

APPENDIX 2:

FINAL ENVIRONMENTAL SENSITIVITY REPORT



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ESKOM TAYLOR'S HALT 132KV POWER LINE AND TAYLOR'S HALT SUBSTATION

DFFE REF: 2023-02-0027

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DISCLAIMER

The opinions expressed in this report have been based on the information supplied to Setala Environmental (Pty) Ltd (Setala). Setala has exercised all due care in reviewing the supplied information. The accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. Setala does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of Setala's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this report, about which Setala had no prior knowledge nor had the opportunity to evaluate.

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DECLARATION

In terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations, as amended.

I, Ria (MM) Pretorius, do hereby declare that I:

- Act as an independent Environmental Assessment Practitioner in compiling this report;
- Do not have any financial interests, or stand to gain in any way in the undertaking of this activity, other than remuneration for work performed;
- Do not have any vested interest in the proceeding activity or project;
- Have no, neither will engage in, conflicting interests in the undertaking of this activity;
- Undertake to disclose, to the competent authority, any material information that has, or may have, the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required; and
- Will provide competent authority access to my information regarding the report and investigations, whether such information is favourable to the applicant or not.

GLOSSARY OF TERMS

Activity (Development) – an action either planned or existing that may result in environmental impacts through pollution or resource use.

Alien vegetation - Alien vegetation is defined as undesirable plant growth (usually of foreign origin) which includes, but is not limited to all declared category 1 and 2 listed invader species as set out in the 1983 Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien are those plant species that show the potential to occupy in number any area within the defined construction area and which are declared undesirable.

Alternative – a possible course of action, in place of another, of achieving the same desired goal of the proposed project. Alternatives can refer to any of the following but are not limited to: site alternatives, site layout alternatives, design or technology alternatives, process alternatives or a no-go alternative. All reasonable alternatives must be rigorously explored and objectively evaluated.

Applicant – the project proponent or developer responsible for submitting an environmental application to the relevant environmental authority for environmental authorisation.

Biodiversity – the diversity of animals, plants and other organisms found within and between ecosystems, habitats, and the ecological complexes.

Construction – means the building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.

Cumulative Impacts – impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities to produce a greater impact or different impacts.

Direct impacts – impacts that are caused directly by the activity and generally occur at the same time and at the same place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally quantifiable.

Ecosystem – a dynamic system of plant, animal (including humans) and micro-organism communities and their non-living physical environment interacting as a functional unit. The basic structural unit of the biosphere, ecosystems are characterised by interdependent interaction between the component species and their physical surroundings. Each ecosystem occupies a space in which macro-scale conditions and interactions are relatively homogenous.

Emissions - The release or discharge of a substance into the environment which generally refers to the release of gases or particulates into the air.

Environment – In terms of the National Environmental Management Act (NEMA) (Act No 107 of 1998) (as amended), "Environment" means the surroundings within which humans exist and that are made up of:

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

Environmental Assessment (EA) – the generic term for all forms of environmental assessment for projects, plans, programmes or policies and includes methodologies or tools such as environmental impact assessments, strategic environmental assessments and risk assessments.

Environmental Authorisation – an authorisation issued by the competent authority in respect of a listed activity, or an activity which takes place within a sensitive environment.

Environmental Assessment Practitioner – the individual responsible for planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instrument introduced through the EIA Regulations.

Environmental Impact – a change to the environment (biophysical, social and/ or economic), whether adverse or beneficial, wholly or partially, resulting from an organisation's activities, products or services.

Environmental Impact Assessment (EIA) – the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made.

Environmental Issue – a concern raised by a stakeholder, interested or affected parties about an existing or perceived environmental impact of an activity.

Environmental Management - ensuring that environmental concerns are included in all stages of development, so that development is sustainable and does not exceed the carrying capacity of the environment.

Environmental Management Programme - A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive impacts and limiting or preventing negative environmental impacts are implemented during the life cycle of a project. The EMP focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.

Expansion - means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

Fatal Flaw – issue or conflict (real or perceived) that could result in developments being rejected or stopped.

General Waste – household water, construction rubble, garden waste and certain dry industrial and commercial waste which does not pose an immediate threat to man or the environment.

Hazardous Waste – waste that may cause ill health or increase mortality in humans, flora and fauna.

Incident - An undesired event which may result in a significant environmental Impact but can be managed through internal response.

Indirect impacts – indirect or induced changes that may occur as a result of the activity. These types of impacts include all of the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.

Integrated Environmental Management – a philosophy that prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development and decision-making process. The IEM philosophy (and principles) is interpreted as applying to the planning, assessment, implementation and management of any proposal (project, plan, programme or policy) or activity – at local, national and international level - that has a potentially significant effect on the environment. Implementation of this philosophy relies on the selection and application of appropriate tools for a particular proposal or activity. These may include environmental assessment tools (such as strategic environmental assessment and risk assessment), environmental management tools (such as monitoring, auditing and reporting) and decision-making tools (such as multi-criteria decision support systems or advisory councils).

Mitigate – the implementation of practical measures designed to avoid, reduce or remedy adverse impacts or enhance beneficial impacts of an action.

No-Go Option – in this instance the proposed activity would not take place, and the resulting environmental effects from taking no action are compared with the effects of permitting the proposed activity to go forward.

Open Space – environmentally sensitive areas which are not suitable for development and consist of watercourses, buffers, floodplains, steep slopes, sensitive biodiversity and/or areas of cultural or heritage significance.

Registered Interested and Affected Party – an interested and affected party whose name is recorded in the register opened for that application.

Rehabilitation – a measure aimed at reinstating an ecosystem to its original function and state (or as close as possible to its original function and state) following activities that have disrupted those functions.

Scoping – the process of determining the spatial and temporal boundaries (i.e. extent) and key issues to be addressed in an environmental assessment. The main purpose of scoping is to focus the environmental assessment on a manageable number of important questions. Scoping should also ensure that only significant issues and reasonable alternatives are examined.

Sensitive environment – any environment identified as being sensitive to the impacts of the development.

Significance – significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. magnitude, intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and

acceptability). It is an anthropocentric concept, which makes use of value judgements and science-based criteria (i.e. biophysical, social and economic).

Stakeholder engagement – the process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities.

Sustainable Development – development which meets the needs of current generations without hindering future generations from meeting their own needs.

Watercourse – means:

- a) a river or spring;
- b) a natural channel or depression in which water flows regularly or intermittently;
- c) a wetland, lake or dam into which, or from which, water flows; and
- d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks.

Wetland – means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

ACRONYMS

CBA	Critical Biodiversity Areas
CBD	Central Business District
CMA	Catchment Management Agencies
DFFE	Department of Forestry, Fisheries and Environment
DMRE	Department of Mineral Resources and Energy
DSOE	Desired State of the Environment
DWS	Department of Water and Sanitation
ECF	Environmental Constraints Framework
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act, 1989 (Act No. 73 of 1989)
EIA	Environmental Impact Assessment
EIS	Ecological Importance & Sensitivity
EMC	Environmental Management Class
EMPr	Environmental Management Program
EWR	Ecological Water Requirements
GIS	Geographic Information System
HGM	Hydrogeomorphic
IBA	Important Bird Area(s)
IDP	Integrated Development Plan
I&AP	Interested and/or affected parties
MAP	Mean Annual Precipitation
MASL	Metres above sea level
NBA	National Biodiversity Assessment
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Areas
NHRA	National Heritage Resources Act
NPAES	National Protected Areas Expansion Strategy
NWA	National Water Act
PAES	Protected Areas Expansion Strategy
PES	Present Ecological State
PDA	Primary Drainage Area
PPP	Public participation process
QDA	Quaternary Drainage Area
REC	Recommended Ecological Category (or Class)
REMC	Recommended Ecological Management Category (or Class)
RVI	Riparian Vegetation Index
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SDF	Spatial Development Framework
SDI	Spatial Development Initiative
SEA	Strategic Environmental Assessment
SEMP	Strategic Environmental Management Plan
SWSA	Strategic Water areas of South Africa
WMA	Water Management Areas
WUL	Water Use Licence
WULA	Water Use Licence Application

1 Introduction

Setala Environmental (Pty) Ltd has been appointed as the independent environmental assessment practitioner (EAP) to submit an environmental application for the proposed Taylor's Halt substation and power line. The applicant is Eskom Holdings SOC LTD. The National Department of Forestry, Fisheries and the Environment (DFFE) is the Competent Authority for this application submitted via the Standard, entitled "Standard for the Development and Expansion of Power lines and Substations within Identified Geographical Areas".

2 Approach to the Process

2.1 Context of the Standard

The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) promotes the integrated environmental management of activities that may have a significant impact (positive or negative) on the environment. Section 24(1) of the NEMA states that "in order to give effect to the general objectives of integrated environmental management laid down in this Chapter, the potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on to the competent authority or Minister responsible for Mineral Resources, as the case may be, except in respect of those activities that may commence without having to obtain environmental authorisation in terms of this Act."

Section 24(2)(c) - (e) provides the ability of the Minister, or MEC in concurrence with the Minister to identify activities and geographical areas within which activities may be excluded from the requirement to obtain environmental authorisation and section 24(2)(d) provides the additional ability to link such exclusions with compliance with prescribed norms or standards. This Standard, entitled "Standard for the Development and Expansion of Power lines and Substations within Identified Geographical Areas" (the Standard) has been adopted in terms of section 24(10)(a) of NEMA to allow for the exclusion, in terms of section 24(2)(d) of NEMA, of activities which relate to the development and expansion of electricity transmission and distribution infrastructure as identified in Listing Notices 1 and 2 of the Environmental Impact Assessment (EIA) Regulations, promulgated under section 24(5) of NEMA as well as any listed or specified activities necessary for the realisation of such infrastructure which includes substations, as described in the scope of this Standard.

This Standard has been developed based on Strategic Environmental Assessment (SEA) processes undertaken for the development of Electricity Grid Infrastructure (EGI) in South Africa. The SEA processes identified geographical areas which are of strategic importance for the rollout of electricity transmission and distribution infrastructure in terms of Strategic Integrated Project 10: Electricity Transmission and Distribution for all. These geographical areas consist of seven (7) strategic transmission corridors for the development of transmission and distribution infrastructure that have been pre-assessed for environmental sensitivities.

- 2016 EGI SEA:
 - Central Corridor;
 - Eastern Corridor;
 - International Corridor;
 - Northern Corridor; and

- Western Corridor.
- 2019 Expanded EGI SEA:
 - Expanded Eastern Corridor; and
 - Expanded Western Corridor.

The study areas of the SEAs (i.e. the corridors) were investigated by specialists through desktop geographic information system (GIS) analysis. These strategic transmission corridors have been gazetted as identified geographical areas in Government Notice No. 113 published under Government Gazette No. 41445 of 16 February 2018 and Government Notice No. 1637 published under Government Gazette No. 45690 of 24 December 2021.

2.2 Purpose of the Standard

The purpose of this Standard is to provide rules, which must be complied with, ensuring:

- compliance with the principles contained in section 2 of NEMA and the duty of care, in terms of section 28(1) of NEMA; and
- sustainable development within the strategic transmission corridors.

This Standard has been prepared to allow a proponent to achieve planning, routing, siting and remediation objectives that will ensure the acceptability of the impacts of the development of EGI including substations on the environment, independently from the need for an assessment by the competent authority. These planning, routing, siting and remediation objectives were determined through the development of two SEAs undertaken to identify geographical areas best suited for the development of Electricity Grid Infrastructure (EGI) and its supporting infrastructure, including substations as identified in paragraph 1.1 above.

The submission of the registration form, the signing of the declaration by the proponent to commit to implementing the Standard and to comply with the Generic Environmental Management Programmes identified in paragraph 1.5, will enable the exclusion of the development of EGI infrastructure and substations in the identified strategic transmission corridors from the need to obtain an environmental authorisation from the competent authority, as provided for in section 24(2)(d) of NEMA, for the development of transmission and distribution infrastructure within the Strategic Transmission Corridors as identified in paragraph 1.3.

2.3 Scope of the Standard

The provisions of the Standard are applicable:

- within the strategic transmission corridors as identified in Government Notice No. 113 in Government Gazette No. 41445 of 16 February 2018 and Government Notice No. 1637 in Government Gazette No. 45690 of 24 December 2021;
- in areas identified by the national web based screening tool⁵ (screening tool) as being of medium or low environmental sensitivity and confirmed to be such by the EAP or the relevant specialist for the identified environmental theme; and
- for the following activities, including the associated activities necessary for the realisation of the infrastructure, as identified in the EIA Regulations:
 - Listing Notice 1: Activity 11 and 47; and

- Listing Notice 2: Activity 9;

In addition to the activities identified above, the following activities and infrastructure are required for the realisation of transmission and/ or distribution power lines and/ or substations which could trigger additional listed or specified activities. Should any of the associated activities undertaken trigger an identified activity, it is regarded as being included in this Standard;

- Construction camp site and laydown area establishment;
- Servitude gate installation to facilitate access to the servitude;
- Vegetation clearing to facilitate access, construction and the safe operation of the infrastructure;
- Establishing of access roads on the servitude where required;
- Preparation for construction right-of-way and ground preparation;
- Pegging of tower positions for construction;
- Transportation of equipment, materials and personnel to site and stores;
- Installation of foundations for the towers;
- Tower assembly and erection;
- Conductor stringing and regulation;
- Transfer of the line from the Contractor for commissioning;
- Rehabilitation of disturbed areas;
- Final inspection of the line, commissioning and transfer to the Grid Line and Servitude Manager for operation;
- Transfer of the servitude by the Grid Environmental Manager; and
- Operation and maintenance of the infrastructure.

Transmission and distribution power lines are located within a registered servitude and maintenance of this servitude is required to retain access and reduce the risk of obstruction and lightning strikes to the power line infrastructure. Servitude widths vary from 15 m – 80 m depending on the size of the power line and an access road of 4 m – 6 m in width is required. The servitude agreement with the landowner will specify the requirements of the power line operator. Maintenance activities will include cleaning, inspections, and repair (as required).

2.4 Exclusions

The Standard and exclusions do not apply in the following instances:

- Where any part of the infrastructure occurs on an area for which the environmental sensitivity for a relevant environmental theme is identified as being very high or high by the screening tool and confirmed to be such by the EAP or the relevant specialist for the identified environmental theme;
- Where the site verification for a specific theme identifies that the low or medium sensitivity rating of the screening tool is in fact high or very high; or
- Where the greater part of the proposed infrastructure fall outside of any strategic transmission corridor.

Where the Standard does not apply, either the requirements of the EIA Regulations, or the requirements of Government Notice No. 113 in Government Gazette No. 41445 of 16 February 2018, read with the NEMA EIA Regulations, where relevant, apply to the relevant environmental theme for which the very high or high sensitivity has been identified, in respect of the portion of the development which occurs on the area where the environmental sensitivity is confirmed to be very high or high, or to the entire development where the greater part of the infrastructure falls outside of the strategic transmission corridor.

2.5 Applicability of the Generic Environmental Management Programme

As part of the 2016 EGI SEA, a Generic Environmental Management Programme (EMPr) was compiled for the development and expansion of: (a) overhead electricity transmission and distribution infrastructure; and (b) substation infrastructure for the transmission and distribution of electricity. The two Generic EMPrs were gazetted for implementation in Government Notice No. 435 published under Government Gazette No. 42323 of 22 March 2019. The Generic EMPrs apply within South Africa as a whole, and need to be applied for the development of all overhead and substation electricity transmission and distribution infrastructure (as contained in the EIA Regulations Listing Notices 1 – 3 published in Government Notices R982, R983, R984 and R985, published under Government Gazette No. 38282 of 4 December 2014, as amended).

For the purpose of the Standard, the Pre-Approved Generic Template of the Generic EMPrs (Part B – Section 1) applies. Part C will apply if any specific environmental sensitivities or attributes are identified which the generic pre-approved template does not cover. However, in the case of the Standard being applicable, Part C does not need to be submitted to the competent authority for approval. In this case, Part C must be appended to the Pre-Approved Generic Template (Part B – Section 1).

2.6 Procedural Requirements

1. The proponent must identify a preliminary corridor and/or the proposed substation sites using the screening tool and additional relevant spatial datasets where available.
2. The proponent must appoint an independent Environmental Assessment Practitioner (EAP) and must ensure that the EAP fulfils the requirements to register the proposed development in accordance with this Standard.
3. The proponent must ensure that the EAP, as a minimum, follows the public participation process required in Chapter 6 of the EIA Regulations for a linear development during the route determination process, excluding the following requirements which would not be relevant to the Standard:
 - Obtaining written consent from the owner or person in control of the land on which the proposed development is to be undertaken for the powerline development;
 - Timeframes pertaining to comment periods for basic assessment reports, EMPr, scoping reports, EIA reports, and closure plans;
 - Notification along alternative routes in the form of notice boards; and
 - Giving notice of the process being applied (basic assessment or scoping and environmental impact report).
4. As part of the interested and affected parties (I&APs) the EAP must ensure that relevant Non-Governmental Organisations (NGOs) and Community-Based Organisations (CBOs) are effectively consulted during the public participation process.

