May 2023

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT ASSOCIATED WITH THE PROPOSED DEVELOPMENT OF THE VLERMUISLAAGTE AND SISHEN STAGING LINES ALONG THE EXISTING MANGANESE RAILWAY LINE, KATHU, NORTHERN CAPE PROVINCE

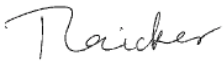
ENVIRONMENTAL MANAGEMENT PROGRAMME

DOCUMENT DESCRIPTION

Item	Description		
Proposed development and location	The proposed development of the Vlermuislaagte and Sishen staging lines along the existing manganese railway line, Kathu, Northern Cape Province		
Purpose of the study	Environmental Management Programme Report associated with an application for Environmental Authorisation for the proposed development		
1:50 000 Topographic Map	Attached in **Appendix C**		
Coordinates (center point)	Sishen staging line start: 27°48'7.50"S 23° 2'27.93"E	Sishen staging line middle: 27°46'37.88"S 23° 2'38.55"E	Sishen staging line end: 27°45'48.36"S 23° 02'9.97"E
	Vlermuislaagte Staging line Start: 27°32'22.63"S 22°56'23.11"E	Vlermuislaagte Staging line Middle: 27°30'12.89"S 22°57'3.44"E	Vlermuislaagte Staging line End: 27°28'0.63"S 22°57'57.28"E
Municipalities	Gamagara Local Municipality		
Predominant land use of surrounding area	Railway infrastructure, mining and agriculture		
Applicant/Developer	Transnet Freight Rail, an operating division of Transnet SOC Ltd		
Prepared for:	Transnet Freight Rail, an operating division of Transnet SOC Ltd 150 Commissioner Street Johannesburg Email : Sibongile.Sibisi@transnet.net Attention : Sibongile Sibisi		
Prepared by	Remofilwe 2010 Trading (Pty) Ltd Physical Address: 8 Ixia Street, Kuruman, Northern Cape, 8460 Postal Address: Private Bag X1532, Postnet Suite 502, Kuruman, Northern Cape, 8460 Cell phone: 072 175 2417 Email: environment@remo2010.co.za		
Author/EAP	Moses Kgopana (EAPASA Reg: 2022/4555) Cell phone: 076 328 1558 Email: environment@remo2010.co.za.		
Date of report	May 2023		

TITLE AND APPROVAL PAGE

Author and review:

Name	Title	Signature	Date
Moses Kgopana	Environmental Assessment Practitioner		**16 May 2023**
Tashriq Naicker	Project Manager		**16 May 2023**

ACKNOWLEDGEMENTS

The authors acknowledge Transnet Freight Rail, an operating division of Transnet SOC Ltd for their assistance with project information, layouts and the associated project background Information documents (BID) as well as responding to technical queries related to the project.

EAP UNDERTAKING

THE INDEPENDENT ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

I **Moses Kgopana**, on behalf of **Remofilwe 2010 Trading (Pty) Ltd**, as the appointed independent environmental practitioner ("EAP") hereby declare that I:

- act/ed as the independent EAP in this application;
- regard the information contained in this report to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the application was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- have ensured that the comments of all interested and affected parties were considered, recorded and submitted to the competent authority in respect of the application;
- have kept a register of all interested and affected parties that participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favorable to the applicant or not; and
- am aware that a false declaration is an offence in terms of the EIA Regulations.

Signature of the Environmental Assessment Practitioner:

Name of company: Remofilwe 2010 Trading (Pty) Ltd

Date: 16 May 2023

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TERMS AND DEFINITIONS

AUDIT: Regular inspection and verification of compliance with the approved EMPr.

CONTRACTOR: Construction companies are appointed on behalf of the Project Proponent to undertake the construction activities, as well as their subcontractors and suppliers.

DEVELOPMENT SITE: Boundary and extent of development works and infrastructure.

EMERGENCY SITUATION: An incident, which potentially has the ability to significantly impact on the environment, and which, could cause irreparable damage to sensitive environmental features. Typical situations entail amongst others the:

- Spill of petroleum products and lubricants into the aquatic system.
- Potential damage, erosion and slumping of unstable river embankments or drainage channels.
- Potential event of impeding the continuous flow of water to downstream water users dependent on the flow.

ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)*:* A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive environmental impacts and limiting or preventing negative environmental impacts are implemented during the life-cycle of the project.

ENVIRONMENT: The environment means the surroundings within which humans exist and that could be made up of water, air, soil, sand, plants and animals.

ENVIRONMENTAL ASPECT: Any geographical, physical, biological, social, economic and cultural aspects of the environment that may be affected by the proposed development.

ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP): An individual responsible for the planning, management, coordination or review of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instruments introduced through regulations.

ENVIRONMENTAL IMPACT: An impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of the development. An impact may be the direct or indirect consequence of the development.

ENVIRONMENTAL CONTROL OFFICER (ECO): A qualified person nominated by the appointed contractor and/or Project Proponent who will ensure the day-to-day implementation of the EMPr by contractors during development activities.

GENERAL WASTE: Domestic waste, commercial waste, non-hazardous industrial waste and builder's rubble e.g. paper, plastics, food, tins, wood, etc.

HAZARDOUS WASTE: Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.

HERITAGE RESOURCES: Any place or object of cultural significance, including all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

HERITAGE: That which is inherited and forms part of the National Estate (historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999.

IEM: Integrated Environmental Management.

IMPACT: A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.

NEMA: National Environmental Management Act 107 of 1998.

NEMAQA: National Environmental Management Air Quality Act 39 of 2004.

NEMWA: National Environmental Management: Waste Act 59 of 2008

NWA: National Water Act 36 of 1998.

REHABILITATION: Rehabilitation is defined as the return of a disturbed area, feature or structure to a state that approximates to the state (where possible) that it was prior disruption, or to an improved state.

PALAEONTOLOGY: Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

POLLUTION*:* Any change in the environment caused by – substances; radioactive or other waves; or noise, odours, dust or heat; emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

PROJECT/SITE MANAGER: A person who represents the Project Proponent and is responsible for enforcing the technical and contractual requirements of the project.

SAHRA: South African Heritage Resource Agency

SOLID WASTE: All solid waste, including construction debris, chemical waste, excess cement/concrete, wrapping material, timber, tins and cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers).

TOPSOIL: The layer of soil covering the earth which provides a sustainable environment for the germination of seeds, allows water penetration, and is a source of micro-organisms and plant nutrients.

WASTE: Waste means any substance, whether or not that substance can be reduced, re-used, recycled and recovered and includes waste:

- that is surplus, unwanted, rejected, discarded, abandoned or disposed of,

- which the generator has no further use of for the purposes of production,
- that must be treated or disposed of,
- that is identified as a waste by the relevant Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but—
- a by-product is not considered waste; and
- any portion of waste, once re-used, recycled and recovered, ceases to be waste.

WASTE DISPOSAL FACILITY: Waste disposal facility means any site or premises used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premises.

WATER POLLUTION*:* The NWA defines water pollution as the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it – less fit for any beneficial purpose for which it may reasonably be expected to be used; or harmful or potentially harmful to the welfare, health or safety of human beings; to any aquatic or non-aquatic organisms; to the resource quality; or to property.

WATERCOURSE: A natural channel or depression in which water flows regularly or intermittently . Or a wetland, lake or dam into which, or from which, water flows; and any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the NWA.

WUL: Water Use License.

ENVIRONMENTAL ASSESSMENT PRACTITIONER

Remofilwe 2010 Trading (Pty) Ltd (Remofilwe) has been appointed by Transnet Freight Rail, an operating division of Transnet SOC Ltd (hereafter referred to as "Transnet") (the Applicant) to undertake the required Environmental Authorisation (EA) and Water Use Licence (WUL) applications for the proposed development of the Vlermuislaagte and Sishen staging lines and crossing loops along the existing manganese railway line, Kathu, Northern Cape Province (the project).

Transnet is currently implementing solutions for the Manganese Expansion Program in respect of exporting manganese on the Sishen-Saldanha Corridor and the manganese PE/Ngqura corridor. The current scope of the project will present the expansion program with options to optimally utilize the rail capacities enroute to Sishen and to provide appropriate and cost-effective means of expanding these capacities to meet the validated tonnage demand. The proposed solution is to provide additional staging lines in Sishen and provide additional facilities at the Vlermuislaagte rail siding.

As indicated in Figure 1, the proposed Vlermuislaagte loop is located approximately 20 km west-north of the town of Kathu, 9 km south-south-west of the South32 Mamatwan mine and 9 km north-east of the town of Deben in Ward 2, Gamagara Local Municipality (GLM). The proposed Sishen Erts Yard loop is located adjacent, east of the Sishen Iron Ore mining pit, approximately 7 km South of the Kathu Central Business District in Ward 8 of GLM. The Vlermuislaagte loop and Sishen Erts Yard loop are separated by approximately 26 km.

Remofilwe's scope of work includes undertaking a Basic Assessment (BA) Process including a Public Participation Process in applying for the relevant EA in line with the requirements of the Environmental Impact Assessment Regulations, 2014 (as amended) (EIA Regulations).

As shown within the BA Report, the proposed project will have minimal environmental impacts which should be manageable through good design practices and following all environmental recommendations made in the sections above and in the Environmental Management Programme (EMPr). The BA Report and EMPr for the proposed project will be submitted to the Department of Forestry Fisheries and Environment (DFFE). The WUL Application will be submitted to the Department of Water and Sanitation (DWS) Northern Cape Region.

The contact details and experience of the EAP undertaking the application are provided in Table 1 below and proof of qualification is attached in **Appendix A**.

Table 1: EAP Details

EAP:	**Moses Kgopana (Reg. EAP & Pr.Sci.Nat)**
Experience:	Moses Kgopana is an Environmental Manager with a four year bachelor's degree in Environmental Management with over 13 years' experience. Mr Kgopana is a registered Professional Natural Scientist with the South African Council for Natural Scientific Professions (SACNASP). Mr Kgopana is also registered with the Environmental Assessment Practitioners Association of South Africa (EAPASA).

	Mr Kgopana has experience in various aspects of Environmental Management and this includes the following: Undertaking and writing Environmental Impact Assessment; • Writing Environmental Management Programmes; • Undertaking and writing Waste Management Report; • Waste License; • Sensitivity analysis, planning and Mapping; • Conducting Public Participation Process; • Conducting environmental awareness training; and • Conducting legal compliance audits.
Contact details:	Cell phone: 076 328 1558 Email: environment@remo2010.co.za.
EAPASA:	Registration number 2022/4555

1 INTRODUCTION

1.1 INTRODUCTION

Remofilwe 2010 Trading (Pty) Ltd (Remofilwe) has been appointed by Transnet Freight Rail, an operating division of Transnet SOC Ltd (hereafter referred to as "Transnet") (the Applicant) to undertake the required Environmental Authorisation (EA) and Water Use Licence (WUL) applications for the proposed development of the Vlermuislaagte and Sishen staging lines and crossing loops along the existing manganese railway line, Kathu, Northern Cape Province (the project).

