



ESKOM HOLDINGS (SOC) LTD

NORTHERN KWAZULU-NATAL STRENGTHENING PROJECT: IPHIVA 400/132KV SUBSTATION

Proposed Construction of the new Iphiva 400/132 kV Substation and associated infrastructures on Site 6.1, within the jurisdiction of Nongoma Local Municipality in Zululand District Municipality, KwaZulu-Natal Province.

Draft Scoping Report

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ESKOM HOLDINGS NORTHERN KWAZULU-NATAL STRENGTHENING PROJECT (SOC) LTD:

PROPOSED IPHIVA 400/132KV SUBSTATION AND ASSOCIATED INFRASTRUCTURE

DRAFT SCOPING REPORT

EXECUTIVE SUMMARY

Background

ESKOM Holdings SOC Ltd (Eskom) has commissioned a project to strengthen the supply of electricity in northern KwaZulu-Natal (KZN).

In 2018, Eskom contracted NAKO ILISO as the Environmental Assessment Practitioner (EAP) to obtain Environmental Authorisation (EA) to construct the Iphiva 400/132 kV Substation approximately 9km west of the town of Mkuze, within the Nongoma Local Municipality, which falls within the Zululand District Municipality (DFFE Reference Number: 14/12/16/3/3/2/1037). After obtaining the EA, it was determined that the authorised site was not technically feasible for the construction of the substation and that the site should rather be located approximately 80m to the west of the previously authorised site.

Margen Industrial Services has been appointed to undertake the Environmental Impact Assessment (EIA) process for the construction of the proposed Iphiva 400/132 kV Substation on Site 6.1. Margen is managing the project and undertaking the public participation process. SiVEST Environmental Division has subsequently been appointed as the independent EAP.

This report documents the process and findings of the scoping phase of the EIA for the proposed new Iphiva 400/132 kV Substation and associated infrastructure and presents a Plan of Study (PoS) for the Impact Assessment phase of the project.

Need for the Project

The northern KZN network is currently fed at 132 kV by the Normandie and Impala Main Transmission Substations. The major load centres are Pongola and the Makhathini Flats. The Normandie Substation is situated approximately 80km northwest of Pongola and the Impala Substation is situated approximately 180 km south of Makhathini Flats. High voltage drops are experienced in the 132 kV network and the voltages are approaching unacceptable low voltage levels as the demand increases. Contingencies on the main 132 kV supplies also lead to thermal overloading of the remaining network.

Project Description

To strengthen and alleviate current and future network constraints in northern KZN, it is proposed that the Iphiva 400/132kV Substation on Site 6.1 be introduced in the area, which will de-load the main sub-transmission network and improve the voltage regulation in the area. The Iphiva 400/132 kV Substation will

be integrated with the existing electricity network by 400kV Transmission powerlines to the Normandie Substation, and approximately 165km of 132kV Distribution powerlines.

Listed Activities

The proposed project triggers several activities listed in the National Environmental Management Act (Act 107 of 1998) (NEMA), as amended, as requiring environmental authorisation before they can commence. The purpose of this study is to undertake an EIA process, with associated Public Participation Process (PPP) and specialist studies, to enable the competent authority to decide whether the project should go ahead or not, and if so, then on what conditions.

Receiving Environment

The project is located in the Northern KZN Province. The climate of the area is typified by warm to hot summers, high evaporation, dry warm winters and a mean annual rainfall between 495 and 1 560 mm. The average rainfall is higher in the west and decreases gradually to the east. The dominant landscape features are valley slopes to undulating hills and flat plains with a network of trailing rivers and smaller streams.

There are only a few large towns, namely Mkhuze and Pongola, in the area. The rest of the area consists of settlements in areas under traditional leadership, commercial farms as well as game reserves. The land under traditional management belongs to the Ingonyama Trust. Settlement patterns are scattered. Dwellings consist mostly of brick structures or traditional structures. Most people have isiZulu as their home language.

Basic and social infrastructure is limited and does not meet the needs of the entire population in the area. Local municipalities in the area are faced with challenges that urban municipalities do not have. The settlement patterns make it extremely challenging to provide infrastructure such as piped water and sanitation. Road infrastructure in general needs some upgrading and the conditions of the roads make it challenging to reach the communities that need to be served. As there are few employment opportunities in these areas, many males have migrated to urban areas in search of employment, resulting in a community that stays behind with more females than males, as well as a very young population group. Other challenges include poverty, unemployment, illiteracy and skills levels and crime. Subsistence farming is a very important livelihood strategy and informal trading plays a much greater role in survival than in urban areas.

Alternatives

During the previous EIA process, thirteen (13) sites were initially identified. This was narrowed down to six (6) sites which were considered in the Scoping Phase of the project and the two most preferred sites, Iphiva 3 and Iphiva 6 were further assessed in the specialist studies and assessment phase.

Iphiva 6 was selected based on the above and was authorised in 2018. Due to the cost involved in developing the authorised site, the Eskom technical team proposed moving the site 80m to the west of the authorised site.

Due to the extensive site selection process undertaken by Eskom during the previous EIA process, no assessment of alternative sites will be undertaken in the Impact Assessment Phase of the project.

Public Participation in the Scoping Phase

Public participation is an important aspect of any EIA, with the objective to assist stakeholders to table issues of concern, suggestions for enhanced benefits and to comment on the findings of the EIA. The PPP is designed to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner.

An I&AP database has been established to record the details of stakeholders that wish to register for the project. All identified interested and affected parties have been identified and notified of the project and their opportunities to participate.

Advertisements were placed in the local newspapers (Isolezwe and Ilanga). Site notices were placed at strategic points in the study area. Background Information Documents (BIDs) with Reply Sheets have been distributed at key points in the study area. BIDs with Reply Sheets have been sent to all stakeholders captured in the database, that is, government officials, commenting authorities and organisations and NGOs.

Key Issues

The following key issues have been identified in the Scoping Phase of the EIA:

- Impacts on protected areas resulting in loss of plants and animals of conservation value and a loss in the income from and value of the facilities, primarily due to visual impacts.
- Impacts on the rich and diverse fauna and flora (specifically large birds);
- Impacts on Heritage Resources;
- Social Impacts;
- Economic Impacts;
- Construction Impacts; and
- Cumulative Impacts.

Plan of Study for Environment Impact Assessment

The EIA phase will build on the Scoping Report and, with input from specialists, will focus on assessing the key impacts, determining their significance, and recommending appropriate measures to mitigate negative impacts and enhance benefits. The contents of the EIA Report will be as prescribed in the EIA Regulations, 2014, as amended.

The following specialist studies were undertaken as part of the Scoping and EIA process in 2018.

- Social Assessment;
- Economic Assessment;
- Soils and Agricultural Potential Impact Assessment
- Fauna and Flora Screening Assessment
- Heritage Screening Assessment
- Visual Assessment
- Avifaunal Assessment
- Wetlands Impact Assessment
- Geotechnical Assessment

The content of the following four specialist reports is being verified and updated during the assessment of the new proposed Iphiva 400/132 kV Substation and associated infrastructure:

- Fauna and Flora Screening Assessment
- Heritage Screening Assessment
- Visual Assessment
- Wetlands Impact Assessment

The following steps will be undertaken as part of the EIA phase:

- *The proposed final layout will be further investigated in order to avoid or minimize negative impacts and maximize potential benefits;*
- *Environmental impact statements regarding the potential significance of residual impacts, taking into account proposed mitigation measures will be provided in the EIA;*

An Environmental Management Programme (EMPr) covering the construction, operation and decommissioning phases of the proposed development will be prepared. The EMPr will include input from specialists and will incorporate recommendations for mitigation and monitoring.

Conclusion and Recommendations

The EAP recommends that this Scoping Report be accepted by the competent authority and that the Impact Assessment Phase of the EIA proceeds according to the Plan of Study presented.

**ESKOM HOLDINGS (SOC) LTD
NORTHERN KWAZULU-NATAL STRENGTHENING PROJECT**

**PROPOSED CONSTRUCTION OF THE NEW IPHIVA 400/132 KV
SUBSTATION AND ASSOCIATED INFRASTRUCTURES ON SITE 6.1,
WITHIN THE JURISDICTION OF NONGOMA LOCAL MUNICIPALITY
IN ZULULAND DISTRICT MUNICIPALITY, KWAZULU-NATAL
PROVINCE**

DRAFT SCOPING REPORT

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ACRONYMS

AIA	Archaeological Impact Assessment
AIP	Alien Invasive Plant
ATNS	Air Traffic and Navigation Services Company Limited
BID	Background Information Document
CAA	Civil Aviation Act
CARA	Conservation of Agricultural Resources Act
CLA	Cultural Landscape Assessment
CSIR	Council for Scientific and Industrial Research
CS	Cultural Significance
DEA	Department of Environmental Affairs
DFA	Development Facilitation Act
DFFE	Department of Forestry, Fisheries and the Environment
EAP	Environmental Assessment Practitioner
EA	Environmental Authorisation
ECA	Environment Conservation Act
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMF	Electromagnetic field
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
GA	General Authorisation
HIA	Heritage Impact Assessment
HSA	Hazardous Substances Act
I&Aps	Interested and Affected Parties
IBAs	Important Bird Areas
IDP	Integrated Development Plan
KZN	KwaZulu-Natal
KZNHA	KwaZulu-Natal Heritage Act, 2008
LED	Local Economic Development
MDGs	Millennium Development Goals
MinMec	Ministers and Members of the Executive Council
MPRDA	Mineral and Petroleum Resource Development Act
MSA	Municipal Systems Act
NDA	Non-Disclosure Agreement
NDP	National Development Plan
NEMA	National Environmental Management Act
NEM:AQA	National Environmental Management: Air Quality Act
NEM:BA	National Environmental Management: Biodiversity Act
NEM:PAA	National Environmental Management: Protected Areas Act

