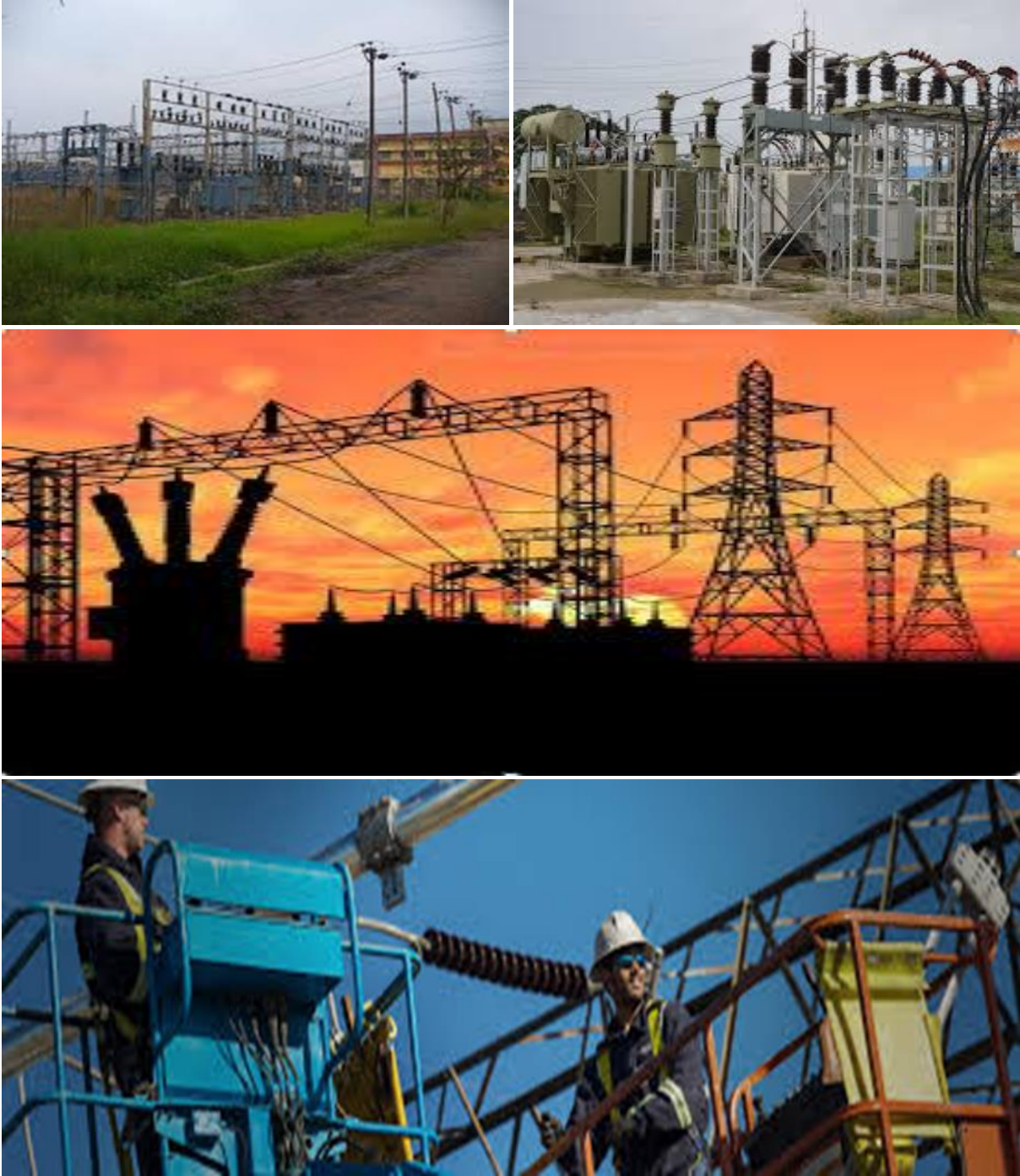


GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE DEVELOPMENT AND EXPANSION OF SUBSTATION INFRASTRUCTURE FOR THE TRANSMISSION AND DISTRIBUTION OF ELECTRICITY



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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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 substation infrastructure for the transmission and distribution of electricity, 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 substation infrastructure for the transmission and distribution of electricity. 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 substation infrastructure for the transmission and distribution of electricity requiring EA in terms of NEMA. 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 realization 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 not legally binding	Definitions, acronyms, roles & responsibilities and documentation and reporting.
B	1	Pre-approved generic EMPr template	<p>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 substation infrastructure for the transmission and distribution of electricity, which are presented in the form of a template that has been pre-approved.</p> <p>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.</p> <p>Where an impact management outcome is not relevant, the words "not applicable" can be inserted in the template under the "responsible persons" column.</p> <p>Once completed and signed, the template represents the EMPr for the activity approved by the CA and is legally binding. The template is not required to be submitted to the CA as once the generic EMPr is gazetted for implementation, it has been approved by the CA.</p> <p>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 hard copy of this EMPr available at a public location and where the applicant has a website, the EMPr should also be made available on such publicly accessible website.</p>
	2	Site specific information	Contains preliminary infrastructure layout and a declaration that the applicant/holder of the EA

Part	Section	Heading	Content
			<p>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 legally binding. 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 impact management actions have been either pre-approved or approved in terms of <u>Part C</u>.</p> <p>This section must be 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.</p>
C		Site specific sensitivities/ attributes	<p>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 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: section 1</u>)</p> <p>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 is required 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</p>

Part	Section	Heading	Content
			<p>approved, Part C forms part of the EMPr for the site and is legally binding.</p> <p>This section applies only to additional 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>.</p>
		Appendix 1	<p>Contains the method statements to be prepared prior to commencement of the activity. The method statements are not required to be submitted to the competent authority.</p>

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

The template is to be completed prior to the 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 the 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 be signed and dated on each page by the holder of the EA. Once signed and dated, this template 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

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

Sub-section 1 contains the project name, the applicant's name and contact details, and the site information, which includes the coordinates of the property or farm on which the proposed substation infrastructure is proposed, the 21-digit Surveyor General code of each cadastral land parcel, and, where available, the farm name.

Sub-section 2 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 site sensitivity map overlaid with the preliminary infrastructure layout using the national web-based environmental screening tool, when available for compulsory use at: <https://screening.environment.gov.za/screeningtool>. The sensitivity map shall identify the nature of each sensitive feature, e.g., threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features within 50 m of the development footprint.

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

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

Should the EA be transferred, Part B: Section 2 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 incomplete should a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2 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, labor, 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 as a minimum applicable details with regard to:

- (i) Construction procedures;
- (ii) Plant, materials, and equipment to be used;
- (iii) Transporting the equipment to and from the 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 that is unsuitable for use as material in the construction works or is material that 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;

“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)
NEMWA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
MSDS	Material Safety Data Sheet
RI&AP's	Registered Interested and affected parties

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 a 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.

Table 1: Guide to roles and responsibilities for the implementation of an EMPr

Responsible Person(s)	Role and Responsibilities
Developer's Project Manager (DPM)	<p><u>Role</u></p> <p>The Project Developer is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent 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.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> - Be fully conversant with the conditions of the EA; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s); - Issuing of site instructions to the Contractor for corrective actions required; - 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 - Ensure that periodic environmental performance audits are undertaken on the project implementation.

Responsible Person(s)	Role and Responsibilities
Developer Site Supervisor (DSS)	<p><u>Role</u> 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.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> - Ensure that all contractors identify a contractor's Environmental Officer (cEO); - Must be fully conversant with the conditions of the EA. Oversees site works, liaison with Contractor, DPM and ECO; - Must ensure that all landowners have the relevant contact details of the site staff, ECO and cEO; - Issuing of site instructions to the Contractor for corrective actions required; - Will issue all non-compliances to contractors; and - Ratify the Monthly Environmental Report.
Environmental Control Officer (ECO)	<p><u>Role</u> 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.</p> <p>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 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</p>

Responsible Person(s)	Role and Responsibilities
	<p>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.</p> <p><u>Responsibilities</u></p> <p>The responsibilities of the ECO will include the following:</p> <ul style="list-style-type: none"> - Be aware of the findings and conclusions of all EA related to the development; - Be familiar with the recommendations and mitigation measures of this EMPr; - Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them; - 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; - Educate the construction team about the management measures contained in the EMPr and environmental licenses; - Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective; - Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements; - 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; - Liaison between the DPM, Contractors, authorities and other lead stakeholders on all environmental concerns; - Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr; - Validating the regular site inspection reports, which are to be prepared by the contractor Environmental Officer (cEO); - Checking the cEO's record of environmental incidents (spills, impacts, legal transgressions etc.) as well as corrective and preventive actions taken; - Checking the cEO's public complaints register in which all complaints are recorded, as well as action taken;

Responsible Person(s)	Role and Responsibilities
	<ul style="list-style-type: none"> - Assisting in the resolution of conflicts; - Facilitate training for all personnel on the site – this may range from carrying out the training, to reviewing the training programmes of the Contractor; - 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; - Maintenance, update and review of the EMPr; - Communication of all modifications to the EMPr to the relevant stakeholders.
<p>developer Environmental Officer (dEO)</p>	<p><u>Role</u></p> <p>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.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> - Be fully conversant with the EMPr; - Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s) ; - Confine the development site to the demarcated area; - Conduct environmental internal audits with regards to EMPr and authorisation compliance (on cEO); - Assist the contractors in addressing environmental challenges on site; - Assist in incident management: - Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared; - Assist the contractor in investigating environmental incidents and compile investigation reports; - Follow-up on pre-warnings, defects, non-conformance reports;

Responsible Person(s)	Role and Responsibilities
	<ul style="list-style-type: none"> - Measure and communicate environmental performance to the Contractor; - Conduct environmental awareness training on site together with ECO and cEO; - Ensure that the necessary legal permits and / or licenses are in place and up to date; - Acting as Developer's Environmental Representative on site and working together with the ECO and contractor;
Contractor	<p><u>Role</u></p> <p>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 of substation infrastructure for the transmission and distribution of electricity activities.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> - project delivery and quality control for the development services as per appointment; - 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; - 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; - attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones; - ensure that contractors' staff repair, at their own cost, any environmental damage caused by a contravention of the specifications contained in EMPr to the satisfaction of the ECO.

Responsible Person(s)	Role and Responsibilities
contractor Environmental Officer (cEO)	<p><u>Role</u></p> <p>Each Contractor affected by the EMPr should appoint a cEO 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, 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, laborers, the Environmental Control Officer, and the public. As a minimum, the cEO shall meet the following criteria:</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> - Be on-site throughout the duration of the project and be dedicated to the project; - Ensure all their staff are aware of the environmental requirements, conditions, and constraints with respect to all of their activities on site; - Implementing the environmental conditions, guidelines, and requirements as stipulated within the EA, EMPr, and Method Statements; - Attend the Environmental Site Meeting; - Undertaking corrective actions where non-compliances are registered within the stipulated timeframes; - Report back formally on the completion of corrective actions; - Assist the ECO in maintaining all the site documentation; - Prepare the site inspection reports and corrective action reports for submission to the ECO; - Assist the ECO with preparing the monthly report and - Where more than one Contractor is undertaking work on site, each company appointed as a Contractor will appoint a cEO representing that company.