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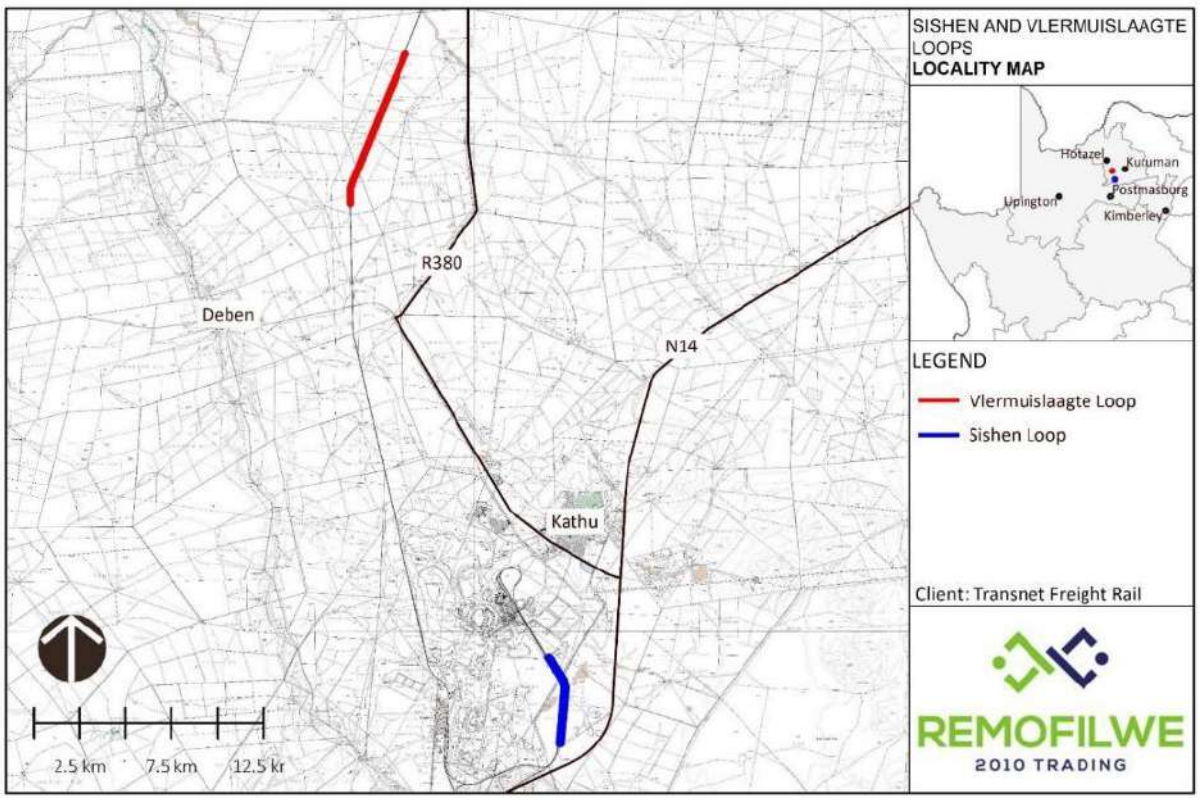


Figure 1: Vlermuislaagte loops and Sishen Erts Yard development locality

1.2 PROPOSED PROJECT INFRASTRUCTURE

The proposed project will comprise the following components:

1.2.1 Sishen scope

The proposed Sishen expansion (total length of 5 km) includes, but not limited to the following:

- Relocation of Eskom pylons.
- Bridge alterations to ensure space/clearances underneath.
- Lines to be electrified to 50 kV AC.
- Relocation of the following:
  - Relocation of power line (132kV).
  - Relocation of power line (11 kV / 6.6 kV).
  - Service roads (4 m wide).
  - Overheard aerial feeder and return conductors.
  - Optic fibre cables if on the impacted structures.
- Culverts extensions.
- Demolish and relocate retaining wall running parallel to the rail track.
- Drainage for additional lines.
- Two (2) lines to be added on the eastern side of the yard as per considered Option 4, which will accommodate three (3) rakes of 116 CR13/14 wagon for iron ore trains and three (2) rakes of 125 CR17 wagon for Manganese trains. These rakes will be pulled by a combination of 15E and 43D locomotives.
- One (1) line to be added on the locomotive staging area.

1.2.2 Vlermuislaagte scope

The proposed Vlermuislaagte expansion (total length of 8 km) includes, but not limited to the following:

- Two (2) arrival lines/crossing loops for 125 wagon trains (approximately 1500 m long) to accommodate manganese traffic.
- Two (2) additional loops for staging trains.
- Shunting neck to accommodate 125 wagons.
- Track slab or inspection slab.
- Five (5) non-electrified “Not to Go” shunting spurs to accommodate six (6) wagons. Shunting spurs will be used to uncouple overloaded wagons for load weight rectification onsite.
- Additional inspection road.
- One (1) covered parking with four (4) vehicle parking bays.
- Hot box detector and vehicle identification system (i.e. signaling).
- One (1) level crossing will be relocated and another level crossing will be upgraded at Vlermuislaagte.
- All level crossings will include cattle grids.
- The site will have a 6 m wide surfaced road along its length on the east of the yard and access is proposed from either the Mamatwan Yard or from the R380. The servitude will be increased by approximately 80m.
- Lines to be electrified to 3 kV DC.
- Relay rooms will be constructed for signaling works. Colour signals to be integrated with the Central Traffic Control CS90 train authorization system.
- The turnouts shall be 1:20 or 1:12.

- Catch points will be added to the first loop to protect the mainline.
- 1:12 Runaway sets to be installed to protect loop 1 and 2.

1.2.3 Train frequency

It is understood that the train frequency on the current line is approximately 22 trains per day operating over a 24-hour period. Under the proposed project, the frequency of the trains will be reduced to approximately 17 trains per day operating over a 24-hour period however, the train wagon length will be approximately doubled.

1.3 SITE LOCATION

The proposed project site, comprising both Vlermuislaagte loops and Sishen Erts Yard loop development are located on property owned by Transnet. However, to effect the full upgrades to the Vlermuislaagte loops, it will be necessary to acquire some land from the adjacent landowner (Transnet is currently in negotiations). The proposed project site is located within close proximity of Kathu, Gamagara Local Municipality (GLM), John Taolo Gaetsewe District Municipality (JTGDM), Northern Cape Province (Figure 1). The Vlermuislaagte site is located 20 km north-west of the town of Kathu, in Ward 2 of GLM. The Sishen Erts loop site is located 7 km south-west of the town of Kathu, in Ward 8 of GLM.

The Sishen loop upgrades will be for a length of approximately 5km and the Vlermuislaagte loop is 8km in length. **A corridor of 100m has been assessed for both loops**. The area is fenced off and located within the footprint of existing Transnet infrastructure.

The area coordinates of the boundary points for the proposed project are summarized in Table 2. Properties associated with the Sishen and Vlermuislaagte loops are listed in Table 3.

Table 2: Coordinates for the staging lines/loops

Staging Line	Start	Middle	End
Sishen	27°48'7.50"S 23° 2'27.93"E	27°46'37.88"S 23° 2'38.55"E	27°45'48.36"S 23° 02'9.97"E
Vlermuislaagte	27°32'22.63"S 22°56'23.11"E	27°30'12.89"S 22°57'3.44"E	27°28'0.63"S 22°57'57.28"E

Table 3: Properties associated with the project loops

Farm Name	Portion	Surveyor-General Cadastral Code No.	Site
Walton 390	Remaining Extent	C04100000000039000000	Vlermuislaagte
Walton 390	Portion 4	C04100000000039000004	Vlermuislaagte
Walton 390	Portion 5	C04100000000039000005	Vlermuislaagte
Bruce 544	Portion 1	C04100000000054400001	Sishen

Bruce 544	Portion 2	C04100000000054400002	Sishen
Bruce 544	Portion 6	C04100000000054400006	Sishen
Lylyveld 545	Portion 2	C04100000000054500002	Sishen
Lylyveld 545	Portion 3	C04100000000054500003	Sishen

1.4 PURPOSE OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

The EMPr forms part of the contractual obligations to which the Project Proponent and all contractors/employees involved in development activities must be committed. It serves as a guideline and baseline information document for the expansion program that will add staging lines in Sishen and provide additional facilities at the Vlermuislaagte rail siding by the Project Proponent. The EMPr aims to comply with Section 24N of the National Environmental Management Act 107 of 1998 (NEMA), as well as the EIA Regulations.

In accordance with the approach stipulated in Appendix 4 of the EIA Regulations, this section outlines steps that will be taken to avoid or minimize impacts on the environment throughout all phases of the development and operation activities.

The main objectives of this EMPr are therefore to:

- Outline environmental management measures related to project activities and provide project contractors with guidelines for carrying out development and operational activities in a manner that will minimize environmental impacts.
- Be used as a foundation for the specific environmental management instructions contained in development contract documents, where compliance will be a contractual obligation for contractor(s).
- Be used as an educational tool, for orientation and training of project personnel and contractors.
- To outline functions and responsibilities of responsible persons.
- To state standards and guidelines, which are required to be achieved in terms of environmental legislation.
- To outline mitigation measures and environmental specifications which must be implemented for all phases of the project in order to minimize the extent of environmental impacts, and to manage environmental impacts associated with the proposed project.
- To prevent long-term or permanent environmental degradation.

1.5 STRUCTURE OF THE EMPR

This section outlines the structure and operational aspects of the EMPr. The project EMPr is comprised of four main phases which are described in Table 4.

Table 4: Phase of the project

Category	Phases	Description
Category A	Pre-Construction	This section will provide guidelines on Pre-construction activities including site establishment and clearance; environmental induction and training and awareness; site access and health and safety.
Category B	Construction	This section will provide guidelines on the construction methods and considerations.
Category C	Operation	This section will provide guideline on the practice and responsibility as required for various activities during operation.
Category D	Rehabilitation	This section of the EMPr provides management principles for the rehabilitation phase of the Development. This will include best practice, procedures and responsibilities as required for various associated activities.

Relevant environmental legislation pertaining to the development is listed in section 3. This EMPr is a dynamic document which will be updated as required on a continuous basis to ensure environmental best practices. Any substantive amendments made to the EMPr must be submitted to the relevant Authority (DFFE) for information purposes and/or approval.

1.5.1 EMPr as a Live Document

The approach adopted for this EMPr is derived from the Deming Cycle (Figure 2), which is a cycle of continuous improvement that entails the reiterative actions of Plan, Do, Check, Act, and then return to the planning phase.

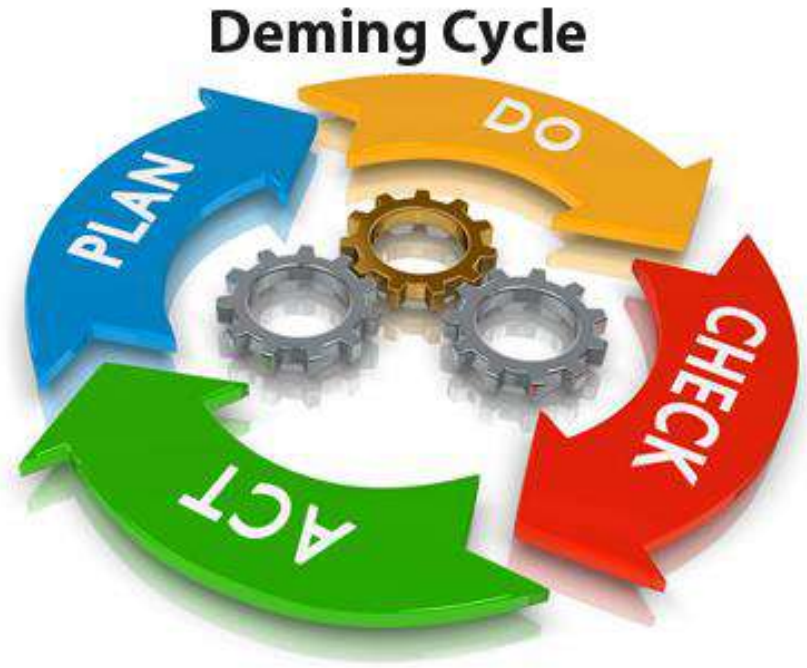


Figure 2: Deming Cycle

Plan

Project-specific planning for the proposed project involves consideration of the legal triggers, the specifics of the development activities, and the nature of the receiving environment. This provides a starting point for targeted environmental management objectives. Environmental performance indicators are then determined with measurable targets prescribed to monitor the environmental performance of the project. Achieving the targets depends on compliance with this EMPr and the legislative requirements that underpin it.

Do

Throughout the development's life-span, the Project Proponent will be required to develop and maintain a Quality Management System (QMS) that is designed to ensure that best management practices are implemented during day-to-day management. The QMS should at least include the following information:

- Location and extent of associated infrastructure.
- Associated activities, such as the transportation of people and equipment.
- Resources and experience required (staffing).
- Materials and equipment to be used.
- Management actions.
- Human resources used.
- Development-monitoring activities.
- Emergency /disaster incident and reaction procedures.
- Construction procedures for the impacted environment.

These topics will be cross-linked into the contracts related to the development of the project.

Check

A system of assessing monitoring results has been developed to check the environmental management performance. Continuous assessment facilitates proactive management of the environmental issues. Mitigation measures can then be successfully implemented on an ongoing basis to keep environmental indicators within their target thresholds. Moreover, the assessment system also enables the assessment of the efficiency of the EMPr. Regular auditing of environmental performance is prescribed to prove and preserve accountability.

Act

The assessments and monitoring of the results and findings of regular audits must be documented within a reporting system. Precautionary mitigation measures and corrective actions will be prescribed and instructions will be given in order to implement these in the field. The findings of monitoring and auditing programmes can also be used to update the EMPr. Although the EMPr is a project-specific document, it is dynamic and should be updated regularly to address the changing circumstances of the development.