Based on the information provided by the screening tool, additional spatial data and the EAP's professional knowledge, the proponent assisted by the EAP must appoint a specialist team who will assist with the route planning. The proponent must ensure that the EAP prepares a preliminary database of possible stakeholders and interested and affected parties (I&APs) along the preliminary corridor and in the vicinity of the substation site, including relevant government departments and relevant non-governmental stakeholders. The proponent assisted by the EAP must then announce

the proposed development by making available a Background Information Document (BID) on a publicly accessible website and distributing the BID to stakeholders and I&APs identified on the database.

5. The proponent assisted by the EAP must appoint a specialist team to undertake the site verification of the relevant environmental themes where relevant as well as a walkthrough of areas that need verification in the opinion of the EAP and specialist. Should a particular specialist not be required, the EAP must motivate their exclusion from the team and include this motivation in the BID. It is anticipated that the following specialist expertise will be required:
 - (a) Terrestrial biodiversity and ecology;
 - (b) Aquatic biodiversity and ecology;
 - (c) Avifauna;
 - (d) Heritage;
 - (e) Agriculture/soil scientist; and
 - (f) Visual (not required for a substation).
6. The BID must include as a minimum the following information:
 - (a) Purpose of the BID;
 - (b) Legal context;
 - (c) Background and project description;
 - (d) Process and timeline;
 - (e) The screening report generated from the screening tool for the Preliminary Corridor and/or proposed substation site;
 - (f) Location of the Preliminary Corridor and/or proposed substation site, including a map generated at an appropriate scale that displays the extent of the Preliminary Corridor and/or proposed substation as detailed as possible. Where an electronic copy of the BID is distributed, the spatial data of the Preliminary Corridor and/or proposed substation site must be made available;
 - (g) Contact details of the EAP; and
 - (h) I&AP registration forms.
7. The proponent must ensure that the EAP and specialists identify through their specialist knowledge and site verifications/walkthrough as necessary, a proposed route and/or the substation location/s (where a substation or substations are relevant) within the preliminary corridor based on:
 - a) consideration and implementation of the mitigation hierarchy,
 - b) environmental sensitivity identified using the methodologies or processes as stipulated in Chapter 3 of this Standard, and
 - c) engineering constraints.
8. As the route is being identified, the initial servitude negotiations are to be undertaken to ensure that the route and/or substation location is not fatally flawed in relation to servitude access.
9. The process to identify the proposed route and/or substation location and the outcome of the initial servitude negotiations must be documented in an environmental sensitivity report, which must be subjected to a minimum public comment period of 30 days as part of the public participation process identified in paragraph 3 above.

10. The environmental sensitivity report must include, as a minimum, the following information:
 - (a) The details and relevant expertise of the EAP and specialists preparing the report;
 - (b) The outcome of the screening exercise undertaken using the screening tool, the expert knowledge of the specialists where necessary, results of the site verification, the adoption of the mitigation hierarchy principles and the principles contained in Chapter 3 of this Standard;
 - (c) Location map of the *proposed route* and/or proposed location of the substation at a scale not more than 1:15000 to identify environmental features;
 - (d) Details of the public participation process undertaken;
 - (e) A discussion by the specialists and/or EAP of the process used to confirm that the *proposed route* and/or substation location has applied the principles stipulated in Chapter 3, and the process used to confirm that the site sensitivity of the proposed route and/or substation location is of low or medium environmental sensitivity;
 - (f) If applicable, a site specific EMPr as per Part C of the Generic EMPr for overhead power lines and/or substations gazetted in Government Notice 435 published in Government *Gazette* No. 42323 of 22 March 2019;
 - (g) The completed generic EMPr pre-approved template which is Part B – Section 1 of the Generic EMPr for overhead power lines and/or substations, and where applicable Part C, gazetted in Government Notice 435 published in Government *Gazette* No. 42323 of 22 March 2019, for display on the websites of the proponent and the EAP; and
 - (h) The confirming statement by the various specialists in the format as identified in Appendix B.
11. The *proposed route* must be finalised to become the final *pre-negotiated route* and where relevant the final location/s of the substation/s, by taking into consideration comments received during the public participation process and refining the route as relevant.
12. A final environmental sensitivity report must be prepared by the EAP supported by the specialists, which locates the final pre-negotiated route and/or the substation location on a map which includes the location of any mitigation devices such as bird flight diverters, a record of comments and responses and, where applicable, Part C of the Generic EMPr and the final confirming statements by the various specialists in the format as identified in Appendix B.
13. All registered I&APs must be notified of the availability of the final environmental sensitivity report for information.
14. The proponent must submit the relevant registration form contained in Appendix F of this Standard.
15. The registration form must be accompanied by:
 - (a) The final pre-negotiated route and the signed declaration by the proponent of commitment to implement the Standard (included as Appendix 9 to the registration form);
 - (b) A signed statement from the proponent that initial servitude negotiations have been concluded;
 - (c) The signed declaration that the proponent will comply with the pre-approved Generic EMPr templates and site specific EMPr if relevant; and
 - (d) All supporting documents stipulated in the registration form.
16. On receiving the relevant information identified in paragraph 15 above, the competent authority must issue a registration number within 30 days of receipt of the information submitted or if the

information is incomplete, indicate to the proponent that the submission is incomplete and identify the outstanding information. A register of all registrations must be kept by the competent authority.

17. Upon receipt of a registration number, the proponent must inform all registered I&APs within 14 days of the registration and the opportunity to appeal.
18. Registration contemplated in paragraph 16 will be valid for a period of 10 years from receipt of the registration number in order for commencement to take place (validity period). If commencement does not take place within the validity period, the process contemplated in Chapter 2 will apply afresh in such instances.
19. The pre-negotiated route must be 250m or less in width. The width of the pre-negotiated route must be included in the final environmental sensitivity report.
20. The purpose of the notification is not to make the report available for comment, but rather to make it available for information purposes so that I&APs have access to it.
The proponent must provide written notice to the compliance monitoring unit within the competent authority 14 days prior to the date on which the first of the activities contemplated in the scope of this Standard, including site preparation, will commence in order to facilitate compliance inspections.
21. Proof of registration must be:
 - (a) lodged by the proponent with the relevant Local Municipality, as well as the relevant provincial department responsible for the environment, if the national department responsible for the environment is the CA, prior to commencement;
 - (b) made available by the proponent on request by any member of the public or Authority; and
 - (c) made available, where the proponent or owner has a website, on such publicly accessible website.
22. Where change of ownership of a development registered in terms of paragraph 16 occurs during the pre-construction or construction phases of the infrastructure, the registration number is retained by the new owner, however the new owner must submit to the competent authority for re-registration, the declaration by the proponent of commitment to implement the Standard (included as Appendix 9) and the declaration to implement Part B – Section 1 of the Generic EMPr for overhead power lines and/or substations, and where applicable Part C (Appendix 10), within 30 days upon finalisation of such change. There is no requirement for re-registration once the infrastructure has been constructed as the operation of a power line or substation is not an identified activity in terms of the Act.

3 Project Locality and Nature of Activity

The project is proposed on Zwaart Kop 4669 FT Portion 0, in the Msunduzi Local Municipality, uMgungundlovu District in KwaZulu Natal Province. The project is approximately 23km west of Pietermaritzburg and is within rural villages such as Taylor's Halt and Enhashini.

Below are some of the main coordinates for the project:

Eskom Taylor's Halt 132kV power line and Taylor's Halt Substation

- T-Off point on existing Ariadne – Elandskep Power Line: 29°41'25.19"S; 30°08'52.33"E.
- Proposed Taylor's Halt Substation (Approximate centre): 29°40'49.32"S; 30°10'16.43"E.
- Proposed Taylor's Halt 132kV Power Line (Approx. centre): 29°41'12.58"S; 30°09'36.70"E
- Quarter Degree Square (QDS): 2930CA.
- Quaternary Drainage Area (QDA): U20H.

The proposed project is set out in the Location Map below.

Figure 1,

Figure 2).

(Refer to Appendix A for Site Location maps)

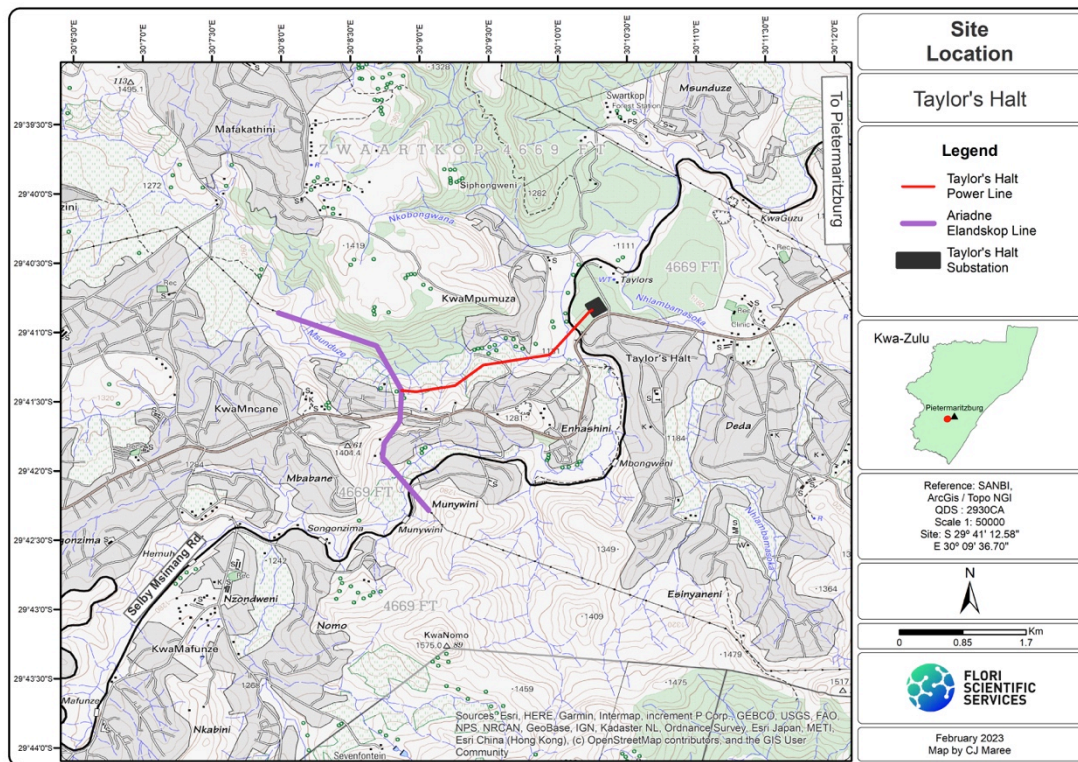


Figure 1: Study Site location

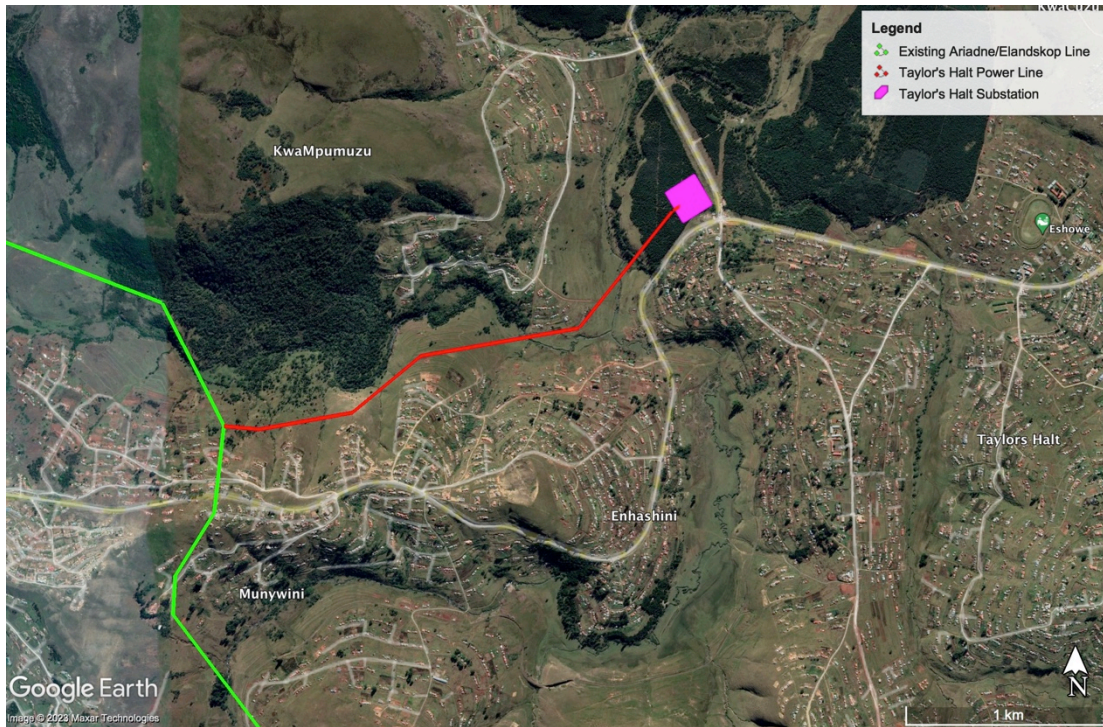


Figure 2: Study Site Location (Google Earth)

3.1 Property Description

The project is proposed on Zwaart Kop 4669 FT Portion 0, in the Msunduzi Local Municipality, uMgungundlovu District, near Pietermaritzburg in KwaZulu Natal Province. LPI Code NOFT00000000466900000.

3.2 Project Description

Eskom Holdings SOC Ltd is mandated by the South African Government to ensure the provision of reliable and affordable power to South Africa. Eskom's core business is in the generation, transmission (transport), trading and retail of electricity. The reliable provision of electricity by Eskom is critical for development and related employment in South Africa.

The proposed construction of a $\pm 2,63\text{km}$ 132kV powerline is initiated by Eskom to ensure the reliability and quality of supply of the network. Edendale 132/22kV, Elandskop 88/11kV and Mpophomeni 88/11kV transformers are currently loaded above 95% of their nameplate ratings. With the expected load growth, these transformers will exceed their nameplate rating. Also, Edendale NBEM, Edendale NBEC, Vulindlela NB57 and Mpophomeni NB54 are overloaded.

Taylor's Halt 132/22kV substation will de-load the two transformers at Edendale and Mpophomeni as it will split the four networks (Edendale NBEM, Edendale NBEC, Vulindlela NB57 and Mpophomeni NB54).

Scope of Work Description

1) Taylor's Halt 132/22kV Substation

A 132/22kV substation called Taylor’s Halt SS will be established complete with earthworks, drainage, access road, fencing & gates, earthmat & foundations. In addition, 132/22kV transformers and 2 x 132kV line bays to loop in and out of Ariadne/Elandskop 132kV line will be installed.

Part of the scope of work is to identify and construct/establish a temporary laydown area required for the construction phase of the power line. A setup within the proposed substation area is ideal.

2) Ariadne/Elandskop Taylor’s Halt 132kV line (loop in & out)

A 2,63km 132kV power line will T-off from Ariadne/Elandskop 132kV line and Loop in Loop Out to Taylor’s Halt 132kV/22kV Substation on double circuit structures.

The current Application is for the construction of the following:

- Construct a ± 2,63km overhead 132kV line outside an urban area from the T-off with the 132kV Ariadne/Elandskop line to the proposed Taylor Halt substation.
- Construct 132/22kV Taylor’s Halt Substation.
- Clearance of an area of ± 3,5 hectares (175m X 200m = 35 000m²) for Taylor’s Halt substation and a temporary laydown area on ± 50 x 50 metres inside the substation site. An additional laydown area of 60m by 60m might be required for the powerline construction.

3.3 Coordinates of Development Proposal

1 Taylor’s Halt 132kV Power Line

The GPS coordinates of the Taylor’s Halt 132kV Power Line are as follows:

- Length: 2,63 km.
- Starting Point: T-Off point on existing Ariadne – Elandskop Power Line: 29°41'25.19"S; 30°08'52.33"E.
- Middle Point of power line: 29°41'12.58"S; 30°09'36.70"E
- End Point: At Taylor’s Halt substation: 29°40'49.32"S; 30°10'16.43"E.