NEM:WA	National Environmental Management: Waste Act
NFA	National Forest Act
NGO	Non-Governmental Organisation
NHRA	National Heritage Resources Act
NPC	National Planning Commission
NRTA	National Road Traffic Act
NWA	National Water Act
OHSA	Occupational Health and Safety Act
PAIA	Promotion of Access to Information Act
PDA	Planning and Development Application
PIA	Paleontological Impact Assessment
PICC	Presidential Infrastructure Coordinating Commission
POPIA	Protection of Public Information Act
PoS	Plan of Study
PPP	Public Participation Process
PGDS	Provincial Growth and Development Strategies
QDS Grid	Quarter Degree Square Grid
RoD	Record of Decision
RSA	Road Safety Act
SACAA	South African Civil Aviation Authority
SAHRA	South African Heritage Resources Agency
SALA	Subdivision of Agricultural Land Act
SANBI	South African National Biodiversity Institute
SEA	Strategic Environmental Assessment
SDF	Spatial Development Framework
SPLUMA	Spatial Planning and Land Use Management Act
SIPs	Strategic Integrated Projects
SSC	Species of Special Concern
TOR	Terms of Reference
UN	United Nations
WSA	Water Services Act
WUL	Water Use Licence
ZDM	Zululand District Municipality

ESKOM HOLDINGS NORTHERN KWAZULU-NATAL STRENGTHENING PROJECT (SOC) LTD:

PROPOSED IPHIVA 400/132KV SUBSTATION AND ASSOCIATED INFRASTRUCTURE

DRAFT SCOPING REPORT

1. INTRODUCTION

1.1 BACKGROUND

Eskom Holdings SOC Ltd (hereafter referred to as 'Eskom') seeks to strengthen the supply of electricity in northern KwaZulu-Natal (KZN). The northern KZN network is currently fed at 132 kV by the Normandie and Impala Main Transmission Substations. The major load centres are Pongola and the Makhathini Flats. The Normandie Substation is situated approximately 80km northwest of Pongola and the Impala Substation is situated approximately 180 km south of Makhathini Flats. High voltage drops are experienced in the 132 kV network and the voltages are approaching unacceptable low voltage levels as the demand increases. Contingencies on the main 132 kV supplies also lead to thermal overloading of the remaining network.

To strengthen and alleviate current and future network constraints in northern KZN, it is proposed that the Iphiva 400/132kV Substation and associated infrastructures on Site 6.1 be introduced in the area, which will de-load the main sub-transmission network and improve the voltage regulation in the area. The Iphiva 400/132 kV Substation will be integrated with the existing electricity network by 400kV Transmission powerlines to the Normandie Substation, and approximately 165km of 132kV Distribution powerlines.

In 2018, Eskom contracted NAKO ILISO as the Environmental Assessment Practitioner (EAP) to obtain Environmental Authorisation (EA) to construct the Iphiva 400/132 kV Substation approximately 9km west of the town of Mkuze, within the Nongoma Local Municipality, which falls within the Zululand District Municipality (DFFE Reference Number: 14/12/16/3/3/2/1037). After obtaining the EA, it was determined that the authorised site was not technically feasible for the construction of the substation and that the site should rather be located approximately 80m to the west of the previously authorised site (Figure 1). Margen Industrial Services has been appointed to undertake the Environmental Impact Assessment process for the construction of the proposed Iphiva 400/132 kV Substation and associated infrastructures including the access road on Site 6.1. Margen is managing the project and undertaking the public participation process. SiVEST Environmental Division has subsequently been appointed as the independent EAP. Where appropriate, the information prepared for the previous EIA process has been incorporated into this study and the work of Ms. Terry Calmeyer, representing NAKO ILISO, is acknowledged.

1.2 PURPOSE OF THE STUDY

The proposed project triggers several activities listed in the National Environmental Management Act (Act 107 of 1998) (NEMA), as amended, that requires Environmental Authorisation before construction can commence. The purpose of this study is to undertake an Environmental Impact Assessment (EIA) process in terms of the EIA Regulations, 2014 (as amended) promulgated in terms of Chapter 5 of the NEMA, with associated Public Participation Process (PPP) and specialist studies, to enable the competent authority, the National Department of Forestry, Fisheries and the Environment (DFFE), to decide whether the project should go ahead or not, and if so, then on what conditions. All relevant legislation and guidelines will be consulted during the EIA process and will be complied with at all times.

1.3 OBJECTIVES OF THIS REPORT

This report documents the process and findings of the Scoping Phase of the EIA and presents a Plan of Study (PoS) for the Impact Assessment phase of the project.

1.4 STRUCTURE OF THE REPORT

The location of the project is presented in Section 2 of this report. A description of the project in Section 3. The policy and legislation context is summarised in Section 4 and the need and desirability for the project in Section 5. The alternatives considered in the Scoping Phase are described in Section 6, and public participation during the Scoping Phase is detailed in Section 7. The receiving environment is described in Section 8, and Plan of Study for the Impact Assessment is presented in Section 9. Section 10 and Section 11 presents the conclusion and way forward.

1.5 CONTENT REQUIREMENTS FOR A SCOPING REPORT

A Scoping Report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the EIA process. The content requirements for a Scoping Report (as provided in Appendix 2 of the EIA Regulations 2014, as amended), as well as details of which section of the report fulfils these requirements, are shown in Table 1 below.

Table 1: Content requirements for a Scoping Report

Content Requirements	Applicable Section
(a) details of- (i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae;	Section 1.8
(b) the location of the activity, including- (i) the 21-digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Section 2
(c) a plan which locates the proposed activity or activities applied for at an appropriate scale, or if it is- (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or	Figure 6

Content Requirements	Applicable Section
(ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;	
(d) a description of the scope of the proposed activity, including- (i) all listed and specified activities triggered;	Section 3.4
(ii) a description of the activities to be undertaken, including associated structures and infrastructure;	Section 3.2
(e) a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;	Section 4
(f) a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;	Section 5
(g) a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including - (i) details of all the alternatives considered;	Section 6.1
(ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	Section 7
(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	Section 7.3
(iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 7.4
(v) the impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified impacts, including the degree to which these impacts- (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated;	Section 6.2
(vi) the methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;	Section 6.1.2
(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 6.1.2
(viii) the possible mitigation measures that could be applied and the level of residual risk;	Section 6.1.2
(ix) the outcome of the site selection matrix;	Section 6.1.2
(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and	Section 6.1.2
(xi) a concluding statement indicating the preferred alternatives, including the preferred location of the activity;	Section 6.2
(h) a plan of study for undertaking the environmental impact assessment process to be undertaken, including- (i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;	Section 9
(ii) a description of the aspects to be assessed as part of the environmental impact assessment process;	Section 9
(iii) aspects to be assessed by specialists;	Section 9.3

Content Requirements	Applicable Section
(iv) a description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists;	Section 9.4
(v) a description of the proposed method of assessing duration and significance;	Section 9.4
(vi) an indication of the stages at which the competent authority will be consulted;	Section 9.5
(vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and	Section 9.6
(viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process;	Section 9.1
(ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and determine the extent of the residual risks that need to be managed and monitored.	Section 9.4
(i) an undertaking under oath or affirmation by the EAP in relation to- (i) the correctness of the information provided in the report; (ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and (iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;	Appendix A
(j) an undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;	Appendix A
(k) where applicable, any specific information required by the competent authority; and	Section 9.5
(l) any other matter required in terms of section 24(4)(a) and (b) of the Act.	n/a
(2) Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a scoping report, the requirements as indicated in such notice will apply.	Appendix E

1.6 PROJECT TITLE

Proposed Construction of the New Iphiva 400/132 kV Substation and associated infrastructures on Site 6.1, within the jurisdiction of Nongoma Local Municipality in Zululand District Municipality, KwaZulu-Natal Province.

1.7 DETAILS OF APPLICANT

Table 2: Name and contact details of the applicant

Business Name of Applicant	Eskom Holdings (SOC) Ltd
Physical Address	Megawatt Park, Maxwell Drive, Sunninghill, Johannesburg
Postal Address	P O Box 1091, Johannesburg,
Postal Code	2000
Telephone	011 800 2303
Fax	086 663 2051
Email	bokwett@eskom.co.za

1.8 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Table 3: Name and contact details of the Environmental Consultant

Business Name of EAP	Margen Industrial Services	SIVEST SA (PTY) Ltd
Physical Address	26 Jellicoe Street, Ex 1, Witbank, 1035	12 Autumn Road, Rivonia, 2128
Postal Address	P.O. Box 12822, Leraatsfontein	PO Box 2921, Rivonia
Postal Code	1038	2128
Telephone	013 – 6561212	011 – 798 0633
Email	delno@telkomsa.net	mailto:nataliep@sivest.com

Table 4: Names and details of the expertise of the EAP's involved in the preparation of this report

Name of representative of the EAP	Educational Qualifications	Professional Affiliations	Experience (years)
Michelle Nevette	MEnvMgt. (Environmental Management)	SACNASP Registration No. 120356 EAPASA Registration No. 2019/1560 IAIAsa	22
Natalie Pullen	MSc Environmental Biotechnology	EAPASA Registration No. 2018/132 IAIAsa	19
Rendani Rasivhetshele	BSc Hons Environmental Management	EAPASA Registration No. 2019/1729	6
Moses Mahlangu	B. Sc. Hons: Botany and Plant Ecology	IAIAsa	21
Siphiwokuhle Buthelezi	BSocSci Hons (Geography and Environmental Management)	IAIAsa	1

CV's of personnel is attached in **Appendix A**. The EAP declaration is attached in **Appendix A**.