1.6 ENVIRONMENTAL CODE OF CONDUCT

One of the objectives of the EMPr is to ensure that all the workforce, contractors, sub-contractors and construction staff have an understanding of environmental issues and potential impacts of on-site activities. This environmental code of conduct provides the basic rules that must be strictly adhered to.

It is the responsibility of the Site Environmental Officer, the Environmental Officer and Environmental Control Officer (ECO) (as appointed) to ensure that each contractor, sub-contractor and employee understand and adhere to the Code of Conduct.

All persons are obliged to adhere to the rules of this code of conduct. Ignorance, negligence, recklessness or a general lack of commitment resulting in environmental degradation or pollution must not be tolerated.

Environmental Rules

- Do not waste electricity, water or consumables.
- Only use authorised accesses.
- Do not litter.
- Dispose solid waste to the correct waste containers provided.
- Prevent pollution.
- Use the toilet facilities provided.
- Do not dispose contaminated wastewater to the storm water or the environment.
- Immediately report any spillage from containers, plant or vehicles.
- Do not burn or bury any waste in the sand.
- Do not trespass onto private properties.
- Strictly leave all animals alone. Never tease, catch or set devices to trap or kill any animal.
- Never damage or remove any trees, shrubs or branches unless it forms part of working instructions.
- Do not deface, draw or cut lettering or any other markings on trees, rocks or buildings in the area.
- Know the firefighting procedure and locations of firefighting equipment.
- Know the environmental incident procedures.

2 MANAGEMENT AND MONITORING PROCEDURE

2.1 ORGANIZATIONAL STRUCTURE AND RESPONSIBILITY

This section indicates the party responsible for implementing the environmental measures and action plans laid out in this EMPr.

Formal responsibilities are necessary to ensure that key procedures are executed. Specific responsibilities of the Project Proponent, Project Manager, Site Manager/Engineer, Contractor/Operator and ECO are as detailed below.

Transnet/Project Environmental Manager shall:

- Be fully conversant with the EMPr for the project.
- Ensure that the Project Engineer and the Contractor/Operator are aware of all specifications, legal constraints, standards and procedures pertaining to the project, specifically with regard to the environment.
- Ensure that all stipulations within the EMPr are communicated and adhered to by the Project Engineer and the Contractor/Operator.
- Monitor the implementation of the EMPr throughout the project by means of regular site visits and meetings.
- Order the removal of any person(s) acting in and/or equipment used in contravention of the specifications of the EMPr.

The Construction Manager / Environmental Officer shall:

- Be fully conversant with the EMPr for the project.
- Ensure compliance with the EMPr.
- Have overall responsibility for the implementation of the EMPr.
- Liaise with the Project Manager and Contractor/Operator on matters concerning the environment.
- Prevent actions that will harm or may cause harm to the environment, and take steps to prevent pollution of the site.
- Implement remedial measures in the event of pollution incidents or environmental impacts.
- Monitor and verify that environmental impacts are kept to a minimum.
- Review and approve construction methods where necessary.
- Order the removal of any person(s) and/or equipment in contravention of the specifications of the EMPr.

The Contractor shall:

- Be fully conversant with the EMPr for the project.
- Ensure compliance with the EMPr.
- Ensure that all the environmental specifications contained within this EMPr are adhered to at the site.
- Regularly liaise with the Site Manager on matters relating to the environment.
- Confine construction activities to the demarcated construction site.

The above responsibilities listed for the Contractor will also apply to any appointed sub-consultants.

The ECO shall:

- Be fully conversant with the EMPr for the project.
- Be fully conversant with all environmental legislation and ensure compliance.
- Ensure that all the environmental specifications contained within this EMPr are adhered to at the site.
- Regularly liaise with the Site Manager on matters relating to the environment.
- Compile monthly reports as to the progress of the development phases and report to all parties involved (Site Manager, Project Proponent).

2.2 ENVIRONMENTAL AWARENESS TRAINING

Training and environmental awareness is an integral part of a complete EMPr. The overall aim of the training will be to ensure that all site staff are informed of their relevant requirements and obligations pertaining to the relevant authorizations, licenses, permits and the approved EMPr and protection of the environment. Environmental awareness training courses should be run for all personnel on site. Two types of courses should be run (at the discretion of the ECO), one for the Contractor's and Subcontractor's management and one for all site staff and laborers (where applicable). Courses shall be run in the morning during normal working hours at a suitable venue provided by the Contractor. All attendees shall remain for the duration of the course and sign an attendance register on completion that clearly indicates participant's names, a copy of which shall be handed to the ECO.

- The size of each session shall be limited to 20 people. The Contractor shall allow for sufficient sessions to train all personnel. Subsequent sessions shall be run for any new personnel coming onto site. A Method Statement with respect to the organization of these courses shall be submitted.
- Notwithstanding the specific provisions of this clause it is incumbent upon the Contractor to convey the sentiments of the EMPr to all personnel and Subcontractors involved with the Works.
- Refresher environmental awareness training will be undertaken as and when required.

2.2.1 Training Course for Management and Foremen

- The environmental awareness training course for management shall include all management staff and foremen. The course, which will be presented by the ECO, will be of approximately one-hour duration.
- The initial course shall be undertaken not less than 7 days prior to commencement of work on site. Subsequent courses shall be held as and when required.

2.2.2 Training Course for Site Staff and Labour

- The environmental awareness training course for site staff and labour shall be presented by the Contractor's SHE Officer from material provided by the EO/ECO unless otherwise required by the Project Specification. The course will be approximately one-hour long.
- The course shall be run not more than 7 days after commencement of work on site with sufficient sessions to accommodate all available personnel. Subsequent courses shall be held as and when required.

2.2.3 Construction Personnel Information Posters

- The Contractor shall erect and maintain information posters for the information of his employees depicting actions to be taken to ensure compliance with the EMPr. Construction personnel information posters shall be laminated and erected in all eating areas, workshops and site offices. The Contractor shall ensure that the construction personnel information posters are not damaged in any way, and shall replace them if any part becomes illegible.
- Posters will include the following information as a minimum:
  - Safety notifications.
  - No littering.

2.2.4 The Environmental Awareness Training Programme will include:

- The induction of all construction staff.
- Signing by all persons, an acknowledgement of receiving and understanding the induction.
- Identification of environmental risks and job specific training on addressing these risks; and training on the implementation of emergency procedures (where necessary).
- Course material will be available and presented in appropriate languages that all staff can understand.

2.2.5 Topics Covered by the Environmental Awareness Programme Should include:

- What is meant by “Environment”?
- Why does the environment need to be protected and conserved?
- How can construction activities impact on the environment?
- What can be done to mitigate against such impacts?
- Awareness of emergency and spills response provisions.
- Other topics will include the following:
  - Description of significant environmental impacts, actual or potential, related to their work activities.
  - Mitigation measures to be implemented when carrying out specific activities.
  - Emergency preparedness and response procedures.
  - Emergency procedures.
  - Procedures to be followed when working near or within sensitive areas.
  - Wastewater management procedures.
  - Water usage and conservation.
  - Solid waste management procedures.
  - Sanitation procedures.
  - Fire prevention.
  - Disease prevention.

3 LEGISLATION AND GUIDELINES

All applicable environmental standards contained within the environmental legislation will be adhered to. Below is an outline of applicable legislation and guidelines for the development activities:

3.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA, 1996 (CONSTITUTION)

The Constitution provides that, everyone has a right to an environment that is not harmful to their health or well-being. It further provides that, the environment should be protected for future generations through the implementation of the reasonable legislative and other measures that prevent pollution and ecological degradation.

3.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT 107 OF 1998 (NEMA)

The NEMA aims to improve the quality of environmental decision-making by setting out principles for environmental management that apply to all government departments and organizations that may affect the environment. The IEM principles outlined in the NEMA also aim to ensure that environmental impacts are considered before actions are taken or implemented and to ensure that there are adequate opportunities for public participation in decisions that may affect the environment. The NEMA also creates a framework for facilitating the role of civil society in environmental governance.

3.3 EIA REGULATIONS

The NEMA EIA Regulations were promulgated and came into effect on 4 December 2014. Substantial amendments to the EIA Regulations published in Government Notice 326, *GG* 40772 came into effect on 7 April 2017. Further amendments were made and took effect on 13 July 2018, 29 May 2020 and 11 June 2021. The EIA Regulations, read with the EIA Regulations Listing Notices 1 - 3 regulate the procedure and criteria as contemplated in Chapter 5 of the NEMA relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for EAs for the commencement of listed activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.

3.4 NATIONAL WATER ACT 36 OF 1998 (NWA)

In terms of Chapter 3 of the NWA, water resources are to be protected, used, developed, conserved, managed and controlled. The NWA recognizes that water is a scarce natural that belongs to all of South Africa's people. The National Department of Water and Sanitation (DWS) is responsible for the nation's water resource. The Minister of Water and Sanitation must ensure that water resources are "protected, used, developed, conserved, managed and controlled" through the implementation of the NWA.

3.5 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT 39 OF 2004 (NEMAQA)

The main objective of the NEMAQA is the protection of the environment and human health in a sustainable (economic, social and ecological) development framework, through reasonable measures of air pollution control.

3.6 OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993 (OHSA)

To provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work.

All permits required in terms of the OHSA must be obtained from the relevant authority prior to construction.

3.7 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT 59 OF 2008 (NEMWA)

The NEMWA provides reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development. One of its main objectives is to protect health, wellbeing and the environment by providing reasonable measures for securing ecologically sustainable development while promoting justifiable economic and social development.

Prior to undertaking any activities listed in Schedule 1 of NEMWA or the List of waste management activities that have, or are likely to have, a detrimental effect on the environment,[1] a proponent must apply for a Waste Management Licence (WML) and undertake either a BA or Scoping and Environmental Impact Reporting process (S&EIR) process as outlined in the EIA Regulations.[2]

3.8 NATIONAL HERITAGE RESOURCE ACT 25 OF 1999 (NHRA) AND ITS REGULATIONS

No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site. No person may, without a permit issued by the South African Heritage Resource Agency (SAHRA) or a provincial heritage resources authority destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. A grave is widely defined in the Act to include the contents, headstone or other marker of such a place, and any other structure on or associated with such place. No heritage resources are affected by the development.

3.9 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT 10 OF 2004 (NEMBA)

The NEMBA is intended to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith.[3]

The NEMBA provides for listing of threatened or protected ecosystems, in one of four categories: Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or protected. The main purpose for the listing of threatened ecosystems is an attempt to reduce the rate of ecosystem and species destruction and habitat

1 List of waste management activities that have, or are likely to have, a detrimental effect on the environment GN 921 published in *GG* 37083 of 29 November 2013 (as amended).

2 NEMWA Schedule 1, and the NEMWA listed activities (note 1 above) provide that Category A activities require a basic assessment process detailed in the EIA Regulations, Regulations 19 & 20. Category B activities require a S&EIR processes detailed in the EIA Regulations, Regulations 21 – 24.

3 NEMBA Preamble.

loss, leading to extinction. This includes preventing further degradation and loss of structure, function and composition of threatened ecosystems (SANBI).[4]

3.10 CONSERVATION OF AGRICULTURAL RESOURCES ACT 43 OF 1983 (CARA)

The CARA is intended to provide for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.[5]

The CARA lists various categories of alien plant species, some of which are invasive, and stipulates various measures that must be complied with in order to achieve the objectives of this Act.

3.11 NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT 57 OF 2003 (NEMPAA)

The NEMPA provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas; for the continued existence, governance and functions of South African National Parks; and for matters in connection therewith.[6]

The NEMPA places restrictions on commercial activities that may be undertaken within protected areas; protected environments; national parks; nature reserves; mountain catchment areas; wilderness areas; and world heritage sites.

This EMPr process also takes consideration the following legislation

- South African National Standard SANS 10103:2008 (The Measurement and Rating of Environmental Noise with Respect to Annoyance and Speech Communication).
- National Noise Control Regulations (1998).

[4] Ecology Report p 16
[5] CARA Preamble.
[6] NEMPA Preamble.

4 PRE-CONSTRUCTION ACTIVITIES

The "front-end" work of surveying, environmental flagging of preservation sites, access planning, and construction activities can result in localized environmental impacts. The following environmental management measures have been identified to avoid potential environmental concerns.