4. ENVIRONMENTAL DOCUMENTATION REPORTING AND COMPLIANCE

As a minimum requirement, all substation infrastructure projects must have a number of reporting systems, documentation controls, and compliance mechanisms in place to ensure accountable and demonstrated implementation of the EMPr.

4.1 Document control/Filing system

The holder of the EA is solely responsible for the upkeep and management of the EMPr file. As 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 must be 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 upon prior to the 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 by 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 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 detailed enough for the ECOs 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 the site;
- how the equipment/ material will be moved while on site;
- how and where the 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 Substances;
- 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-upon method statements between the EA holder 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 notices 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 is 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 activities, 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 required corrective actions occur 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 been signed off by the ECOs.

4.9 Photographic record

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

The Contractor shall:

1. Allow the ECOs to photograph 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 ECO 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 is 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. The EMPr file will record a formal record of the ECOs' response to the claimant and the rectification of the method of making payments, not the amount.

4.12 Interactions with affected parties

Open, transparent, and good relations with affected landowners, communities, and regional staff are essential 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 is kept in the EMPr file;
3. Ensure that 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 are included in the EMPr file and submitted to the CA at intervals as indicated in the EA.

The ECOs must prepare a monthly EAR. 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. The ECOs shall submit the monthly reports to the CA at a frequency determined by the EA. 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 the final completion of the rehabilitation and/or EA requirements, 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 substation infrastructure for the transmission and distribution of electricity. There is a list of aspects identified for the development or expansion of substation infrastructure for the transmission and distribution of electricity, and for each aspect a set of prescribed impact management outcomes and associated impact management actions have been identified. Holders of EAs are responsible for ensuring 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 substation infrastructure for the transmission and distribution of electricity.

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 the 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 contractor 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

Impact management outcome: All onsite staff are aware and understands the individual responsibilities in terms of this EMPr.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequ ency	Evidence of compliance
<ul style="list-style-type: none"> - All staff must receive environmental awareness training prior to the commencement of the activities; - The Contractor must allow for sufficient sessions to train all personnel, with no more than 20 personnel attending each course; - Refresher environmental awareness training is available as and when required; - 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; - 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 style="list-style-type: none"> a) Safety notifications; and b) No littering. - Environmental awareness training must include, as a minimum, the following: <ul style="list-style-type: none"> a) Description of significant environmental impacts, actual or potential, related to their work activities; 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Inductions. -Toolbox talks. 	<ul style="list-style-type: none"> -Weekly and monthly audits -Throughout construction phase. 	<ul style="list-style-type: none"> -Eskom EO. -ECO. 	<ul style="list-style-type: none"> -Daily. 	<ul style="list-style-type: none"> -Signed attendance register. -Employee interviews. -Contents of induction presentation.

<ul style="list-style-type: none"> b) Mitigation measures to be implemented when carrying out specific activities; c) Emergency preparedness and response procedures; d) Emergency procedures; e) Procedures to be followed when working near or within sensitive areas; f) Wastewater management procedures; g) Water usage and conservation; h) Solid waste management procedures; i) Sanitation procedures; j) Fire prevention; and k) Disease prevention. <ul style="list-style-type: none"> – A record of all environmental awareness/training courses undertaken as part of the EMPr must be available; – Educate workers on the dangers of open and/or unattended fires; – A staff attendance register must be available for all staff to have received environmental awareness training. – Course material must be available and presented in appropriate languages that all staff can understand. 					
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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	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - A method statement must be provided by the contractor prior to any onsite activity that includes the layout of the construction camp in the form of a plan showing the location of key infrastructure and services (where applicable), including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous materials 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; - The location of camps must be within the approved area to ensure that the site does not impact sensitive areas identified in the environmental assessment or site walk-through; - Sites must be located where possible in 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. 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Method statement with the construction camp/laydown area layout plan. 	<ul style="list-style-type: none"> -Before site Establishment. 	<ul style="list-style-type: none"> -Eskom EO. -ECO. 	<ul style="list-style-type: none"> -Once-off. 	<ul style="list-style-type: none"> -Approved construction camp and laydown area layout plan.

5.3 Access restricted areas

Impact management outcome: Access to restricted areas prevented.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Identification of access restricted areas is to be informed by the environmental assessment, site walkthrough and any additional areas identified during development; - Erect, demarcate, and maintain a temporary barrier with clear signage around the perimeter of any access-restricted area, colour coding could be used if appropriate; and - Unauthorised access and development-related activity inside access-restricted areas is prohibited. 	-Contractor. -DSS.	-Weather-proof barrier signs at boundaries of no-go areas.	-Before site establishment.	-Eskom EO. -ECO.	-Weekly.	-Barriers and signage are maintained in good condition.

5.4 Access roads

Impact management outcome: Minimise impact on the environment through the planned and restricted movement of vehicles on site.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance

<ul style="list-style-type: none"> - An access agreement must be formalised and signed by the DPM, Contractor, and landowner before commencing with the activities; - 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 - All contractors must be made aware of all these access routes. - Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense; - Maximum use of both existing servitudes and existing roads must be made to minimize further disturbance through the development of new roads; - In circumstances where private roads must be used, the condition of the said roads must be recorded in accordance with section 4.9: photographic record; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor; - 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 pre-planned and approved roads. 	<p>-Contractor. -DPM.</p>	<p>- Written access agreement.</p>	<p>- Before site establishment.</p>	<p>- Eskom EO. - ECO.</p>	<p>- Weekly.</p>	<p>- Access roads used as agreed. -No complaints from 3rd parties regarding inappropriate access.</p>
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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	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Use existing gates provided to gain access to all parts of the area authorised for development, where possible; - Existing and new gates to be recorded and documented in accordance with section 4.9: photographic record; - All gates must be fitted with locks and be kept locked at all times during the development phase unless otherwise agreed with the landowner; - At points where the line crosses a fence in which there is no suitable gate within the extent of the line servitude, on the instruction of the DPM, a gate must be installed at the approval of the landowner; - Care must be taken that the gates must be so erected that there is a 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; 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Access measures implemented. 	<ul style="list-style-type: none"> -Throughout Construction. 	<ul style="list-style-type: none"> -ECO. -Eskom EO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -Evidence of access control (e.g., locks used as prescribed).

<ul style="list-style-type: none"> - 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 land owner's permission. - 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 holidays if staff is away from the site. Site security will be always required; - 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. 					
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5.6 Water Supply Management

Impact management outcome: Undertake responsible water usage.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - All abstraction points or boreholes must be registered with the DWS and suitable water meters installed to ensure that the abstracted volumes are measured on a daily basis; - The Contractor must ensure the following: 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Monitoring of water availability. 	<ul style="list-style-type: none"> -Ongoing. 	<ul style="list-style-type: none"> -ECO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -Monitoring records. -Water use audit reports.

<ul style="list-style-type: none"> a. The vehicle abstracting water from a river does not enter or cross it and does not operate from within the river; b. No damage occurs to the riverbed or banks and that the abstraction of water does not entail stream diversion activities; and c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented. <ul style="list-style-type: none"> - Ensure water conservation is being practiced by: <ul style="list-style-type: none"> 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. 						<ul style="list-style-type: none"> -Water conservation covered in toolbox talks.
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5.7 Storm and waste water management

Impact management outcome: Impacts to the environment caused by storm water and wastewater discharges during construction are avoided.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Runoff from the cement/ concrete batching areas must be strictly controlled, and contaminated water must be collected, stored, and either treated or disposed of off-site at a location approved by the project manager; - All spillage of oil onto concrete surfaces must be controlled by the use of an approved absorbent material and the used absorbent material disposed of at an appropriate waste disposal facility; 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Use of absorbent materials in concrete mixing areas. -Disposal of 	<ul style="list-style-type: none"> -Ongoing. 	<ul style="list-style-type: none"> -ECO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> - Contaminated water disposal records. -No

<ul style="list-style-type: none"> - Natural stormwater runoff is not contaminated during the development, and clean water can be discharged directly to watercourses and water bodies, subject to the Project Manager's approval and support by the ECO; - Water that has been contaminated with suspended solids, such as soils and silt, may be released into watercourses or water bodies only once all suspended solids have been removed from the water by settling out these solids in settlement ponds. The release of settled water into the environment must be subject to the Project Manager's approval and support by the ECO. 		contaminated water at a suitable facility.				<p>evidence of soil and water contamination.</p> <p>-No evidence of water contamination from sources on site.</p>
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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	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - All measures regarding waste management must be undertaken using an integrated waste management approach; - Sufficient, covered waste collection bins (scavenger and weatherproof) must be provided; - A suitably positioned and clearly demarcated waste collection site must be identified and provided; 	-Contractor. -Eskom EO.	-Segregated disposal bins. -All waste containers have lids. -A waste contractor	-Ongoing.	-Eskom EO. -ECO.	-Weekly.	-Contract with waste contractor. -Safe disposal certificates. -Employee

<ul style="list-style-type: none"> - The waste collection site must be maintained in a clean and orderly manner; - Waste must be segregated into separate bins and clearly marked for each waste type for recycling and safe disposal; - Staff must be trained in waste segregation; - Bins must be emptied regularly; - General waste produced onsite must be disposed of at registered waste disposal sites/ recycling companies; - Hazardous waste must be disposed of at a registered waste disposal site; - Certificates of safe disposal for general, hazardous, and recycled waste must be maintained. 		<p>must be appointed.</p> <p>-Daily to weekly site cleanups.</p>				<p>knowledge and practice of waste segregation</p> <p>-No overflowing bins on site.</p>
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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 person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - All watercourses must be protected from direct or indirect spills of pollutants such as solid waste, sewage, cement, oils, fuels, chemicals, aggregate tailings, wash, and contaminated water or organic material resulting from the Contractor's activities; - In the event of a spill, prompt action must be taken to clear the polluted or affected areas; 	<p>-Contractor. -Eskom EO.</p>	<p>-Spill control kits are available on-site, and operators must be trained to use them.</p>	<p>-Ongoing.</p>	<p>-Eskom EO. -ECO.</p>	<p>-Weekly.</p>	<p>-Spills controlled. -Training records for spill Prevention.</p>

<ul style="list-style-type: none"> - Where possible, no development equipment must traverse any seasonal or permanent wetland; - No return flow into the estuaries must be allowed, and no disturbance of the Estuarine functional Zone should occur; - Development of a permanent watercourse or estuary crossing must only be undertaken where no alternative access to the tower position is available; - There must not be any impact on the long-term morphological dynamics of watercourses or estuaries; - Existing crossing points must be favored over the creation of new crossings (including temporary access) - When working in or near any watercourse or estuary, the following environmental controls and consideration must be taken: <ul style="list-style-type: none"> a) Water levels during the period of construction; No altering of the bed, banks, course, or characteristics of a watercourse b) 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; c) 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 d) 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. 		<ul style="list-style-type: none"> -Spills cleaned promptly to prevent water contamination. -Designated and limited crossing points for watercourses. -watercourses to be off- limits during construction. 				<ul style="list-style-type: none"> -No evidence of water contamination from construction activities. - Watercourse crossing points maintained.
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5.10 Vegetation clearing

Impact management outcome: Vegetation clearing is restricted to the authorised development footprint of the proposed infrastructure.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<p>General:</p> <ul style="list-style-type: none"> - Indigenous vegetation that does not interfere with the development must be left undisturbed; - Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species; - Search, rescue, and replanting of all protected and endangered species likely to be damaged during project development must be identified by the relevant specialist and completed prior to any development or clearing; - Permits for removal must be obtained from the relevant CA prior to the cutting or clearing of the affected species, and they must be filed; - The Environmental Audit Report must confirm that all identified species have been rescued and replanted and that the location of replanting is compliant with conditions of approvals; - Trees felled due to construction must be documented and form part of the Environmental Audit Report; - Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris; 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Areas of natural vegetation to be clearly demarcated and protected. -Plant rescue plan submitted and implemented. 	<ul style="list-style-type: none"> -Prior to site establishment 	<ul style="list-style-type: none"> -Eskom EO. -ECO 	<ul style="list-style-type: none"> -Weekly 	<ul style="list-style-type: none"> -Permits for transplanting protected species. -Community access to wood was removed from the site. -No access to protected areas of the site.