1.9 NAMES AND EXPERTISE OF THE SPECIALISTS

The table below provides the names of the specialists involved in the project:

Table 5: Names of specialists involved in the project

Company	Name of representative of the specialist	Specialist	Educational Qualifications	Experience (years)
Digby Wells	Johan Nel	Heritage Impact Assessment	BA (Hons) Archaeology	>20
Digby Wells	Danie Otto	Wetland Impact Assessment	MSc Environmental Management	25

Company	Name of representative of the specialist	Specialist	Educational Qualifications	Experience (years)
Digby Wells	Danie Otto	Terrestrial Ecology Assessment	MSc Environmental Management	25
Digby Wells	Danie Otto	Avifaunal Impact Assessment	MSc Environmental Management	25
Green Tree Environmental Consulting	Yonanda Martin	Visual Impact Assessment	MSc. Ecological Remediation and Sustainable Utilisation Registered Professional Natural Scientist – 400204/09 EAPASA Registration – 2019/1307	16

2. LOCATION OF THE ACTIVITY

GN 982 Appendix 2:

- (b) the location of the activity, including-
- (i) the 21-digit Surveyor General code of each cadastral land parcel;
 - (ii) where available, the physical address and farm name;
 - (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;
- (c) a plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is-
- (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or
 - (ii) on land where the property has not been defined, the coordinates within which the o be undertaken;

The proposed project consists of the new Iphiva 400/132 kV Substation and associated infrastructures near the town of Mkuze in KZN, which will be integrated into the existing electricity network by a 400 kV Transmission powerline to the Normandie Substations, and approximately 165 km of 132 kV Distribution powerlines that will link into the Iphiva 400/132kV Substation.

2.1 21 DIGIT SURVEYOR GENERAL CODE AND FARM NAME OF THE SITE

Table 6: 21 Digit Surveyor General Code

SG CODE	DESCRIPTION
N0HU00000001583200000	Farm No. 15832 Reserve No. 12

2.2 COORDINATES OF THE SITE

The centre point coordinates for the sites are as follows:

- Latitude: 27°39'7.063"S
- Longitude: 31°55'47.883"E

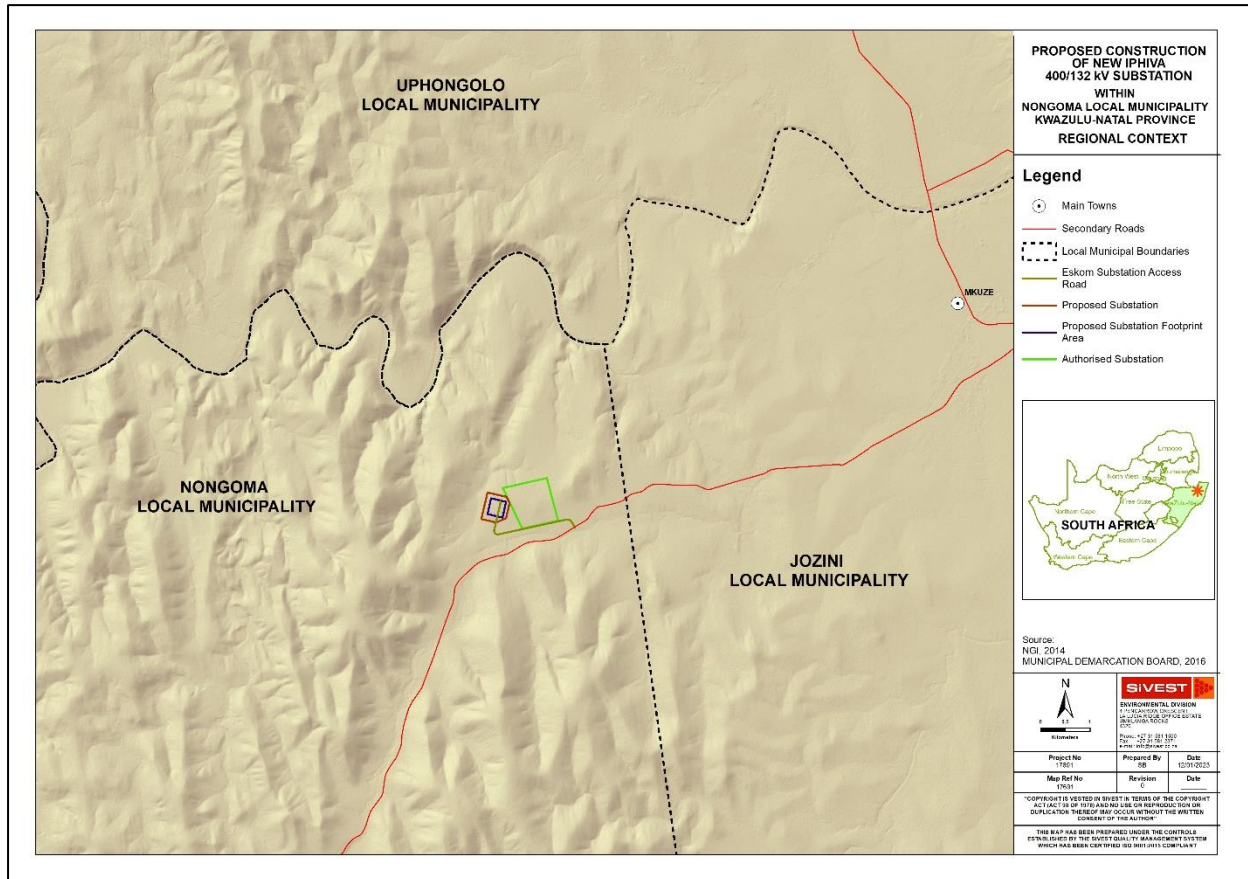


Figure 1: Iphiva 400/132 kV Substation Regional Context

3. PROJECT DESCRIPTION

GN 982 Appendix 2:

- (d) a description of the scope of the proposed activity, including-
- all listed and specified activities triggered;
 - a description of the activities to be undertaken, including associated structures and infrastructure;

3.1 OVERVIEW OF THE ELECTRICAL NETWORK

This section describes the proposed project and activities listed in the EIA Regulations 2014, as amended, that will be triggered by the project. Photographs in this section are courtesy of Bruce Burger (Eskom). Power is generated at a power station (which could be coal fired, nuclear, solar, wind, hydro

or other). From the power station a Transmission powerline, which could be 765 kV, 400 kV, 275 kV or 220 kV, transports the electricity to the area where it is needed. If this is a very long distance, then Transmission substations may be required along the route. Once the electricity is in the area that it is required, it is transformed to 132 kV, 88 kV, 66 kV, 44 kV or 33 kV for distribution to the end user. At Distribution substations, the electricity is stepped down to 22 kV or 11 kV and ultimately to 400 or 240 V before connecting to the end user (Figure 2).

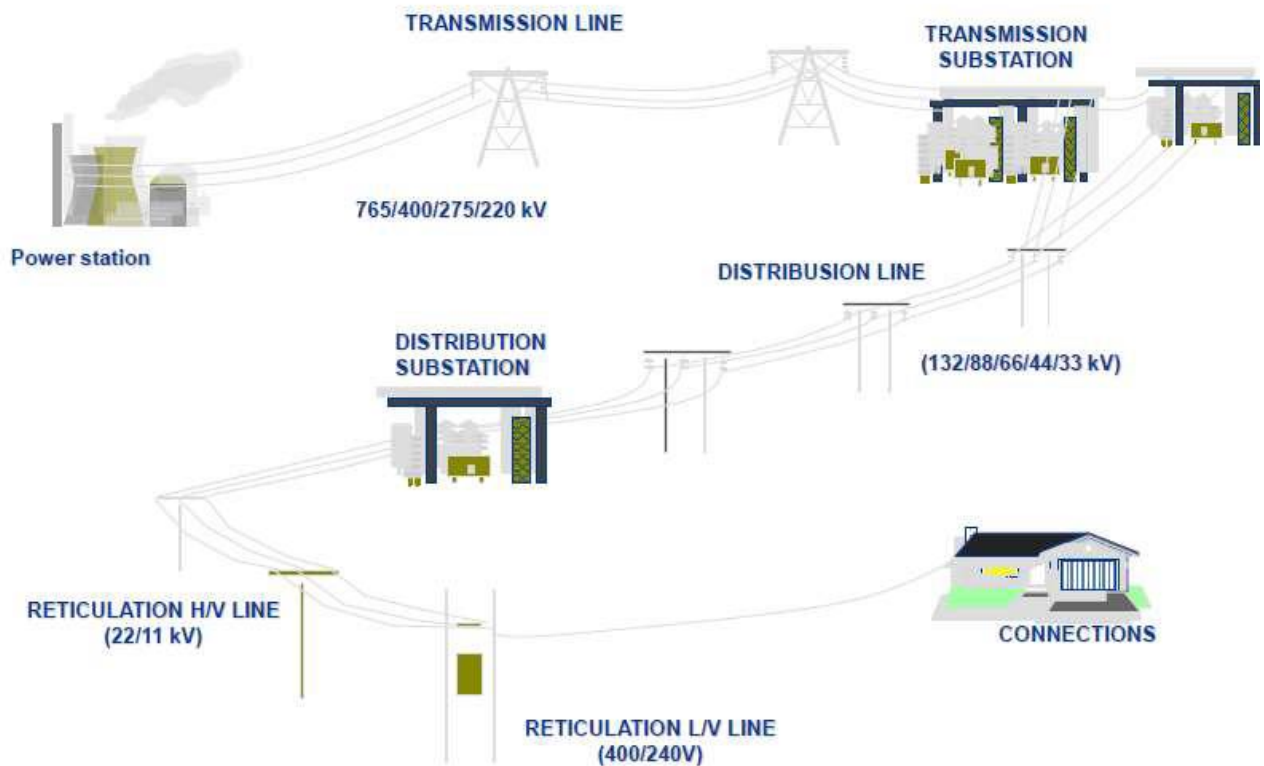


Figure 2: Electrical Networks

3.2 DESCRIPTION OF THE PROPOSED IPHIVA 400/132 KV SUBSTATION

To strengthen and alleviate current and future network constraints in northern KZN, it is proposed that the Iphiva 400/132 kV Substation be introduced in the area, which will de-load the main sub-transmission network and improve the voltage regulation in the area. The Iphiva 400/132 kV Substation will be integrated with the existing electricity network by a 400 kV Transmission powerline to the Normandie Substation, and approximately 165 km of 132 kV Distribution powerlines.