- Surveyors should make an effort to locate and mark all the activities that will be undertaken during the construction phase.
- Work specifications will clearly define equipment limitation and procedures for working in the vicinity of these facilities.
- The contractor will endeavor to record any property that might be affected by the construction project.
- Typically, pre-construction activities might include limited earthmoving, should earthmoving be required, appropriate erosion and sediment control measures will be developed and implemented.
- The contractor should follow Engineering Council of South Africa (ECSA) standards of putting up a standard board reflecting all the parties involved on the project and the details of the Emergency number.

The best practice measures for implementation during pre-construction, are outlined in the table below.

Table 5: Best practice measures in pre-construction phase

ACTIVITY / IMPACT	RECOMMENDED MEASURES		RESPONSIBLE PARTY	FREQUENCY OF ACTION	MONITORING REQUIREMENTS
1. Construction Site Planning and Layout	**Management Objectives**	Appropriate planning and layout of construction site to ensure environmental protection.	• Proponent – acquire permits. • Project Manager and ECO – to check.	**Once-off, As necessary**	• Approved site plan. • Barricading and signage. • Records of awareness creation.
	Targets	No impacts to sensitive environmental features as a result of construction site planning and layout.			
	Management Actions: • The appointment of an ECO.				

ACTIVITY / IMPACT	RECOMMENDED MEASURES	RESPONSIBLE PARTY	FREQUENCY OF ACTION	MONITORING REQUIREMENTS
	• Conduct a pre-construction survey of the area to be affected by the development. This must include site investigations with photographic records. • During site preparation, special care must be taken during the clearing of the works area where organic material will be stored separately from the topsoil and spoil material to ensure for the protection thereof. This topsoil must be re-used during the rehabilitation phase where practical. • During site preparation, topsoil and subsoil are stripped separately from each other and must be stored separately from spoil material for use in the rehabilitation phase. It should be protected from wind and rain, as well as contamination from diesel, concrete or wastewater. • Records of all environmental incidents must be maintained and a copy of these records must be made available to authorities on request throughout the project execution. • No access to no-go areas without the permission of the Project Manager. • The Contractor to develop method statements to be approved by the Project Manager prior to construction taking place.	• Contractor to implement management actions.		• Plant rescue and protection where required.

ACTIVITY / IMPACT	RECOMMENDED MEASURES		RESPONSIBLE PARTY	FREQUENCY OF ACTION	MONITORING REQUIREMENTS
	• Define and communicate roles and responsibilities for the implementation of the EMPr. • Develop and implement an environmental awareness plan. • Records of compliance/non-compliance must be kept on site at all times for Competent Authority.				
2. Environmental Awareness and Training	**Management Objectives**	Ensure that the Contractor, construction workers and site personnel are aware of the relevant provisions of the EMPr.	• Contractor to implement management actions. • Project Environmental Manager and ECO – to check.	**Once-off, As necessary**	• Public complaints register. • Records of environmental training and awareness creation.
	Targets	• All construction workers and employees to have completed appropriate environmental training. • A record of environmental training undertaken to be kept on site.			
	Management Actions: • The Contractor must arrange that all of his employees and those of his sub-contractor go through the project specific environmental awareness training courses before the commencement of construction and as and when new staff or sub-contractors are brought on site.				

ACTIVITY / IMPACT	RECOMMENDED MEASURES		RESPONSIBLE PARTY	FREQUENCY OF ACTION	MONITORING REQUIREMENTS
	• The contractor's site staff including foremen and site management staff shall attend an environmental awareness training course provided by the ECO and a signed attendance register shall be kept available for confirmation. • The environmental training is compulsory for all employees and structured in accordance with their relevant rank, level and responsibility, as well as the Environmental Specification as they apply to the works and site.				
3. Consultation with Interested & Affected Parties	**Management Objectives**	• Establish and maintain a record of all complaints and claims against the project and ensure that these are timeously and effectively verified and responded to. • Adhere to agreements made with adjacent landowners and community members regarding communication.	• Contractor to implement management actions. • Project Manager and ECO – to check.	**Continuous**	complaints register.
	Targets	• All complaints and claims are to be acknowledged within five (5) working days and are to be responded to within 10 working days of receipt, unless additional information and/or clarification are required.			

ACTIVITY / IMPACT	RECOMMENDED MEASURES	RESPONSIBLE PARTY	FREQUENCY OF ACTION	MONITORING REQUIREMENTS
	• No deviations from agreements made with adjacent landowners and community members.			
	Management Actions: • Establish lines of communications with affected parties, adjacent landowners, and community members. • Establish processes and procedures to effectively verify and address complaints and claims received. • Complaints or liaison with affected parties, adjacent landowners, and community members with regard to environmental aspects, compensation or disturbance to activities or animals, must be recorded, reported to the correct person and a record of the response is to be entered in the complaints register. • Provide the relevant contact details of the contractor, the ECO and/or other relevant project team members to affected parties, adjacent landowners, and community members for queries/raising of issues or complaints. • Continued liaison with authorities with regards to compliance with the EMPr.			

ACTIVITY / IMPACT	RECOMMENDED MEASURES	RESPONSIBLE PARTY	FREQUENCY OF ACTION	MONITORING REQUIREMENTS
4. Noise Baseline Monitoring	One month prior to the construction phase, a suitable baseline noise monitoring campaign must be undertaken at the nearby sensitive receptors to establish the day and night-time baseline noise levels prior to the construction phase	• Contractor to implement management actions. • Project Manager and ECO – to check.	Once-off	Record of noise baseline monitoring establishment
5. Design specifications	• All project design specifications must include the requirement that the cumulative noise generation levels of the trains on the railway line not exceed an LAMax dB(A) of 85 dB at the development corridor boundary and LAeq of 75 bB(A) within 30 m of the development corridor boundary. • Continuous welded rails and ballast should be included in designs as a noise reduction measure. The developer can consider a float slab track system at areas where no ballast may be used, generally slab tracks can be +5 dB louder than ballasted tracks (Michas, 2012) – if feasible. • Implement track vibration isolation techniques where practical. • Programmes to manage rail and wheels ground and air-borne vibration should be considered. The developer can consider the implementation of composite material with added rubber (or similar) brake shoes ("K or LL Blocks") as cast-iron brakes	• Contractor to implement management actions. • Project Manager and ECO – to check.	Once-off	Record of design

ACTIVITY / IMPACT	RECOMMENDED MEASURES	RESPONSIBLE PARTY	FREQUENCY OF ACTION	MONITORING REQUIREMENTS
	cause wheel roughness, more friction and noise. These wheel dampers will produce the lowest peak noise levels, but may not prevent wheel squeal fully (Jansen Et. Al., 2008). The LL brake block system has the potential to reduce rolling and braking noise in favour of cast iron brakes and K blocks. LL block systems does not require the adaption of cast iron brake systems and reduces wheel ware compared to conventional cast-iron brakes.			

5 CONSTRUCTION PHASE

This section of the EMPr provides management principles and mitigation measures for the construction phase of the project. Environmental actions, procedures and responsibilities as required during the construction phase are specified. These specifications will form part of the contract documentation and therefore the Contractor will be required to comply with these specifications to the satisfactory of the Project Manager and Environmental Control Officer.

Due to a component of the project comprising the relocation of Eskom pylons and the 132Kv powerline, it is important to consider the Generic EMPr for the development and expansion for overhead electricity transmission and distribution infrastructure, contemplated in Regulations 19(4), 23(4) and Appendix 4 to the EIA Regulations as well as the Generic EMPr outlined in Appendix 2 of Government Notice Regulation No. 435 of 22 March 2019. The requirements in line with the Generic EMPr (as per Eskom's standards), will therefore need to be read and implemented in conjunction with this site-specific EMPr.

Please refer to Table 6 for the proposed mitigation measures as outlined in this site specific EMPr. Kindly refer to Appendix 1 of this report for the Generic EMPr for powerline developments.

Table 6: Impact and Mitigation Measures in Construction Phase

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
General Best-Practice Measures			
1. General Best-Practice	• Any temporary storage, lay-down areas or accommodation facilities to be setup in existing built-up areas or disturbed areas where possible. • Ensure small footprint during construction phase. • Regulated area to be strictly controlled in terms of development and movement of people and vehicles in and through it. Only low levels of development allowed. • All hazardous materials must be stored appropriately to prevent these contaminants from entering the water environment; • All excess materials brought onto site for construction to be removed after construction. • No open trenches or mounds of soils to be left. • Rehabilitation plan for disturbed areas to be compiled and implemented as part of the construction phase. • If possible, only existing access roads may be used to and from construction site (study area). • Temporary access roads to be rehabilitated after the construction phase.	Prior to the commencement of construction.	• Contractor to implement management actions. • Project Manager and • ECO to check.

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
Fencing and Barricades			
2. Fencing and Barricades	• No pedestrian or vehicular access shall be allowed to such fenced areas. • In places where temporary fencing is required, the Contractor shall erect such fencing when and where required and re-erect and maintain temporary fencing as necessary. Temporary fencing shall remain in position either until it is replaced by permanent fencing or until completion of the works. • Any fences damaged by the Contractor shall be repaired as soon as possible at his/her cost, and shall be of the standard of the original fence. • All fences erected for construction purposes (e.g. fences around camp sites, fencing around trenches, etc.) should be inspected on a daily basis to detect whether any damage has occurred. Damaged fences/barricading to be repaired immediately.	Prior to the commencement of construction.	• Contractor to implement management actions. • Project Environmental Manager and • ECO to check.
Ablution Facilities			
3. Ablution Facilities	• Provide sufficient ablution facilities (e.g. mobile/portable/VIP toilets) at the construction camp/construction sites, which conform to all relevant health and safety standards and codes.	Continuously.	• Contractor to implement management actions.

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• No pit latrines, French drain systems or soak away systems shall be allowed. Install and maintain conservancy tanks for any residential labour camp and site offices. The location of conservancy tanks is to be approved by the Project Manager/Engineer. • A sufficient number of toilets shall be provided to accommodate the number of personnel working in any given area. Toilets may not be further than 200m from any working area. Toilet facilities supplied by the Contractor for the workers shall occur at a maximum ratio of 1 toilet per 30 workers if so required by the ECO. • All staff to use the provided toilets at all times. All temporary/portable/mobile toilets shall be secured to the ground to prevent them from toppling over due to wind or any other cause. • All sanitary fees that may be payable to any local authority shall be paid by the Contractor. • Ablutions are to be cleaned/emptied on a regular basis, before they are full and contaminate the environment. • The entrances to the toilets will be adequately screened from public view. • Sanitary hygiene bins will be provided for female staff. • Toilet paper shall be provided.		• Project Manager and • ECO to check.

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• The Contractor will ensure that no spillage occurs when the toilets are cleaned or emptied and that a licensed service provider removes the contents from site. Disposal of such waste is only acceptable at a licensed waste disposal facility.		
Surface water			
4. Spillages from equipment that will be used during construction activities could result in pollution of the water by hydrocarbons.	• Plastic trays (drip trays) and liners must be used to prevent spillages of hazardous substances such as oil or diesel into the water body. • No refueling of vehicles or machinery will be allowed on the construction site. All refueling will be done in the site camp or another designated area off site. • Any mixing of cement must take place on top of an impermeable surface.	When applicable	• Project Manager. • ECO.
5. Impeding & impounding water flow during site clearing and construction activities	The nearby depression wetlands at the Sishen loop needs to be marked as 'no-go zones' and totally avoided. No movement of vehicles or personnel are allowed through them.	When applicable.	• Developer

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
Noise			
6. Construction activities resulting in noise disturbance in the surrounding area.	• Construction noise emissions must be mitigated such that they do not exceed an LAMax of 85 dB at the development corridor boundary and a 1-hour LAeq of 75 bB(A) within 30 m of the development corridor boundary. • Construction camp, mobile equipment and other noisy fixed facilities should be located as far away from the development corridor boundary and sensitive receptors as possible to allow for some degree of natural noise attenuation between the noise source and nearest sensitive receptors. • The contractor should make sure that all the construction vehicles and equipment should be well maintained and serviced regularly to reduce level of noise. • Construction working hours and other noise generating activities should be restricted to between 06h00 and 18h00 on Mondays to Fridays, unless otherwise approved by the appropriate competent person in consultation with the Proponent and ECO.	On-going	• Project Manager. • ECO

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• Construction camps, mobile equipment storage yards and other noisy fixed facilities should be located away from the Portion boundaries to reduce the noise emission levels leaving the sites. • All construction vehicles and equipment are to be kept in good repair to reduce operational noise levels. • Where possible, stationary noisy equipment (for example compressors, pumps, pneumatic breakers,) should be encapsulated in acoustic covers, screens or sheds. Proper sound insulation can reduce noise by up to 20 dB(A). • Noisy construction activities, are to be confined to reasonable hours during the day. No noisy construction activities are to be undertaken at night. • Machines in intermittent use should be shut down in the intervening periods between work or throttled down to a minimum. • Vehicles should not be allowed to idle for more than 5-minutes when not in use. • All equipment is to be well maintained and fitted with appropriate noise abatement measures.		