<ul style="list-style-type: none"> - Only a registered pest control operator may apply herbicides on a commercial basis, and commercial application must be carried out under the supervision of a registered pest control operator, supervision of a registered pest control operator or is appropriately trained; - A daily register must be kept of all relevant details of herbicide usage; - No herbicides must be used in estuaries; - All protected species and sensitive vegetation not removed must be clearly marked and such areas fenced off in accordance with Section 5.3: Access restricted areas. Alien invasive vegetation must be removed and disposed of at a licensed waste management facility. 						
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5.11 Protection of Fauna

Impact management outcome: Disturbance to fauna is minimised.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present; - The breeding sites of raptors and other wild bird species must be taken into consideration during the planning of the development program; 	<ul style="list-style-type: none"> - Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Areas of natural vegetation that provide habitat for animals not to be disturbed demarcated. 	<ul style="list-style-type: none"> -Through Construction. 	<ul style="list-style-type: none"> -Eskom EO. -ECO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -No evidence of hunting or trapping animals on site.

<ul style="list-style-type: none"> - 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; - Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds; - 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; - No deliberate or intentional killing of fauna is allowed; - In areas where snakes are abundant, snake deterrents to be deployed on the pylons to prevent snakes from climbing up, being electrocuted, and causing power outages; and - No Threatened or Protected Species (ToPs) and/or protected fauna as listed according to NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or relocated without appropriate authorizations/permits. 		<p>-Implementation of training to prohibit hunting.</p>			<p>-Training records available, including hunting prohibition.</p>
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5.12 Protection of heritage resources

Impact management outcome: Impact on heritage resources is minimized.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance

<ul style="list-style-type: none"> - Identify, demarcate and prevent impact to all known sensitive heritage features on site in accordance with the No-Go procedure in Section 5.3: Access restricted areas; - Carry out general monitoring of excavations for potential fossils, artifacts and material of heritage importance; - All work must cease immediately if any human remains and/or other archaeological, palaeontological, and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/palaeontologist (or the South African 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. 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. -Heritage Specialist 	<ul style="list-style-type: none"> -Implement chance finds Procedure immediately upon uncovering heritage material. -Training in chance finds for all employees. 	<ul style="list-style-type: none"> -Throughout construction. 	<ul style="list-style-type: none"> -Eskom EO. -ECO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -Chance finds records. -Training records of chance finds.
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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	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Identify fire hazards, demarcate and restrict public access to these areas as well as notify the local authority of any potential threats e.g. large brush stockpiles, fuels, etc.; - All unattended open excavations must be adequately fenced or demarcated; 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Maintain access control. -Site hazards to be clearly demarcated. 	<ul style="list-style-type: none"> -Throughout construction. 	<ul style="list-style-type: none"> -Eskom EO. -ECO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -Access control is effective. No unauthorize

<ul style="list-style-type: none"> - Adequate protective measures must be implemented to prevent unauthorised access to and climbing of partly constructed towers and protective scaffolding; - Ensure structures vulnerable to high winds are secured; - Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged. 		-Incidents and Complaints register accessible at the site entrance.				d access was obtained. -Site hazard signage installed and maintained. - Excavations fenced.
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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 on the environment.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Mobile chemical toilets are installed onsite if no other ablution facilities are available; - The use of ablution facilities and or mobile toilets must be used at all times, and no indiscriminate use of the veld for the 	-Contractor. -Eskom EO.	-Sufficient toilets provided for the number of employees.	-Throughout construction.	-Eskom EO. -ECO.	-Weekly.	-Disposal certificate available for effluent.

<p>purposes of ablutions must be permitted under any circumstances;</p> <ul style="list-style-type: none"> - Where mobile chemical toilets are required, the following must be ensured: <ul style="list-style-type: none"> a) Toilets are located no closer than 100 m to any watercourse or water body; b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause; c) No spillage occurs when the toilets are cleaned or emptied, and the contents are managed in accordance with the EMPr; d) Toilets have an external closing mechanism and are closed and secured from the outside when not in use to prevent toilet paper from being blown out; e) Toilets are emptied before long weekends and workers' holidays, and must be locked after working hours; f) Toilets are serviced regularly, and the ECO must inspect toilets to ensure compliance with health standards; - A copy of the waste disposal certificates must be maintained. 		<p>-Toilets within easy access to all work areas.</p>			<p>-Records of toolbox talks on sanitation. -No overflowing toilets.</p>
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5.15 Prevention of disease

Impact Management outcome: All necessary precautions linked to the spread of disease are taken.

Impact Management Actions	Implementation	Monitoring
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	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Undertake environmentally friendly pest control in the camp area; - Ensure that the workforce is sensitised to the effects of sexually transmitted diseases, especially HIV AIDS; - The Contractor must ensure that information posters on AIDS are displayed in the Contractor Camp area; - Information and education relating to sexually transmitted diseases to be made available to both construction workers and the local community, where applicable; - Free condoms must be made available to all staff on-site at central points; - Medical support must be made available; - Provide access to Voluntary HIV Testing and Counselling Services. 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Environmentally friendly pest control -Methods employed. -Hand sanitizer is available at site entry points and eating areas. 	<ul style="list-style-type: none"> -Throughout Construction. 	<ul style="list-style-type: none"> -Eskom EO. -ECO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -Pest control methods are owl-friendly and scavenger friendly. -Records of toolbox talks on HIV AIDS -Condoms available in all toilets. -Posters of HIV AIDS are displayed.

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	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Compile an Emergency Response Action Plan (ERAP) prior to the commencement of the proposed project; - The Emergency Plan must deal with accidents, potential spillages, and fires in line with relevant legislation; - All staff must be made aware of emergency procedures as part of environmental awareness training; - The relevant local authority must be made aware of a fire as soon as it starts; - In the event of emergency, necessary mitigation measures to contain the spill or leak must be implemented (see Hazardous Substances section 5.17). 	-Contractor. -Eskom EO	-Emergency Response and Action Plan: developed. -Display of authority and emergency response numbers.	-Throughout construction.	-Eskom EO. -ECO	-Weekly	-Records of ERAP drill testing. -Evidence of training. -Emergency response numbers displayed.

5.17 Hazardous substances

Impact management outcome: Safe storage, handling, use, and disposal of hazardous substances.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance

<ul style="list-style-type: none"> - The use and storage of hazardous substances to be minimised and non-hazardous and non-toxic alternatives substituted where possible; - All hazardous substances must be stored in suitable containers as defined in the Method Statement; - Containers must be clearly marked to indicate contents, quantities, and safety requirements; - All storage areas must be bunded. The bunded area must be of sufficient capacity to contain a spill/leak from the stored containers; - Bunded areas to be suitably lined with a SABS-approved liner; - An Alphabetical Hazardous Chemical Substance (HCS) control sheet must be drawn up and kept up to date on a continuous basis; - All hazardous chemicals that will be used on site must have Material Safety Data Sheets (MSDS); - All employees working with HCS must be trained in the safe use of the substance and according to the safety data sheet; - Employees handling hazardous substances/materials must be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment must be made available; - The Contractor must ensure that diesel and other liquid fuel, oil, and hydraulic fluid is stored in appropriate storage tanks or in browsers; - The tanks/ bowsers must be situated on a smooth, impermeable surface (concrete) with a permanent bund. The impermeable lining must extend to the crest of the bund and the volume inside the bund must be 130% of the total capacity of all the storage tanks/ bowsers (110% statutory requirement plus an allowance for rainfall); 	<p>-Contractor. -Eskom EO.</p>	<p>-Hazardous chemical store aligned with relevant legal requirements. -Bulk chemical containers bunded to 110%. -Hazardous chemicals control sheet maintained. -Legally compliant signage for all chemical hazards.</p>	<p>-Throughout construction.</p>	<p>-Eskom EO. -ECO.</p>	<p>-Weekly.</p>	<p>-MSDSs for all hazardous chemicals available. -Bunding for bulk containers in good condition. -Training records and knowledge of employees</p>
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<ul style="list-style-type: none"> - The floor of the bund must be sloped, draining to an oil separator; - Provision must be made for refueling at the storage area by protecting the soil with an impermeable ground cover. Where dispensing equipment is used, a drip tray must be used to ensure small spills are contained; - All empty externally dirty drums must be stored on a drip tray or within a banded area; - No unauthorised access into the hazardous substances' storage areas must be permitted; - No smoking must be allowed within the vicinity of the hazardous storage areas; - Adequate fire-fighting equipment must be made available at all hazardous storage areas; - Where refueling away from the dedicated refueling station is required, a mobile refueling unit must be used. Appropriate ground protection, such as drip trays, must be used; - An appropriately sized spill kit kept onsite relevant to the scale of the activity/s involving the use of hazardous substance must be available at all times; - 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 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 storm and wastewater management procedures and 5.8 for solid and hazardous waste management. 					
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5.18 Workshop, equipment maintenance and storage

Impact management outcome: Soil, surface water and groundwater contamination is minimised.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Where possible and practical, all maintenance of vehicles and equipment must take place in the workshop area; - During servicing vehicles or equipment, especially when emergency repairs are effected outside the workshop area, a suitable drip tray must be used to prevent spills onto the soil. The relevant local authority must be made aware of a fire as soon as it starts; - Leaking equipment must be repaired immediately or be removed from the site to facilitate repair; - Workshop areas must be monitored for oil and fuel spills; - Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available; - The workshop area must have a bunded concrete slab that is sloped to facilitate runoff into a collection sump or suitable oil/water separator where maintenance work on vehicles and equipment can be performed; - Water drainage from the workshop must be contained and managed in accordance with Section 5.7: Storm and waste water management. 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Dedicated vehicle servicing facility with impermeable floor. -Drip trays. Spill kits. 	<ul style="list-style-type: none"> -Throughout construction. 	<ul style="list-style-type: none"> -ECO. -Eskom EO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -Drip trays used when needed. -No evidence of oil and fuel spillage. -Training records and knowledge of employees in vehicle maintenance. - Response/cl

						<p>leanup records available for all spillages. -Vehicles are well maintained and do not show evidence of leakages.</p>
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5.19 Batching plants

Impact management outcome: Minimise spillages and contamination of soil, surface water and groundwater.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Concrete mixing must be carried out on an impermeable surface; - Batching plants areas must be fitted with a containment facility for the collection of cement laden water. - Dirty water from the batching plant must be contained to prevent soil and groundwater contamination. 						

