontologist will be necessary. A final report by the palaeontologist must be sent to SAHRA once the project has been completed and only if there are fossils.
- 8. If no fossils are found and the excavations have finished then no further monitoring is required.