A total footprint of 600 x 600 m (i.e. 36 ha) will be required for the development, within a site-specific study area of 1km x 1 km. The 36 ha development footprint area includes provisions for an 80 m high microwave radio communication mast, oil and fuel storage facilities, and an oil bund to contain any accidental transformer oil spills. The proposed substation will comprise standard electrical equipment, including transformers, reactors, busbars, and isolators.



Figure 3: Side view of typical substation site



Figure 4: Typical substation site

The substation needs to be close to the load centre and existing 132 kV powerline network to reduce construction costs. The site has to be levelled before construction can commence, and a flat site is therefore preferable. Although new road access will be established, its always advisable to consider existing roads to minimise the environmental impacts. The substation needs to be lit at night for safety and security reasons. The security lighting will be around the substation fence, the luminaire height is 4 m, and will be operated with a trigger from the lethal fence.

The Iphiva 400/132 kV Substation will be integrated with the existing electricity network by 400kV Transmission powerlines to the Normandie Substation, and approximately 165km of 132kV Distribution powerlines.

The Preliminary Layout is reflected below in Figure 6.

3.3 CONSTRUCTION PROCESS

No staff will be accommodated on site during the construction or operation of the substation or powerlines but will be transported to site each day.

Construction of the substation will consist of the following activities:

- Vegetation clearing, which will result in a loss of flora;
- Upgrade/construction of access roads to accommodate heavy loads;
- Levelling and terracing of the surface;
- Construction of foundations and concrete works, including storm water drainage pipes, slabs, bund walls, a control room and a small building and storage area;
- All open areas between the transformer plinths and other switchgear foundations will be covered with about a 100 mm layer of 25 – 38 mm crushed stone. Before laying the crushed stone, the ground surface is intensively treated to strict specification with insecticide and herbicide to prevent insect activity and the growth of weeds and other plants in the high voltage yard;
- Erection of steelworks; and
- Delivery and installation of transformers.

3.4 NEMA LISTED ACTIVITIES

The amended EIA Regulations promulgated under Section 24(5) of the National Environmental Management Act, Act 107 of 1998 and published in Government Notice No. R. 326 list activities which may not commence without environmental authorization from the Competent Authority. The proposed activity is identified in terms of Government Notice No. R. 327, 325 and 324 for activities which must follow a full Environmental Impact Assessment Process. The project will trigger the following listed activities:

Table 7: Listed activities in terms of NEMA: EIA Regulations 2014 (as amended in 2017), applicable to the proposed project

Activity No(s):	Relevant activities as set out in Listing Notices 1, 2 and 3 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
Relevant Basic Assessment Activities as set out in Listing Notice 1		
11 (i)	GN R. 983 (11) (as amended): The development of facilities or infrastructure for the transmission and distribution of electricity- (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kV,	The substation is the infrastructure that is part of the system for the transmission and distribution of 132 kV of electricity outside of urban areas and industrial complexes.
14	GN R. 983 (14) (as amended): The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80m ³ or more but not exceeding 500m ³ .	The project entails the construction of a new sub-station, including storage facilities for oil. Based on initial concept designs, storage facilities may have a capacity of more than 80 m ³ .
24 (ii)	GN R. 983 (24): The development of a road (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres.	Access roads will be required within the project site to provide access to the substation and to facilitate access during on site.
27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.	The development of the substation will require the clearance of more than 1 hectare or more but less than 20 hectares of indigenous vegetation.
28 (ii)	GN R. 983 (28) (as amended): Institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;	The total area to be developed for the substation is greater than 1ha and occurs outside an urban in an area currently being used for agriculture and/or game farming.
56 (ii)	GN R. 983 (56): The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre - (ii) where no reserve exists, where the existing road is wider than 8 metres –	Existing roads may require widening by more than 6m and/or lengthening by more than 1km, to accommodate the movement of heavy vehicles and activities associated with the substation
Relevant Scoping and EIA Activities as set out in Listing Notice 2 of the EIA Regulations, 2014 as amended		
9	GN R. 984 (9) (as amended): The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kV	The Substation is infrastructure that is part of the system for the distribution of electricity and will have a capacity of more than 275kV.

Activity No(s):	Relevant activities as set out in Listing Notices 1, 2 and 3 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
	or more, outside an urban area or industrial complex.	
Relevant Basic Assessment Activities as set out in Listing Notice 3 of the EIA Regulations, 2014 as amended		
3(d)(iii) (viii)	<p>GN R. 985 (3) (as amended): The development of masts or towers of any type used for telecommunication broadcasting or radio transmission purposes where the mast or tower-</p> <p>(a) is to be placed on a site not previously used for this purpose (b) will exceed 15 meters in height</p> <p>(d) In KwaZulu-Natal:</p> <p>(iii) Community Conservation Areas;</p> <p>(vi) A protected area identified in terms of NEMPAA,</p> <p>(viii) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	The development of the substation will consist of a mast tower used for telecommunication broadcasting and will exceed 15 metres in height. The mast will be located outside an urban area. have a microwave radio communication mast that could be up to 70 m high.
4 (d) (viii)	<p>GN R. 985 (4) (as amended): Development of a road wider than 4 m with a reserve less than 13, 5 metres.</p> <p>(d) In KwaZulu-Natal</p> <p>(iii) Community Conservation Areas;</p> <p>(vi) A protected area identified in terms of NEMPAA,</p> <p>(viii) Critical Biodiversity areas as identified in systemic biodiversity plans adopted by the competent authority or bioregional plans;</p>	An access road to the substation may be constructed or upgraded. This will be located on a site outside of urban areas. on a site not previously used for this purpose, and could be a Community Conservation Area, Biodiversity Stewardship Programme Biodiversity Agreement area, a protected area identified in terms of NEMPAA, a sites or area identified in terms of an International Convention, a Critical Biodiversity area as identified in systemic biodiversity plans adopted by the competent authority or bioregional plans.
10	<p>The development and related operation of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.</p> <p>d. KwaZulu-Natal</p> <p>(iii) Community Conservation Areas;</p>	The development of the substation will require the construction and operation of facilities and infrastructure for the storage and handling of dangerous goods (combustible and flammable liquids, such as oils, lubricants, solvents) such storage will occur inside containers with a combined capacity exceeding 80 cubic

Activity No(s):	Relevant activities as set out in Listing Notices 1, 2 and 3 of the EIA Regulations, 2014 as amended	Describe the portion of the proposed project to which the applicable listed activity relates.
	(vi) A protected area identified in terms of NEMPAA, ix. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; xiii. Outside urban areas: (cc) Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland;	meters but not exceeding 500 cubic meters.
12 (d)(ii)(v)(viii)	GN R. 985 (12) (as amended): The clearance of an area of 300 square metres or more of indigenous vegetation (d) KwaZulu-Natal: (ii) Community Conservation Areas; (v) Critical biodiversity areas as identified in systemic biodiversity plans adopted by the competent authority or in bioregional plans; (viii) A protected area identified in terms of NEMPAA,	Approximately 12 ha will be cleared at the substation site. The clearance of more than 300m ² will be required for the construction of the substation and associated infrastructure. The site is located within critical biodiversity areas as identified in the KwaZulu Natal Province bioregional plans.
18 (d)(ii)(vi)(viii)	The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. d. KwaZulu-Natal (ii) Community Conservation Areas; (vi) A protected area identified in terms of NEMPAA, viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;	Existing roads may require widening by more than 4m and/or lengthening by more than 1km, to accommodate the movement of heavy vehicles and activities associated with the substation

4. POLICY AND LEGISLATIVE CONTEXT

GN 982 Appendix 2:

(e) a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process

The relationship between the project and certain key pieces of environmental legislation is discussed in the subsections to follow.

4.1 THE CONSTITUTION

The Constitution of the Republic of South Africa, Act 108 of 1996 sets the legal context in which environmental law in South Africa occurs and was formulated. All environmental aspects should be interpreted within the context of the Constitution, National Environmental Management Act 107 of 1998 and the Environment Conservation Act 73 of 1989.

The Constitution has enhanced the status of the environment by virtue of the fact that an environmental right has been established (Section 24) and because other rights created in the Bill of Rights may impact on environmental management through, for example, access to health care, food and water and social security (Section 27). An objective of local government is to provide a safe and healthy environment (Section 152) and public administration must be accountable, transparent and encourage participation (Section 195(1) (e) to (g)).

Section 24 of the Constitution states that:

“Everyone has the right –

- To an environment that is not harmful to their health or well-being; and
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
 - Prevent pollution and ecological degradation;
 - Promote conservation and
 - Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”

The Constitution is the overarching legislation for South Africa. Although it provides for certain rights and obligations, the NEMA has been promulgated in order to manage the various spheres of both the social and natural environment.