<ul style="list-style-type: none"> - Bagged cement must be stored in an appropriate facility and at least 10 m away from any water courses, gullies, and drains; - A washout facility must be provided for the washing of concrete-associated equipment. Water used for washing must be restricted; - Hardened concrete from the washout facility or concrete mixer can either be reused or disposed of at an appropriately licensed disposal facility; - Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site; - Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to Section 5.20: Dust emissions). - Any excess sand, stone, and cement must be removed or reused from the site on completion of the construction period and disposed of at a registered disposal facility; - Temporary fencing must be erected around batching plants in accordance with Section 5.5: Fencing and gate installation. 						
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5.20 Dust emissions

Impact management outcome: Dust prevention measures are applied to minimise the generation of dust.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Take all reasonable measures to minimise the generation of dust because of project development activities to the satisfaction of the ECO; 	-Contractor. -Eskom EO.	-Dust suppression methods as	-Throughout construction.	-ECO.	-Weekly.	-No evidence of

<ul style="list-style-type: none"> - Removal of vegetation must be avoided until such time as soil stripping is required, and similarly exposed surfaces must be re-vegetated or stabilised as soon as is practically possible; - Excavation, handling, and transport of erodible materials must be avoided under high wind conditions or when a visible dust plume is present; - During high wind conditions, the ECO must evaluate the situation and make recommendations as to whether dust-damping measures are adequate or whether working will cease altogether until the wind speed drops to an acceptable level; - Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind; - Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO; - Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; - Straw stabilisation must be applied at a rate of one bale/10 m² and harrowed into the top 100 mm of top material for all completed earthworks; - For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. 		<p>directed by the ECO and CR.</p> <ul style="list-style-type: none"> -Separate topsoil and subsoil during site clearance and stockpile separately. -Spread topsoil on the surface after final shaping. -Adherence to speed limits by vehicles. -Straw stabilization for completed earthworks. 			<p>excessive dust generation due to construction .</p> <ul style="list-style-type: none"> -Dust control measures implemented. -Vehicles do not speed on site.
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5.21 Blasting

Impact management outcome: Impact to the environment is minimised through a safe blasting practice.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Any blasting activity must be conducted by a suitably licensed blasting contractor; and - Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site. 					-.	

5.22 Noise

Impact Management outcome: Prevent unnecessary noise to the environment by ensuring that noise from development activity is mitigated.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - The Contractor must keep noise level within acceptable limits and restrict the use of sound amplification equipment for communication and emergency only; - All vehicles and machinery must be fitted with appropriate silencing technology and must be properly maintained; - Any complaints received by the Contractor regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site daily for construction workers; 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Construction should be only during daylight hours. -Maintain vehicles in good condition. 	<ul style="list-style-type: none"> -Throughout construction. 	<ul style="list-style-type: none"> -Eskom EO. -ECO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -Records of staff code of conduct training. -No evidence of noise complaints

<ul style="list-style-type: none"> - Develop a Code of Conduct for the construction phase regarding the behaviour of construction staff. Operating hours as determined by the environmental authorisation are adhered to during the development phase. Where not defined, it must be ensured that development activities still meet the impact management outcome related to noise management. 		-Staff code of conduct				in the complaints register.
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5.23 Fire prevention

Impact management outcome: Prevention of uncontrollable fires.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Designate smoking areas where the fire hazard could be regarded as insignificant; - Firefighting equipment must be available on all vehicles located on site; - The local Fire Protection Agency (FPA) must be informed of construction activities; - Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site; 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Designated smoking areas Services firefighting equipment -Emergency numbers for the 	<ul style="list-style-type: none"> -Throughout construction. 	<ul style="list-style-type: none"> -ECO. 	<ul style="list-style-type: none"> -Weekly. 	<ul style="list-style-type: none"> -Servicing records for fire extinguishers. -Records of fire-fighting

<ul style="list-style-type: none"> - Two-way swap of contact details between ECO and FPA. 		Fire Protection Association must be displayed.				training and drills. -Emergency numbers for the Fire Protection Association must be displayed.
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5.24 Stockpiling and stockpile areas

Impact management outcome: Reduce erosion and sedimentation as a result of stockpiling.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site to minimise impacts to watercourses, watercourses, and water bodies; - All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods; - Topsoil stockpiles must not exceed 2 m in height; 	-Contractor. -Eskom EO.	-Soil stockpiles are maintained and protected to prevent erosion.	-Throughout construction.	-ECO.	-Weekly.	-Minimal evidence of erosion from soil stockpiles. -Evidence of

<ul style="list-style-type: none"> - During periods of strong winds and heavy rain, the stockpiles must be covered with appropriate material (e.g. cloth, tarpaulin, etc.); - Where possible, sandbags (or similar) must be placed at the bases of the stockpiled material to prevent erosion. 		<ul style="list-style-type: none"> -Covering materials placed on stockpiles to prevent erosion when necessary. 				clearance of exotic vegetation. -Stockpiles <2m high.
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5.25 Civil works

Impact management outcome: Impact on the environment minimised during civil works to create the substation terrace.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Where terracing is required, topsoil must be collected and retained for the purpose of re-use later to rehabilitate disturbed areas not covered by yard stone; - Areas to be rehabilitated include terrace embankments and areas outside the high-voltage yards; - Where required, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled; - These areas can be stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly; 	<ul style="list-style-type: none"> -Contractor. -Eskom EO. 	<ul style="list-style-type: none"> -Walkdown assessment of proposed pylon positions by biodiversity and heritage specialists. -Walkdown assessment to 	<ul style="list-style-type: none"> -Before construction. 	<ul style="list-style-type: none"> -ECO. 	<ul style="list-style-type: none"> -Once-off. 	<ul style="list-style-type: none"> -Clearance of vegetation only at confirmed tower positions. -Tower positions

<ul style="list-style-type: none"> - Rehabilitation of the disturbed areas must be managed in accordance with Section 5.35: Landscaping and Rehabilitation; - All excess spoil generated during terracing activities must be disposed of in an appropriate manner and at a recognised landfill site; and - Spoil can, however, be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes. 		<p>take place on foot or in a 4x4 vehicle, without scarping a road Produce.</p> <p>-Walkdown Assessment report that indicates findings and agreed positions of pylons.</p>				<p>pegged by heritage specialists and biodiversity specialists.</p> <p>-Walkdown assessment report.</p>
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5.26 Excavation of foundation, cable trenching and drainage systems

Impact management outcome: No environmental degradation occurs as a result of excavation of foundation, cable trenching and drainage systems.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - All excess spoil generated during foundation excavation must be disposed of in an appropriate manner and at a licensed landfill site, if not used for backfilling purposes; 	-Eskom EO. -Contractor.	-Spread soil excavated from pylon.	-During construction.	-ECO.	-Once-Off.	-Soil excavated from pylon

<ul style="list-style-type: none"> - Spoil can, however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes; - Management of equipment for excavation purposes must be undertaken in accordance with Section 5.18: Workshop, equipment maintenance, and storage; and - Hazardous substances spills from equipment must be managed in accordance with Section 5.17: Hazardous substances. 		foundations over a surrounding area or use it as fill elsewhere.				foundations spread over the surrounding area or used as fill elsewhere.
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5.27 Installation of foundations, cable trenching and drainage systems

Impact management outcome: No environmental degradation occurs during the installation of foundation, cable trenching and drainage system.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Batching of cement to be undertaken in accordance with Section 5.19: Batching plants; and - Residual solid waste must be disposed of in accordance with Section 5.8: Solid Waste and Hazardous Management. 	-Eskom EO. -Contractor.	-Undertake the batching of cement as per the requirements of section 5.19 -Undertake the disposal of solid waste as per the	During the Construction Phase	-ECO.	-Monthly	Management of batching cement is undertaken in line with the requirement

		requirements of section 5.8				s of section 5.19 The disposal of solid waste is undertaken in line with section 5.8.
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5.28 Installation of equipment (circuit breakers, current Transformers, Isolators, Insulators, surge arresters, voltage transformers, earth switches)

Impact management outcome: No environmental degradation occurs as a result of installation of equipment.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Management of dust must be conducted in accordance with Section 5. 20: Dust emissions; - Management of equipment used for installation must be conducted in accordance with Section 5.18: Workshop, equipment maintenance, and storage; - Management of hazardous substances and any associated spills must be conducted in accordance with Section 5.17: Hazardous Substances and - Residual solid waste must be recycled or disposed of in accordance with Section 5.8: Solid Waste and Hazardous Management. 	-Contractor. -Eskom EO.	-Manage dust	-During and immediately after construction.	-ECO.	-Weekly	The management of dust is undertaken

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5.29 Steelwork Assembly and Erection

Impact management outcome: No environmental degradation occurs as a result of steelwork assembly and erection.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - During assembly, care must be taken to ensure that no wasted/unused materials are left on site e.g. bolts and nuts - Emergency repairs due to equipment breakages must be managed per Section 5. 18: Workshop, equipment maintenance, and storage and Section 5.16: Emergency procedures. 	Contractor. Eskom EO.	Lowest impact construction methods appropriate to the site conditions based on topography, proximity to existing transmission lines, availability of existing access roads and degree of	-During and Immediately after construction.	ECO.	-Weekly	-Contractor to provide proof of inspection and removal of waste/unused materials and the appropriate disposal thereof (i.e. disposal

		existing disturbance.				certificates)
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5.30 Cabling and Stringing

Impact management outcome: No environmental degradation occurs as a result of stringing.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Residual solid waste (offcuts etc.) shall be recycled or disposed of in accordance with Section 6.8: Solid Waste and hazardous Management; - Management of equipment used for installation shall be conducted in accordance with Section 5.18: Workshop, equipment maintenance, and storage; - Management of hazardous substances and any associated spills shall be conducted in accordance with Section 5.17: Hazardous substances. 	-Contractor. -Eskom EO.	-Undertake the recycling or disposal of residual solid waste as per the requirements of section 5.8	-During and Immediately after construction.	-ECO.	-Monthly	-The recycling or disposal of residual solid waste is undertaken in line with section 5.8.

5.31 Testing and Commissioning (all equipment testing, earthing system, system integration)

Impact management outcome: No environmental degradation occurs as a result of Testing and Commissioning.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
- Residual solid waste must be recycled or disposed of in accordance with Section 5.8: Solid Waste and Hazardous Management .	-Contractor -Eskom EO	Undertake the recycling or disposal of residual solid waste as per the requirements of section 5.8	Construction Phase	ECO	Monthly	The recycling or disposal of residual solid waste is undertaken in line with section 5.8.