Taylor’s Halt 132kV power line - Co-ordinates every 250m

Table 1: GPS Co-ordinates along Taylor’s Halt 132kV Power Line - every 250m

Power line Route	Latitude (S)	Longitude (E)
Distances (m)	(DMS)	(DMS)
0 (T-Off point on existing Ariadne – Elandskop Power) Line	29°41'25.19"S	30°8'52.33"E
250	29°41'25.20"S	30° 9'1.59"E
500	29°41'23.68"S	30° 9'10.72"E
750	29°41'20.48"S	30° 9'18.88"E
1 000	29°41'15.31"S	30° 9'26.10"E
1 250	29°41'13.10"S	30° 9'34.67"E
1 500	29°41'11.58"S	30° 9'43.88"E
1 750	29°41'10.23"S	30° 9'53.05"E
2 000	29°41'5.77"S	30°10'0.14"E
2 250	29°40'59.48"S	30°10'5.96"E

2 500	29°40'51.77"S	30°10'12.94"E
2 626	29°40'50.26"S	30°10'15.03"E
Taylor' Halt Substation	29°40'49.32"S	30°10'16.43"

3.4 Physical Size of the Activity

The physical size of the activity/ (footprint):

1 Taylor's Halt 132kV power line route

Table 2: The Taylor's Halt 132kV power line

Alternative:	Length of the activity:
Power line Route	2,63 km

The size of the servitude (within which the above footprint will occur):

2 Taylor's Halt 132kV power line route

Table 3: The Taylor's Halt 132kV power line

Alternative:	Size of the site/servitude:
Power line route	36m servitude x 2 630 m = 94 680m ² / 9,468 ha

Alternative:	Size of the site/servitude:
Power line Route corridor	250m x 2 630 m = 657 500m ² / 65,750 ha

The application will seek to authorise a corridor for the power line, and not just for the actual width of the power line servitude. The wider corridor of 250m that was investigated will allow for potential amendments to the Environmental Authorisation (should it be required at a later stage).

3.5 Access to the Site

No new access to the site is planned. During construction, all vehicle movement must be along existing roads. The servitude area of the new power line will also be used to gain access during construction. A temporary construction road will be selectively cleared in the new servitude area underneath the future power line to enable construction activities. An area of 8m will be cleared of major trees and bushes, 4m on either side of the proposed alignment of the line. As mentioned the existing servitudes and existing roads should be used during construction. Access to the substation site will be from an existing road to the east of the site.

4 Description of Receiving Environment

4.1 Physical Environment

1 Topography

The topography of the study area is steep rolling hills and deep valleys (Figure 3). The topography graph in Figure 3, below, shows that of the proposed Taylor's Halt line corridor from the T-off point in the west

(left) up until the proposed Taylor’s Halt Substation in the east (right). The average height above sea level across the study area (power line route) is approximately 1 170m, with a maximum and minimum elevation of around 1 223m (at the T-off point) and 1 536m (at the river in the valley near the substation), respectively. The average gradient (slope) in the study area is steep, at around 11%.

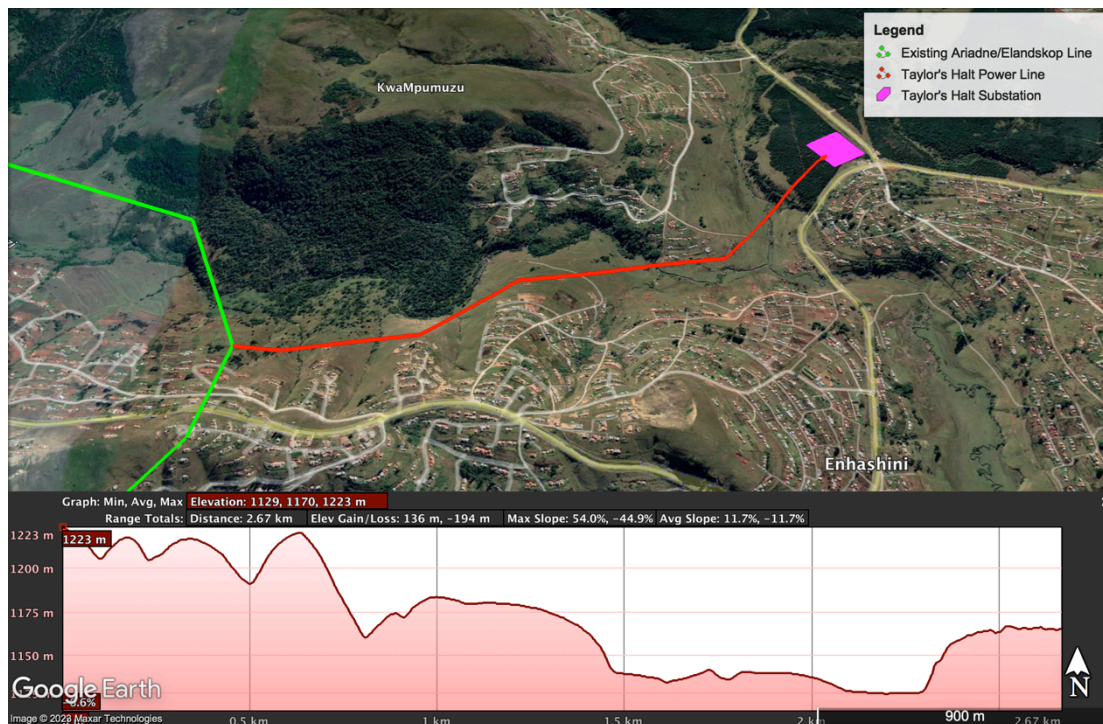


Figure 3: Topography along the proposed power line corridor

2 Geology and Soils

The geology and soils of the study site and surrounding areas are typically that of apedal and plinthic soil forms derived mostly from Ecca Group (Karoo Supergroup) shale and minor sandstone and less importantly from Jurassic dolerite dykes and sills. The dominant land types in the area are Ac, followed by Fa.

3 Climate

The study site is within a summer high rainfall region of South Africa on the escarpment edge. The area has similar climate to that of the nearby city of Pietermaritzburg. According to online data the average temperature for the year in Pietermaritzburg is 17.7°C. The warmest month, on average, is January with an average temperature of 21.8°C. The coolest month on average is June, with an average temperature of 12.3°C. The average amount of precipitation for the year in Pietermaritzburg is 858,5 mm.

4 Landcover and Landuse

The landcover or landuse of the study site is a mix of rural villages with associated cultivated plots of land and steep grassland hills in which cattle and other livestock freely roam and graze. The proposed power line cannot go directly over housetops and therefore follows the open grassland hills and valleys as far as

possible. The proposed location of the substation is completely within an old existing plantation of alien invasive gum trees (*Eucalyptus spp.*).

4.2 Biological Environment

The following information has been extracted from the Biodiversity Assessment, conducted by Flori Scientific Services. Refer to Appendix B1.

The findings identified the following:

1 Terrestrial Ecology

Vegetation

The study site is situated in the original extent of Midlands Mistbelt Grassland. The site is within an area with numerous scattered villages, resulting in large negative impacts on the environment. The vegetation of the study area is degraded grassland with no pristine areas of Mistbelt Grassland present. The actual power line corridor is almost exclusively within an environment that is altered by cultivated plots of land (subsistence farming); manmade terraces; grassland that is over-grazed by free-roaming cattle and other livestock, etc. The substation is located within an area that has been totally transformed by a plantation of alien gum trees.

Below is a summary of the vegetation of the study area.

Category Description	Classification
Biome	Grassland
Bioregion	Sub-Escarpment Grassland
Vegetation Types	Midlands Mistbelt Grassland
Status	Vulnerable (VU) - Threatened

Fauna

There are potentially a number of different faunal species present in the study area and surrounding areas. There are some ideal habitats, especially within the less impacted higher hilltops, steep cliffs and isolated grassland hills. However, there are a lot of scattered villages and plantations across the region that places massive pressure on free-roaming wild fauna. The plantations along with urban villages and associated plots of cultivated land cause loss of natural habitat. Other anthropogenic common to rural areas such as hunting, etc. add further pressure to species numbers and richness in the area.

2 Aquatic Ecology

The following information has been extracted from the Biodiversity Assessment, conducted by Flori Scientific Services. Refer to Appendix B1.

The findings identified the following:

Watercourses

The main rivers (or streams) in the area of the study site are the Msunduze River and a smaller tributary. Both watercourses are perennial in nature. The topography of the area is that of steep, rolling hills, which facilitates small narrow seasonal drainage lines between the hills, of which there are a number in the study area. There is also a small valley bottom wetland, west of the confluence of the two rivers / streams. Much of the riparian vegetation of trees along the river and stream are invasive alien species of blackwattle and gumtrees.

Drainage Regions

Below is a summary of the drainage region / catchment area for the study site.

Level	Category
Primary Drainage Area (PDA)	U
Quaternary Drainage Area (QDA)	U20H
Water Management Area (WMA) – Previous / Old	Mvoti to Umzimkulu
Water Management Area (WMA) – New (as of Sept. 2016)	Pongola – Mtamvuna (WMA 4)
Sub-Water Management Area	Mgeni
Catchment Management Agency (CMA)	Pongola – Mtamvuna (CMA 4)
Wetland Vegetation Ecoregion (WetVeg)	Sub-Escarpment Grassland (Group 3)
RAMSAR Site	No
River FEPA	Yes (Msunduze River)
Flagship River	No
Wetland FEPA	No
Fish FEPA	No
Fish FSA	No
Fish Corridor	No
Fish Migratory	No
National Strategic Water Source Area (SWSA)	Yes (Southern Drakensburg – groundwater & surface water SWSA)

Sensitivity Assessment

The ecological sensitivity of the study area is determined by combining the sensitivity analyses of both the floral and faunal components. The highest calculated sensitivity unit of the two categories is taken to represent the sensitivity of that ecological unit, whether it is floristic or faunal in nature (**Error! Reference source not found.**).

Note: The Ecological sensitivities shown are actual sensitivities. For example, even though in the final sensitivity map watercourses will have a sensitivity of ‘High’, the reality is that their actual ecological sensitivity on the ground is lower at ‘Medium’.

Ecological sensitivity analysis

Ecological community	Floristic sensitivity	Faunal sensitivity	Ecological sensitivity
Transformed (Farmland)	Low	Low	Low
Grassland	Medium	Medium	Medium
Watercourse	Medium	Medium	Medium

High: 80% – 100%; Medium/high: 60% – 80%; Medium: 40% – 60%; Medium/low: 20% – 40%; Low: 0% – 20%

Eskom Taylor's Halt 132kV power line and Taylor's Halt Substation

According to site investigations, the sensitivity of the open, degraded grassland 'Medium'. The sensitivities of the watercourses, including the seasonal drainage lines, are all 'Medium' in reality; The sensitivity of altered cultivated lands and contoured slopes is 'Low'.

Sensitivity Maps

Below are the sensitivity maps of the power line and substation. The corridor is 100m wide.



Figure 4: Sensitivity Map: Power Line



Figure 5: Sensitivity Map: Substation

Buffer Zones

Buffer zones along watercourses and watercourse crossings have been recommended. The recommended buffers (no-go zones) are as follows:

- 50m each side of the main channel of the Msunduze River.
- 32m each side of the main channel of the Stream (Tributary).
- 32m each side of the main channel of the drainage lines.

There are no buffers required for the Taylor's Halt Substation site.

Conclusions

The conclusions of the biodiversity study are as follows:

- The study site is within the original extent of Midlands Mistbelt Grassland, which is a threatened veldtype / ecosystem with a status of 'Vulnerable'.
- The proposed power line corridor is within a mix of degraded grassland, cultivated fields and grazing lands. The Taylor's Halt Substation site is within a totally altered / transformed environment of a gum tree plantation.
- There are a number of small seasonal drainage lines, perennial stream and the Msunduze River that the power line will cross over.
- The study site is not within any national priority areas such as protected areas, important bird areas (IBAs), etc. However, the Msunduze River is a FEPA river.

- No red data listed (RDL) floral species were observed in the study area and none are expected to occur. No orange data listed (ODL) species were observed in the power line corridor or the substation site.
- A short section of the power line servitude is within a critical biodiversity area (CBA). This is in the area of the Msunduze River just west of the substation site. There are no ecological support areas (ESAs) present in the study area.
- The Taylor's Halt Substation site is not within any CBA, ESA or priority area.
- There are no obvious fatal flaws in terms of the natural biodiversity.
- Taking all findings and recommendations into account it is the reasonable opinion of the specialist that the activity may be authorised. The project and related activities should be allowed to proceed.

Recommendations

The recommendations of the study are as follows:

- All recommended mitigating measures as proposed in this study and report should be implemented if the findings of this report are to remain pertinent. All of the recommended mitigating measures must be part of the conditions in the EMP and any other documents or permits that might be required.
- The only bufferzones required for the project are at watercourse crossings. A 50m wide buffer zone around the stream and river is recommended; and a 32m buffer zone around seasonal drainage lines is recommended. No pylons / poles are allowed to be planted / erected within these buffer zones. Doing so may trigger the need for a General Authorisation (GA) process through the Department of Water and Sanitation (DWS).
- All mitigating measures recommended in this study must be implemented and form part of the conditions for the EMP.
- Recommended mitigating measures include (but are not limited to) the following:
 - Any temporary storage, lay-down areas or accommodation facilities to be setup in existing built-up areas or disturbed areas only. A laydown / site office area has been identified within the confines of the Taylor's Halt Substation site. This must be used as the first / priority temporary area.
 - Ensure small footprint during construction phase. Movement of people and vehicles must stay within a 100m wide corridor in and along the power line servitude.
 - 50m Buffer zones, from the main channel of rivers and streams need to be implemented. 32m Buffer zones from the main channel of seasonal drainage lines need to be implemented.
 - These are 'No-Go' zones in terms of construction activities, including positioning of portable toilets, temporary laydown areas, site offices, parking of vehicles, etc. No pylons may be placed / erected within these buffer zones. Under no circumstances may pylons (poles) be placed directly within the main channel of any watercourse, including seasonal drainage lines. No poles may be placed in the permanent zone of any wetland, and no poles may be placed within or on the edges / walls of any farm dams.
 - No temporary site offices or lay-down areas are allowed within 50m of the edge of any watercourses.
 - Temporary site offices or lay-down areas are not allowed on top of any rocky hills, ridges or along any steep hill slopes or gradients. All laydown areas must be on flat, plains/surfaces and not within 50m of any watercourse. No temporary laydown or site office areas on the slopes of the hills.
 - All hazardous materials must be stored appropriately to prevent these contaminants from entering the water environment;

- All excess materials brought onto the site for construction must be removed after construction.
- No open trenches or mounds of soil to be left.
- Rehabilitation measures are to be implemented for disturbed areas as part of the construction phase of the project. All temporary access roads must be rehabilitated. Any existing farm tracks or roads used must be continually maintained during the construction phase and must be rehabilitated to the acceptable standards of the landowners on completion of construction.
- A final walk-down is recommended to inspect proposed pylon positions. Any pole positions within buffer areas, watercourses, etc. can then be attempted to be moved / re-aligned. Any ODL or RDL flora species observed in the footprint of a pole position avoided (although unlikely to be present)
- Due to the open grasslands and hills, there is a real danger/threat of runaway veldfires. Contractors need to have the proper equipment on site and need to do regular briefings and updates with staff on the subject.
- Daily monitoring of erosion is essential. Any erosion encountered (especially after heavy downpours must be immediately rectified/controlled. The power line corridor is along the tops and sides of steep rolling hills. Erosion is a real threat around newly erected poles and access roads.

3 Avifauna

The following information has been extracted from the Avifauna Assessment, conducted by Flori Scientific Services. Refer to Appendix B2.

The findings identified the following:

Potential Impacts

The potential negative impacts arising from the proposed project are low. The footprint of the power line is small, with the biggest potential negative impacts on birds in terms of power line collisions and electrocutions. Besides birds (avifauna), the project will have little to no measurable negative impacts on fauna and very little to no long-term impacts on flora. The impacts are lessened by the fact that the power line is within a grassland environment where no indigenous trees or shrubs need to be cleared and the physical footprint of the pylons on the ground is small.

The power line crosses over a number of small seasonal drainage lines, one perennial stream and the Msunduze River, but there will be little negative impact on the watercourses themselves or their riparian zones. Once again the biggest potential negative impact at watercourse crossings is bird collisions during flight along main watercourses, which birds use as routes.

Table 4: Assessment of Potential Impacts

Potential Impacts arising from Project	Phase of Project	Impact Rating					
Total Impact of Proposed Project							
Significand (SP) ≥60: High; SP 31 ≥ 59: Moderate; SP ≤ 30: Low.							
		Extent	Duration	Magnitude	Probability	Total	Significance
Avifauna Only	Avifauna: Pre-mitigation	Local (2)	Long-term (4)	Moderate (6)	Medium (3)	36	Low

Avifauna Only	Avifauna: Post mitigation	Site (1)	Long-term (4)	Low (4)	Medium (3)	27	Low
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Avifauna Sensitivity Map

The high-risk bird areas in the study area are the two watercourse crossings (perennial stream and Msunduze River), where the highest potential risks of in-flight collisions are present. Therefore, Bird Flight Diverters (BFDs) must be installed on the power line across these two areas. The GPS points at the watercourse crossings where BFDs need to be placed and the corresponding map are shown below.