4.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (107 OF 1998)

The National Environmental Management Act (Act No. 107 of 1998) was promulgated in 1998 but has since been amended on several occasions from this date. The act intends to provide for:

- co-operative environmental governance by establishing principles for decision-making on matters affecting the environment;

- institutions that will promote co-operative governance and procedures for coordinating environmental functions exercised by organs of state;
- to provide for the prohibition, restriction or control of activities which are likely to have a detrimental effect on the environment; and
- to provide for matters connected therewith.

NEMA is the overarching legislation which governs the EIA process and environmental management in South Africa. Sections 24 and 44 of NEMA make provision for the promulgation of regulations that identify activities which may not commence without an EA. Activities that may significantly affect the environment must be considered, investigated and assessed prior to implementation.

According to Section 2(3) of the National Environmental Management Act (NEMA) (Act No. 107 of 1998), “development must be socially, environmentally and economically sustainable”, which means the integration of these three factors into planning, implementation and decision-making so as to ensure that development serves present and future generations.

The EIA Regulations, 2014 (as amended) identify lists of activities which have the potential to result in detrimental environmental impacts and thus require EA, subject to either “Basic Assessment” or “Scoping and Environmental Impact Assessment”. The Regulations prescribe the procedural and substantive requirements for the undertaking of EIAs and the issue of EA’s.

The proposed project triggers listed activities under Listing Notice 1, 2 and 3 (as detailed in Section 7 above), and thus requires an EA subject to an Environmental Impact Assessment (EIA) Process.

4.3 NATIONAL WATER ACT (ACT 36 OF 1998)

The National Water Act (NWA) No 36 of 1998 was promulgated on the 20th of August 1998. This Act is important in that it provides a framework to protect water resources against over exploitation and to ensure that there is water for socio-economic and economic development, human needs and to meet the needs of the aquatic environment. The Act also recognises that water belongs to the whole nation for the benefit of all people.

Water resources as defined include a watercourse, surface water, estuary or aquifer. Specifically, a watercourse is defined as (inter alia):

- A river or spring;
- A natural channel in which water flows regularly or intermittently; and
- A wetland, lake or dam into which, or from which water flows.

Due to the possible encroachment into the wetland areas, the following Section 21 water uses in terms of the NWA may be triggered and require licensing:

- (c) impeding or diverting the flow of water in a watercourse; and
- (i) altering the bed, banks, course or characteristics of a watercourse.

In light of the above, there are a number of stipulations within the NWA that are relevant to the potential impacts on rivers, streams and wetlands that may be associated with the proposed development. A Surface Water Impact Assessment (Appendix C) has been conducted to explore how the proposed

development may impact on identified water resources as protected by the Act. Should the proposed development require a General Authorisation (GA) or Water Use Licence (WUL), it will be determined and applied for separately prior to construction.

4.4 THE NATIONAL HERITAGE RESOURCES ACT 1999 (25 OF 1999)

The National Heritage Resources Act promotes good management of the heritage resources of South Africa which are deemed to have cultural significance and to enable and encourage communities to ensure that these resources are maintained for future generations.

The aim of the Act is to introduce an integrated, three-tier system for the identification, assessment and management of national heritage resources (operating at a national, provincial and local level). This legislation makes provision for a grading system for the evaluation of heritage resources on three levels which broadly coincide with their national, provincial and local significance.

This Act requires investigation to determine the impact of heritage resources when developments exceed the thresholds list in section 38 (1) of the act:

- a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- b) the construction of a bridge or similar structure exceeding 50 m in length;
- c) any development or other activity which will change the character of a site—
 - (i) exceeding 5 000 m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- d) the re-zoning of a site exceeding 10 000 m² in extent; or
- e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,

The proposed development would involve (a) the construction of a powerline exceeding 300m in length (c) the development of a substation that will change the character of more than 0.5ha, and (d), the rezoning of a site that will exceed 1ha.

Under this legislation, the South African Heritage Resources Agency (SAHRA) was established, which replaced the National Monuments Council. SAHRA is responsible for the preservation of heritage resources with exceptional qualities of special national significance (Grade I sites). A Provincial Heritage Resources Authority, established in each province, will protect Grade II heritage resources which are significance within the context of a province or region. Buildings and sites of local interest (Grade III sites) is the responsibility of local authorities as part of their planning functions. In this case, the Kwazulu-Natal Provincial Heritage Resources Authority, Amafa aKwaZulu Natali (Amafa), will need to be consulted throughout the process.

Within the scope of this project, Section 38 of the NHRA (25 of 1999), states that, as described above, an assessment of potential heritage resources in the development area needs to be done. A Heritage Impact Assessment (HIA), Archaeological Impact Assessment (AIA), Paleontological Impact Assessment (PIA) and Cultural Landscape Assessment (CLA) has therefore been commissioned to

explore how the proposed development may impact on heritage resources and potential cultural artefacts as protected by the Act.

4.5 KWAZULU-NATAL HERITAGE ACT, 2008 (KZNHA) (ACT NO. 4 OF 2008)

The KZNHA provides for the protection and management of heritage resources within KZN. These heritage resources take account of those under general protection and special protection, including:

- General protection:
 - Structures under Section 33;
 - Graves of victims of conflict under Section 34;
 - Traditional burial places under Section 35; and
 - Battlefields, archaeological sites, rock art sites, palaeontological sites, historic fortifications,
 - Meteorite or meteorite impact sites under Section 36.
- Special Protection:
 - Heritage Landmark under Section 38;
 - Provincial Landmark under Section 39;
 - Graves of members of the Royal Family under Section 40;
 - Battlefield sites, public monuments and memorials under Section 41; and
 - Heritage Objects under Section 43.

In terms of the KZNHA, a permit is required to carry out certain listed activities. To accomplish this, a Non-Disclosure Agreement (NDA) form must be completed for any proposed development. This form is submitted to Amafa for processing after which Amafa will issue comments for further heritage studies, if necessary.

A NDA will be submitted, as part of the HRM process, to Amafa and SAHRA. An HIA will be compiled to comply with subsection 3(3)(a) and (b) of the NHRA. The NDA was compiled to comply with the KZNHA and subsection 38(1) of the NHRA.

4.6 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (NEM:BA) (ACT NO. 10 OF 2004, AS AMENDED)

As the principal national act regulating biodiversity protection, the National Environmental Management: Biodiversity Act (NEM:BA) (Act No. 10 of 2004), which is administered by the DFFE, is concerned with the management and conservation of biological diversity, as well as the use of indigenous biological resources in a sustainable manner.

The overarching aim of the NEM:BA, within the framework of the NEMA, is to provide for:

- The management and conservation of biological diversity within South Africa, and of the components of such biological diversity;
- The use of indigenous biological resources in a sustainable manner; and
- The fair and equitable sharing among stakeholders of benefits arising from bio-prospecting involving indigenous biological resources.

In terms of this Act, the developer has a responsibility to:

- Conserve endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA regulations);
- Promote the application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all development within the area are in line with ecological sustainable development and protection of biodiversity; and
- Limit further loss of biodiversity and conserve endangered ecosystems.

The South African National Biodiversity Institute (SANBI) was established in terms of the NEM:BA, its purpose being (inter alia) to report on the status of the country's biodiversity and the conservation status of all listed threatened or protected species and ecosystems.

The NEM:BA provides for a range of measures to protect ecosystems and for the protection of species that are threatened or in need of protection to ensure their survival in the wild, including a prohibition on carrying out a 'restricted activity' involving a specimen of a listed threatened or protected species without a permit issued in terms of Chapter 7 of the Act. According to Section 57 of the Act, 'Restricted activities involving listed threatened or protected species':

A Biodiversity Assessment (**Appendix C**) has been conducted to explore how the proposed development may impact on biodiversity as protected by the Act. Should the proposed development require offsets or permits, it will be determined and applied for separately prior to construction.

In addition, all relevant conservation departments (such as the SANBI, EKZN Wildlife) will be invited to provide comments with regards to the proposed development.

4.7 NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT, 2003 (ACT NO.57 OF 2003 AS AMENDED)

The overarching aim of the National Environmental Management: Protected Areas Act (NEMPAA) Act No. 57 of 2003, within the framework of NEMA, is to provide for:

- the declaration and management of protected areas;
- co-operative governance in the declaration and management of protected areas;
- effect a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity;
- a representative network of protected areas on state land, private land and communal land;
- promote sustainable utilisation of protected areas for the benefit of people, in a manner that would preserve the ecological character of such areas;
- promote participation of local communities in the management of protected areas, where appropriate; and
- the continued existence of South African National Parks.

The proposed project is not located in close proximity to any protected areas.

4.8 NATIONAL FORESTS ACT (NFA) (ACT NO. 84 OF 1998)

The National Forest Act (NFA) (Act No. 24 of 1998) was enacted to:

- Provide for the protection, management and utilisation of forests;
- The protection of certain plant and animal life;
- The regulation of trade in forest produce; and
- The control and management of a national hiking way system and National Botanic Gardens.

The NFA enforces the necessity for a license to be obtained prior to destroying any indigenous tree in a natural forest and, subject to certain exemptions, cutting, disturbing, damaging, destroying or removing any protected tree. The list of protected trees is currently contained in GN 908 of 21 November 2014. Licenses are issued by the Minister and are subject to periods and conditions as may be stipulated.

Protected trees

According to this act, the Minister may declare a tree, group of trees, woodland or a species of trees as protected. The prohibitions provide that 'no person may cut, damage, disturb, destroy or remove any protected tree, or collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a licence granted by the Minister'.

Forests

Prohibits the destruction of indigenous trees in any natural forest without a licence.

The NFA is relevant to the proposed development as the removal and/or disturbance and/or clearance of indigenous vegetation will be required and a license in terms of the NFA may be required for this to be done.

A Biodiversity Assessment (Appendix C) has been conducted to explore how the proposed development may impact on vegetation as protected by the Act. Should the proposed development require offsets or permits, it will be determined and applied for separately prior to construction.