5.32 Socio-economic

Impact management outcome: enhanced socio-economic development.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance

<ul style="list-style-type: none"> - Develop and implement communication strategies to facilitate public participation; - Develop and implement a collaborative and constructive approach to conflict resolution as part of the external stakeholder engagement process; - Sustain continuous communication and liaison with neighboring owners and residents - Create work and training opportunities for local stakeholders; and - Where feasible, no workers, with the exception of security personnel, must be permitted to stay overnight on the site. This would reduce the risk to local farmers. 	-Contractor.	-Weekly communication on construction progress through established community communication channels.	Six months prior to the start of construction. -Throughout construction.	-ECO.	-Weekly.	-Recorded grievances / informal complaints -Records of community engagements (minutes, correspondence, social media posts, etc.)
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5.33 Temporary closure of site

Impact management outcome: Minimise the risk of environmental impact during periods of site closure greater than five days.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Bunds must be emptied (where applicable) and need to be undertaken in accordance with the impact management 	-Contractor.	-Implement impact	-Throughout construction.	-ECO.	-Once-off.	-Site conditions

<p>actions included in sections 5.17: Hazardous substances and 5.18: Workshop, equipment maintenance, and storage;</p> <ul style="list-style-type: none"> - Hazardous storage areas must be well-ventilated; - Fire extinguishers must be serviced and accessible. Service records are to be filed and audited at the last service; - Emergency and contact details displayed must be displayed; - Security personnel must be briefed and have the facilities to contact or be contacted by relevant management and emergency personnel; - Night hazards such as reflectors, lighting, traffic signage etc., must have been checked; - Fire hazards identified, and the local authority must have been notified 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. 		<p>management actions as specified.</p>				<p>indicate compliance</p>
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5.34 Dismantling of old equipment

Impact management outcome: Impact on the environment to be minimised during the dismantling, storage, and disposal of old equipment commissioning.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance

<ul style="list-style-type: none"> - All old equipment removed during the project must be stored in such a way as to prevent pollution of the environment; - Oil-containing equipment must be stored to prevent leaking or be stored on drip trays; - All scrap steel must be stacked neatly, and any disused and broken insulators must be stored in containers; - Once material has been scrapped and the contract has been placed for removal, the disposal Contractor must ensure that any equipment containing pollution-causing substances is dismantled and transported in such a way as to prevent spillage and pollution of the environment; - The Contractor must also be equipped to contain and clean up any pollution-causing spills; and - Disposal of unusable material must be at a licensed waste disposal site. 					
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5.35 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	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
	-Eskom EO. -Contractor.	-Embankments vegetated by	-Throughout construction.	-ECO	-Weekly.	-Disturbed areas

<ul style="list-style-type: none"> - All areas disturbed by construction activities must be subject to landscaping and rehabilitation; All spoil and waste must be disposed of to a registered waste site; - All slopes must be assessed for contouring, and to contour only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983 - All slopes must be assessed for terracing, and to terrace only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983; - Berms that have been created must have a slope of 1:4 and be replanted with Indigenous species and grasses that approximate the original condition; - Where new access roads have crossed cultivated farmlands, that lands must be rehabilitated by ripping, which must be agreed to by the holder of the EA and the landowners; - Rehabilitation of access roads outside of farmland; - Indigenous species must be used with species and/grasses to where it complement or approximate the original condition; - Stockpiled topsoil must be used for rehabilitation (refer to Section 5.24: Stockpiling and stockpiled areas); - Stockpiled topsoil must be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion; - Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed; - Subsoil must be ripped before topsoil is placed; - The rehabilitation must be timed so that rehabilitation can take place at the optimal time for vegetation establishment; - Where impacted through construction-related activity, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled; 		<p>topsoil placement and erosion protection, with exception of those kept free of vegetation for fire control.</p> <p>-Install gabions around pylon bases as necessary where there is an erosion risk.</p> <p>-Embankments that cannot be vegetated and otherwise protected e.g., by stone pitching.</p>			<p>revegetate and topsoil spread.</p> <p>-At least 90% coverage with no bare areas more than 5m² a year after completion of construction .</p> <p>-Stormwater diversion strips constructed on steep access roads in the</p>
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<ul style="list-style-type: none"> - Sloped areas stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly; - Spoil can be used for backfilling or landscaping as long as it is covered by a minimum of 150 mm of topsoil. - Where required, re-vegetation, including hydro-seeding, can be enhanced using a vegetation seed mixture as described below. A mixture of seeds can be used, provided the mixture is carefully selected to ensure the following: <ul style="list-style-type: none"> a) Annual and perennial plants are chosen; b) Pioneer species are included; c) Species chosen must be Indigenous to the area, with the seeds used coming from the area; d) Root systems must have a binding effect on the soil; e) The final product must not cause an ecological imbalance in the area 					transmission line corridor.
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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

Name of Applicant	Eskom Holdings SOC Limited
Physical Address	Megawatt Park, No.1 Maxwell, Sunninghill
Postal Address	P O Box 1091 Johannesburg 2000
Contact Person	Madinare Mukhuba
Telephone Number	082 469 1336
Email address	mukhubdm@eskom.co.za

7.1.1 Details of the applicant:

Name of Company	Nsovo Environmental Consulting
Person Responsible	Munyadziwa Rikhotso
Professional Registration	Certified Nat.Sci: (SACNASP) EAP (EAPASA): Reg 2019/1156
Telephone Number	087 803 9294
Email	munyadzi@nsovo.co.za

Qualifications & Experience	B.Sc. Hons Environmental Science 20 years of experience
Project Related Expertise	<p>In terms of project-related expertise, the Environmental Assessment Practitioner has undertaken projects of varying scale and complexity, including:</p> <ul style="list-style-type: none"> • Integrated Environmental Impact Assessment and WULA for Exxaro discard dump expansion (2021). • Integrated Environmental Impact Assessment and WULA for Bushveld Vanchem Expansion project (2021). • Integrated Environmental Impact Assessment and WULA for Grammatikos Vogelfontein project (2021). • EIA for the proposed Tubatse Strengthening Phase 1 – Senakangwedi B integration within the jurisdiction of Greater Tubatse Local Municipality in Limpopo Province 2018). • EIA for the proposed Maphutha-Witkop powerline in Limpopo Province (2018).

7.1.3 Project name:

Draft Basic Assessment Report for the proposed development of the new 132kV Substation, expansion of the 400kV Majuba substation, and associated infrastructure, Mpumalanga province.

7.1.4 Description of the project:

Eskom Holdings SOC Ltd (hereafter referred to as Eskom) proposes a new 132kV substation, expansion of the 400kV Majuba substation, and associated infrastructure. The proposed

project is located within the Pixley Ka Seme Local Municipality, under the jurisdiction of the Gert Sibande District Municipality in the Mpumalanga Province.

In response to high interest and inquiries, Eskom has strategically decided to install two new fully equipped 400/132kV 500 MVA transformer bays at Majuba MTS. This will ensure the availability of a total capacity of 950 MW unfirm and 475 MW firm capacity, accommodating 671 MW of 132kV IPP connections. The 2022 Transmission Development Plan anticipates a significant increase in demand for renewable energy (RE) generation by 2030, specifically requiring 31,095 MW of photovoltaic and wind generation, with a substantial portion needed by 2027. However, many transmission supply areas lack the necessary capacity, underscoring the importance of attracting and facilitating RE generation connections, particularly in areas with minimal network infrastructure. Grid Planning recognizes the need for additional transformer capacity at substations located within future areas of interest for RE generation. These areas are identified through a comprehensive process, including the analysis of applications from bid windows 5 and 6, and feedback obtained from an industry survey conducted among various RE associations.

The following is the high-level scope of work:

- **132kV Yard:**
 - Establish new 2 x 400/132 kV 500 MVA transformers.
 - 132kV yard includes 4 feeder bays and 2 spare bays.
 - Cater for FCLRs in series with transformers & between transformer pairs (1 x FCLR / busbar).

- **400kV Yard**
 - Extend the 400kV yard.
 - Equip 2 x 400 kV transformer bays.
 - Install a 400kV bus section to reduce outages and to switch between busbars during construction.
 - Repositioning 3 towers within the 400kV Alpha line to accommodate the new transformer bays.
 - Relocate the existing 60m microwave tower to accommodate the new transformer bays and elevate it to 65m.

- **Associated Infrastructure**

- Access road will be widened and upgraded to accommodate transformers (approximately 6m)

The proposed development triggers the NEMA EIA listed activities as contained in Government Notice Regulations (GN R), GN 983, and GNR 985. As such, Eskom is required to undertake a Basic Assessment (EIA) process and obtain an Environmental Authorisation (EA) in line with the requirements of the EIA Regulations of 2014 as amended, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). Furthermore, the project is identified as a Strategic Infrastructure Project, and confirmation is enclosed. The proposed project is located within 500 meters of a watercourse in the Majuba Nature Reserve, adjacent to the Majuba Power Station. Consequently, it activates regulatory requirements under Section 21 of the National Water Act No. 36 of 1998. Subsequently, Eskom appointed Nsovo Environmental Consulting to undertake the necessary authorisation process to comply with the legislation requirement. The project proponent is Eskom Holdings SOC Limited; the Competent Authority (CA) is the National Department of Forestry, Fisheries, and the Environment (DFFE).

7.1.5 Project location:

The proposed substation and associated infrastructures fall within Wards 6 and 8 of Pixley Ka Seme Local Municipality in Mpumalanga Province. It is primarily industrial as it is within an existing Power Station. On the contrary, the proposed project site is within the Majuba Nature Reserve, a reserve administered by the Eskom Majuba Power Station.

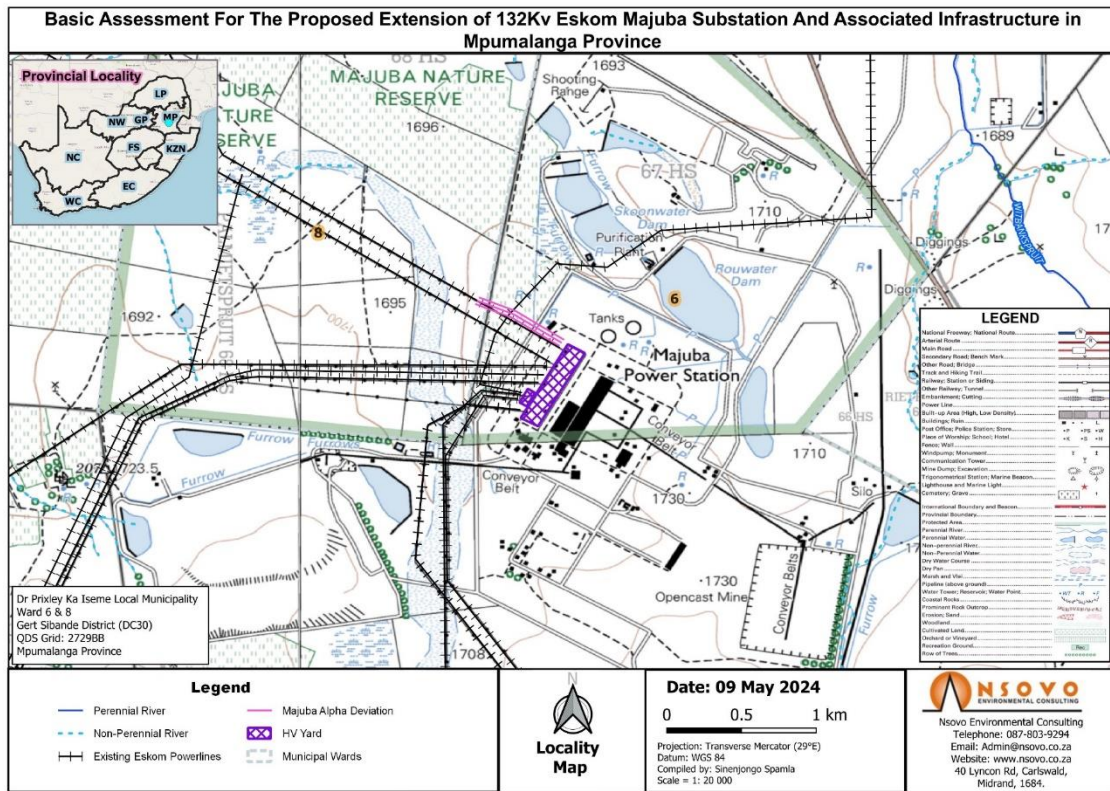


Figure 1: Location of the proposed Majuba Substation

Table 3.1 below provides detailed farm information, including the 21-digit Surveyor General Codes and GPS center coordinates, for the proposed 132kV substation.