The BFDs need to be placed across the entire length of the demarcated watercourses, including the buffer zones. There is no need to place BFDs in any other locations along the power line route or within the Substation. The proposed substation is within a totally transformed area and will still retain many of the existing tall gum trees.

Note: The BFD points shown below in the map are the locations between which the BFDs must be placed along that entire length of line at intervals. That is, between BFD_1 and BFD_2 and then again between BFD_3 and BFD_4. The total length of line along which BFDs must be placed is 305m. The Avifauna Sensitivity Map for the power line route and substation is shown below.

Table 5 GPS Coordinates for BFDs

Map ID Number	Coordinates	Habitat
BFD_1	29°41'11.31"S; 30° 9'45.67"E	Perennial stream & 32m Buffer Area
BFD_2	29°41'10.86"S; 30° 9'48.95"E	Perennial stream & 32m Buffer Area
BFD_3	29°41'4.06"S; 30°10'1.79"E	Msunduze River & 50m Buffer Area
BFD_4	29°40'58.73"S; 30°10'6.71"E	Msunduze River & 50m Buffer Area

Eskom Taylor's Halt 132kV power line and Taylor's Halt Substation

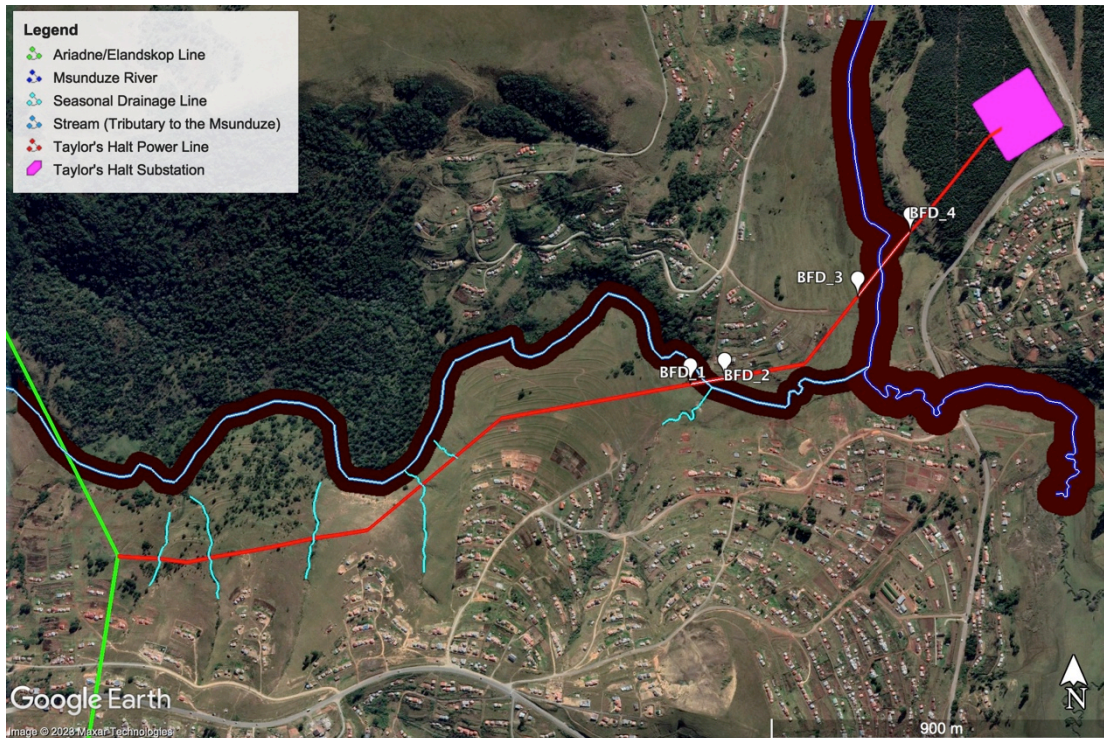


Figure 6: BFD Points between which BFDs must be placed along the Power Line

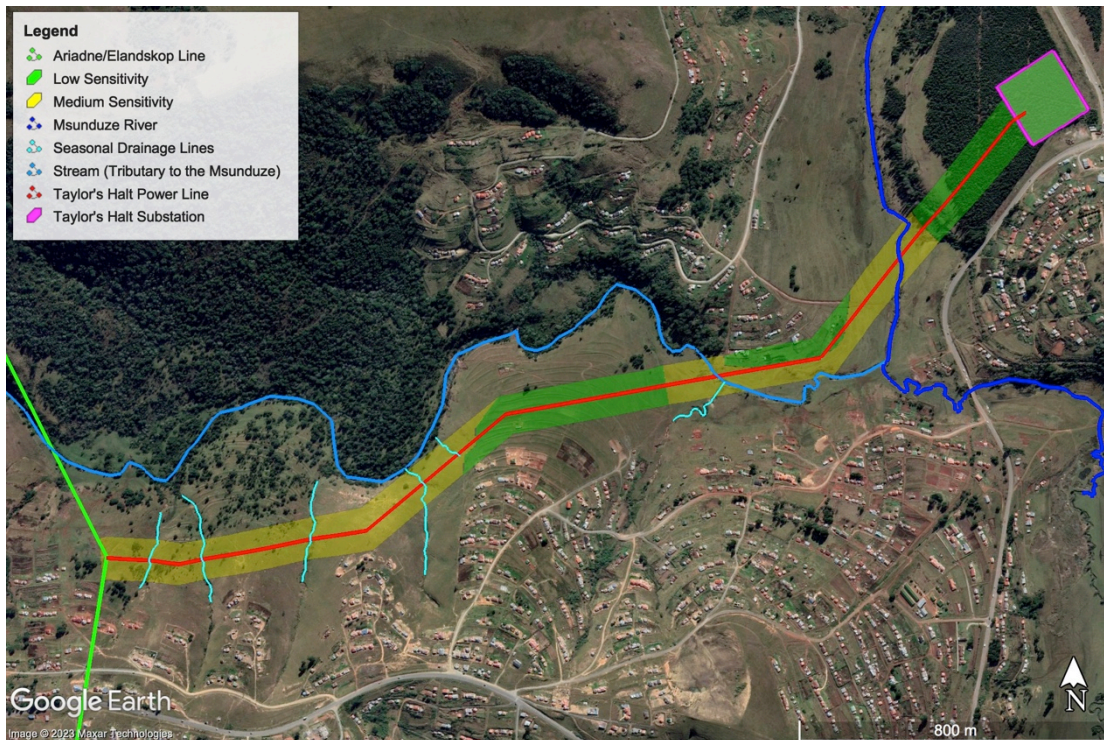


Figure 7: Avifauna Sensitivity Map

Conclusions

The conclusions of the Avifauna study are as follows:

- The study site is within the original extent of Midlands Mistbelt Grassland, which is a threatened veldtype / ecosystem with a status of 'Vulnerable'.
- The proposed power line corridor is within a mix of degraded grassland, cultivated fields and grazing lands. The Taylor's Halt Substation site is within a totally altered / transformed environment of a gum tree plantation.
- There are a number of small seasonal drainage lines, perennial stream and the Msunduze River that the power line will cross over.
- The study site is not within an important bird area (IBA) and the study area is not a 'hotspot' for avifaunal species of conservation concern (SCC).
- There are no obvious fatal flaws in terms of the natural biodiversity.
- Taking all findings and recommendations into account it is the reasonable opinion of the specialist that the activity may be authorised. The project and related activities should be allowed to proceed.

Recommendations

The recommendations of the study are as follows:

- All recommended mitigating measures as proposed in this study and report should be implemented if the findings of this report are to remain pertinent. All of the recommended mitigating measures must be part of the conditions in the EMP and any other documents or permits that might be required.
- Bird Flight Diverters (BFDs) need to be placed along the length of the power line in two locations only. These two locations are where the line crosses the perennial stream (tributary to the Msunduze River) and the Msunduze River. The area for BFDs includes the buffer zones.
- For placement of BFDs: For placement of BFDs: A 5m spacing along the earth wire (shield wire) is recommended. Alternative colours of black and white/yellow (or other contrasting colours typically used on power lines) to be used. Although a shorter spacing is recommended, a larger spacing may be used, but at a maximum of 15m, not wider.

4.3 Social Environment

1 Heritage and Cultural Value

Integrated Specialist Services was appointed to conduct a Heritage Impact Assessment (HIA) for the project. *Refer to App B3.*

Heritage Impact Assessment

The field survey identified one burial site approximately 120m from the centre of the proposed powerline route. The burial site is located at GPS Coordinates 29° 41' 09''S 30° 09' 27''E. Although the burial site falls within the 500m wide study area, it can safely be avoided without realigning the powerline route. A 30m buffer is recommended to secure the graveyard from any construction activities. It should be noted that archaeological material and unmarked graves may still exist and when encountered during construction, work must be stopped forth-with, and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. This report must be submitted to Amafa akwaZulu Natal and Research Institute for review in terms of Section 38 (4) of the NHRA.

The report makes the following observations:

- The findings of this report have been informed by desktop data review, field survey and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regards to the proposed powerline and substation project.
- Most sections of the proposed powerline route are accessible.
- The immediate project area is predominantly communal agriculture fields and rural residential
- Some sections on the proposed site are severely degraded from previous and current agriculture activities.
- The study did not record any archaeological site within the proposed powerline route and substation site.

The report sets out the potential impacts of the proposed powerline development on heritage matters and recommends appropriate safeguard and mitigation measures that are designed to reduce the impacts where appropriate. The Report makes the following recommendations:

- It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 41 (2) of the Amfa aKwaZulu Natal and Research Institute of 2018 read together with Section 38 (8) of the National Heritage Resources Act 25 of 1999.
- It is recommended that SAHRA decide in terms of Section 38 (4) of the NHRA to approve the proposed substation and powerline route on condition that the planners for the project provide a 30m buffer zone from the recorded burial site.
- From a heritage perspective supported by the findings of this study, the project is supported. However, construction activities should be approved under observation that the dimensions do not extend beyond the area considered in this report.
- Should chance archaeological materials or human remains be exposed during activities on any section of the electricity supply project site, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption of the project scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
- Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of this heritage report, there are no significant cultural heritage resources barriers to the proposed electricity supply project. SAHRA may approve the project as planned with special commendations to implement the recommendations here in made.

This report concludes that the impacts of the proposed electricity supply project on the cultural environmental values are not likely to be significant on the entire site if the EMP includes recommended safeguard and mitigation measures identified in this report.

Palaeontological Impact Assessment

Marion Bamford Consulting was appointed to conduct a desktop Palaeontological Impact Assessment for the project. *Refer to App B4.*

To comply with the regulations of the South African Heritage Resources Agency (SAHRA) in terms of Section 38(8) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA), a desktop Palaeontological Impact Assessment (PIA) was completed for the proposed development.

The proposed route lies on the potentially fossiliferous Volksrust Formation (Ecca Group, Karoo Supergroup and non-fossiliferous Jurassic dolerite although it is unlikely that any fossils of any importance would occur in the deep water shales. One example of a marine bivalve has been recorded as well as rare trace fossil.

Nonetheless, a Fossil Chance Find Protocol should be added to the EMPr. Based on this information it is recommended that no further palaeontological impact assessment is required unless fossils are found by the contractor, environmental officer or other designated responsible person once excavations or drilling for pole or substation foundations have commenced. Since the impact will be LOW, as far as the palaeontology is concerned, the project should be authorised.

2 Visual aspects

The proposed development site lies in a macro area where the visual quality of the macro area could be rated as medium as a result of the rural character and rolling hills of the surrounding areas.

The site is within an area with numerous scattered villages, resulting in large negative impacts on the environment. The vegetation of the study area is degraded grassland with no pristine areas of Mistbelt Grassland present. The actual power line corridor is almost exclusively within an environment that is altered by cultivated plots of land (subsistence farming); manmade terraces; grassland that is over-grazed by free-roaming cattle and other livestock, etc. The substation is located within an area that has been totally transformed by a plantation of alien gum trees.

The topography of the study area is steep rolling hills and deep valleys. The nature of the topography is a strong factor influencing the types of vistas typically present in the study area, as there are many areas of rising ground which would block views and limit viewsheds, and valleys within which views would be restricted. As a result, typically short-ranging vistas are experienced within the study area. As mentioned the proposed location of the substation is completely within an old existing plantation of alien invasive gum trees (*Eucalyptus* spp.). This will block the visibility of the substation significantly.

The visual impact of the power line must be considered in context with the existing land use. The land use will not change as normal farming activities are allowed underneath the power line.

Implications for development

The proposed power line will be able to blend in with the surrounding environment and will not look out of place due to the occurrence of various land uses in the surrounding area.

5 LEGAL REQUIREMENTS

5.1 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

The Standard, entitled "Standard for the Development and Expansion of Power lines and Substations within Identified Geographical Areas" (the Standard) has been adopted in terms of section 24(10)(a) of NEMA to allow for the exclusion, in terms of section 24(2)(d) of NEMA, of activities which relate to the development and expansion of electricity transmission and distribution infrastructure as identified in Listing Notices 1 and 2 of the Environmental Impact Assessment (EIA) Regulations, promulgated under

section 24(5) of NEMA as well as any listed or specified activities necessary for the realisation of such infrastructure which includes substations, as described in the scope of this Standard.

The provisions of the Standard are applicable to this current proposed development for the following reasons:

- The site is within the Eastern Strategic Transmission Corridor as identified in Government Notice No. 113 in Government Gazette No. 41445 of 16 February 2018 and Government Notice No. 1637 in Government Gazette No. 45690 of 24 December 2021;
- The site is in areas of medium or low environmental sensitivity and confirmed to be such by the EAP or the relevant specialist for the identified environmental theme; and
- The following activity, as identified in the EIA Regulations is relevant:

Listing Notice 1: Activity 11: -

- Construct a ± 2,63km overhead 132kV line outside an urban area from the T-off with the 132kV Ariadne/Elandskop line to the proposed Taylor Halt substation.
- Construct 132/22kV Taylor's Halt Substation.

The Distribution power lines will be a double circuit located within a registered servitude and maintenance of this servitude is required to retain access and reduce the risk of obstruction and lightning strikes to the power line infrastructure. Servitude width is 31m and an access road of 4 m – 6 m in width is required. The servitude agreement with the landowner will specify the requirements of the power line operator. Maintenance activities will include cleaning, inspections, and repair (as required).

1 Eastern Strategic Transmission Corridor

The provisions of the Standard are applicable to this current proposed development as the screening report indicates that the project area is in the Eastern Strategic Transmission Corridor. Refer to Figure 8.

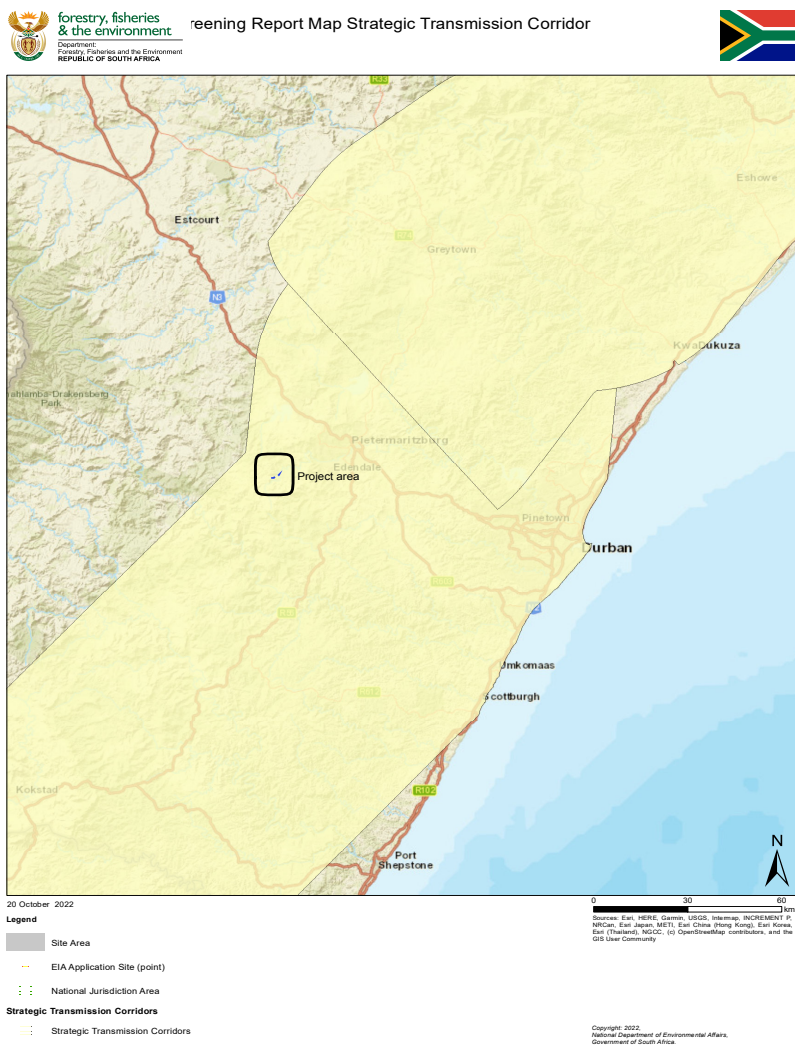


Figure 8: Eastern Strategic Transmission Corridor

2 Environmental Themes

The National Web based Environmental Screening Tool is a geospatial web-enabled application providing for screening of sites for environmental sensitivity and the placement of proposed developments in relation to the impact avoidance hierarchy. It produces the report required in terms of regulation 16(1)(v) of the EIA regulations.