In addition, all relevant conservation departments (such as the SANBI, EKZN Wildlife) will be invited to provide comments with regards to the proposed development.

4.9 NATIONAL VELD AND FOREST FIRE ACT (ACT NO. 101 OF 1998)

Provides requirements for veldfire prevention through firebreaks and required measures for firefighting. Chapter 4 of the Act places a duty on landowners to prepare and maintain firebreaks. Chapter 5 of the Act places a duty on all landowners to acquire equipment and have available personnel to fight fires.

4.10 CONSERVATION OF AGRICULTURAL RESOURCES ACT (CARA) (ACT NO. 43 OF 1983)

The Conservation of Agricultural Resources Act (CARA) (Act No. 43 of 1983) controls the utilisation of natural agricultural resources in South Africa. The Act promotes the conservation of soil, water sources and vegetation as well as the combating weeds and invader plants. The Act requires the protection of land against soil erosion and the prevention of water logging and salinization of soils by means of

suitable soil conservation works to be constructed and maintained. The utilisation of marshes, water sponges and watercourses are also addressed.

The primary objective of the Act is to conserve natural agricultural resources by:

- maintaining the production potential of land;
- combating and preventing erosion and weakening or destruction of the water resources;
- protecting vegetation; and
- combating weeds and invaders plants.

In terms of this Act, no degradation of natural land is permitted. Rehabilitation after disturbance to agricultural land is also managed by this Act. The CARA is relevant to the proposed development as the construction of the substation may impact on agricultural resources and vegetation on the site. The Act prohibits the spreading of weeds and prescribes control measures that need to be complied with in order to achieve this. As such, measures will need to be taken to protect agricultural resources and prevent weeds and exotic plants from invading the site as a result of the proposed development.

Declared Weeds and Invaders in South Africa are categorised according to one (1) of the following categories:

- Category 1 plants: are prohibited and must be controlled.
- Category 2 plants: (commercially used plants) may be grown in demarcated areas providing that there is a permit and that steps are taken to prevent their spread.
- Category 3 plants: (ornamentally used plants) may no longer be planted; existing plants may remain, as long as all reasonable steps are taken to prevent the spreading thereof, except within the flood line of watercourses and wetlands.

An Agricultural and Soils Site Verification (Appendix C) has been conducted to explore how the proposed development may impact on the agricultural production potential of the proposed site.

4.11 NATIONAL ROAD TRAFFIC ACT (NRTA) (ACT NO. 93 OF 1996, AS AMENDED)

The National Road Traffic Act (NRTA) (Act No. 93 of 1996, as amended) provides for all road traffic matters and is applied uniformly throughout South Africa. The Act enforces the necessity of registering and licensing motor vehicles. It also stipulates requirements regarding fitness of drivers and vehicles as well as making provision for the transportation of dangerous goods.

All the requirements stipulated in the NRTA will need to be complied with during the construction and operational phases of the proposed development.

4.12 CIVIL AVIATION ACT (CAA) (ACT NO. 13 OF 2009)

The Civil Aviation Act (CAA) (Act No. 13 of 2009) controls and regulates aviation within South Africa. It provides for the establishment of a South African Civil Aviation Authority (SACAA) and independent Aviation Safety Investigation Board in compliance with Annexure 13 of the Chicago Convention. It gives effect to various conventions related to aircraft offences, civil aviation safety and security, and provides for additional measures directed at more effective control of the safety and security of aircrafts, airports

and matters connected thereto. The Act is directly relevant to the proposed development, as the establishment of electricity distribution infrastructure (such as a substation and powerlines) may impact on aviation and air traffic safety, if located directly within aircraft flight paths.

The Air Traffic and Navigation Services Company Limited (ATNS) and the SACAA will be consulted throughout the EIA process and the required approvals will be obtained, where necessary. It is not however anticipated that any approvals will be required.

4.13 THE INFRASTRUCTURE DEVELOPMENT ACT (ACT NO. 23 OF 2014)

The Infrastructure Development Act provides for the facilitation and co-ordination of public infrastructure development which is of significant economic or social importance to the Republic; to ensure that infrastructure development in the Republic is given priority in planning, approval and implementation; to ensure that the development goals of the State are promoted through infrastructure development; to improve the management of such infrastructure during all life-cycle phases, including planning, approval, implementation and operations.

The Act commenced on 10 July 2014. The Presidential Infrastructure Coordinating Commission (PICC) and structures of the Commission are established in terms of this Act. Strategic Integrated Projects (SIPs), which are projects of significant economic or social importance to the country or a region in the country, or which facilitate regional economic integration on the African continent, are identified and implemented in terms of this Act. Section 15 states that when the Steering Committee of a SIP has identified the approvals, authorisations, licences, permissions and exemptions required to enable the implementation of the SIP, it shall inform, without any delay, the applicant to submit all applications simultaneously to allow for concurrent consideration by the persons authorised by the relevant laws to take the applicable decisions. A member of the Steering Committee must monitor the processing of the application and report to the Steering Committee any undue delays and regulatory concerns emerging for exploration or consideration of solutions thereto. Section 18 concerns environmental assessments specifically and states that whenever an environmental assessment is required in respect of a SIP, such assessment must be done in terms of the NEMA, with specific reference to Chapter 5. Time frames are stipulated in Schedule 2 and may not be exceeded without written approval. Schedule 2 refers to “project plans”, “applications” and “mitigation plans” that are not defined in the Act.

4.14 NATIONAL ENERGY ACT (ACT NO. 34 OF 2008)

South Africa has two (2) acts that direct the planning and development of the country’s electricity sector, namely:

- i. The National Energy Act of 2008 (Act No. 34 of 2008); and
- ii. The Electricity Regulation Act (ERA) of 2006 (Act No. 4 of 2006).

The National Energy Act (Act No. 34 of 2008), promulgated in 2008, has, as one (1) of its key objectives, the promotion of diversity of supply of energy and its sources. The aim is to ensure that the South African economy is able to grow and develop, fast-tracking poverty alleviation, through the availability of a sustainable, diverse energy mix (Republic of South Africa, 2008).

4.15 PROTECTION OF PUBLIC INFORMATION ACT (ACT NO. 4 OF 2013)

The Protection of Public Information Act (Act No. 4 of 2013) (POPIA) recognises the Constitutional requirement that everyone has a right to privacy.

Ultimately the Act promotes “the protection of personal information processed by public and private bodies; to introduce certain conditions so as to establish minimum requirements for the processing of personal information; to provide for the establishment of an Information Regulator to exercise certain powers and to perform certain duties and functions in terms of this Act and the Promotion of Access to Information Act, 2000 (PAIA); to provide for the issuing of codes of conduct; to provide for the rights of persons regarding unsolicited electronic communications and automated decision making; to regulate the flow of personal information across the borders of the Republic; and to provide for matters connected therewith”.

Due to the requirements around the PPP, SIVEST will process and capture information aligned to the POPIA and always obtain consent for I&APs information to be gathered, stored and distributed for the purpose of this project.

4.16 KWAZULU-NATAL PLANNING AND DEVELOPMENT ACT, 2008 (ACT 6 OF 2008) (SPLUMA)

The SPLUMA came into force on 1 July 2015 and replaces the KwaZulu-Natal Planning and Development Act, 2008. However, the two will run in parallel until each Local Municipality has set up the structures required by SPLUMA. In terms of the current KwaZulu-Natal Planning and Development Act, 2008, Eskom will need to submit a Planning and Development Application (PDA) to the Local Municipality. This application will need to meet all the requirements of legislation. Important aspects will include planning considerations, and compliance with the municipality’s Integrated Development Plan and Spatial Development Framework. The exact requirements will depend on the timing of Eskom’s application to the Municipalities and the status of the legislation and by-laws currently applicable at the time in the local municipality.

4.17 ADDITIONAL RELEVANT LEGISLATION

- Occupational Health and Safety Act (Act No. 85 of 1993) [OHSA];
- Environment Conservation Act (Act 73 of 1989) [ECA]
- Road Safety Act (Act No. 93 of 1996) [RSA];
- National Environmental Management: Air Quality Act (Act No. 39 of 2004) [NEM:AQA];
- National Environmental Management: Waste Act (Act No. 59 of 2008, as amended) [NEM;WA];
- Development Facilitation Act (Act No. 67 of 1995) [DFA];
- Promotion of Access to Information Act, (Act No. 2 of 2000); [PAIA]
- The Hazardous Substances Act (Act No. 15 of 1973) [HSA];
- Water Services Act (Act No. 108 of 1997) [WSA];
- Municipal Systems Act (Act No. 32 of 2000) [MSA];
- Subdivision of Agricultural Land Act, 70 of 1970, and
- Mineral and Petroleum Resource Development Act (Act No. 28 of 2002, as amended) [MPRDA].
- KwaZulu-Natal Nature Conservation Ordinance, 1974 (Act No. 15 of 1974)

5. NEED AND DESIRABILITY

GN 982 Appendix 2:

(f) a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;

5.1 GENERAL PURPOSE AND REQUIREMENT FOR THE PROJECT

Various Distribution substations being fed from Normandie Main Transmission Substation are experiencing low voltages on the 132 kV busbars which are well below acceptable limits (0.95 p.u). These Distribution substations include: Candover, Makhathini, Nondabuya, Ndumo and Mkuze. With the current electrification load growth in the areas around the listed substations and Gezisa Substation establishment, the busbar voltages will further drop below minimal acceptable limits until the system collapses. The Normandie Substation is not completely backfeedable. A loss of either the Normandie-Vergenoeg 132 kV powerline or the Normandie-Pongola 132 kV powerline will result in load being shed.