Table 3.1: Centre coordinates of the proposed extension.

Location	Farm/Portions	Coordinates	Surveyor General Codes
Centre	Majuba Power Station NO 263 HS	27° 2' 52,253"S 30° 9' 43,663"E	TOHS00000000026300000
Centre	Palmeitspruit 68 HS	27° 3' 36,1584"S 29° 45' 16,2576"E	TOHS00000000006800000

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: <https://screening.environment.gov.za/screeningtool>. 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.

Agriculture

The site features Witbank soil, which is heavily disturbed by human activities such as transportation and urban development, particularly industrial use. The proposed development area has been previously excavated and backfilled with soil mixed with firmer materials, disrupting the natural soil horizons and making them unsuitable for cultivation. The dominant soils in the area belong to the Witbank formation and do not meet the conditions for agricultural suitability, such as adequate depth, good structure, and sufficient high-quality soil distribution. The site, located in an industrial area where electricity generation occurs, shows no signs of active agricultural practice. A screening tool analysis indicated high sensitivity regarding agricultural potential, but field assessments revealed a less significant impact due to the poor quality of the soils, primarily affected by anthropogenic influences. Potential impacts include minimal soil and land degradation during construction and decommissioning, which can be mitigated with appropriate measures.

Vegetation

The project site is located within the Grassland biome, known for its high biodiversity, second only to the Fynbos biome in South Africa. This biome is predominantly found on the high central plateau of South Africa and in the inland areas of KwaZulu-Natal and the Eastern Cape provinces. Grasslands are characterized by a single layer of grass, with few trees except in localized habitats, and an abundance of geophytes. The project site specifically falls within the Amersfoort Highveld Clay Grassland vegetation type, which is classified as Vulnerable. No remnants of this vegetation type exist within the Power Station, only within the adjacent Nature Reserve. The clearing of natural vegetation and stripping of soils for pylon placement could increase sediment runoff into nearby watercourses. Although the impact is expected to be minimal, precautions are necessary when widening existing access roads. Installing low gradient speed bumps or berms with runoff swales is essential to prevent the road from becoming a pathway for surface runoff, especially where the road aligns perpendicular to the contours.

According to Mboneni (2024), the anthropogenic activities taking place within the Majuba Power Station includes the existing ash disposal facilities, existing cooling towers and pollution control dams and associated infrastructure such as internal roads and buildings. The Expansion of the 400kv Eskom Majuba is within the Majuba power station site, whereas the proposed Development of the New 132kv is mostly outside of the Power station site. Therefore, limited natural vegetation remains inside the Power station, and dominated by alien invasive plant species and weeds. However, natural vegetation still exists outside of the Power station, especially within the Majuba Nature reserve. During the field survey, no threatened plant species or protected trees or provincial protected plants were observed as within the study area. However, should any plant species of conservation concern be found during construction activities, a search and rescue plan should be developed and suitable habitat for translocation exists within the Nature Reserve.

Terrestrial

Six mammal species were observed within the Majuba Nature Reserve, part of the project area. No species of conservation concern (SCC) were found. Habitat destruction and human disturbances threaten sensitive mammal species. The project route includes three micro-habitats: watercourses, grasslands, and exotic trees.

- **Wetlands** are vital for birds despite urban degradation. They support diverse terrestrial and aquatic species, particularly avifauna like herons and storks, which breed and feed in these areas.
- **Open grasslands** serve as feeding grounds for many birds and attract raptors due to prey availability. Red Data Listed species such as the Lanner Falcon and Martial Eagle may hunt here.
- **Exotic trees** provide nesting and roosting sites for various bird species, including raptors. Forty bird species were recorded during the survey, none of which were of conservation concern.
- **Reptiles:** Two species, the Speckled Rock Skink and Cape Skink, were recorded. Other species, including Peter's Thread Snake and Mole Snake, are noted from anecdotal sightings. The Giant Girdled Lizard, found in Highveld grasslands, is protected in the Majuba Nature Reserve. Construction personnel must be trained to avoid harming this species.
- **Amphibians:** Two frog species, the Raucous Toad and Common River Frog, were recorded. No species of conservation concern were found.
- **Invertebrates:** Eight butterfly species, including the African Blue Pansy and Citrus Swallowtail, were observed. No invertebrate species of conservation concern were recorded.

Defence

The screening tool assessed the proposed site as having low sensitivity to Defence concerns. Therefore, according to protocols for Specialist (GN.320) of March 2020, there are no anticipated adverse impacts on the Defence.

Civil Aviation

The Screening Tool identified the area as highly sensitive to aviation. This is due to the Amersfoort Aerodrome, approximately 12km from the study area. However, according to the Site Sensitivity Verification, the impact is low.

Basic Assessment For The Proposed Extension of 132Kv Eskom Majuba Substation And Associated Infrastructure in Mpumalanga Province