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• In general, operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993). Construction staff working in areas where the 8-hour ambient noise levels exceed 75 dB(A) should wear ear protection equipment. • If noise levels associated with construction material handling activities are deemed as too high, mechanisms to reduce noise levels must be investigated. • Rigorous speed control to reduce the noise from vehicle traffic onsite must be implemented. It is recommended maximum speed of 30 km/h to be set on all construction roads. If significant noise is noted and/or noise complaints are received, the noise levels must be investigated, and suitable mitigation measures are to be implemented. • A materials handling drop height policy should be maintained onsite. All equipment operators should be trained in the policy such that drop height reduction is implemented to reduce noise generation during construction operations. • Encouraging the receipt of materials during non-peak traffic hours to avoid traffic build-up and associated noise.		

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• Monthly construction phase noise monitoring should be undertaken to confirm if the construction noise is leading to exceedances of the respective guidelines at the nearby sensitive. • Any noise complaints should be directed to site management. Complaints and any actions arising from a complaint must be recorded in a complaint's register to be maintained by site management. An investigation should be undertaken to determine the specific activities and/or equipment / machinery which is generating the nuisance noise resulting in the noise complaints.		
Waste Management			

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
7. Pollution of the area with general waste (litter, construction material etc.) and hazardous waste (Oils, hydrocarbon etc.) produced during the construction phase may have negative impacts on the surrounding environment.	• All waste produced during the construction should be removed as soon as possible and disposed of at a registered Landfill Site. • The waste must be stockpiled in a designated area within the site camp and transported to the nearest registered landfill facility on a regular basis. • All construction materials should be stored in designated areas. • No dumping of construction waste of excess construction materials will be allowed in the bush surrounding the construction site. • No waste is to be buried or burned on site. • Chemical toilets are to be maintained in a clean state and serviced on regular basis. The contractor is to ensure that the surrounding bush is not being used as an ablution facility. • Appropriate disposal facilities, such as litter bins, must be provided within the construction camp. • Bins and/or skips must be emptied regularly and waste must be disposed of at a registered landfill site.	Weekly during construction	• Contractor • Project Manager. • ECO
Heritage			

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
8. Impact on unidentified Heritage and Palaeontological artefacts.	• No artefacts of archaeological or cultural interest were found on site, but if found, including graves, during excavations, the area should be marked and all activities in that vicinity will cease with immediate effect. SAHRA and the relevant Provincial Heritage Resources Authority will be notified of the finding and operations at that specific site will only continue after the relevant Authority has granted permission to do so. • The Chance Finds procedure will need to be followed in the event of heritage features being uncovered (refer to the section below of this EMPr) • Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue. • Should any archaeological, cultural property heritage resources be exposed during excavation or be found on the development site, a registered heritage specialist or PHRA official must be called to site for inspection. • Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed from the site.	On-going	• Contractor • ECO

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform PHRA. • Should any remains be found on site that is potentially human remains, the PHRA and South African Police Service should be contacted.		
9. Archaeological and Palaeontological Chance Finds Procedure	The following procedure is to be executed if archaeological / Palaeontological material is discovered: • All construction/clearance activities in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the find site. • Briefly note the type of archaeological/ Palaeontolgoical materials you think you have encountered, and their location, including, if possible, the depth below the surface of the find • Report your discovery to your supervisor or if they are unavailable, report to the project ECO who will provide further instructions. • If the supervisor is not available, notify the Environmental Control Officer immediately. The Environmental Control Officer will then report the find to	On-going	• Contractor • ECO

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	the Site Manager who will promptly notify the project archaeologist and SAHRA. • Delineate the discovered find/ feature/ site and provide a 25m buffer zone from all sides of the find. • Record the find GPS location, if able. • All remains are to be stabilised *in situ.* • Secure the area to prevent any damage or loss of removable objects. • Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice). • The project archaeologist will undertake the inspection process in accordance with all project health and safety protocols under the direction of the Health and Safety Officer. • **Finds rescue strategy**: All investigation of archaeological soils will be undertaken by hand, all finds, remains, and samples will be kept and submitted to a Museum as required by the heritage legislation. If any artefacts need to be conserved, the relevant permit will be sought from the SAHRA.		

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• An on-site office and finds storage area will be provided, allowing storage of any artefacts or other archaeological material recovered during the monitoring process. • In the case of human remains, in addition to the above, the SAHRA Burial Ground Unit will be contacted and the guidelines for the treatment of human remains will be adhered to. If skeletal remains are identified, an archaeological will be available to examine the remains. • The project archaeologist will complete a report on the findings as part of the permit application process. • Once authorisation has been given by SAHRA, the Applicant will be informed when construction activities can resume.		
Soil and Land use			
10. Indirect Impact: Disturbance of vegetation due to the construction activities may lead to erosion.	• No parking of vehicles or equipment should take place off the access road or designated parking areas. • All work must take place within the construction footprint area and the construction area must be rehabilitated as construction process proceeds.	On-going	• Contractor • ECO

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
Biodiversity			
11. Construction activities could result in the disturbance of the vegetation. Disturbance of fauna during site clearance and construction activities	• There are a few scattered protected camelthorn trees in the south of the Sishen study area and scattered in the Vlermuislaagte area. If any of these trees are to be removed, then a tree permit will first be required. No other protected trees occur in the area. • No trapping or hunting of fauna should be allowed on site during any phase of the proposed development. • Care must be taken not to interact directly with any wild life encountered. • Any bird nests encountered in the vegetation must not be interfered with. If encountered must first be discussed with the ECO. • Any temporary storage, lay-down areas or accommodation facilities to be setup in existing railway reserve area only. No trees or shrubs must be cleared for a laydown area. • Ensure small footprint during construction phase. Movement of people and vehicles must stay within a 100m wide corridor. Existing gravel road next to existing railway line to be used as the main access road. • No open trenches or mounds of soils to be left.	On-going	• Contractor • ECO

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• A basic Rehabilitation plan for disturbed areas to be compiled and implemented as part of the construction phase of the project.		
12. Disturbance of the vegetation could lead to the spread of invasive alien vegetation	No vegetation is to be removed outside of the demarcated zones. This will prevent disturbance of natural vegetation and the establishment of alien and invader vegetation species specified by GNR 507 and 508 or any amendments to the legislation.	During Clearance	• Contractor • ECO
13. Fringe impacts arising from construction activities	• Care must be taken with heavy machinery used on the project. All access roads used during construction must be monitored and maintained. • Soils and stones excavated may be used on site as backfill, fixing of roads, filling of dongas, etc. (with permission from landowners). • Excavated soils and rocks may not be simply dumped in any open veld or even on the site. • All temporary access roads must be fully rehabilitated by the contractors prior to final signing off of the construction phase of the project. • Continual communication must be maintained with any and all adjacent landowners. A record of any official and general complaints must be kept on site.	On-going	• Contractor • ECO

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• The project area must be securely fenced to prevent livestock and wild animals from wandering into the construction area.		
Air Quality			
14. Air pollution from vehicle emissions and fires as well as dust from vehicle movements and stock piles may have a negative impact on air quality	• Vehicles travelling to and from the construction site must adhere to the speed limits so as to avoid producing excessive dust. A speed limit of 30 km/h must be adhered to on the construction site. • Fires by construction or project personnel are strictly prohibited. • Vehicles and machinery are to be kept in good working order and meet the manufacturer's specifications. Should excessive emissions be observed, the contractor is to have the equipment seen to within 24 hours.	• When applicable	• Contractor • ECO
Road Safety			

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
15. Access and Traffic.	• Site access should be controlled and no unauthorised persons should be allowed onto the site. • Any clearing for access or haul roads outside the demarcated works area shall only be undertaken after approval from the Project Manager/Engineer. • Ensure appropriate traffic safety measures are implemented. This will include flagmen on sharp corners of the roads to be used. Occupational Health and Safety legislation needs to be implemented for the roads. • The Contractor must comply with all driving, vehicle, licensing and driver ability requirements. • Permission required from the Project Manager for the movement of any vehicles and/or personnel outside of designated working areas. • Contractor to ensure safe access for adjacent landowners on all roads. • The Principal Contractor shall organise the site in such a manner that pedestrians and vehicles can move safely and without risks to health, including sufficient and suitable traffic routes and safe walkways with relevant signage.	Ongoing	• Project Applicant – employment target • Project Manager to check • Contractor to implement management actions
Existing Services and Infrastructure			

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
16. Existing Services and Infrastructure.	• Identify and record all existing services and infrastructure. • Negotiations and agreements with owners and landowners regarding existing services and infrastructure to be undertaken prior to construction and adhered to throughout the project lifecycle. • Conform to requirements of relevant service providers. Agreements to be in place. • Ensure access to infrastructure is available to service providers and owners at all times. • Immediately notify service providers of disturbance to services. Rectify disturbance to services, in consultation with service providers. Maintain a record of all disturbances and remedial actions on site. • Notify landowners of any disruptions to essential services and infrastructure. • Deviate/relocate landowners' existing services and infrastructure (e.g. reticulation, irrigation lines, pump houses), where possible and if necessary, to accommodate project activities. • Land compensation (if necessary) to adhere to legal framework. • Adequate reinstatement and rehabilitation of environment affected as a result of the project.	Continuously.	• Proponent – acquire permits. • Project Manager and ECO - to check. • Contractor to implement management actions.

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
Social			
17. Creation of employment and procurement opportunities	• To the extent possible, the Developer and any contractors appointed to undertake activities during the operational phase should prioritise employment of local people from GLM, particularly for semi and unskilled job categories.	On-going	• Contractor • Developer

6 OPERATIONAL PHASE

This section of the EMPr provides management principles for the operational phase of the project. Environmental actions, procedures and responsibilities as required during the operational phase are specified.

Due to a component of the project comprising the relocation of Eskom pylons, it is important to consider the Generic EMPr for the development and expansion for overhead electricity transmission and distribution infrastructure, contemplated in Regulations 19(4), 23(4) and Appendix 4 to the EIA Regulations as well as the Generic EMPr outlined in Appendix 2 of Government Notice Regulation No. 435 of 22 March 2019. The requirements in line with the Generic EMPr (as per Eskom's requirements), will therefore need to be read and implemented in conjunction with this site-specific EMPr.

Table 7 provides the management measures to be implemented during the Operational phase of the development.

Table 7: Impact and Mitigation Measures in Operational Phase

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
Surface Water			
1. Spillages from the equipment that will be used during maintenance activities could result in	• Plastic trays and liners must be used to prevent spillages of other hazardous substances such as oil or diesel into the water body. • No refueling of vehicles or machinery will be allowed on the maintenance site. All refueling will be done in a designated area off site.	When applicable.	Developer

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
pollution of the surface water.			
2. Impeding & impounding water flow as a result of movement of vehicles or personnel	The nearby depression wetlands at the Sishen Loop needs to be marked as 'no-go zones' and totally avoided. No movement of vehicles or personnel are allowed through them.	When applicable.	Developer
Waste Management			
3. Pollution of the area with general waste and hazardous waste produced during day to day operation activities on the surrounding environment	• Portable toilet facilities must be provided for maintenance workers and serviced and maintained as and when necessary by a registered waste disposal company • All waste produced during operations should be removed as soon as possible and disposed of at a registered landfill site. Proof of disposal need to be kept on record. • No dumping of waste generated during maintenance will be allowed in the site, or surrounds. • No waste is to be buried or burned on site. • Appropriate disposal facilities, such as litter bins, must be provided during operation phase.	When applicable during operation.	Developer.