Currently the Impala-Nseleni 132 kV Line is loaded to beyond 90% of its capacity with Mtubatuba and Hluhluwe experiencing low HV Busbar voltages in the year 2019 and beyond due to an increase in both electrification and industrial load. The Impala Substation is not backfeedable. A loss of the Impala-Nseleni powerline will result in load being shed (approximately 44 000 customers).

With the establishment of Iphiva 400/132 kV Substation, the following benefits will be experienced:

- Increases in all SS HV Busbar Voltage Levels to above 1 p.u.
- Transformer Taps Reduce throughout the system (Fewer Lockouts).
- Accommodates Load Growth for both electrification and industrial loads.
- 100% Back-feeding possible during the loss of Normandie-Pongola, Normandie-Vergenoeg and Impala-Nseleni 132 kV Lines.

5.2 STRATEGIC AND STATUTORY CONTEXT FOR THE CONSIDERATION OF NEED AND DESIRABILITY

DEA (2017), Guideline on Need and Desirability, says that when evaluating project specific applications, the strategic context of such applications and the broader societal needs and the public interest should be considered. The contents of Municipal IDPs, Strategic Development Frameworks (SDF), EMFs and other relevant plans, frameworks and strategies must be taken into account. "Whether a proposed activity will be in line with or deviate from the plan, framework or strategy per se is not the issue, but rather the ecological, social and economic impacts that will result because of the alignment or deviation". Where an application deviates from a plan, framework or strategy the EIA must show why the deviation might be justifiable.

Considering the merits of a specific application in terms of the need and desirability consideration, it must be decided which alternative represents "the most practicable environmental option", which in terms of the definition in NEMA and the purpose of the EIA Regulations are "that option that provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as the short-term". This is the ultimate goal of the EIA process and will

only be fully addressed after the specialist studies have been undertaken and Environmental Impact Report and Environmental Management Programme have been compiled.

The DEA 2017 Guideline on Need and Desirability says that during Scoping the questions presented in the guideline document should be used to identify issues to be addressed in the EIA process and alternatives that should be considered.

Table 8: Questions from DEA 2017 Need and Desirability Guideline Document

	Question in guideline document	Response
1.	How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?	This will be addressed in the Fauna and Flora and Wetlands Specialists studies (Appendix C)
2.1	What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?: 2.1.1. The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area, 2.1.2. Spatial priorities and desired spatial patterns (e.g. need for integrated or segregated communities, need to upgrade informal settlements, need for densification, etc.), 2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and 2.1.4. Municipal Economic Development Strategy ("LED Strategy").	Section 8.3
2.2	Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socioeconomic objectives of the area? 2.2.1. Will the development complement the local socioeconomic initiatives (such as local economic development (LED) initiatives), or skills development programs?	Yes
2.3	How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	Section 5.1
2.4	Will the development result in equitable (intra- and intergenerational) impact distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term?	Yes
2.5	In terms of location, describe how the placement of the proposed development will: 2.5.1. result in the creation of residential and employment opportunities in close proximity to or integrated with each other, 2.5.2. reduce the need for transport of people and goods,	No new residential areas will be created as a result of the proposed new substation. Limited job opportunities will be created during the construction phase and very

	Question in guideline document	Response
	<p>2.5.3. result in access to public transport or enable nonmotorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),</p> <p>2.5.4. compliment other uses in the area,</p> <p>2.5.5. be in line with the planning for the area,</p> <p>2.5.6. for urban related development, make use of underutilised land available with the urban edge,</p> <p>2.5.7. optimise the use of existing resources and infrastructure,</p> <p>2.5.8. opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),</p> <p>2.5.9. discourage "urban sprawl" and contribute to compaction/densification,</p> <p>2.5.10. contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,</p> <p>2.5.11. encourage environmentally sustainable land development practices and processes,</p> <p>2.5.12. take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),</p> <p>2.5.13. the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),</p> <p>2.5.14. impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural historic characteristics and sensitivities of the area, and</p> <p>2.5.15. in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?</p>	<p>limited during the operational phase. This will be addressed in the Social and Economic Specialist studies.</p> <p>There will be no impact on public transport in the vicinity of the proposed new substation.</p> <p>The project will benefit the recipients of electricity in the entire region.</p>
2.6	How were a risk-averse and cautious approach applied in terms of socio-economic impacts?	<p>The information used in the socio-economic reports are based on the official data received from the municipalities. Given that municipalities are subject to public consultation processes, the assumption is made that the data is correct. A conservative approach was taken to the identification of impacts in the scoping phase. In the impact assessment phase of the project the</p>

	Question in guideline document	Response
		impacts presented in the scoping reports will be triangulated through a participation process to ensure that the assumptions were correct, and to close any gaps in the data. The project area includes vulnerable communities, and appropriate methods will be used to ensure that these communities are included in the impact assessment process. This process commenced in the scoping phase where the PP team ensured that communities were not excluded from the study and were consulted in a language that they are comfortable with. Given the nature of the project, no critical social resources should be affected, and once commissioned, there is a relatively low risk for social disruption. Communities will be consulted about the social mitigation measures during the impact assessment phase to ensure that the measures suggested are acceptable to the communities affected by the project.
2.7	How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following: 2.7.1. Negative impacts: e.g. health (e.g. HIV-AIDS), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? 2.7.2. Positive impacts. What measures were taken to enhance positive impacts ?	This has been addressed in the Social Specialist Study (Appendix C)
2.8	Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the	This has been addressed in the Social Specialist Study (Appendix C).

	Question in guideline document	Response
	area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	
2.9	What measures were taken to pursue the selection of the " best practicable environmental option " in terms of socio-economic considerations?	This has been addressed in the Social Specialist Study (Appendix C).
2.10	What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	The beneficiaries of the project is the general population of the region, as described in Section 8.3.
2.11	What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	This project aims to provide services in the form of reliable electricity supply to the population of the region.
2.12	What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	Environmental health and safety standards are built into all of Eskom's specifications and standards.
2.13	What measures were taken to: 2.13.1. ensure the participation of all interested and affected parties, 2.13.2. provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, 2.13.3. ensure participation by vulnerable and disadvantaged persons, 2.13.4. promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means, 2.13.5. ensure openness and transparency, and access to information in terms of the process, 2.13.6. ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and 2.13.7. ensure that the vital role of women and youth in environmental management and development were	Section 7

	Question in guideline document	Response
	recognised and their full participation therein were be promoted?	
2.14	Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	This project aims to provide services in the form of reliable electricity supply to the population of the region.
2.15	What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	Standard Eskom procedures address these issues.
2.16	Describe how the development will impact on job creation.	This has been addressed in the Social Specialist Study (Appendix C).
2.17	What measures were taken to ensure: 2.17.1. that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and 2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	No specific intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment took place as a result of this specific project. No conflicts of interests have arisen as a result of this project.
2.18	What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	Potential measures as recommended by the specialist towards protecting the environmental resources will be included in the EMPr to be submitted in the EIA Phase.
2.19	Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	Yes, the EAP believes that the mitigation measures proposed are realistic. This is a long term project (50 years plus). When/if the project is decommissioned at a later stage, then the land that has been affected will have to be rehabilitated to acceptable levels. That will

	Question in guideline document	Response
		be subject to a separate authorisation process.
2.20	What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	The applicant is responsible for implementing the Environmental Management Programme.
2.21	Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	Alternatives are discussed in Section 6
2.22	Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?	This has been addressed in the Social Specialist Study (Appendix C).

5.3 NATIONAL DEVELOPMENT PLAN

On 11 November 2011 the National Planning Commission (NPC) released the National Development Plan: Vision for 2030 (NPC, 2012) for South Africa and it was adopted as government policy in August 2012. The National Development Plan (NDP) was undertaken to vision what South Africa should look like in 2030 and what action steps should be taken to achieve this (RSA, 2013). The aim of the NDP is to eliminate poverty and reduce inequality by 2030.

5.4 SUSTAINABLE DEVELOPMENT GOALS

All 189 Members States of the United Nations (UN), including South Africa, adopted the UN Millennium Declaration in September 2000 (UN, 2000). The commitments made by the Millennium Declaration are known as the Millennium Development Goals (MDGs), and 2015 was targeted as the year to achieve these goals. The UN Open Working Group of the General Assembly identified seventeen sustainable development goals, built on the foundation of the MDGs as the next global development target (UN, 2014).

The sustainable development goals include aspects such as ending poverty, addressing food security, promoting health, wellbeing and education, gender equality, water and sanitation, economic growth and employment creation, sustainable infrastructure, reducing inequality, creating sustainable cities and human settlements, and addressing challenges in the physical environment such as climate change and environmental resources (UN, 2014). These aspects are included in the NDP, and it can therefore be assumed that South Africa's development path is aligned with the international development agenda.

5.5 STRATEGIC ENVIRONMENTAL ASSESSMENT FOR ELECTRICITY GRID INFRASTRUCTURE

In order to facilitate the efficient roll out of the SIPs lead by the PICC and detailed in the National Infrastructure Plan, the then-Department of Environmental Affairs (DEA), mandated by Ministers and Members of the Executive Council (MinMec), commissioned the Council for Scientific and Industrial Research (CSIR) in January 2014 to undertake a Strategic Environmental Assessment (SEA) linked to SIP 10: Electricity Transmission and Distribution for all. The CSIR has partnered with Eskom and the SANBI to deliver on project outputs (<https://egi.csir.co.za/> accessed on 6 January 2017). The substation does not fall within any of the identified suitable routing corridors that will enable the efficient and effective expansion of key strategic transmission infrastructure designed to satisfy national transmission requirements up to the 2040 planning horizon, in this SEA (Figure 5). This is, however, not a problem as the SEA did not prioritise the load centre served by this project on the national level. The need for the project, on a regional level, is still justified.