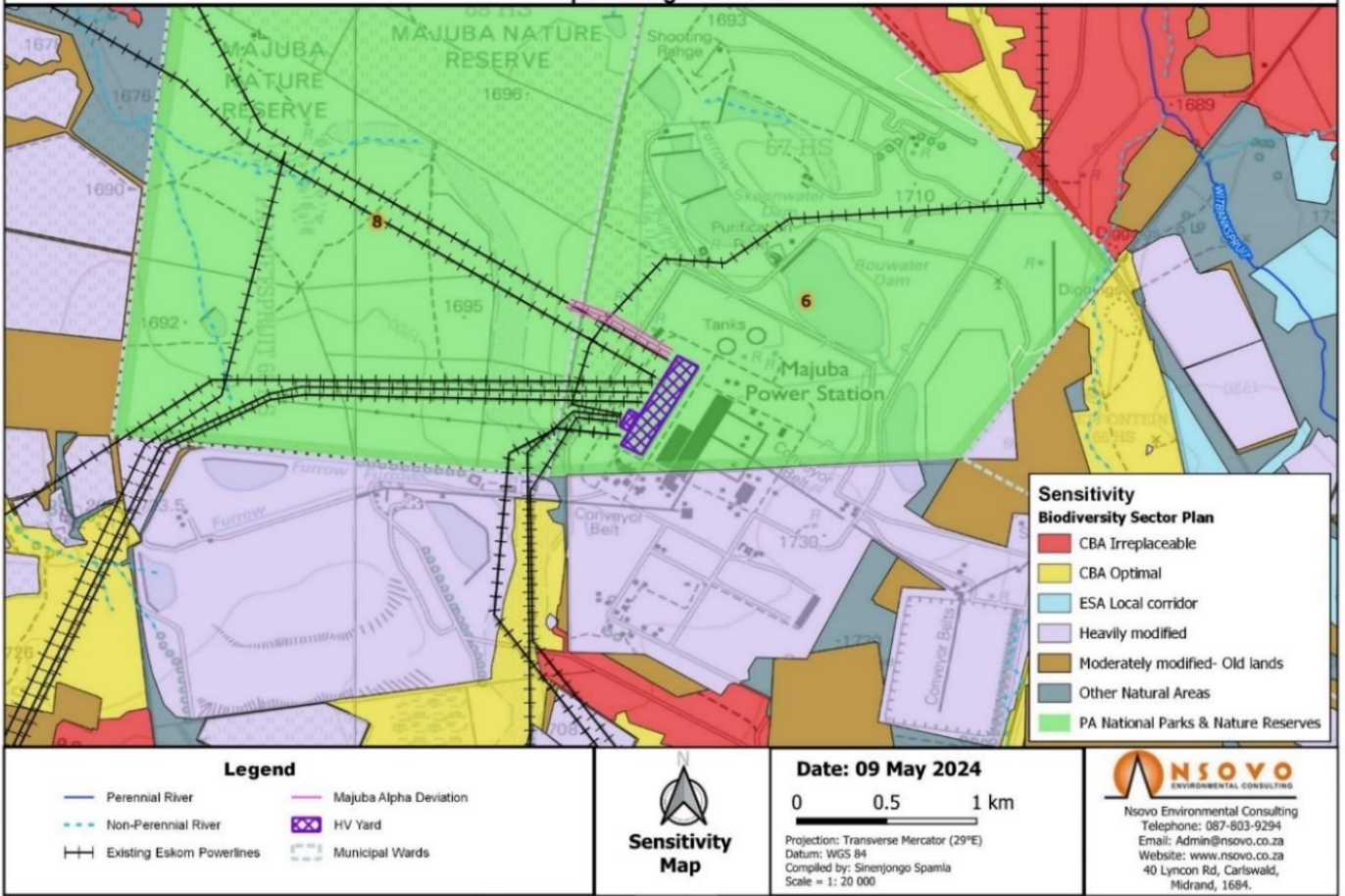


Figure 1: Biodiversity Sensitivity Map of the proposed project

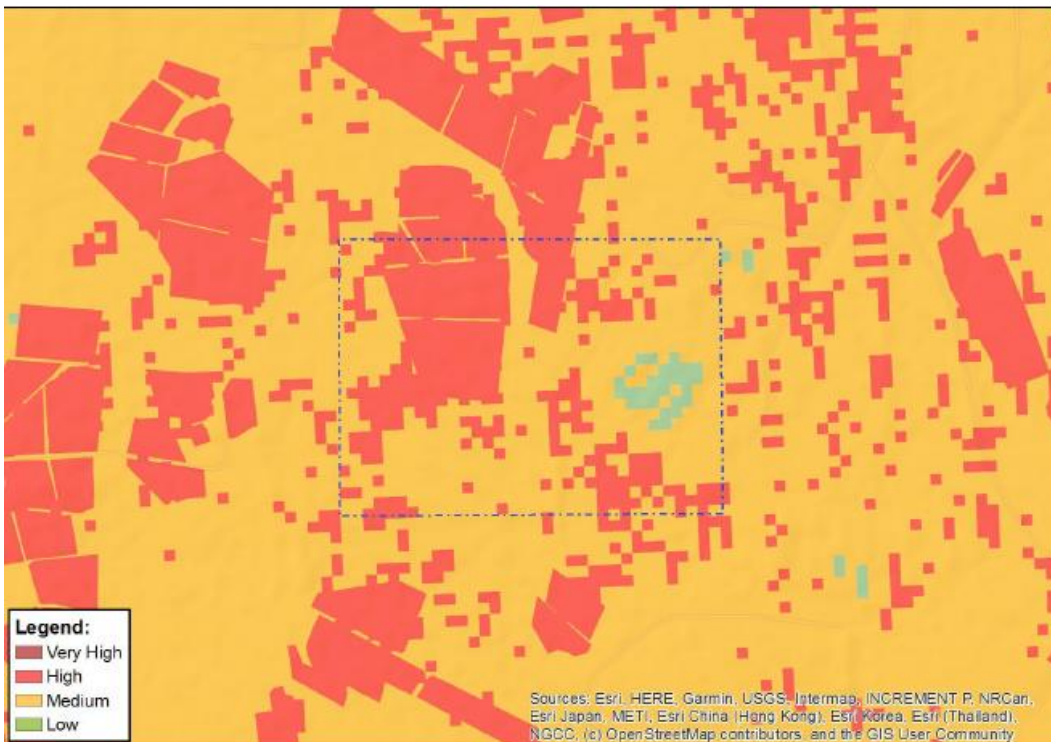


Figure 2: Screening Tool Agricultural Sensitivity

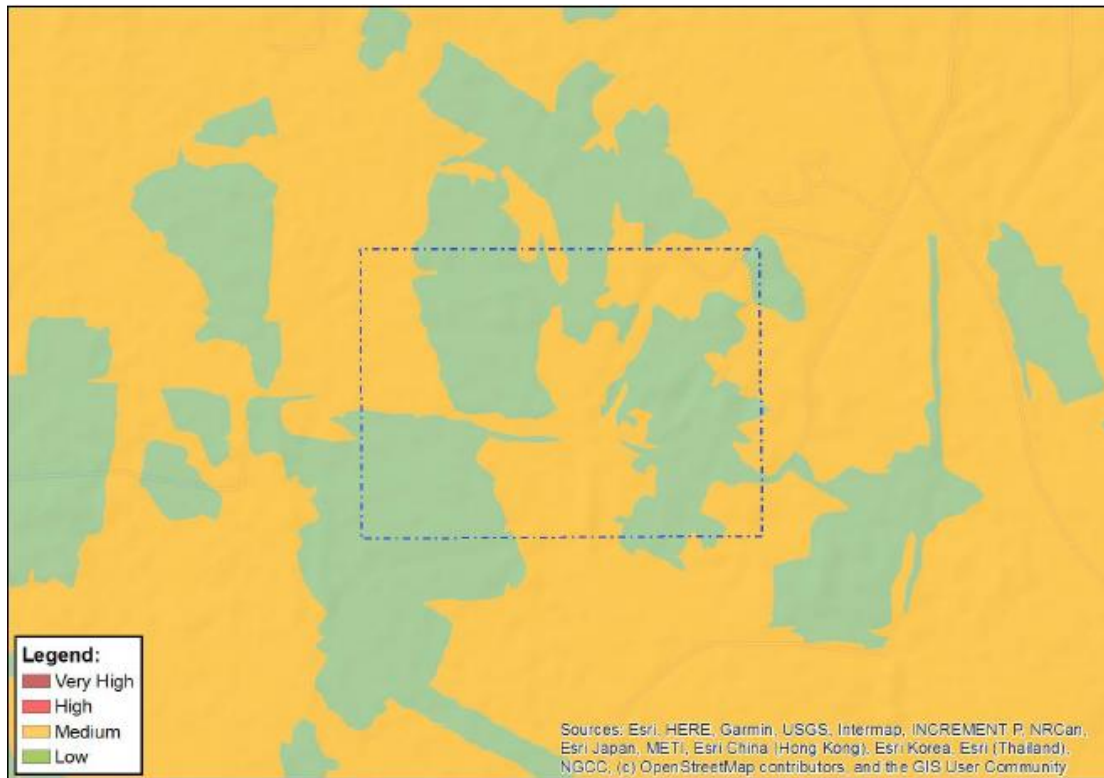


Figure 3: Screening Tool Plant Species Theme

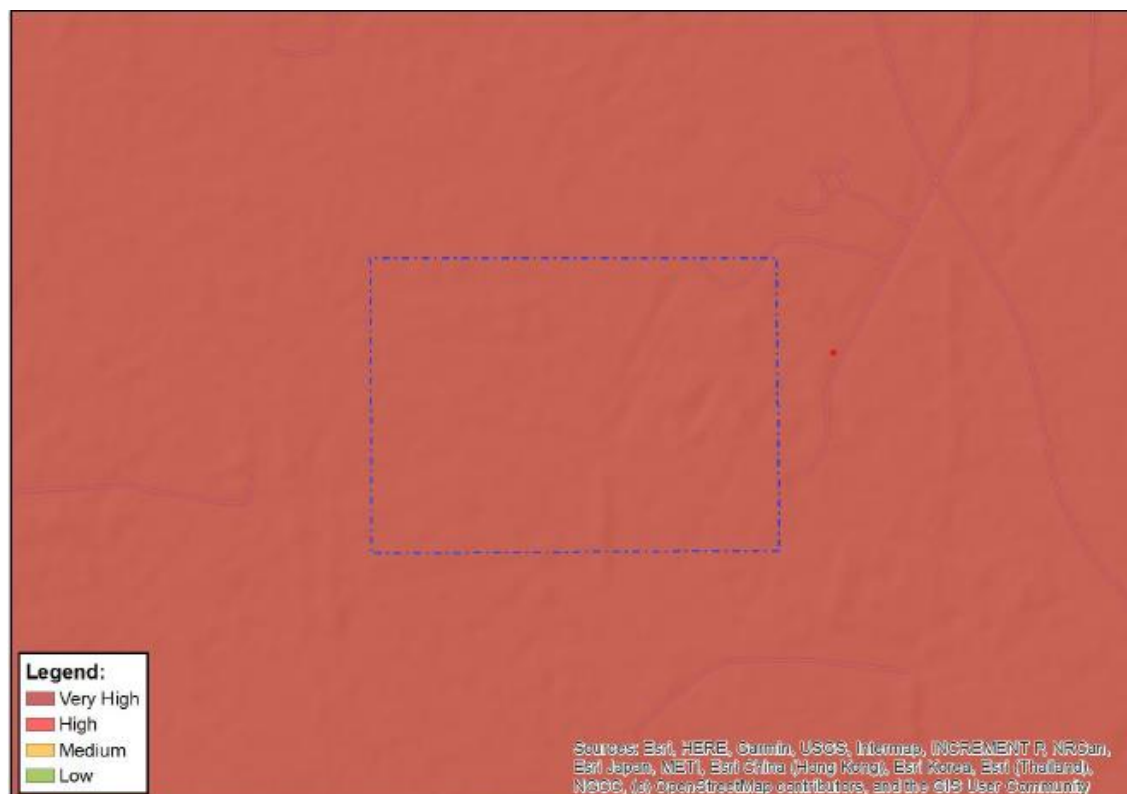


Figure 4: Screening Tool Terrestrial Biodiversity Theme

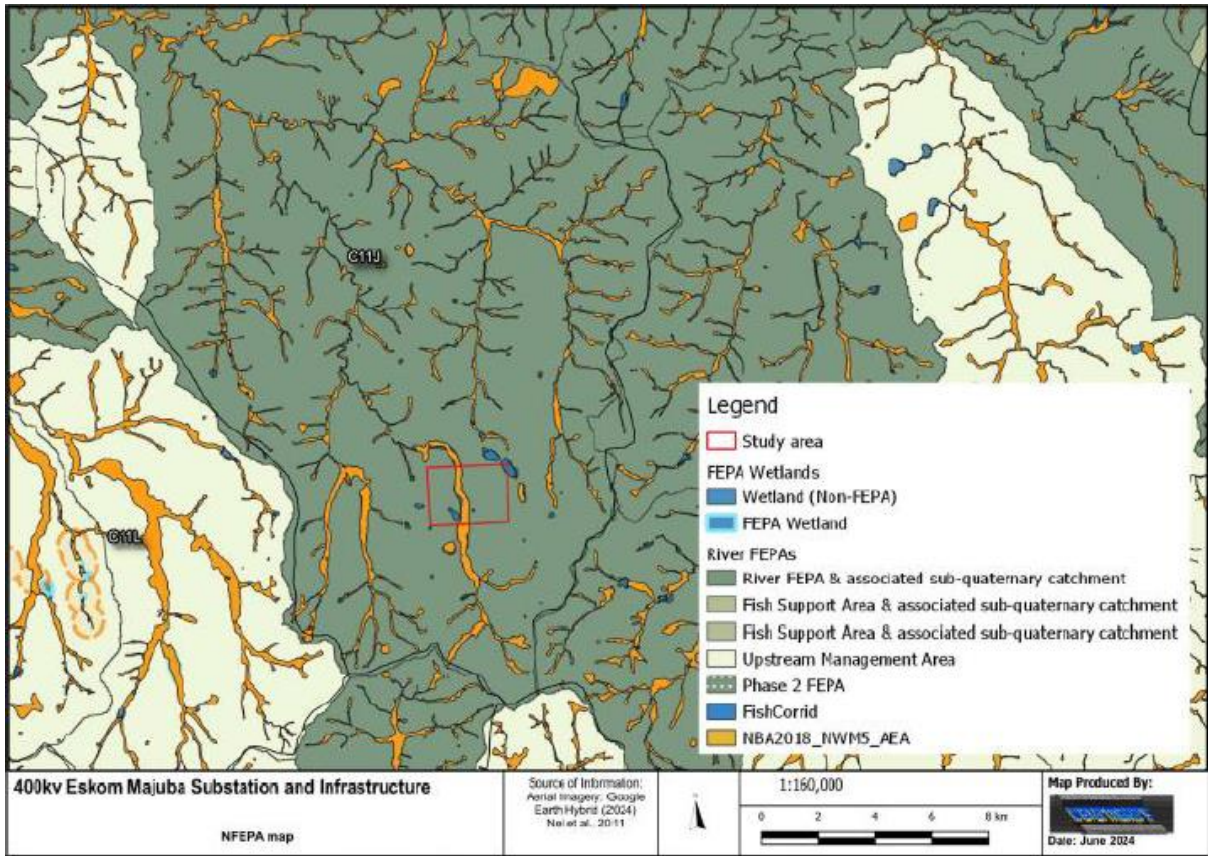


Figure 7: NFEPA map indicating closest FEPA features in relation to the study area (WaterMakers, 2024)