For this application the following is relevant:

According to the screening tool (accessed in October 2022) the various sensitivities for the study site and immediate surroundings are as follows:

Table 6: Environmental Screening Tool Environmental Sensitivities identified and associated level

THEME	LEVEL OF SENSITIVITY
Agriculture theme sensitivity	High

Animal species theme sensitivity	High
Aquatic biodiversity theme sensitivity	Very High
Archaeological and Cultural Heritage theme	Low
Defence theme	Low
Palaeontology theme sensitivity	High
Plant species theme sensitivity	Medium
Terrestrial biodiversity combined theme sensitivity	Very High

EAP/ SACNASP Specialist Site Sensitivity Verification

Site sensitivity verification took place on 07/11/2022 by accredited specialists, and the EAP, in the presence of Eskom.

Hereto below is feedback on how the required assessments as identified in the screening report list were addressed.

Table 7 : EAP findings that either confirm or dispute the Environmental Sensitivity as identified by the Screening Tool

Theme	EAP / SACNASP Specialist Recommended Level of Sensitivity	EAP /SACNASP Specialist Motivation	EAP / SACNASP Specialist Evidence
Agriculture	Medium	The landcover or landuse of the study site is a mix of rural villages with associated cultivated plots of land and steep grassland hills in which cattle and other livestock freely roam and graze. The power line will however not impact agriculture as agricultural activities are allowed in the power line servitude area. The impact of the power line structure is minimal and the structures are spaced approximately 250m apart depending on the topography. The relevant power line servitude will be secured via negotiations. The landowner will be compensated for the use thereof. The power line and substation will have minimal negative impact on the agricultural potential of the site.	Site verification
Landscape/Visual Impact Assessment	Low	As mentioned, the site is within an area with numerous scattered villages, resulting in large negative impacts on the environment. The vegetation of the study area is degraded grassland with no pristine areas of Mistbelt Grassland present.	Site verification and refer to photos in specialist reports.

		<p>The actual power line corridor is almost exclusively within an environment that is altered by cultivated plots of land (subsistence farming); manmade terraces; grassland that is over-grazed by free-roaming cattle and other livestock, etc. The substation is located within an area that has been totally transformed by a plantation of alien gum trees. The existing impacts on the natural environment in the region are common to all rural settlements and include clearing of natural vegetation for farmlands; clearing of natural vegetation for houses; over-utilisation of resources from nearby watercourses, etc. The additional visual impact of the monopole structures (pylons) will not be significant.</p> <p>The topography of the study area is steep rolling hills and deep valleys. The nature of the topography is a strong factor influencing the types of vistas typically present in the study area, as there are many areas of rising ground which would block views and limit viewsheds, and valleys within which views would be restricted. As a result, typically short-ranging vistas are experienced within the study area. As mentioned the proposed location of the substation is completely within an old existing plantation of alien invasive gum trees (<i>Eucalyptus</i> spp.). This will block the visibility of the substation significantly.</p> <p>In summary, the proposed activity will not change the current land use or result in any additional visual impact. (References to landuse and the degraded state of the site are found throughout the current report).</p>	
Animal species	Medium	During field investigations no faunal species of conservation concern (SCC) were encountered. The area is	Refer to the Biodiversity Impact Assessment attached as App B1 for Fauna.

		fairly built up and inhabited with numerous villages, along with loss of ideal habitat from cultivate fields, grazing lands, etc. The high levels of human activity will also discourage many wild species. However, there are still areas of open grassland, especially on high hilltops, along cliffs and watercourses where faunal SCC may likely be present. The high levels of urbanisation and human activities will result in very limited presence or occurrence of SCC in the immediate study site.	
Aquatic biodiversity	Medium along the watercourses	The main rivers (or streams) in the area of the study site are the Msunduze River and a smaller tributary. Both watercourses are perennial in nature. The topography of the area is that of steep, rolling hills, which facilitates small narrow seasonal drainage lines between the hills, of which there are a number in the study area. There is also a small valley bottom wetland, west of the confluence of the two rivers / streams. Much of the riparian vegetation of trees along the river and stream are invasive alien species of blackwattle and gumtrees. All the watercourses in the study area have a PES rating of Category C (Moderately Modified).	Refer to the Aquatic Assessment included in Appendix B1.
Archaeological and Cultural Heritage	Low	The HIA study identified one burial site located approximately 120m from the centre of the proposed powerline route. The burial site can safely be avoided without realigning the powerline route. Archaeological and Cultural Heritage Sensitivity confirmed LOW.	Refer to App B3 for a Heritage Impact Assessment.
Defence	Low		Low as confirmed by DEA Screening Tool.
Palaeontology	Low	The proposed route lies on the potentially fossiliferous Volksrust Formation (Ecca Group, Karoo Supergroup and non-fossiliferous Jurassic dolerite although is unlikely that any fossils of any importance	Refer to App B4 for the Palaeontology Impact Assessment

		would occur in the deep water shales. Palaeontological sensitivity confirmed LOW.	
Plant species	Low (terrestrial) and Medium along rivers	No red data listed (RDL) floral species were observed in the study area and none are expected to occur. No orange data listed (ODL) species were observed in the power line corridor or the substation site. The actual power line corridor is almost exclusively within an environment that is altered by cultivated plots of land (subsistence farming); manmade terraces; grassland that is over-grazed by free-roaming cattle and other livestock, etc. The substation is located within an area that has been totally transformed by a plantation of alien gum trees.	Refer to the Biodiversity Impact Assessment attached as App B1 for Vegetation.
Terrestrial biodiversity	Low (farmlands) and Medium (open grassland)	The only reason that the screening tool desktop assessment could rate the terrestrial and aquatic sensitivity over the entire area as ‘Very High’ is because the site is in a threatened veldtype / ecosystem (terrestrial sensitivity) and within a SWSA (aquatic sensitivity). The verification disputes the sensitivities of the screening tool and found them to be as follows: Terrestrial Biodiversity sensitivity: ‘LOW’ (farmlands) and ‘MEDIUM’ (open grassland).	Refer to the Terrestrial Assessment included in Appendix B1.
Avian	Low	The study site is within a mostly degraded and altered semi-urbanised / rural village environment which overall is not ideal for species richness, including permanent presence of species of conservation concern (SCC). The high-risk bird areas in the study area are the two watercourse crossings (perennial stream and Msunduze River), where the highest potential risks of in-flight collisions are present. Therefore, Bird Flight Diverters (BFDs) must be installed on the power line across these two areas.	Refer to Avifauna Impact Assessment attached as Appendix B2.

		The BFDs need to be placed across the entire length of the demarcated watercourses, including the buffer zones. There is no need to place BFDs in any other locations along the power line route or within the Substation. The proposed substation is within a totally transformed area and will still retain many of the existing tall gum trees. The potential negative impacts arising from the proposed project are LOW.	
Civil Aviation	Medium	No major or any other Civil Aviation Aerodrome is in the vicinity of the power line alignment. The site is within 8 to 15km of other civil aviation aerodrome. An application to the Civil Aviation Authority will not be required.	Study not required for registration with the Standard.
RFI Assessment	Low	Radio frequency interference is the conduction or radiation of radio frequency energy that causes an electronic or electrical device to produce noise that typically interferes with the function of an adjacent device. Power line noise can interfere with radio communications and broadcasting. Essentially, the power lines or associated hardware improperly generate unwanted radio signals that override or compete with desired radio signals. Proper grounding ensures that RF noise is conducted away to the ground instead of being emitted as radiation. Shielding, filtering, and grounding are the immediate answers to the question of how to stop radio frequency interference in electronic circuits. The proposed power line will not interfere with any telecommunication devices.	Study not required for registration with the Standard.
Geotechnical Assessment		The power line route is designed by Eskom’s Civil Engineers. They are responsible for determining the geotechnical conditions to finalise	Study not required for registration with the Standard.

		<p>their design. Geotechnical studies are done to obtain information on the physical properties of soil earthworks and foundations for proposed structures. Soil nominations are done based on the info obtained from the Geotech. Soil nominations are done for the line and Geotech for substations. The soil nominations are only done after receipt of the EA when construction will commence.</p>	
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Site verification confirmed the site as being of **medium or low environmental sensitivity** and is confirmed to be such by the EAP and the relevant specialists for the identified environmental theme.

The following Specialist input was however obtained to investigate the impact of the project.

- Archaeological and Cultural Heritage Impact Assessment
- Palaeontology Impact Assessment
- Terrestrial Biodiversity Impact Assessment
- Aquatic Biodiversity Impact Assessment
- Plant Species Assessment
- Animal Species Assessment

3 Listed Activities

The only applicable listed activity for this application is GN R.327/2017 Activity 11

Table 8: Relevant Listed Activities

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 1 of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R.327/2017 Activity 11 Relevant	The <u>development of facilities or infrastructure</u> for the transmission and <u>distribution of electricity</u> — (i) <u>outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts;</u>	The 132kV overhead distribution Taylor’s Halt power line will be constructed over approximately 2.63 km, outside an urban area, from the T-off with the 132kV Ariadne/Elandskop line. The construction of 132/22kV Taylor’s Halt Substation.
GN R. 327/2017 Activity 19 Relevant	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse	The construction of power line structures/ pylons within 32 meters of various waterbodies along the 132kV feeder line. Relevant One (or more) of the poles will be within 32m of a watercourse.
GN R. 327/2017 Activity 27 Not relevant	The <u>clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—</u> i) the undertaking of a linear activity; or ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Construction of Taylor’s Halt substation on (175m X 200m = 35 000m ²) 3,5 hectares and temporary laydown area on approximately 50 metres by 50 metres inside the substation site. An additional laydown area of 60m by 60m might be required for the powerline construction. Not relevant The substation site is located within an area that has been totally transformed by a plantation of alien gum trees.

		The actual power line corridor is almost exclusively within an environment that is altered by cultivated plots of land (subsistence farming); manmade terraces; grassland that is over-grazed by free-roaming cattle and other livestock, etc.
Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 3 of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R. 324/2017 Listing Notice 3 Activity 4 Not relevant	<p>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</p> <p>Kwazulu Natal</p> <ol style="list-style-type: none"> i. In an estuarine functional zone; ii. Trans- frontier protected areas managed under international conventions; iii. Community Conservation Areas; iv. Biodiversity Stewardship Programme Biodiversity Agreement areas; v. World Heritage Sites; vi. A protected area identified in terms of NEMPAA; vii. Sites or areas identified in terms of an international convention; viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; ix. Core areas in biosphere reserves; x. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; xii. Outside urban areas: <ol style="list-style-type: none"> (aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any terrestrial protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; or (bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined 	<p>Access roads wider than 4 metres might be required to maintain the power line.</p> <p>Not relevant</p> <p>Most of the study site is not within a critical biodiversity area (CBA) or ecological support area (ESA). There is a small section of demarcated CBA (Optimal) that the power line crosses through just southwest of the substation site This CBA includes the small valley that the Msunduze River flows in. The delineated CBAs and ESAs are according to the KZN Biodiversity Sector Plan (2014).</p> <p>A close-up of the demarcated CBA (Optimal) is in Figure 12.</p> <p>The project will have very little impact on the CBA with a very small footprint of only a few square metres from one pylon.</p> <p>No access roads of wider than 4 meters will be required to construct the power line. No clearance will take place underneath the alignment of the powerline as it is in disturbed grassland and no trees or large vegetation will have to be cleared.</p>
GN R. 324/2017 Activity 12 Not relevant	<p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan</p> <p>Kwazulu Natal</p> <ol style="list-style-type: none"> i. Trans-frontier protected areas managed under international conventions; ii. Community Conservation Areas; iii. Biodiversity Stewardship Programme Biodiversity Agreement areas; iv. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; vi. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; vii. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; viii. A protected area identified in terms of NEMPAA, excluding conservancies; 	<p>More that 300 square metres of indigenous vegetation will be cleared to construct the substation and the temporary laydown area on an area of 3,5ha.</p> <p>Not relevant</p> <p>Most of the study site is not within a critical biodiversity area (CBA) or ecological support area (ESA). There is a small section of demarcated CBA (Optimal) that the power line crosses through just southwest of the substation site. This CBA includes the small valley that the Msunduze River flows in. The delineated CBAs and ESAs are according to the KZN Biodiversity Sector Plan (2014).</p> <p>A close up of the demarcated CBA (Optimal) is shown in Figure 12. The proposed pole (pylon) positions are shown as an overlay. One pole (No.21) is within the edge of the CBA. However, this area of the CBA is transformed gum tree plantation.</p> <p>The proposed Taylor's Halt Substation site is not within a CBA or ESA.</p> <p>The project will have very little impact on the CBA with a very small footprint of only a few square metres from the pylons. No removal of any significant amount of vegetation is required and the final position of pylons will be carefully scrutinized to ensure no sensitive habitats or plants are impacted.</p>

	<ul style="list-style-type: none"> ix. World Heritage Sites; x. Sites or areas identified in terms of an international convention; xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; or xiii. In an estuarine functional zone 	
Activity No(s):	Provide the relevant Scoping and EIR Activity(ies) as set out in Listing Notice 2 of the EIA Regulations, 2014 as amended.	Describe the portion of the proposed project to which the applicable listed activity relates.
N/A	N/A	N/A

6 SPATIAL DEVELOPMENT TOOLS

Spatial development tools used included ArcGIS v.10.2; Google Earth Professional; SANBI’s BGIS MapViewer (www.bgis.sanbi.org) and Garmin Maps.

These tools, along with relevant datasets such as vegetation types, rivers, Mpumalanga Biodiversity Sector Plan (2014), etc. were used in the desktop assessment as well as the final biodiversity specialist reports. ArcGIS as well as Google Earth Professional were used to produce the detailed maps used in the reports.

The outcome is that these spatial development tools give accurate layouts and positions of important data such as Critical Biodiversity Areas. The tools are also used to create accurate and visual maps showing floodlines, watercourses, sensitive areas, etc.

6.1 NATIONAL PRIORITY AREAS

The Study Site is not within any national priority areas, including protected areas and important bird areas (IBAs). However, the power line does cross over the Msunduze River, which is a FEPA River (Figure 24). National priority areas include formal and informal (private) protected areas (nature reserves); important bird areas (IBAs); RAMSAR sites; National fresh water ecosystem priority areas (NFEPAs); and National protected areas expansion strategy focus areas (NPAES).

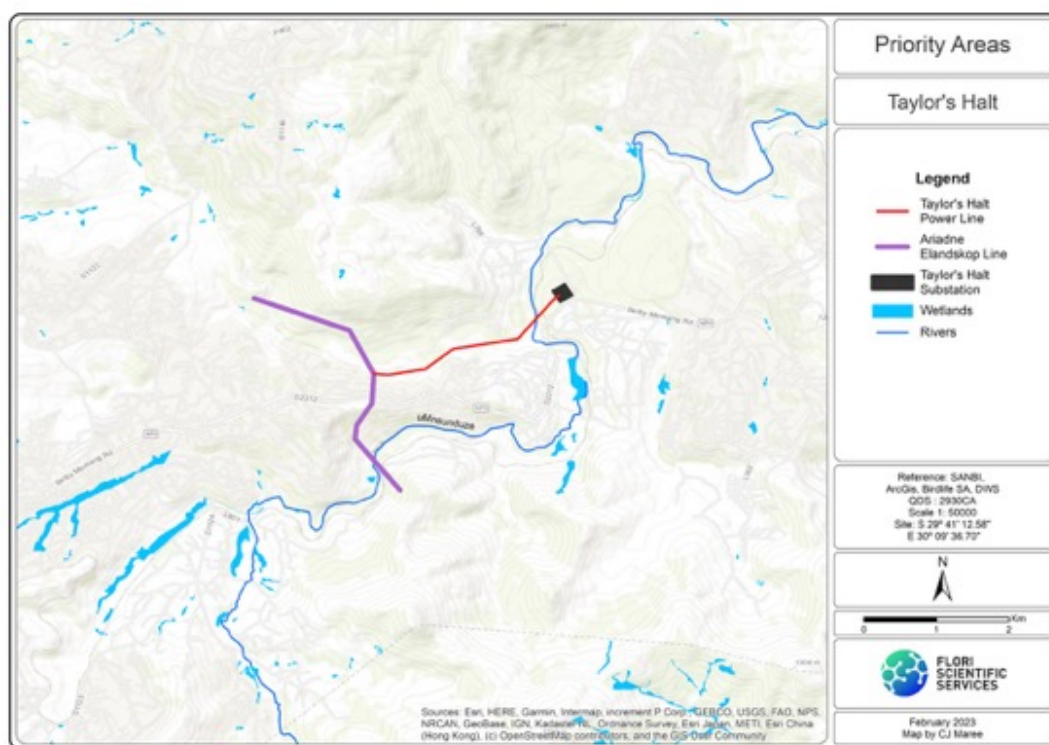


Figure 9: Priority Areas

6.2 KZN BIODIVERSITY SECTOR PLAN

According to the latest KZN Biodiversity Sector Plan (2014) most of the study site is not within a critical biodiversity area (CBA) or ecological support area (ESA). There is a small section of demarcated CBA (Optimal) that the power line crosses through just southwest of the substation site (Figure 11). This CBA includes the small valley that the Msunduze River flows in.