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
Air Quality			
4. Vehicle/machine exhaust emissions – air pollution	• Prohibit vehicles/machines from idling while not in use. • Vehicles and machinery are to be kept in good working order and meet the manufacturer's specifications.	Duration of operational phase.	Developer
Health and safety			
5. Maintain safe work practices in a safe environment and to minimize personnel injuries and damage to assets.	• Workers training programs. • Appropriate PPE must be worn by all workers. • Implement the requirements of the Occupational Health and Safety Act and Regulations and implement best practice guidelines. • The reverse signal to be replaced with a low frequency vibrating unit. • Switch off equipment when not in use.	Duration of operational phase.	Developer.
Noise			
6. Noise disturbance associated with operation of trains and activities at train yards.	• Consideration of a 40 km/h train speeds limit between the Sishen Erts Yard and Vlermuislaagte Loops should be considered to reduce train noise at the sensitive receptors. • The developer should consider ensuring that rail head grinding and rail head maintenance is conducted regularly to ensure that the correct rail head profile is maintained to eliminate corrugated rails.	Duration of operational phase.	❖ Developer.

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• Cracked, corrugated or damaged rails should be mended or replace immediately to reduce noise and vibrations. • Locomotive and/or wagon wheels with defects and/or flat spots must be repaired or replace to minimise vibrations. • Operational mitigation measures implemented must be sufficient such that the operational noise levels do not exceed an LAMax of 85 dB at the development corridor boundary and a 1-hour LAeq of 75 bB(A) within 30 m of the development corridor boundary. • Vehicles should not be allowed to idle for more than 5-minutes when not in use. • Locomotives should not be allowed to idle for more than 10-minutes when not in use. • Noisy operational phase maintenance activities, are to be confined to reasonable hours during the day. No noisy maintenance activities are to be undertaken at night. • Rigorous speed control to reduce the noise from onsite vehicle traffic must be maintained. It is recommended maximum speed of 30 km/h to be set onsite. If significant noise is noted and/or noise complaints		

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	are received, the noise levels must be investigated, and suitable mitigation measures are to be implemented. • Shunting operations should be limited to daytime operating periods (where possible) to limit the night-time impacts. • Compliance is to be achieved with Sections 8, 9, 10 of the OHSA Noise Induced Hearing Loss Regulations during the operational phase. • Establish a noise and vibration complaint logging system with established lines of communication (e.g. a help line where complaints could be lodged). All potential sensitive receptors should be made aware the complaints system and how to raise a complaint (i.e. contact numbers, email etc). Legitimate noise and vibration complaints could arise during the project. For example, a sudden increase in noise levels could result from a section of poorly maintained track needing maintenance or rolling stock. The logged complaints could be provided to the railway maintenance teams to further investigate.		

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
	• A noise propagation model must be developed to illustrate the potential extent of the noise impact from the railway. This may enable the developer to identify and potential problems relating to noise and vibration from the development during the operational phase should any complaints be received.		
Biodiversity			
7. Fringe impacts due to movement of people and vehicles	• Continual communication must be maintained with any and all adjacent landowners. A record of any official and general complaints must be kept on site. • The operational area must be securely fenced to prevent movement of livestock and wild animals.	On-going	• Developer
Social			
8. Creation of employment and procurement opportunities	To the extent possible, the Developer and any contractors appointed to undertake activities during the operational phase should prioritise employment of local people from GLM, particularly for semi and unskilled job categories.	On-going	• Developer

7 DECOMMISSIONING PHASE

This section of the EMPr provides management principles for the decommissioning and closure phase of the project. Environmental actions, procedures and responsibilities as required during the decommissioning phase are specified. The railway infrastructure is not envisaged to be decommissioned within the near future. A decommissioning study must be undertaken when the project reaches its lifespan. Decommissioning impacts and mitigation measures will be refined when the time comes. Table 8 provides the management measures to be implemented during the decommissioning activities.

Table 8: Impact and Mitigation Measures in Decommissioning and Closure Phase

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
Waste management			
1. Windblown litter - nuisance conditions.	• Store general wastes in a designated area, designed to prevent wind-blown litter. • Ensure that all general waste and building rubbles is removed and disposed of at a licensed general waste disposal site. • Maintain an inventory of waste generated.	During closure phase	Contractor
Rehabilitation			

POTENTIAL ENVIRONMENTAL IMPACT (NATURE OF THE IMPACT)	RECOMMENDED MITIGATION MEASURES		
	Management and Mitigation Measures	**Timeframes**	**Responsibilities**
2. Rehabilitation of the site.	• Develop and implement a rehabilitation plan for the project timeously prior to decommissioning • Appoint an experienced contractor for the rehabilitation of the project • Only indigenous plant species must be used for rehabilitation purposes • Conduct an assessment of the site in terms of the national norms and standards for the remediation of contaminated land and soil quality	During and after rehabilitation	Contractor
Social			
3. Loss of employment opportunities when site closes	• Detailed closure planning in consultation with employees at least five years prior to closure (as far as practically possible). • Assisting employees to develop new skills by education and training • Helping employees to find alternative employment or develop viable small businesses as far as may be practicable	During closure phase	Developer

8 IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT PROGRAMME

The development contractor must ensure effective implementation of the EMPr during the various phases of the project development. A suitable qualified Environmental Officer (or appropriate staff member) will be responsible for ensuring compliance with the EMPr. The Environmental Officer on site will conduct regular site visits to ensure the success of the EMPr.

The Environmental Officer will:

- Know the contents and implications of the environmental report, and monitor the implementation of the findings using the EMPr.
- Act as a guide, advisor and consultant to the contractor and Project Proponent on environmental issues during decommissioning. This will be achieved by continuous auditing of the project, identification of problem areas and provisioning of action plans to avoid costly stoppages and /or environmental damage.
- Ensure that a 'hotline' exists for reporting incidents and resolving any problems rapidly.
- Update the EMPr as necessary, and inform the relevant parties of the changes.

8.1 ENVIRONMENTAL AUDITS AND MONITORING

The development contractor will submit reports on the implementation of the environmental plan as described by the Project Proponent and Authorities. An environmental audit will be conducted prior to the decommissioning activities. This environmental audit will ensure that:

- Mitigation measures are implemented as prescribed in the EMPr.
- The relevant authorities are kept informed about progress with the project and that they are given assurance that the project is implemented and managed as prescribed in the EMPr.
- Periodic inspections and/or audits are performed.
- Compliance to the conditions of the EMPr is adhered to and a report compiled.
- Reviews of conformance against policies and procedures stated in this document are performed. Supervisors in all work areas will conduct performance and compliance reviews, using the EMPr as guideline to ensure compliance.
- And inspections will occur on a monthly basis (or as required).

8.2 RECORD KEEPING

Documents to be maintained by the designated representative/ site agent are to include:

- Training records.
- Inspection records.
- Records of non-conformance and corrective action.
- Records of all complaints, concerns or issues and corrective action.
- Environmental Management Programme and EA.
- All incident reports.

All records will be kept for up to a year after the completion of the project or in accordance with other legal requirements as they apply.

8.3 EMPR UPDATES

The EMPr will be subject to on-going review throughout the course of the project to ensure its continued suitability, adequacy and effectiveness. This review may include, but will not be limited to monitoring and measuring information, performance data, assessment and audit results and other relevant information and data.

9 SUMMARY OF RECOMMENDATIONS AND CONCLUSION

The development activities will have environmental impacts which are manageable through good practices and following all environmental recommendations prescribed. Although all foreseeable actions and potential mitigations or management actions are contained in this document, the EMPr should be considered as a day-to-day management document. The EMPr thus sets out the environmental standards that are required to minimise the negative impacts and maximize the positive benefits of the local communities. An EMPr is a "live document" and its continuous review and correct management will enhance and contribute to the successful development and operation of the proposed Transnet Sishen and Vlermuislaagte staging lines.

All attempts should be made to have this EMPr available, as part of any tender documentation, so that contractors are made aware of the potential cost and timing implications needed to fulfill the implementation of the EMPr, to enable them to adequately cost for these measures.

APPENDIX 1 – GENERIC EMPr FOR POWER LINES

DEPARTMENT OF ENVIRONMENTAL AFFAIRS

NO. 435 **22 MARCH 2019**

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998)

NOTICE OF IDENTIFICATION, IN TERMS OF SECTION 24(5) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998, OF A GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME RELEVANT TO AN APPLICATION FOR SUBSTATION AND OVERHEAD ELECTRICITY TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE WHICH REQUIRE ENVIRONMENTAL AUTHORISATION AS IDENTIFIED IN TERMS OF SECTION 24(2) OF THE ACT

I, Nomvula Paula Mokonyane, Minister of Environmental Affairs, hereby publish, in terms of section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (the Act); Regulations 19(4) and 23(4) of the Environmental Impact Assessment Regulations, 2014, as amended; as well as Appendix 4 to such Regulations, the generic environmental management programme relevant to an application for environmental authorisation for substation and overhead electricity transmission and distribution infrastructure as identified in terms of section 24(2)(a) of the Act and which require environmental authorisation for activity 11 or 47 of Environmental Impact Assessment Regulations Listing Notice 1 of 2014, as amended, or for activity 9 of Environmental Impact Assessment Regulations Listing Notice 2 of 2014, as amended, and any other listed and specified activities necessary for the realisation of such infrastructure, as set out in the Schedule hereto.

NOMVULA PAULA MOKONYANE
MINISTER OF ENVIRONMENTAL AFFAIRS

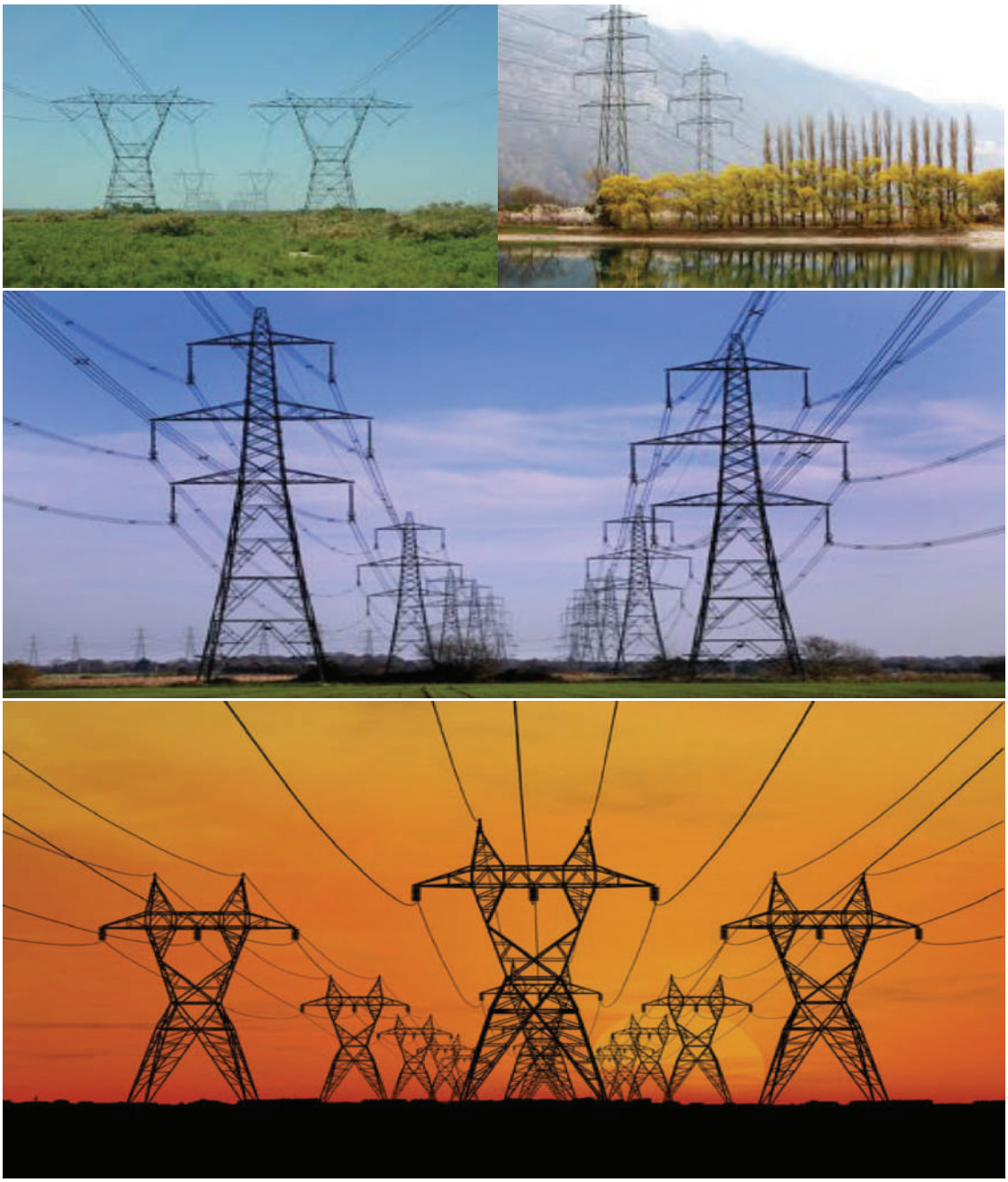
SCHEDULE

I hereby give Notice that applications for environmental authorisation for substation and overhead electricity transmission and distribution infrastructure, when such facilities trigger—

- activity 11 or 47 of Environmental Impact Assessment Regulations Listing Notice 1 of 2014, as amended, and any other listed and specified activities necessary for the realisation of such facilities; or
- activity 9 of Environmental Impact Assessment Regulations Listing Notice 2 of 2014, as amended and any other listed or specified activities necessary for the realisation of such facilities;

must use the generic Environmental Management Programme, contemplated in Regulations 19(4), 23(4) and Appendix 4 to the Environmental Impact Assessment Regulations, 2014, as amended. The generic Environmental Management Programme for substation infrastructure for electricity transmission and distribution is set out in Appendix 1 and the generic Environmental Management Programme for overhead electricity transmission and distribution infrastructure is set out in Appendix 2.