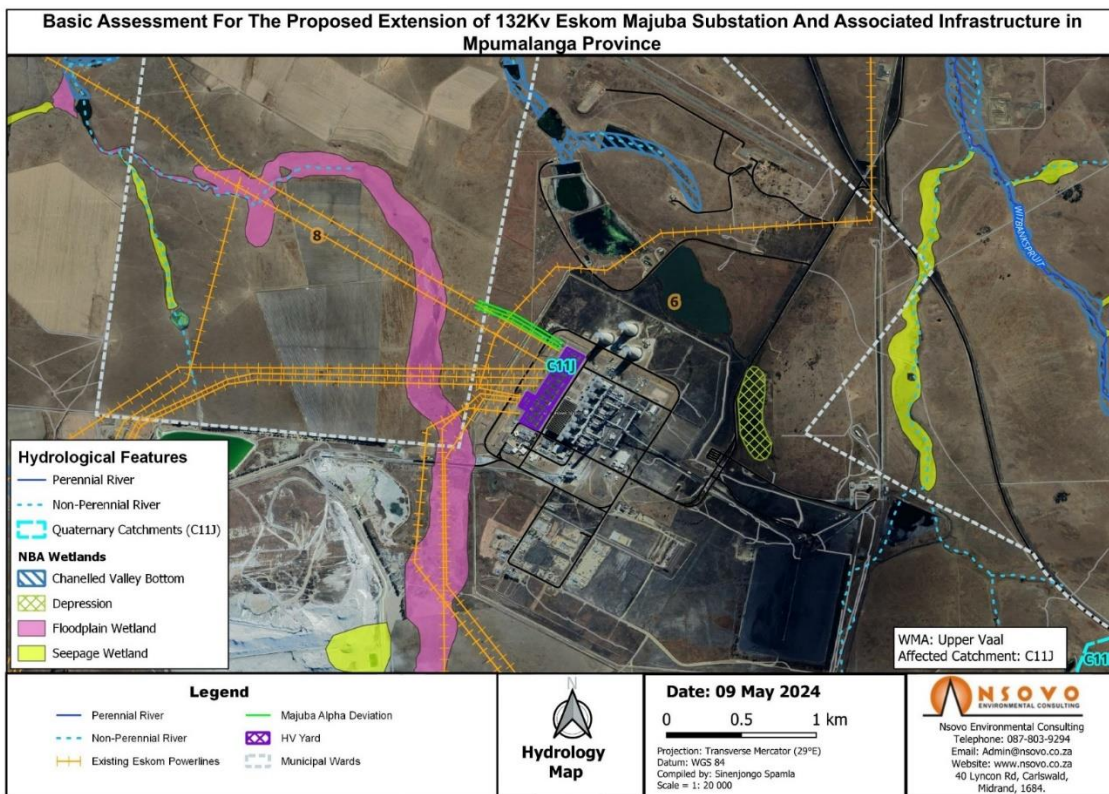


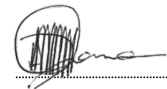
Figure 4: Hydrology Map of the proposed project

7.3 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 part B: section 1 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



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7.4 Sub-section 4: amendments to site specific information (Part B; section 2)

Should the EA be transferred to a new holder, Part B: Section 2 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 Part B: Section 2 not be submitted. Once approved, Part B: Section 2 forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

Not Applicable

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 Part C 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, Part C 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 Ecology

Impact management outcome: Minimize impact to the sensitive terrestrial biodiversity						
Impact Management Actions	Implementation			Monitoring		
Impact Management Actions	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<p>Construction Phase</p> <ul style="list-style-type: none"> An Independent Environmental Control Officer (ECO) should be appointed to oversee construction. Areas designated for vegetation clearing should be identified and visibly marked off. Vegetation clearing in natural areas should be kept to a minimum and restricted to the proposed development footprint only, i.e., the confirmed servitude and access roads. A temporary fence or demarcation must be erected around the construction area (including the servitude, construction camps, areas 	<p>- Contractor. -Eskom -ECO.</p>	<p>- Inductions. -Toolbox talks. -Updated site plans.</p>	<p>-Weekly and monthly audits</p>	<p>-Eskom EO. -ECO.</p>	<p>-Daily.</p>	<p>-Visible demarcations on sensitive sites. -Barriers and signage maintained in good condition.</p>

<p>where material is stored, and the actual footprint of the development) to prevent access to sensitive environs.</p> <ul style="list-style-type: none">• Prohibit vehicular or pedestrian access into natural areas beyond the demarcated boundary of the construction area.• No open fires are permitted within naturally vegetated areas.• Formalise access roads and make use of existing roads including farm roads and tracks where feasible, rather than creating new routes through naturally vegetated areas.• Construction workers may not remove flora, and neither may anyone collect seeds from the plants without permission from the local authority.• Re-alignment of some of the routes should be considered – especially where routes traverse riverine/wetland vegetation.						
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<ul style="list-style-type: none">• Do not allow erosion to develop on a large scale before acting.• Retain vegetation and soil in position for as long as possible, removing it immediately ahead of construction / earthworks in that area.• Runoff from roads must be managed to avoid erosion and pollution problems.• Remove only the vegetation that is essential for construction and do not allow any disturbance to the adjoining natural vegetation cover. The grassland can be removed as sods and re-established after construction is completed.• After construction, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to construction.• Operational Phase						
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<ul style="list-style-type: none">• Monitor all sites disturbed by construction activities for colonisation by exotic or invasive plants and control these as they emerge. Monitoring should continue for at least two years after construction is complete.• Ensure that maintenance work does not occur haphazardly, but according to a fixed plan.• Delay the re-introduction of livestock (where applicable) to all rehabilitation areas until an acceptable level of re-vegetation has been reached.• Maintenance workers may not trample natural vegetation, and work should be restricted to previously disturbed footprints. In addition, mitigation measures as set out for the construction phase should be adhered to.						
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Avifauna

- A site-specific avifaunal walkthrough should be conducted by a qualified specialist as part of the site-specific EMP just before construction to ensure that no sensitive bird species have started breeding on or near the site. If any such sites are found case, specific mitigation measures will need to be designed;
- Watercourses, drainage lines, streams, and wetlands must be avoided, and a no-go buffer of m must be applied around them;
- Signage must be put all around the project site to bring awareness amongst the staff and laborer's to be sensitive towards the birds and wildlife that reside in the project area;
- All project activities must be undertaken with appropriate noise mitigation measures to avoid disturbance to human as well as avifauna populations in the region;

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<ul style="list-style-type: none"> • Facility lighting during construction and operation should be kept to a minimum and should make use of the latest technology to ensure that light disturbance is minimised. This will also reduce the attraction of insects (insectivorous birds) to the facility. • Follow Eskom's Vegetation Management Guideline and obtain necessary permits. • Minimize vegetation loss within the site layout footprint. • Demarcate the construction area before clearing; re-vegetate afterward. • Provide pre-construction environmental training to all staff. • Restrict storage and site camps to low-sensitivity areas within the project site. • Avoid storing materials in natural vegetation areas or near watercourses. • Prevent disturbance and waste dumping in indigenous vegetation areas. 						
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8.2 Sensitive areas: Watercourses

Impact management outcome: Minimize impact to the sensitive watercourses						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Develop soil management measures for the construction sites which will prevent runoff of sediment into the associated watercourses, e.g. scheduling the construction phase during low rainfall periods, installing soil curtains and use of swales to capture run-off water and settle suspended materials, etc. Avoiding the possibility of sediment ending up in watercourses. The layout of pylons should take cognisance of the delineated wetland boundaries. Approach to the working site should be designed to effectively avoid wetland habitat as far as possible. 	Contractor	-ECO to monitor construction activities.	-Construction phase.	-ECO. -Eskom EO.	-Daily	-No evidence of disturbance to wetland and rivers.

<ul style="list-style-type: none">• A wetland monitoring program should be established to proactively identify threats to wetlands before they cause damage, using an adaptive management approach. This includes detecting new concentrated drainage pathways and erosion due to new access roads. It is recommended that a wetland specialist, preferably, or an ecologist visit at least once during construction and once after its completion. The specialist must ensure no negative impacts on the wetlands have occurred or processes initiated that could harm the wetlands in the future, such as preferential flow paths or erosion.							
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8.3 Surface and Groundwater Pollution

Impact management outcome: Minimize heritage impact						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<p>Construction Phase</p> <ul style="list-style-type: none"> No activities should occur within a 100m or within a 1:100-year flood line, whichever is greatest without approval from DWS. Care must be taken during construction to prevent leaks and spillage of materials that may detrimentally affect water quality (especially fuels and chemicals). Care must be taken to avoid the destruction of water courses. Adequate measures must be put in place to prevent 	<p>-Contractor. - Archaeologist</p>	<p>-Implement chance finds procedure immediately upon uncovering heritage material. -Training in chance finds for all employees.</p>	<p>-Throughout construction.</p>	<p>-Eskom EO. -ECO</p>	<p>-Weekly</p>	<p>-Chance finds records. -Training records of chance finds</p>

<p>runoff of construction debris to nearby water bodies.</p> <ul style="list-style-type: none">• The use of any temporary, chemical toilet facilities must not cause any pollution to a water resource or pose a health hazard. In addition, these toilets must not be situated within 100m of a watercourse or within the 1:100-year floodline (whichever is the greatest). Furthermore, no form of secondary pollution should arise from the disposal of refuse or sewage from the temporary, chemical toilets. Any pollution problems arising from the above are to be addressed immediately by Eskom.• It is important that any significant spillage of chemicals, fuels, etc. during the construction phase and/or operational phase is reported to this Office and other relevant authorities.• Stockpiling of soil or any other materials used during the construction phase must						
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<p>not be allowed on or near steep slopes, a watercourse, or a water body.</p> <p>Operational Phase</p> <ul style="list-style-type: none"> Care must be taken during construction to prevent leaks and spillage of materials that may detrimentally affect water quality (especially fuels and chemicals). Care must be taken to avoid the destruction of water courses. 						
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8.4 Loss and disturbance of Wetland/riparian habitat

Impact management outcome: Minimize heritage impact						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<p>Construction Phase</p> <ul style="list-style-type: none"> Avoid construction activities in wetlands as far as possible through proper planning. 	-Contractor.	-Implement chance finds procedure	-Throughout construction.	-Eskom EO. -ECO	-Weekly	-Chance finds records.

<p>demarcation and appropriate environmental awareness training. Appropriate no-go areas must be assigned next to the valley-bottom wetland. Keeping work as far a possible upslope from the wetland, e.g. place soil stockpiles upslope from the excavations and installing soil curtains and or swales to capture any possible run-off.</p> <ul style="list-style-type: none"> • All construction staff must be informed of the need to be vigilant against any practice that will have a harmful effect on wetlands e.g. Do not take short-cuts through valley bottoms (wetlands) but use existing road infrastructure. • Any proclaimed weed or alien species that germinate during the construction and operational period shall be cleared. • Caution must be taken to ensure building materials are not dumped or stored within the delineated wetland zones 	<p>- Archaeologist</p>	<p>immediately upon uncovering heritage material.</p> <p>-Training in chance finds for all employees.</p>				<p>-Training records of chance finds</p>
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<ul style="list-style-type: none">• Emergency plans must be in place in case of spillages.• Littering and contamination of water sources during construction must be mitigated by effective construction camp management.• All construction materials including fuels and oil should be stored in a demarcated area that is contained within a bunded impermeable surface to avoid the spread of any contamination (outside of wetlands or wetland buffer zones).• Cement and plaster should only be mixed within mixing trays. Washing and cleaning• of equipment should also be done within a bermed area, to trap any cement or plaster and avoid excessive soil erosion. These sites must be rehabilitated prior to commencing the operational phase.						
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Operational Phase

- Use designated roads to access the site.
- Minimise development footprint.
- Delineate 30-50m buffers from aquatic habitats.
- Monitor and report on their effectiveness.
- Monitoring of implementation of mitigation controls, along with reporting, should be undertaken at least bi-annually during the operational phase.
- Preserve as much of the natural habitat as possible during the operation of the substation to lessen the operational impacts and to reduce the irreversibility of impacts.
- Effective restoration of the natural habitats that were intact before the development should be implemented and reported.
- Maintenance activities should not take place within watercourses or buffer zones, nor should edge effects impact on these areas.

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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.