A close up of the demarcated CBA (Optimal) is shown below in Figure 11. The proposed pole (pylon) positions are shown as an overlay. One pole (No.21) is within the edge of the CBA. However, this area of the CBA is transformed gum tree plantation.

The proposed Taylor’s Halt Substation site is not within a CBA or ESA.

The project will have very little impact on the CBA with a very small footprint of only a few square metres from the pylons. No removal of any significant amount of vegetation is required and the final position of pylons will be carefully scrutinized to ensure no sensitive habitats or plants are impacted.

Critical biodiversity areas (CBAs) are terrestrial and aquatic features in the landscape that are critical for retaining biodiversity and supporting continued ecosystem functioning and services (SANBI, 2007). These form the key outputs of a systematic conservation assessment and are the biodiversity sectors inputs into multi-sectoral planning and decision-making tools. CBAs are areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services (SANBI).

Ecological Support Areas (ESAs) are areas that are often seen as buffer areas for CBAs as well as corridors and connective areas between CBAs and/or other priority areas. ESAs are also often designated buffer and support areas along rivers and streams.

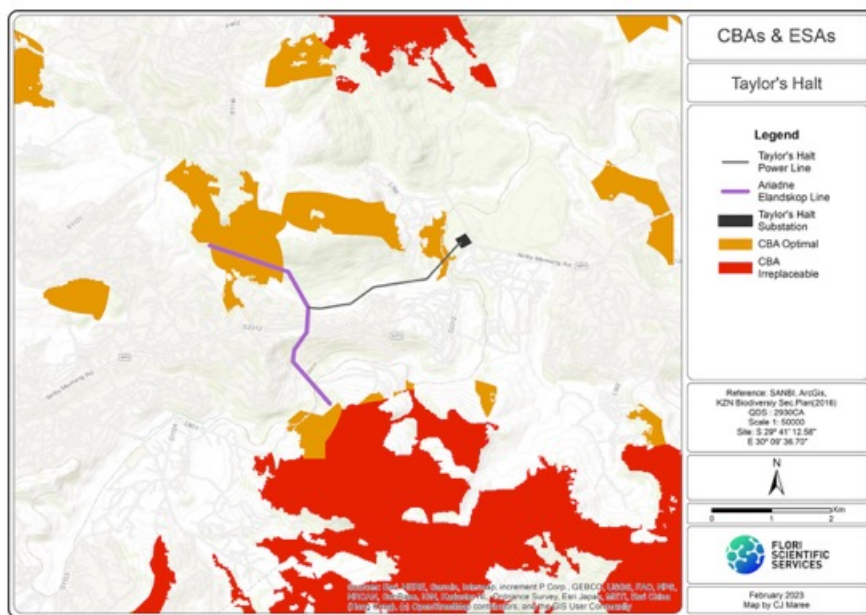


Figure 10: CBA & ESAs



Figure 11: The CBA (Optimal) within the power line corridor

7 PUBLIC PARTICIPATION

Setala Environmental has taken cognisance of the requirements for public participation in terms of the 2014 EIA Regulations, as amended and has ensured that the public participation principles are upheld. A

successful Public Participation Programme (PPP) is one that is inclusive, actively engages the public and provides ample opportunity for the public to participate in the process. This document provides an overview of the PPP undertaken as part of the BA process for the proposed project.

The purpose of the PPP is to ensure that the issues, inputs and concerns of Interested and Affected Parties (I&APs) are taken into account during the decision-making process. This requires the identification of I&APs (including authorities and the public), communication of the process and findings to these I&APs and the facilitation of their input and comment on the process and environmental impacts, including issues and alternatives that are to be investigated. The steps taken during the execution of the PPP undertaken for this project are detailed in the section that follows. Refer to Comments and Response Report attached as *Appendix C5*.

7.1 ADVERTISEMENT AND NOTICE

Site notice positions	Notice displayed at the following locations: <ul style="list-style-type: none"> • At the T-off point on road D2212. • At the crossing of road P399 with Selby Msimang Road at the site of the substation.
Date placed	07/11/2022
Publication name	Maritzburg Sun
Date published	11/11/2022

(Refer to Appendix C1b: Proof of site notices)

(Refer to Appendix C1a: Proof of newspaper notice)

7.2 PUBLIC NOTIFICATION

A consultation process was undertaken with the intent of informing key stakeholders, comprising the Municipal structures and the local communities about the proposed development and the process underway.

Identification of Interested and Affected Parties

The PPP for the project was initiated with the development of a comprehensive I&AP database. The list of I&APs was updated on a regular basis during the course of the project. Key stakeholders were identified at the beginning of the PPP, these included: Key stakeholders, commenting authorities and landowners/land users. Refer to Appendix C4a: Register of Interested and Affected Parties for a complete list.

- Department of Economic Development, Tourism and Environmental Affairs (KZNEDTEA)
- Department of Water and Sanitation, Pongola – Mtamvuna (WMA 4), QDA U20H
- SA Heritage Resources Agency
- Amafa akwaZulu Natal, Heritage Resource Authority
- Ezemvelo KZN Wildlife
- Department of Agriculture & Rural Development: Land Use and Soil Management
- Msunduzi Local Municipality
- uMgungundlovu District Municipality
- Sappi Forests
- Mondi Forestry South Africa
- Sasol Gas Limited
- Eskom Transmission, Property Rights Assets Management (PRAM)
- Eskom Distribution, KZN Operating Unit

- Affected landowner

Background Information Document

- A comprehensive background information document (BID) was compiled with the main aim to identify issues, and potential impacts associated with this project. It included a description of the status quo of all relevant environmental components as well as the proceedings of the PPP and communication with registered Interested & Affected Parties (I&APs). BID is attached as Appendix C2a.
- On 09/11/2022 the documentation was submitted for comment to all I&APs.
- The due date for comment was 12/12/2022. This allowed for a comment period of 30 days.
- Copies of the notification to I&APs are included in Appendix C2b.

Landowner notification

The landowners throughout a project area in general play an important role in assisting with the identification of issues and project alternatives. The landowners/ land users are engaged to secure the servitudes for the power line and substation. The project is on property allocated to Ingonyama Trust represented by Mr Duncan Pakkies who has been informed of Eskom's Proposal. The DFFE has also been informed and issued with an Option Document to Acquire a Servitude area within Kwagubeshe Plantation, for the Taylor's Halt substation site. Refer to Appendix C2b for agreements with the landowners.

7.3 MEETINGS AND SITE VISITS

Site visit with key stakeholders

- 07/11/2022 - Eskom Distribution, KZN Operating Unit with project team

Public engagement

- The I&APs are provided with various options to provide comment / request more information. In writing, via fax or email, and verbally, via telephone calls, text messages, WhatsApp, zoom or teams sessions.
- Engagements to be held virtual via teams/zoom, telephone conversations, text messages etc.
- Copies of the invitations to comment, included as Appendix C2c of the final report.

7.4 DISTRIBUTION OF DRAFT REPORT FOR COMMENT

On 31/03/2023 notification of the availability of the Draft Report was submitted to all I&APs. (Proof in Appendix C2c of the final report).

The Draft Report is available for comment on the Setala website using a given link. The comment period is for 30 days until 08/05/2023 (to allow for the public holidays).

Hard copies and/or electronic copies of the Draft Report are submitted to the following key stakeholders:

- Department of Economic Development, Tourism and Environmental Affairs (KZNEDTEA)
- Department of Water and Sanitation, Pongola – Mtamvuna (WMA 4), QDA U20H
- SA Heritage Resources Agency (SAHRIS)
- Ezemvelo KZN Wildlife
- Msunduzi Local Municipality

7.5 COMMENTS AND RESPONSE REPORT

The Public Participation Programme allowed for informed and responsible decision-making by all interested and affected parties. A summary of I&AP comments and the consultant's responses to these comments are provided below. (The original I&AP comments are included in *Appendix C3*). Refer to Comments and Response Report attached as *Appendix C5 for detailed information*.

List of authorities from whom comments have been received:

- Eskom Transmission

7.6 CONCLUSION OF PUBLIC PARTICIPATION PROGRAMME

In short, the study approach followed by the Consultants, entailed the following steps:

Activity	Description and Purpose
Pre-Application	
Preparation of a preliminary stakeholder database	A preliminary database has been compiled of authorities (local and provincial), Non-Governmental Organisations, land users and other key stakeholders (refer to Appendix C4). This database of registered I&APs will be maintained and updated during the ongoing BA process.
Preparation and Distribution of a Background Information Document (BID)	On 09/11/2022 BIDs and registration forms were distributed via email to all I&APs on the database. See Appendix C2b for proof of written submissions. The BID provides an introduction to the Project and the process. Due date for comment was 12/12/2022. See Appendix C2a for the BID and Registration form.
Advertisement of the Project and Erection of Site Notices	On 11/11/2022 the Project was advertised in a local newspaper, the Maritzburg Sun. See proof of notice in Appendix C1a. A Site notice has been placed at various locations on 07/11/2022. See proof of placement in Appendix C1b.
Development of an Initial Comments and Response Report	All comments received during the initial consultation period were recorded in a Comments and Responses Report. See included in Appendix E6.
BA Phase	
Release of draft Report for Public Comment	The draft Report was released for the required 30-day public comment period: Dates of 31/03/2023 to 08/05/2023. Notifications were submitted to all stakeholders on the database and included details of how to engage in providing comment. The report was available for comment on the Setala website using a given link. Proof attached as Appendix C2c of the final report.
Development of a Comments and Response Report	All comments received are recorded into a Comments and Response Report. See attached as Appendix C6.
Public review	The opportunity to partake in the Public Participation Process, without face-to-face contact, is provided. The I&APs are provided with various options to provide comment / request more information. In writing, via fax or email, and verbally, via telephone calls, text messages, WhatsApp, zoom or teams sessions. All comments received, along with responses, included in the final report as Appendix C3.
Submission of final Report to Environmental Authority	Subsequently the final report to be submitted to DFFE. The final report will include all concerns raised to the draft, and the responses thereto.
Environmental Decision	
Notification of Environmental Decision	I&APs will be notified of the Environmental Decision and the statutory appeal period.

8 IMPACT ASSESSMENT

The impacts that may result from the planning and design, construction, operational, decommissioning and closure phases as well as proposed management of identified impacts and proposed mitigation measures have been addressed in this Report.

The assessment of impacts adheres to the minimum requirements in the EIA Regulations, 2014, and took applicable official guidelines into account. The issues raised by interested and affected parties were also addressed in the assessment of impacts, as well as the impacts of not implementing the activity.

The potential impacts of the proposed development were identified through a desktop study, a site visit, specialist studies and comments received during the public participation process. It is evident that the biggest impact of the project on the environment is expected to occur during the construction phase. It is expected that with the proposed mitigation of impacts and the implementation of the Environmental Management Programme, the expected negative impact could be mitigated to acceptable measures.

METHODOLOGY UTILISED IN THE RATING OF SIGNIFICANCE OF IMPACTS

The potential environmental impacts associated with the project will be evaluated according to its nature, extent, duration, intensity, probability and significance of the impacts, whereby:

- (a) Nature: A brief written statement of the environmental aspect being impacted upon by a particular action or activity.
- (b) Extent: The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale.
- (c) Duration: Indicates what the lifetime of the impact will be.
- (d) Intensity: Describes whether an impact is destructive or benign.
- (e) Probability: Describes the likelihood of an impact actually occurring; and
- (f) Cumulative: In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Table 17: Criteria to be used for rating of impacts

Criteria	Description			
Extent	National (4) The whole of South Africa	Regional (3) Provincial and parts of neighbouring provinces	Local (2) Within a radius of 2 km of the construction site	Site (1) Within the construction site
Duration	Permanent (4) Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient	Long-term (3) The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory	Medium-term (2) The impact will last for the period of the construction phase, where after it will be entirely negated	Short-term (1) The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase
Intensity	Very High (4)	High (3)	Moderate (2)	Low (1)

	Natural, cultural and social functions and processes are altered to extent that they permanently cease	Natural, cultural and social functions and processes are altered to extent that they temporarily cease	Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way	Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected
Probability of occurrence	Definite (4) Impact will certainly occur	Highly Probable (3) Most likely that the impact will occur	Possible (2) The impact may occur	Improbable (1) Likelihood of the impact materialising is very low

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Table 18: Criteria for the rating of classified impacts

Low impact (4 - 6 points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium impact (7 - 9 points)	Mitigation is possible with additional design and construction inputs.
High impact (10 - 12 points)	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very high impact (13 - 20 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a “very high impact” is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.
It is important to note that the status of an impact is assigned based on the status quo – i.e. should the project not proceed. Therefore not all negative impacts are equally significant.	

8.1 PLANNING AND DESIGN PHASE

The potential impacts, significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the planning phase for the various alternatives of the proposed development.

Taylor’s Halt power line and substation				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
Impact on the Natural Habitat Design Insensitive design of the power line routes can cause a negative impact on the natural habitat of	NEGATIVE MEDIUM	<ul style="list-style-type: none"> Site-specific measures in terms of biodiversity as identified by Johannes Maree (Tel 082 564 1211), must be included in the contract with the 	NEGATIVE LOW	LOW

<p>not only the site itself, but also on the surrounding natural environment. The context of the development site/route corridor within the macro area in terms of conservation areas also plays a major role when suitable areas for development are being considered. The development site/route corridor (or parts thereof) could form part of important ecological corridors and such corridors could be destroyed if the functioning thereof is not being supported by the development proposal.</p> <p><u>The development site</u> The site is within an area with numerous scattered villages, resulting in large negative impacts on the environment. The vegetation of the study area is degraded grassland with no pristine areas of Mistbelt Grassland present. The actual power line corridor is almost exclusively within an environment that is altered by cultivated plots of land (subsistence farming); manmade terraces; grassland that is over-grazed by free-roaming cattle and other livestock, etc. The substation is located within an area that has been totally transformed by a plantation of alien gum trees.</p>		<p>Contractor and implemented by the Contractor during the construction phase.</p>		
INDIRECT IMPACTS				
<p>No indirect impacts were identified during the planning and design phase.</p>				
CUMULATIVE IMPACTS				
<p>In general the overall cumulative impact will be ‘Low’ to ‘Non-measurable’.</p>				

NO GO ALTERNATIVE				
DIRECT IMPACTS				
<p>Potential Impacts</p>	<p>Significance Rating</p>	<p>Mitigation Measures</p>	<p>Significance rating of impacts after mitigation</p>	<p>Risk of the impact and mitigation not being implemented</p>
<p>No direct impacts were identified during the planning and design phase.</p>				
INDIRECT IMPACTS				
<p>No indirect impacts were identified during the planning and design phase.</p>				
CUMULATIVE IMPACTS				

No cumulative impacts were identified during the planning and design phase.				
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8.2 CONSTRUCTION PHASE