APPENDIX 2
GENERIC ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) FOR THE DEVELOPMENT AND EXPANSION FOR OVERHEAD ELECTRICITY TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE



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 overhead electricity transmission and distribution infrastructure, and all listed and specified activities necessary for the realisation of such infrastructure.

3. Objective

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

4. Scope

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

5. Structure of this document

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

Part	Section	Heading	Content
A		Provides general guidance and information and is **not legally binding**	Definitions, acronyms, roles & responsibilities and documentation and reporting.
B	1	Pre-approved generic EMPr template	Contains generally accepted impact management outcomes and impact management actions required for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of overhead electricity transmission and distribution infrastructure, which are presented in the form of a template that has been pre-approved. The template in this section is to be completed by the contractor, with each completed page signed and dated by the holder of the EA prior to commencement of the activity. Where an impact management outcome is not relevant, the words "not applicable" can be inserted in the template under the "responsible persons" column. Once completed and signed, the template represents the EMPr for the activity approved by the CA and is legally binding. The template **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. 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.
	2	Site specific information	Contains preliminary infrastructure layout and a declaration that the applicant/holder of the EA will comply with the pre-approved generic EMPr template contained in Part B: Section 1, and understands that the impact management

Part	Section	Heading	Content
			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 actions have been either pre-approved or approved in terms of Part C. 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 Part B: section 2 not be submitted. Once approved, this Section forms part of the EMPr for the development and is legally binding.
C		Site specific sensitivities/ attributes	If any specific environmental sensitivities/ attributes are present on the site which require site specific impact management outcomes and impact management actions, not included in the pre-approved generic EMPr, to manage impacts, these specific impact management outcomes and impact management actions must be included in this section. These specific environmental attributes must be referenced spatially and impact management outcomes and 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 (Part B: section 1) This section will not be required should the site contain no specific environmental sensitivities or attributes. However, if Part C 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 approved, Part C forms part of the EMPr for the site and is legally binding. This section applies only **to additional** impact management outcomes and impact

Part	Section	Heading	Content
			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 Part B: section 1.
Appendix 1			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.

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

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

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

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

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

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

- Amendment of the impact management outcomes: in line with the process contemplated in regulation 37 of the EIA Regulations; and
- Amendment of the impact management actions: in line with the process contemplated in regulation 36 of the EIA Regulations.

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

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, the site information, which includes coordinates of the corridor in which the proposed overhead electricity transmission and distribution infrastructure is proposed as well as the 21-digit Surveyor General code of each cadastral land parcel and, where available, the farm name.

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 map of the site sensitivity overlaid with the preliminary infrastructure layout using the national web based environmental screening tool, when available for compulsory use at: 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 must identify features both within the planned working area and any known sensitive features in the surrounding landscape within 50m from the development footprint. The overhead transmission and distribution profile must be illustrated at an appropriate resolution to enable fine scale interrogation. It is recommended that <20 km of overhead transmission and distribution length is illustrated per page in A3 landscape format. Where considered appropriate, photographs of sensitive features in the context of tower positions must be used.

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

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

Should the EA be transferred, 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 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.

PART A – GENERAL INFORMATION

1. DEFINITIONS

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

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

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

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

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

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

The method statement must cover applicable details with regard to:

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

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

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

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

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

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

2. ACRONYMS and ABBREVIATIONS

CA	Competent Authority
cEO	Contractors Environmental Officer
dEO	Developer Environmental Officer
DPM	Developer Project Manager
DSS	Developer Site Supervisor
EAR	Environmental Audit Report
ECA	Environmental Conservation Act No. 73 of 1989
ECO	Environmental Control Officer
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
ERAP	Emergency Response Action Plan
EMPr	Environmental Management Programme Report
EAP	Environmental Assessment Practitioner
FPA	Fire Protection Agency
HCS	Hazardous chemical Substance
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act ,2004 (Act No. 10 of 2004)
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 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 implementation of an EMPr*

Responsible Person (s)	**Role and Responsibilities**
Developer's Project Manager (DPM)	Role 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. Responsibilities - 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.
Developer Site Supervisor (DSS)	Role

Responsible Person (s)	Role and Responsibilities
	The DSS reports directly to the DPM, oversees site works, liaises with the contractor(s) and the ECO. The DSS is responsible for the day to day implementation of the EMPr and for ensuring the compliance of all contractors with the conditions and requirements stipulated in the EMPr. Responsibilities - Ensure that all contractors identify a contractor's Environmental Officer (cEO); - 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)	Role The ECO should have appropriate training and experience in the implementation of environmental management specifications. The primary role of the ECO is to act as an independent quality controller and monitoring agent regarding all environmental concerns and associated environmental impacts. In this respect, the ECO is to conduct periodic site inspections, attend regular site meetings, pre-empt problems and suggest mitigation and be available to advise on incidental issues that arise. The ECO is also required to conduct compliance audits, verifying the monitoring reports submitted by the cEO. The ECO provides feedback to the DSS and Project Manager regarding all environmental matters. The Contractor, cEO and dEO are answerable to the Environmental Control Officer for non- compliance with the Performance Specifications as set out in the EA and EMPr. The ECO provides feedback to the DSS and Project Manager, who in turn reports back to the Contractor and potential and Registered Interested &Affected Parties' (RI&AP's), as required. Issues of non-compliance raised by the ECO must be taken up by the Project Manager, and resolved with the Contractor as per the conditions of his contract. Decisions regarding environmental procedures, specifications and requirements which have a cost implication (i.e. those that are deemed to be a variation, not allowed for in the Performance Specification) must be endorsed by the Project Manager. The ECO must also, as specified by the EA, report to the relevant CA as and when required.

Responsible Person (s)	Role and Responsibilities
	Responsibilities The responsibilities of the ECO will include the following: - 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; - 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.

Responsible Person (s)	Role and Responsibilities
developer Environmental Officer (dEO)	Role The dEOs will report to the Project Manager and are responsible for implementation of the EMPr, environmental monitoring and reporting, providing environmental input to the Project Manager and Contractor's Manager, liaising with contractors and the landowners as well as a range of environmental coordination responsibilities. Responsibilities - 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; - 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 work together with the ECO and contractor;
Contractor	Role The Contractor appoints the cEO and has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract are in line with the EMPr and that Method Statements are implemented as described. External contractors must ensure compliance with this EMPr while performing the onsite activities as per their contract with the Project Developer. The contractors are required, where

Responsible Person (s)	Role and Responsibilities
	specified, to provide Method Statements setting out in detail how the impact management actions contained in the EMPr will be implemented during the development or expansion for overhead electricity transmission and distribution infrastructure activities. Responsibilities - 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 as a result of a contravention of the specifications contained in EMPr, to the satisfaction of the ECO.
contractor Environmental Officer (cEO)	Role Each Contractor affected by the EMPr should appoint a cEO, who is responsible for the on-site implementation of the EMPr (or relevant sections of the EMPr). The Contractor's representative can be the site agent; site engineer; a dedicated environmental officer; or an independent consultant. The Contractor must ensure that the Contractor's Representative is suitably qualified to perform the necessary tasks and is appointed at a level such that she/he can interact effectively with other site Contractors, labourers, the Environmental Control Officer and the public. As a minimum the cEO shall meet the following criteria: Responsibilities - 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;

Responsible Person (s)	Role and Responsibilities
	- 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 the preparing of 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

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

4.1 Document control/Filing system

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

4.2 Documentation to be available

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

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

4.3 Weekly Environmental Checklist

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

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

4.4 Environmental site meetings

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

4.5 Required Method Statements

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

The method statement must cover applicable details with regard to:

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

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

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

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

4.6 Environmental Incident Log (Diary)

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

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

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

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

The Environmental Incident Log will be captured in the EAR.

4.7 Non-compliance

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

- Time and date of the non-compliance;
- Name of the contractor responsible;
- Nature and description of the non-compliance;
- Recommended / required corrective action; and
- Date by which the corrective action to be completed.
- The contractors shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the development site pertaining to the environment shall be

recorded in a dedicated register and the response noted with the date and action taken. The ECO should be made aware of any complaints. Any non-compliance with the agreed procedures of the EMPr is a transgression of the various statutes and laws that define the manner by which the environment is managed. Failure to redress the cause shall be reported to the relevant CA for them to deal with the transgression, as it deems fit. The contractor is deemed not to have complied with the EMPr if, inter alia, There is a deviation from the environmental conditions, impact management outcomes and impact management actions , as approved in generic and site specific EMPr as relevant as set out in the EMPr, which deviation has, or may cause, an environmental impact.

4.8 Corrective action records

For each non-compliance notice issued, a documented corrective action must be recorded. On receiving a non-compliance notice from the DSS, the contractor's cEO will ensure that the corrective actions required take place within the stipulated timeframe. On completion of the corrective action the cEO is to issue a Corrective Action Report in writing to the ECOs. If satisfied that the corrective action has been completed, the ECOs are to sign-off on the Corrective Action Report, and attach the report to the non-compliance notice in the EMPr file. A corrective action is considered complete once the report has signed off by the ECOs.

4.9 Photographic record

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

The Contractor shall:

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

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

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

4.10 Complaints register

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

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

4.11 Claims for damages

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

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

4.12 Interactions with affected parties

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

The ECOs shall:

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

4.13 Environmental audits

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

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

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

4.14 Final environmental audits

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

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

5. IMPACT MANAGEMENT OUTCOMES AND IMPACT MANAGEMENT ACTIONS

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

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

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

5.1 Environmental awareness training

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	Frequency	Evidence of compliance
– All staff must receive environmental awareness training prior to 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: a)Safety notifications; and b) No littering. – Environmental awareness training must include as a minimum the following: a) Description of significant environmental impacts, actual or potential, related to their work activities; 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. – 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 of all staff to have received environmental awareness training must be available. – Course material must be available and presented in appropriate languages that all staff can understand.						

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

– 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; – Location of camps must be within approved area to ensure that the site does not impact on sensitive areas identified in the environmental assessment or site walk through; – Sites must be located where possible on previously disturbed areas; – The camp must be fenced in accordance with ***Section 5.5: Fencing and gate installation***; and – The use of existing accommodation for contractor staff, where possible, is encouraged.						

5.3 Access restricted areas

Impact management outcome: Access to restricted areas prevented.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Identification of access restricted areas is to be informed by the environmental assessment, site walk through 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.						

5.4 Access roads

Impact management outcome: Minimise impact to the environment through the planned and restricted movement of vehicles on site.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Access to the servitude and tower positions must be negotiated with the relevant landowner and must fall within the assessed and authorised area;						

– An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities; – The access roads to tower positions must be signposted after access has been negotiated and before the commencement of 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.						

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
– 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 overhead transmission and distribution electricity infrastructure development activities;						

– Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted areas, where appropriate and would not cause harm to the sensitive flora; – Any temporary fencing to restrict the movement of life-stock must only be erected with the permission of the land owner. – All fencing must be developed of high quality material bearing the SABS mark; – The use of razor wire as fencing must be avoided; – Fenced areas with gate access must remain locked after hours, during weekends and on holidays if staff is away from site. Site security will be required at all times; – On completion of the development phase all temporary fences are to be removed; – The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely.						