Taylor’s Halt power line and substation				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
<p>Impact on the vegetation</p> <p>This impact is associated with disturbance to and/or destruction of the flora component. During construction the activities could cause a negative impact where insensitive clearing for construction and access purposes, etc. is required. Insensitive clearing can cause the destruction of habitat. Not only does vegetation removal represent a loss of seed and organic matter, but it is also a loss of protection to plants and small animals. Insensitive vegetation clearance can also cause erosion. Pressure on the natural environment will occur as a result of an influx of labourers into the area that could involve the collection of firewood and medicinal plants, as well as uncontrolled veld fires.</p> <p><u>The development site</u></p> <p>The potential negative impacts arising from the proposed project are low. The project will have little to no long-term impacts on flora. The impacts are lessened by the fact that the power line is within a grassland environment where no indigenous trees or shrubs need to be cleared and the physical footprint of the pylons on the ground is small.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • Detail mitigation measures are stipulated in the EMPr and include the following: • Ensure as small a footprint as possible during the construction phase. • All hazardous materials inter alia paints, turpentine and thinners must be stored appropriately to prevent these contaminants from entering the natural environment and especially the water environment. • All excess materials brought onto site for construction to be removed after construction, but as part of the construction phase. • Proper rubbish/waste bins to be provided. These to be emptied weekly and the waste to be removed to an official waste disposal site. • Rehabilitation of disturbed temporary set-up areas to be implemented as part of the construction phase. • Special attention must be given to the rehabilitation of temporary construction and set up areas. • Any temporary storage, lay-down areas or accommodation facilities to be setup in existing built-up areas or disturbed areas only. A laydown / site office area has been identified within the confines of the Taylor’s Halt Substation site. This must be used as the first / priority temporary area. • Re-seeding of bare areas with local indigenous grasses to be part of the rehabilitation plan. No exotic species to be used for rehabilitation. • Ensure small footprint during construction phase. Movement of people and vehicles must stay within a 100m wide corridor in and along the power line servitude. • Only existing roads to be used by heavy vehicles during the construction phase. • Access roads to be maintained at all times. • In areas where there is open, natural grassland the footprint of the power line is small and there will not be 	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>

		<p>significant, lasting impacts on vegetation.</p> <ul style="list-style-type: none"> • The likelihood is low that any RDL or ODL plants will be impacted. None appear to be directly within the power line servitude. However, should any be noticed during construction then the ECO and/or Specialist must first be contacted for advice on how to move forward. If any suspicious plants are found that need to be moved or destroyed then once again the ECO and/or specialist must first be contacted. • Any priority species encountered must be identified and rescue prior to any excavation or construction activities. • Open fires along the power line servitude (project site) are not allowed. • A weed control programme should be implemented. This can form part of the routine maintenance programme for the power line and substation. • Rehabilitation is required for the project. Any priority species encountered must be identified and rescued prior to any excavation or construction activities. • The footprint of the power line is small and there will not be significant, lasting impacts on vegetation. 		
<p>Impacts on avifauna</p> <p>Disturbance Collisions Electrocutions</p> <p><u>The development site</u> The high-risk bird areas in the study area are the two watercourse crossings (perennial stream and Msunduze River), where the highest potential risks of in-flight collisions are present.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • All recommended mitigating measures as proposed in this study and report should be implemented if the findings of this report are to remain pertinent. All of the recommended mitigating measures must be part of the conditions in the EMP and any other documents or permits that might be required. • Bird Flight Diverters (BFDs) need to be placed along the length of the power line in two locations only. These two locations are where the line crosses the perennial stream (tributary to the Msunduze River) and the Msunduze River. The area for BFDs includes the buffer zones. • For placement of BFDs: A 5m spacing along the earth wire (shield wire) is recommended. Alternative colours of black and white/yellow (or other contrasting colours typically used on power lines) to be used. Although a shorter spacing is recommended, a larger spacing may be used, but at a maximum of 15m, not wider. • No interaction is allowed with any birds, even common species. • Should a nest be found during the construction phase, work in that particular spot must be halted and a bird specialist consulted. Any nesting sites found should be cordoned off 	<p>NEGATIVE LOW</p>	<p>LOW</p>

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		<p>with tape and signs and declared a ‘no-go’ zone.</p> <ul style="list-style-type: none"> • If the nest is within the actual servitude it might be able to be relocated, depending on the species and the advice from the bird specialist. 		
<p>Impacts on fauna</p> <ul style="list-style-type: none"> • Noise and vibration during construction • Loss of habitat <p><u>The Development site</u> No priority faunal species (which includes red data species) were encountered during field investigations</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No. 85 of 1993). • No poaching of wildlife or selling of firewood will be allowed. • No animals or birds may be fed, disturbed, hunted or trapped. • During the summer months (rainy season) staff must be continually made aware of being cautious and vigilant in encountering snakes. No snakes encountered may be killed and must be removed by a specialist on site or called in when required. • Contractors and staff are not allowed to catch fish in the nearby rivers and streams. 	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p>Impact on Water Sources</p> <p>During construction, the risk of pollution of surface and groundwater can generally be related to diesel, oil and concrete spills that may result in a change in water quality with the associated negative impact on humans and the natural habitat. Groundwater pollution during the construction phase is also associated with poor construction techniques. Diesel, oil and lubricant spills are the main concern in respect of water pollution during construction together with organic pollution caused by inadequately managed facilities at the work sites.</p> <p><u>The development site</u> There are a number of small seasonal drainage lines, perennial stream and the Msunduze River that the power line will cross over.</p>	<p>NEGATIVE HIGH</p>	<ul style="list-style-type: none"> • Mitigation measures in the Environmental Management Programme include measures to ensure acceptable construction practices to minimise or avoid the risk of contamination of water sources. These include: <u>Buffer Zones</u> Buffer zones have been recommended along watercourses and watercourse crossings. The recommended buffers (no-go zones in terms of pylon placement) are as follows: <ul style="list-style-type: none"> • 50m each side of the main channel of the Msunduze River. • 32m each side of the main channel of the stream (Tributary to the Msunduze). • 32m each side of the main channel of the drainage lines. There are no buffers required for the Taylor’s Halt Substation site. <p><u>Construction Site</u></p> <ul style="list-style-type: none"> • No heavy vehicles are allowed to drive through watercourses, unless on existing gravel and farm roads. • Any temporary storage, lay-down areas or accommodation facilities to be setup in existing built-up areas or disturbed areas only. A laydown / site office area has been identified within the confines of the Taylor’s Halt Substation site. This must be used as the first / priority temporary area. • Ensure small footprint during construction phase. Movement of people and vehicles must stay within a 	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>

	<p>100m wide corridor in and along the power line servitude.</p> <ul style="list-style-type: none"> • 50m Buffer zones, from the main channel of rivers and streams need to be implemented. 32m Buffer zones from the main channel of seasonal drainage lines need to be implemented. • These are ‘No-Go’ zones in terms of construction activities, including positioning of portable toilets, temporary laydown areas, site offices, parking of vehicles, etc. No pylons may be placed / erected within these buffer zones. Under no circumstances may pylons (poles) be place directly within the main channel of any watercourse, including seasonal drainage lines. No poles may be placed in the permanent zone of any wetland, and no poles may be placed within or on the edges / walls of any farm dams. • No temporary site offices or lay-down areas are allowed within 50m of the edge of any watercourses. • Temporary site offices or lay-down areas are not allowed on top of any rocky hills, ridges or along any steep hill slopes or gradients. All laydown areas must be on flat, plains / surfaces and not within 50m of any watercourse. No temporary laydown or site office areas on the slopes of the hills. • Water may not simply be extracted from nearby rivers for construction work. Proper permission and/or permits must be obtained from local authorities and/or landowners. • No excess excavated soils may be stockpiled within natural grassland areas. • Ensure as small a footprint as possible during the construction phase. • All hazardous materials inter alia paints, turpentine and thinners must be stored appropriately to prevent these contaminants from entering the natural environment and especially the water environment. • During and after construction, stormwater control measures should be implemented especially around stockpiled soil, excavated areas, trenches etc. so that export of soil into any watercourse is avoided. <p><u>Diesel, hydraulic fluid and lubricants</u></p> <ul style="list-style-type: none"> • Minimise on-site storage of petroleum products; • Ensure measures to contain spills readily available on site (spill kits). • All petrochemical leaks and spills must be appropriately contained and disposed of at a licensed waste disposal site. <p><u>Construction Vehicles</u></p>		
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		<ul style="list-style-type: none"> • All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs may be undertaken beyond the contractor laydown area. • Should any transfer of vehicle fuel take place on site, it is important to demarcate a specific area for this purpose. This area should be covered with an impermeable layer to prevent any penetration of fuel and oil spillage into the soil. The area could also be sloped towards an oil trap or sump to ease collection of spilled substances. • All construction vehicles should be serviced on a regular basis to minimise the risk of oil spillage on site. • Servicing of vehicles or equipment must take place off-site at appropriate workshop facilities. • When not in use, construction vehicles must be parked at the hardpark, with ‘impermeable layers’, at the workshops to prevent leaks and spills from penetrating the substrate. <p><u>Construction site domestic waste and sewage</u></p> <ul style="list-style-type: none"> • Deposit solid waste in containers and dispose at authorised waste disposal sites regularly or as per the Waste Management Plan. • Dispose of liquid waste (grey water) with sewerage. • Temporary install appropriate ablution facilities. • Preferably utilise onsite ablution facilities or chemical toilets. • <u>Construction site inert waste (waste concrete, reinforcing rods, waste bags, wire, timber etc)</u> • Ensure compliance with stringent daily clean up requirements on site. • Dispose at authorised waste disposal sites. <p><u>Construction site hazardous waste</u></p> <ul style="list-style-type: none"> • All hazardous substances must be stored on an impervious surface in a designated bunded area, able to contain 110% of the total volume of materials stored at any given time. • Material safety data sheets (MSDSs) are to be clearly displayed for all hazardous materials. • The integrity of the impervious surface and bunded area must be inspected regularly and any maintenance work conducted must be recorded in a maintenance report. • Employees should be provided with absorbent spill kits and disposal containers to handle spillages. • Train employees and contractors on the correct handling of spillages and precautionary measures that need to 		
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		<p>be implemented to minimise potential spillages.</p> <ul style="list-style-type: none"> • Employees should record and report any spillages to the responsible person. • An Emergency Preparedness and Response Plan will be developed and implemented as part of the existing emergency response plan, should and incident occur. • Access to storage areas on site must be restricted to authorised employees only. • Contractors will be held liable for any environmental damages caused by spillages. 		
<p>Topographical Impacts</p> <p>Alteration of topography due to stockpiling of soil, building material and debris and waste material on site.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • All stockpiles must be restricted to designated areas and are not to exceed a height of 2 metres. • Stockpiles created during the construction phase are not to remain during the operational phase. • The contractor must be limited to clearly defined access routes to ensure that sensitive and undisturbed areas are not disturbed. 	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p>Impact of erosion</p> <p>Unnecessary clearing of vegetation can result in exposed soil prone to erosive conditions. Insufficient soil coverage after placing of topsoil especially during construction where large surface areas are applicable could also cause erosion. To cause the loss of soil by erosion is an offence under the law.</p> <p><u>The development site</u> The topography of the study area is steep rolling hills and deep valleys. The average height above sea level across the study area (power line route) is approximately 1 170m, with a maximum and minimum elevation of around 1 223m (at the T-off point) and 1 536m (at the river in the valley near the substation), respectively. The average gradient (slope) in the study area is steep, at around 11%.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • A combination of erosion prevention principles is discussed in detail in the EMPr. These include the use of mulch / fertiliser, matting, vegetation, retaining walls, topsoil coverage, diversion channels and berms, etc. • Other factors which should be taken into account during the construction phase are the following: • Unnecessary clearing of flora resulting in exposed soil prone to erosive conditions should be avoided. • Land disturbance must be minimized in order to prevent erosion and run-off - this includes leaving exposed soils open for a prolonged period of time. As soon as vegetation is cleared (including alien) the area must be re-vegetated. • Large exposed areas during the construction phases should be limited. Where possible areas earmarked for construction during later phases should remain covered with vegetation coverage until the actual construction phase. This will prevent unnecessary erosion and siltation in these areas. • The total area of exposed soil must be reduced during the rainy season. • Specifications for topsoil storage and replacement to ensure sufficient soil coverage as soon as possible after construction must be implemented. • Rehabilitation plan for disturbed temporary set up areas to be compiled and implemented as part of the construction phase. 	<p>NEGATIVE LOW</p>	<p>LOW</p>

		<ul style="list-style-type: none"> • Special attention must be given to the rehabilitation of temporary construction and set up areas. • Re-seeding of bare areas with local indigenous grasses to be part of the rehabilitation plan. No exotic species to be used for rehabilitation. • Daily monitoring of erosion is essential. Any erosion encountered (especially after heavy downpours) must be immediately rectified / fixed / controlled. The power line corridor is along the tops and sides of steep rolling hills. Erosion is a real threat around newly erected poles and access roads. 		
<p>Soils Impacts</p> <p>Removal and compaction of soil during construction activities.</p> <p>Erosion, degradation and loss of topsoil due to construction activities as well as surface and stormwater run-off.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • Strip topsoil prior to any construction activities. • Reuse topsoil to rehabilitate disturbed areas. • Topsoil must be kept separate from overburden and must not be used for building purposes or maintenance or access roads. • Minimise the clearance of vegetation to avoid exposure of soil. • Protect areas susceptible to erosion with mulch or a suitable alternative. • Implement the appropriate topsoil and stormwater runoff control management measures as per the EMPr to prevent the loss of topsoil. • Topsoil should only be exposed for minimal periods of time and adequately stockpiled to prevent the topsoil loss and run-off. 	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p>Air Quality Impacts</p> <p>Dust and emissions during construction generated by debris handling and debris piles, truck transport, bulldozing, general construction.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • Dust must be suppressed on the construction site and during the transportation of material during dry periods by the regular application of water. Water used for this purpose must be used in quantities that will not result in the generation of run-off. • Loads could be covered to avoid loss of material in transport, especially if material is transported off site. • Dust and mud should be controlled at vehicle exit and entry points to prevent the dispersion of dust and mud beyond the site boundary. • A speed limit of 40 km/hr should be set for all vehicles travelling over exposed areas. • During the transfer of materials, drop heights should be minimised to control the dispersion of mater being transferred. • The height of all stockpiles on site should be a maximum of 2m. • Use of dust retardant road surfacing if required due to the exceedance of Air Quality Guidelines. 	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p>Impacts associated with construction activities such as noise, and safety</p>	<p>NEGATIVE MEDIUM</p>	<p><u>Noise mitigation measures</u></p> <ul style="list-style-type: none"> • All construction activities should be undertaken according to daylight 	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>

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<p>The negative impact of noise, generally associated with construction activities, are temporary, occurring mostly during the construction phase. In terms of safety, it should be noted that the project involves deep excavations and open trenches. Excavations and open trenches can act as a trap for snakes, small mammals and lizards.</p>		<p>working hours between the hours of 07:00 – 17:00 on weekdays and 7:00 – 17:00 on Saturdays.</p> <ul style="list-style-type: none"> • Construction activities may be undertaken on Sundays in cases of emergencies. • Provide all equipment with standard silencers. • Maintain silencer units in vehicles and equipment in good working order. • All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. • Construction staff working in area where the 8-hour ambient noise levels exceed 85 dBA must have the appropriate Personal Protective Equipment (PPE). • All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No. 85 of 1993). <p><u>Safety mitigation measures</u></p> <ul style="list-style-type: none"> • The area affected by construction must be fenced prior to any activities taking place. • All excavated areas must be clearly marked and barrier tape must be placed around them for safety purposes. • Great care must be taken not to leave any excavated holes open or unfenced over night as there are numerous cattle and other livestock grazing and moving in and through the general area. • A Fire Management Plan has to be identified during the pre-construction phase and must be implemented throughout the construction and operation phases of the development. 		
<p>Safety</p> <p>Public safety during construction.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • Members of the public adjacent to the construction site should be notified of construction activities in order to limit unnecessary disturbance or interference. • Construction activities will be undertaken during daylight hours and only on Sundays in cases of emergency. 	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p>Safety</p> <p>Construction staff safety during construction.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction. • All construction staff must have the appropriate PPE. • The construction staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents. • Report and record any environmental, health and safety incidents to the responsible person. 	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>
<p>Traffic (construction vehicles)</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • The heavy construction vehicles should avoid the local roads during peak traffic times and large deliveries should also 	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>