5.6 Water Supply Management

Impact management outcome: Undertake responsible water usage.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All abstraction points or bore holes 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:						

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 river bed 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. – Ensure water conservation is being practiced by: a. Minimising water use during cleaning of equipment; b. Undertaking regular audits of water systems; and c. Including a discussion on water usage and conservation during environmental awareness training. d. The use of grey water is encouraged.						

5.7 Storm and 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
– 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;						

– Natural storm water runoff 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 back into the environment must be subject to the Project Manager's approval and support by the ECO.						

5.8 Solid and hazardous waste management

Impact management outcome: Waste is 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
– 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; – 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 company; – 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.						

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
– 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; – 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 permanent watercourse or estuary crossing must only be undertaken where no alternative access to 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: 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.						

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

General: – Indigenous vegetation which 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 Department of Agriculture, Forestry and Fisheries 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; – 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 to ***Section 5.3: Access restricted areas***. **Servitude:** – Vegetation that does not grow high enough to cause interference with overhead transmission and distribution infrastructures, or cause a fire hazard to any plantation, must not be cut or trimmed unless it is growing in the road access area, and then only at the discretion of the Project Manager; – Where clearing for access purposes is essential, the maximum width to be cleared within the servitude must be in accordance to distance as agreed between the land owner and the EA holder – Alien invasive vegetation must be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) and disposed of at a recognised waste disposal facility; – Vegetation must be trimmed where it is likely to intrude on the minimum vegetation clearance distance (MVCD) or will intrude on this distance before the next scheduled clearance. MVCD is determined from SANS 10280; – Debris resulting from clearing and pruning must be disposed of at a recognised waste disposal facility, unless the landowners wish to retain the cut vegetation; – In the case of the development of new overhead transmission and distribution infrastructures, a one metre "trace-line" must be cut through the vegetation for stringing purposes only and no vehicle access must be cleared along the "trace-line". Alternative methods of stringing which limit impact to the environment must always be considered.						

5.11 Protection of fauna

Impact management outcome: Minimise disturbance to fauna.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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 birds species must be taken into consideration during the planning of the development programme; – 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; – Nesting sites on existing parallel lines must documented; – Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds; – Bird guards and diverters must be installed on the new line as per the recommendations of the specialist; – 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 climbing up, being electrocuted and causing power outages; and – No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and						

relevant provincial ordinances may be removed and/or relocated without appropriate authorisations/permits.						

5.12 Protection of heritage resources

Impact management outcome: Minimise impact to heritage resources.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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, artefacts 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.						

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
– 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; – 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.						

5.14 Sanitation

Impact management outcome: Clean and well maintained toilet facilities are available to all staff in an effort to minimise the risk of disease and impact to the environment.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance

– 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 purposes of ablutions must be permitted under any circumstances; – Where mobile chemical toilets are required, the following must be ensured: 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 to health standards; – A copy of the waste disposal certificates must be maintained.						

5.15 Prevention of disease

Impact Management outcome: All necessary precautions linked to the spread of disease are taken.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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 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.						

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
– 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***).						

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
– 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 bowsers; – 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); – 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 groundcover. 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 bunded 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 and stored in a central location and disposed of according to the National Environmental Management: Waste Act 59 of 2008. Refer to ***Section 5.7*** for procedures concerning ***storm and waste water management*** and ***5.8*** for ***solid and hazardous waste management.***						

5.18 Workshop, equipment maintenance and storage

Impact management outcome: Soil, surface water and groundwater contamination is minimised.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Where possible and practical all maintenance of vehicles and equipment must take place in the workshop area; – During servicing of vehicles or equipment, especially where 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 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 ***Section 5.7: storm and waste water management***.						

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
– 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 – 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 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 appropriate licenced 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 site on completion of construction period and disposed at a registered disposal facility; – Temporary fencing must be erected around batching plants in accordance with ***Section 5.5: Fencing and gate installation***.						

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
– Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the ECO; – 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.						

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
– 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: Unnecessary noise is prevented by ensuring that noise from construction activities is mitigated.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– The Contractor must keep noise level within acceptable limits, 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 on a daily basis for construction workers; – Develop a Code of Conduct for the construction phase in terms of 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 must still meet the impact management outcome related to noise management.						

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
– 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; – Two way swop of contact details between ECO and FPA.						

5.24 Stockpiling and stockpile areas

Impact management outcome: Erosion and sedimentation as a result of stockpiling are reduced.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site in order 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;						

– 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 in order to prevent erosion of the material.						

5.25 Finalising tower positions

Impact management outcome: No environmental degradation occurs as a result of the survey and pegging operations.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– No vegetation clearing must occur during survey and pegging operations; – No new access roads must be developed to facilitate access for survey and pegging purposes; – Project manager, botanical specialist and contractor to agree on final tower positions based on survey within assessed and approved areas; – The surveyor is to demarcate (peg) access roads/tracks in consultation with ECO. No deviations will be allowed without the prior written consent from the ECO.						

5.26 Excavation and Installation of foundations

Impact management outcome: No environmental degradation occurs as a result of excavation or installation of foundations.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All excess spoil generated during foundation excavation must be disposed of in an appropriate manner and at a recognised disposal site, if not used for backfilling purposes; – 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***. – Batching of cement to be undertaken in accordance with **Section *5.19 : Batching plants***; – Residual cement must be disposed of in accordance with **Section *5.8: Solid and hazardous waste management***.						

5.27 Assembly and erecting towers

Impact management outcome: No environmental degradation occurs as a result of assembly and erecting of towers.

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Prior to erection, assembled towers and tower sections must be stored on elevated surface (suggest wooden blocks) to minimise damage to the underlying vegetation;						

– In sensitive areas, tower assembly must take place off-site or away from sensitive positions; – The crane used for tower assembly must be operated in a manner which minimises impact to the environment; – The number of crane trips to each site must be minimised; – Wheeled cranes must be utilised in preference to tracked cranes; – Consideration must be given to erecting towers by helicopter or by hand where it is warranted to limit the extent of environmental impact; – Access to tower positions to be undertaken in accordance with access requirements in specified in Section 8.4: Access Roads; – Vegetation clearance to be undertaken in accordance with general vegetation clearance requirements specified in Section 8.10: Vegetation clearing; – No levelling at tower sites must be permitted unless approved by the Development Project Manager or Developer Site Supervisor; – Topsoil must be removed separately from subsoil material and stored for later use during rehabilitation of such tower sites; – Topsoil must be stored in heaps not higher than 1m to prevent destruction of the seed bank within the topsoil; – Excavated slopes must be no greater that 1:3, but where this is unavoidable, appropriate measures must be undertaken to stabilise the slopes; – Fly rock from blasting activity must be minimised and any pieces greater than 150 mm falling beyond the Working Area, must be collected and removed; – Only existing disturbed areas are utilised as spoil areas;						

– Drainage is provided to control groundwater exit gradient with the spill areas such that migration of fines is kept to a minimum; – Surface water runoff is appropriately channeled through or around spoil areas; – During backfilling operations, care must be taken not to dump the topsoil at the bottom of the foundation and then put spoil on top of that; – The surface of the spoil is appropriately rehabilitated in accordance with the requirements specified in Section 5.29: Landscaping and rehabilitation; – The retained topsoil must be spread evenly over areas to be rehabilitated and suitably compacted to effect re-vegetation of such areas to prevent erosion as soon as construction activities on the site is complete. Spreading of topsoil must not be undertaken at the beginning of the dry season.						

5.28 Stringing

Impact management outcome: No environmental degradation occurs as a result of stringing.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Where possible, previously disturbed areas must be used for the siting of winch and tensioner stations. In all other instances,						

the siting of the winch and tensioner must avoid Access restricted areas and other sensitive areas; – The winch and tensioner station must be equipped with drip trays in order to contain any fuel, hydraulic fuel or oil spills and leaks; – Refueling of the winch and tensioner stations must be undertaken in accordance with Section 5.17: Hazardous substances; – In the case of the development of overhead transmission and distribution infrastructure, a one metre "trace-line" may be cut through the vegetation for stringing purposes only and no vehicle access must be cleared along "trace-lines". Vegetation clearing must be undertaken by hand, using chainsaws and hand held implements, with vegetation being cut off at ground level. No tracked or wheeled mechanised equipment must be used; – Alternative methods of stringing which limit impact to the environment must always be considered e.g. by hand or by using a helicopter; – Where the stringing operation crosses a public or private road or railway line, the necessary scaffolding/ protection measures must be installed to facilitate access. If, for any reason, such access has to be closed for any period(s) during development, the persons affected must be given reasonable notice, in writing; – No services (electrical distribution lines, telephone lines, roads, railways lines, pipelines fences etc.) must be damaged because of stringing operations. Where disruption to services is unavoidable, persons affected must be given reasonable notice, in writing;						

– Where stringing operations cross cultivated land, damage to crops is restricted to the minimum required to conduct stringing operations, and reasonable notice (10 work days minimum), in writing, must be provided to the landowner; – Necessary scaffolding protection measures must be installed to prevent damage to the structures supporting certain high value agricultural areas such as vineyards, orchards, nurseries.						

5.29 Socio-economic

Impact management outcome: Socio-economic development is enhanced.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– 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 over-night on the site. This would reduce the risk to local farmers.						

5.30 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
– Bunds must be emptied (where applicable) and need to be undertaken in accordance with the impact management actions included in ***sections 5.17: management of hazardous substances*** and ***5.18 workshop, equipment maintenance and storage***; – Hazardous storage areas must be well ventilated; – Fire extinguishers must be serviced and accessible. Service records to be filed and audited at 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.						

5.31 Landscaping and rehabilitation

Impact management outcome: Areas disturbed during the development phase are returned to a state that approximates the original condition.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All areas disturbed by construction activities must be subject to landscaping and rehabilitation; All spoil and waste must be disposed to a registered waste site and certificates of disposal provided; – 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 approximates 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 tower sites and access roads outside of farmland; – Indigenous species must be used for with species and/grasses to where it compliments or approximates 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 ; – 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 seed can be used provided the mixture is carefully selected to ensure the following: 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						

6 ACCESS TO THE GENERIC EMPr

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

PART B: SECTION 2

7 SITE SPECIFIC INFORMATION AND DECLARATION

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

7.1.1 Details of the applicant:

Name of applicant:

Tel No:

Fax No:

Postal Address:

Physical Address:

7.1.2 Details and expertise of the EAP:

Name of applicant:

Tel No:

Fax No:

E-mail address:

Expertise of the EAP (Curriculum Vitae included):

7.1.3 Project name:

7.1.4 Description of the project:

7.1.5 Project location:

NO	FARM NAME(if applicable)	FARM NUMBER(if applicable)	PORTION NAME	PORTION NUMBER	LATITUDE	LONGITUDE

7.16 Preliminary technical specification of the overhead transmission and distribution:

- Length
- Tower parameters
  - Number and types of towers
  - Tower spacing (mean and maximum)
  - Tower height (lowest, mean and height)
  - Conductor attachment height (mean)
  - Minimum ground clearance

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.

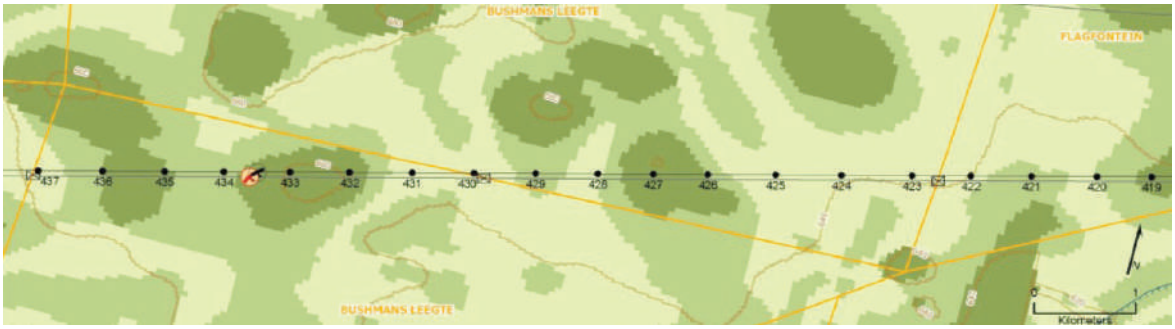

Figure 1: Example of an environmental sensitivity map in the context of a final overhead transmission and distribution profile

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:

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.

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.

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.