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<p>The construction phase is likely to generate additional traffic in terms of construction vehicles and heavy vehicles delivering materials to the site. However, the number of vehicles will be minimal.</p>		<p>be scheduled outside the peak traffic times.</p> <ul style="list-style-type: none"> • Signs should be erected in the vicinity of the site. • Construction vehicles are to avoid main roads during peak traffic hours. • All vehicles entering the Site are to be roadworthy. • When using heavy or large vehicles / equipment, “spotters” are to be present to assist the driver with his blind spots. • Any incident or damage to a vehicle must be reported immediately. 		
<p>Impact of Labourers</p> <p>An uncontrolled influx of labourers with resulting increase in crime and squatting would place pressure on the natural environment (placement of snares, removal of trees for firewood, careless waste disposal, etc.). This could be severe, resulting in permanent damage to the environment if not mitigated properly.</p> <p><u>The development site</u></p> <p>A small number of construction workers will be on site. A large workforce is thus not expected. Even if all the required labourers (highly skilled to unskilled) are sourced from outside the study area (worst case scenario) it is not anticipated that the relatively small construction workforce will have an impact on the population size and density of the local communities within the study area.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • Mitigation measures to counter impact on the natural environment and limit potential for crime during the construction phase should include specifications in terms of control of construction workers (i.e. provision of toilet and cooking facilities, provision of either accommodation facilities or transport facilities, implementation of Environmental Educational Programmes, etc.). • Accommodation for labourers must either be limited to guarding personnel on the construction site (with labourers transported to and from existing neighbouring towns) or a separate fenced and controlled area where proper accommodation and relevant facilities are provided. • No temporary accommodation or temporary storage facilities may be setup within 100m of the any watercourse. • Part of the adjudication process for the successful contractor to undertake the civil works must be the use of casual and unskilled labour to stimulate local job creation through the use of labour intensive methods where possible. • If possible all labour should be sourced locally. • Contractors and their families may not stay on site. • No informal settlements will be allowed. 	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p>Impact on Cultural Heritage Resources</p> <p>No known features will be directly impacted on by the project.</p> <p>There is always a probability that additional archaeological resources might be identified during excavations.</p>	<p>NEGATIVE LOW</p>	<ul style="list-style-type: none"> • The lack of significant heritage resources was confirmed and finds were limited to one burial site located approximately 60m from the centre of the proposed powerline route. • The burial site can safely be avoided without realigning the powerline route. • It should be noted that archaeological material and unmarked graves may still exist and when encountered during construction, work must be stopped forth-with, and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. 	<p>NEGATIVE LOW</p>	<p>LOW</p>

		<ul style="list-style-type: none"> • A ‘Chance find Procedure’ should be followed: <ul style="list-style-type: none"> • If there are any new heritages resources are discovered during construction and operation phases of the proposed development, then a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings at the expense of the developer. • If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required at the expense of the developer. Mitigation will only be carried out after the archaeologist or palaeontologist obtains a permit in terms of section 35 of the NHRA (Act 25 of 1999). • The applicant/ ECO may contact SAHRA APM Unit for further details: (Nokukhanya Khumalo/ Phillip Hine 021 202 8654). • If any unmarked human burials are uncovered and the archaeologist called in to inspect the finds and/or the police find them to be heritage graves, then mitigation may be necessary and the SAHRA Burial Grounds and Graves (BGG) Unit must be contacted for processes to follow (Thingahangwi Tshivase/Mimi Seetelo 072 802 1251). 		
<p>Impact on Palaeontological Resources</p> <p>The power line route lies on the potentially fossiliferous Volksrust Formation (Ecca Group, Karoo Supergroup and non-fossiliferous Jurassic dolerite although is unlikely that any fossils of any importance would occur in the deep water shales. The impact will be low, as far as the palaeontology is concerned.</p>	<p>NEGATIVE LOW</p>	<ul style="list-style-type: none"> • In the unlikely event that fossils are uncovered during construction then construction must cease within the immediate vicinity, a buffer of 30 m must be established, and a palaeontologist called in to inspect the finds. • A Fossil Chance Find Protocol should be added to the EMPr. • The following procedure is only required if fossils are seen on the surface and when drilling/excavations commence. • When excavations begin the rocks and discard must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (plants, insects, bone or coal) should be put aside in a suitably protected place. This way the project activities will not be interrupted. • Photographs of similar fossils must be provided to the developer to assist in recognizing the fossil plants, vertebrates, invertebrates or trace fossils in the shales and mudstones. This information will be built into the 	<p>NEGATIVE LOW</p>	<p>LOW</p>

		<p>EMP’s training and awareness plan and procedures.</p> <ul style="list-style-type: none"> • Photographs of the putative fossils can be sent to the palaeontologist for a preliminary assessment. • If there is any possible fossil material found by the developer/environmental officer then the qualified palaeontologist sub-contracted for this project, should visit the site to inspect the selected material and check the dumps where feasible. • Fossil plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site a SAHRA permit must be obtained. Annual reports must be submitted to SAHRA as required by the relevant permits. • If no good fossil material is recovered then no site inspections by the palaeontologist will be necessary. A final report by the palaeontologist must be sent to SAHRA once the project has been completed and only if there are fossils. • If no fossils are found and the excavations have finished then no further monitoring is required. • The palaeontologist must obtain a section 35(4) permit in terms of NHRA and Chapter IV NHRA Regulations, before any fossils are collected. • If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required at the expense of the developer. Mitigation will only be carried out after the archaeologist or palaeontologist obtains a permit in terms of section 35 of the NHRA (Act 25 of 1999). • The applicant/ ECO may contact SAHRA APM Unit for further details: (Nokukhanya Khumalo/ Natasha Higgitt 021 202 8654). 		
<p>Existing services and infrastructure</p> <p>Damage to the existing services and infrastructure during the construction phase and disruptions in services (i.e. Telkom lines, electricity) during the construction phase.</p>	<p>NEGATIVE LOW</p>	<ul style="list-style-type: none"> • Discuss possible disruptions with affected parties to determine most convenient times for service disruptions and warn affected parties well in advance of dates that service disruptions will take place. 	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p>Waste Management</p> <p><u>Builder’s and domestic waste</u></p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • Develop a central waste temporary holding site to be used during 	<p>NEGATIVE LOW</p>	<p>LOW</p>

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<p>The construction phase will create small quantities of contractor’s and domestic waste to be accommodated by local legal landfill sites.</p>		<p>construction. This site should comply with the following:</p> <ul style="list-style-type: none"> • Skips for the containment and disposal of waste that could cause soil and water pollution, i.e. paint, lubricants, etc.; • Small lightweight waste items should be contained in skips with lids to prevent wind littering; • Bunded areas for containment and holding of dry building waste. • These areas shall be predetermined and located in areas that is already disturbed. • These areas shall not be in close proximity of any watercourse. 		
<p><u>Sewage waste</u> Generation and disposal of sewage waste of temporary construction toilets.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> • On-site chemical toilets will be provided for domestic purposes during construction phase. • The contractors will be responsible for the maintenance of the chemical toilets. • No temporary facilities or portable toilets to be setup within 50m of any watercourse. • No French drain systems may be installed. • Should any spills or incidents occur; the material will be cleaned up immediately and disposed off appropriately. • All incidents must be reported to the responsible site officer as soon as it occurs. 	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p>Economic impacts Positive economic impacts are anticipated. The impact on employment would be positive, and although the impact is expected to be small; any contribution to more employment is an achievement in South Africa.</p>	<p>POSITIVE HIGH</p>	<ul style="list-style-type: none"> • Employment opportunities will be generated. • All labour (skilled and unskilled) and contractors should be sourced locally where possible. • A labour and recruitment policy must be developed, displayed and implemented by the contractor. • Recruitment at the construction site will not be allowed. • Where possible, labour intensive practices (as opposed to mechanised) should be practiced. • The principles of equality, BEE, gender equality and non-discrimination will be implemented. 		
INDIRECT IMPACTS				
<p>No indirect impacts were identified during the construction phase.</p>				
CUMULATIVE IMPACTS				
<p>Visual Impact The development of the site would contribute to the cumulative effects of the gradual transformation of the area from an area with part rural landscape components to</p>		<p>Project should adhere to the stipulated mitigation measures to limit impact to the natural habitat, to surface water, erosion etc. The topography of the study area is steep rolling hills and deep valleys. The nature of the topography is a strong</p>		

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<p>an area dominated by infrastructure. <u>Development site</u> The site is within an area with numerous scattered villages, resulting in large negative impacts on the environment.</p>		<p>factor influencing the types of vistas typically present in the study area, as there are many areas of rising ground which would block views and limit viewsheds, and valleys within which views would be restricted. As a result, typically short-ranging vistas are experienced within the study area. As mentioned the proposed location of the substation is completely within an old existing plantation of alien invasive gum trees (<i>Eucalyptus spp.</i>). This will block the visibility of the substation significantly.</p>		
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NO GO ALTERNATIVE				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
<p>All the impacts outlined above will not apply to the No-Go alternative as the status quo will apply and the environment will remain as it is currently. However, it is important to note that the benefits associated with the development will also not materialise, and it must be noted that the majority of the impacts identified for the development were mitigated to a negative low or positive impact once the measures for mitigation were applied, indicating that maintaining the status quo is to lose the opportunity of a beneficial development with negligible environmental impacts.</p>				
INDIRECT IMPACTS				
<p>No indirect impacts were identified during the construction phase.</p>				
CUMULATIVE IMPACTS				
<p>No cumulative impacts were identified during the construction phase.</p>				

8.3 OPERATIONAL PHASE

Taylor’s Halt power line and substation				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented

Impact of alien vegetation	POSITIVE HIGH	Removal of alien invasive species or other vegetation and follow-up procedures must be in accordance with the Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983). Mechanical control of alien species to be implemented within three (3) months of completion of construction of the power line. Thereafter ever six months. No chemical control (herbicides) to be used in the control of alien plants. All control of weeds to be mechanical in nature. Cleared alien vegetation must not be dumped on adjacent intact vegetation during clearing, but should be temporarily stored in a demarcated area.		
Impact on avifauna	NEGATIVE MEDIUM	<ul style="list-style-type: none"> Maintenance access roads to be limited to car tracks or small gravel roads under the power lines (This does not include existing roads or public gravel roads in the area that can be used to access the power line). Access roads to be maintained and any erosion gullies to be rehabilitated as part of the maintenance programme on the power lines. Any dead birds found in the power line servitude to be photographed, position recorded and reported to Eskom. 	NEGATIVE LOW	LOW
Socio-Economic Impact The impact on employment would be positive, and although the impact is expected to be small; any contribution to more employment is an achievement in South Africa. POSITIVE IMPACT	POSITIVE LOW			
INDIRECT IMPACTS				
No indirect impacts were identified during the operational phase.				
CUMULATIVE IMPACTS				
No cumulative impacts were identified during the operational phase.				

NO GO ALTERNATIVE				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
All the impacts outlined above will not apply to the No-Go alternative as the status quo will apply and the environment will remain as it is currently. However, it is important to note that the benefits associated with the electrical infrastructure development will also not				

materialise, and it must be noted that the majority of the impacts identified for the infrastructure development were mitigated to a negative low or positive impact once the measures for mitigation were applied, indicating that maintaining the status quo is to lose the opportunity of a beneficial infrastructure development with negligible environmental impacts.				
DIRECT IMPACTS				
No indirect impacts were identified during the operational phase.				
CUMULATIVE IMPACTS				
No cumulative impacts were identified during the operational phase.				

8.4 IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

Due to the permanent nature of this development proposal, decommissioning is highly unlikely and decommissioning therefore does not form part of this project proposal.

8.5 ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, an environmental impact statement will be completed. This will sum up the impact and its alternatives may have on the environment (after the management and mitigation of impacts have been taken into account - with specific reference to types of impact, duration of impacts, likelihood of potential impacts and the significance of impact).

PLANNING & DESIGN PHASE (PROPOSAL)

Impact Description	Intensity	Extent	Duration	Probability it would occur	Significance rating After Mitigation
Impact on Natural Habitat and watercourses	1	2	2	1	Low

CONSTRUCTION PHASE (PROPOSAL)

Impact Description	Intensity	Extent	Duration	Probability it would occur	Significance rating After Mitigation
Impact on Vegetation	1	1	2	2	Low
Impact on Avifauna	2	2	2	2	Low
Impacts on Fauna	1	1	1	1	Low
Impact on Water Resources	2	2	2	2	Low
Topographical Impacts	1	1	3	2	Low
Impact on Erosion	2	1	1	2	Low

Impact of Dust	1	1	1	1	Low
Impact of Noise & Safety	1	1	1	1	Low
Traffic Impact	2	2	1	1	Low
Impact of Labourers	2	2	1	1	Low
Impact on Cultural Heritage Resources	1	1	1	1	Low
Impact on Palaeontology	1	1	1	1	Low
Existing Services and Infrastructure	1	1	2	1	Low
Waste Management	2	1	1	2	Low
Economic Impacts This will be a POSITIVE impact	3	2	2	3	High

OPERATIONAL PHASE (PROPOSAL)

Impact Description	Intensity	Extent	Duration	Probability it would occur	Significance rating After Mitigation
Impact on Avifauna	2	2	3	2	Medium
Impact on Alien vegetation This will be a POSITIVE impact	2	2	3	3	High
Economic Impacts This will be a POSITIVE impact	3	2	2	3	High

NO-GO (Compulsory)

All the impacts outlined above will not apply to the No-Go alternative as the status quo will apply and the environment will remain as it is currently. However, it is important to note that the benefits associated with the development will also not materialise, and it must be noted that the majority of the impacts identified for the development were mitigated to a negative low or positive impact once the measures for mitigation were applied, indicating that maintaining the status quo is to lose the opportunity of a beneficial development with negligible environmental impacts.

8.6 IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

The significance of impacts of the proposal and alternative(s), and reasons for selecting the proposal or preferred alternative are as follows:

The project and related activities will have limited potentially negative impacts on the natural environment. The impacts will be at a very localised level (Study Site). The nature of the project is also known to have low levels of negative impacts on the natural environment. The overall footprint is small with poles/pylons every few hundred metres and bush clearing of approximately 8 wide under the wires. For this project limited to no bush clearing is required. With the implementation of mitigating measures and general standards and procedures for power line construction, the potential impacts can be reduced slightly and contained to the specific study site. Most of the negative impacts will be short-term (during the construction phase), with the only measurable long-term potential impacts being those of potential bird electrocutions and collisions.

A summary of the sensitivities of the Study Area is as follows:

- The site is within the original extent of veldtype (ecosystem) of Midlands Mistbelt Grassland, which is a threatened veldtype / ecosystem with a status of 'Vulnerable'.
- According to site investigations, the sensitivity of the open, degraded grassland 'Medium'. The sensitivities of the watercourses, including the seasonal drainage lines, are all 'Medium' in reality; The sensitivity of altered cultivated lands and contoured slopes is 'Low'.
- There are no protected areas, NPEAS areas and no areas of pristine Midlands Mistbelt Grassland within the study site (power line corridor and substation site).
- The Msunduze River is within a demarcated critical biodiversity area (CBA). This is the valley area just west of the proposed substation and within the area of the power line corridor.
- The entire proposed substation site is within a transformed plantation of gum trees, and has a sensitivity rating of 'Low'.
- The study identified one burial site located approximately 120m from the centre of the proposed powerline route. The burial site can safely be avoided without realigning the powerline route. The Heritage sensitivity is therefore rated 'Low'.
- In addition, the impact will be 'Low', as far as the Palaeontology is concerned.
- The only 'no-go' areas identified are the watercourses.

Route alternative recommendations

Due to the spatial constraints for the servitude there is no alternative to be investigated. From a technical design perspective this is the only corridor possible. A corridor of 250m wide has been investigated to allow for minor changes in the final placement of poles.

The potential negative impacts arising from the proposed project are low to very low.

Proposal for construction:

- 1 Taylor's Halt loop-in-loop-out double circuit 132kV power line
- 2 Taylor's Halt 132/22kV substation

9 RECOMMENDATION OF PRACTITIONER

The majority of the negative environmental impacts will be experienced during the construction phase. The majority of these impacts will have a LOW significance. It is envisaged that these impacts can be easily mitigated and satisfactorily managed. The management of the impacts identified for the construction and operational phases, are outlined in the technical specialist report recommendations and the EMPr.

It is the opinion of Setala Environmental that there are presently no environmental impacts emanating from the proposed activity that cannot be adequately managed. The management of the negative impacts will require the implementation of the necessary mitigatory measures detailed in the Environmental Management Programme (EMPr, refer to Appendix F) of this report.

Based on the assumption that the mitigation measures will be effectively implemented for the proposed project and its associated infrastructure and that no fatal flaws have been identified to date, it is the opinion of the EAP that this activity should be authorised to proceed to the final stages of decision making.

10 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

An Environmental Management Programme was prepared to detail a plan of action to ensure that recommendations for preventing the negative environmental impacts (and where possible improving the environment) are implemented during the life-cycle of the project. The applicant has to sign and implement a Generic EMPr approved by the DFFE for the overhead line as well as for the substation. The Generic EMPr template is available in soft copy and in Appendix F. In addition, refer to Part C: Site Specific Environmental Attributes of the EMPr.

11 THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

As per the Appendix 1(3)(1)(q) of the NEMA EIA Regulations 2014, as amended, the period for which the environmental authorisation is required, is ten (10) years and the activity is expected to be concluded within 2 years from the date of authorisation.

12 CONCLUSION

In summary, the following is recommended for authorisation:

This study investigated a 250m corridor to accommodate any future deviation of the power lines. The wider area that was investigated will allow future potential amendments should it be necessary (at a later stage).

Should small changes be done to the route alignment after authorisation it will not be considered crucial and will not warrant a new application.

The report recommends the following for construction.

- 1 Taylor’s Halt loop-in-loop-out double circuit 132kV power line
- 2 Taylor’s Halt 132/22kV substation