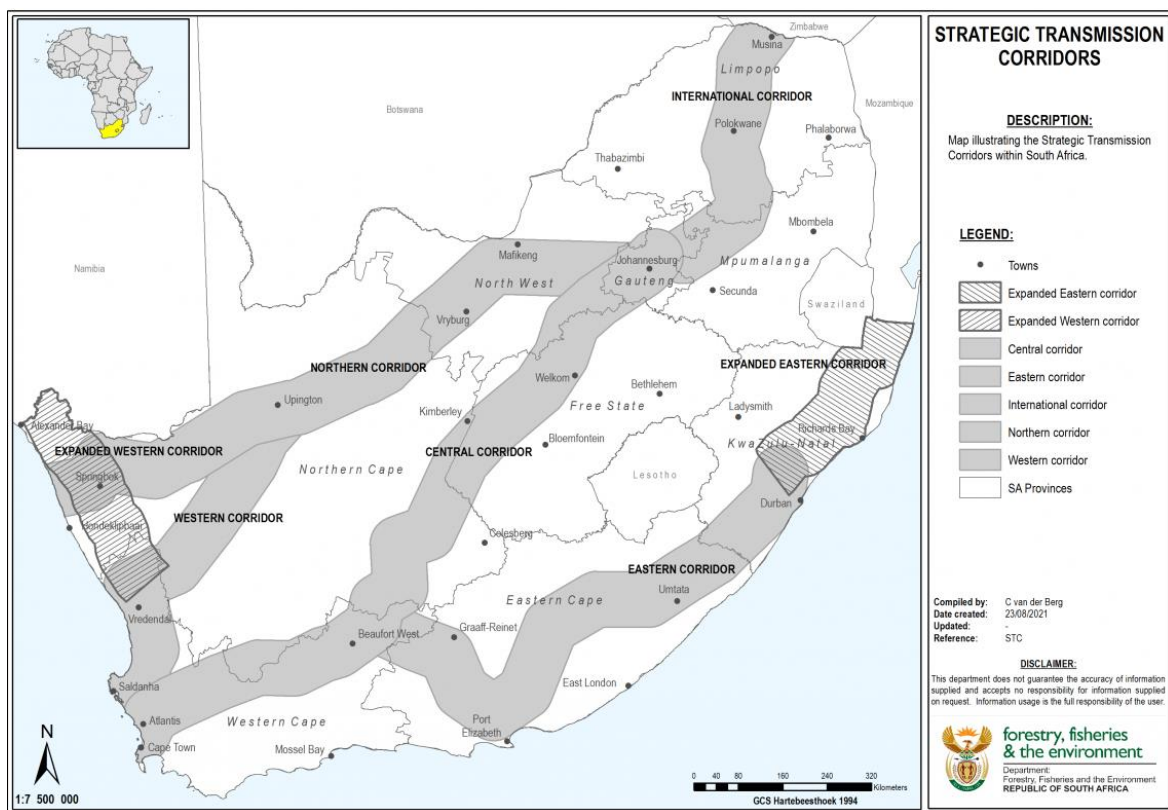


Figure 5: SEA suitable electricity routing corridors

Source: (<https://egis.environment.gov.za/redz>)

5.6 PROVINCIAL GROWTH AND DEVELOPMENT STRATEGIES

Provinces play an important role in contextualising Acts and other tools of governance and grounding them within the realities of each province. The provincial governments must guide the local government in the implementation and development of IDPs and other programmes for sustainable development. Provincial Growth and Development Strategies (PGDS) are a critical tool to guide and coordinate the allocation of national, provincial and local resources and private sector investment to achieve

sustainable development outcomes. They are not a provincial government plan, but a development framework for the province as a whole (Department Provincial and Local Government [DPLG], 2005).

PGDS are not a legislative requirement but play an important role in ensuring effectiveness and coordinating delivery of the overall objectives of South Africa as a developmental state. PGDS are based on a long-term view of the provinces' development route. Their primary purpose is to provide a collaborative framework to drive implementation within a province (DPLG, 2005). The KwaZulu Natal Provincial Spatial Development Strategy (KZN PGDS, 2011) is relevant to this application.

Linking to this, the KZN PGDS has identified five job drivers:

- Infrastructure;
- Main economic sectors;
- Seizing the potential of new economies;
- Investing in social capital and public services; and
- Spatial development.

The KZN PGDS strategy consists of seven long-term goals and 30 objectives (KZN PGDS, 2011), including the development of energy production capacity as part of the strategic infrastructure development identified.

5.7 INTEGRATED DEVELOPMENT PLANS

The South African government operates on three spheres, namely local (municipal), provincial and national. IDPs are compulsory through the Municipal Systems Act 32 of 2000 on municipal level. Integrated Development Planning is a process by which municipalities prepare 5-year strategic development plans. The IDP is the written plan that results from the integrated development planning process. It is the principle strategic planning instrument that guides and informs all planning, management, investment, development and implementation decisions and actions in the local area and supersedes all other plans that guide local development (Coetzee, 2002).

The White Paper on Local Government (RSA, 1998) has contextualised the IDP as a tool for developmental local government with the intention of enabling municipalities to:

- Help align scarce resources behind agreed policy objectives and programmes;
- Make sure that actions are prioritised around urgent needs;
- Ensure the necessary integration with other spheres of government, serving as a tool for communication and interaction with them, and
- Serve as a basis for engagement between local government and communities/residents.

The following municipalities' IDP documents need to be considered.

ZULULAND DISTRICT MUNICIPALITY INTEGRATED DEVELOPMENT PLAN, 2020 – 2021

The Nongoma Local Municipality, one of the five local municipalities within the Zululand District Municipality, has access to electricity, which is supplied by Eskom, the sole service provider of electrical energy to the municipality. The majority of the nodal areas have access to electricity including the town

of Nongoma and Esiphambanweni. The general concern is that the network is strained in some parts of the Municipality including areas around Ndimhlane and KwaPhenyane. These areas were also recorded to be having the highest backlogs in 2011 census according to the IDP.

In terms of access to electricity, the municipality is experiencing challenges; a high influx of people, particularly in deep rural areas. This has resulted in a burgeoning backlog of electricity infills, currently the backlog is at approximately 34 341 people, according to StatsSA. Therefore, increasing electricity supply is of high importance.

6. ALTERNATIVES

GN 982 Appendix 2:

- (h) a full description of the process followed to reach the proposed preferred activity, site and location within the site, including -
 - (i) details of all the alternatives considered
 - (v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts-
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources; and
 - (cc) can be avoided, managed or mitigated;
 - (vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;
 - (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
 - (viii) possible mitigation measures that could be applied and level of residual risk
 - (ix) the outcome of the site selection matrix;
 - (x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and
 - (xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;

6.1 DETAILS OF ALTERNATIVES

As per Chapter 1 of the EIA regulations (2014), as amended, feasible and reasonable alternatives are required to be considered during the EIA process. Alternatives are defined as “*different means of meeting the general purpose and requirements of the activity*”. These alternatives may include:

- (a) The property on which or location where it is proposed to undertake the activity;
- (b) The type of activity to be undertaken;
- (c) The design or layout of the activity;
- (d) The technology to be used in the activity;
- (e) The operational aspects of the activity; and
- (f) The option of not implementing the activity.

The EIA Regulations, 2010 guideline document stipulates that the environmental investigation needs to consider feasible alternatives for the proposed development. The developer should be encouraged to consider alternatives that would meet the objective of the original proposal and which could have an

acceptable impact on the environment. The role of alternatives in the EIA process is therefore to find the most effective way of meeting the need and purpose of the proposal, either through enhancing the environmental benefits of the proposed activity, and/or through reducing or avoiding potentially significant negative impacts.

6.1.1 No – Go Option

The major load centres in northern KZN, specifically Pongola and the Makhathini Flats, currently experience high voltage drops in the 132 kV network that services them, and the voltages are approaching unacceptable levels as the demand increases. Contingencies on the main 132 kV supplies also lead to thermal overloading of the remaining network. The Iphiva 400/132 kV Substation will also de-load the main sub-transmission network and improve the voltage regulation in the area.

If the project does not go ahead, then the existing electricity supply to the area as well as future economic development will be limited and compromised. Eskom will then not be fulfilling its mandate, making it an unacceptable scenario.

The EAP therefore recommends that the no-go alternative be rejected and no assessment of the no-go alternative be undertaken in the Impact Assessment Phase of the project.

6.1.2 Location / Site Alternatives

During the previous EIA process, thirteen (13) sites were initially identified. This was narrowed down to six (6) sites which were considered in the Scoping Phase of the project and the two most preferred sites, Iphiva 3 and Iphiva 6 were further assessed in the specialist studies and assessment phase.

The following technical requirements were used to identify a suitable site:

- Close to the load centre and exiting 132 kV powerline network;
- A large flat area (+- 36 ha);
- Good existing access roads;
- Low density of houses and other structures; and
- Consideration of impacts on surrounding land use.

Iphiva 6 was selected based on the above and was authorised in 2018. The authorised site is on a mountainous terrace and subsequent assessments found that unacceptable quantities of cut and fill will be required to prepare the site. Accessibility to this site is also difficult. Due to cost involved in developing the authorised site, the Eskom technical team proposed moving the site 80m to the west of the authorised site.

Due to the extensive site selection process undertaken by Eskom during the above-mentioned study, no assessment of alternative sites will be undertaken in the Impact Assessment Phase of the project.

6.1.3 Design or layout of the activity

A preliminary layout has been provided by the Eskom engineers (Figure 6). Constraints of sensitive flora, surface water features, sensitive heritage areas, and associated buffer areas, based on the findings of the specialists, will be used to finalise the layout design. Input from all specialists, stakeholders, and the competent authority will be considered in the final layout design.

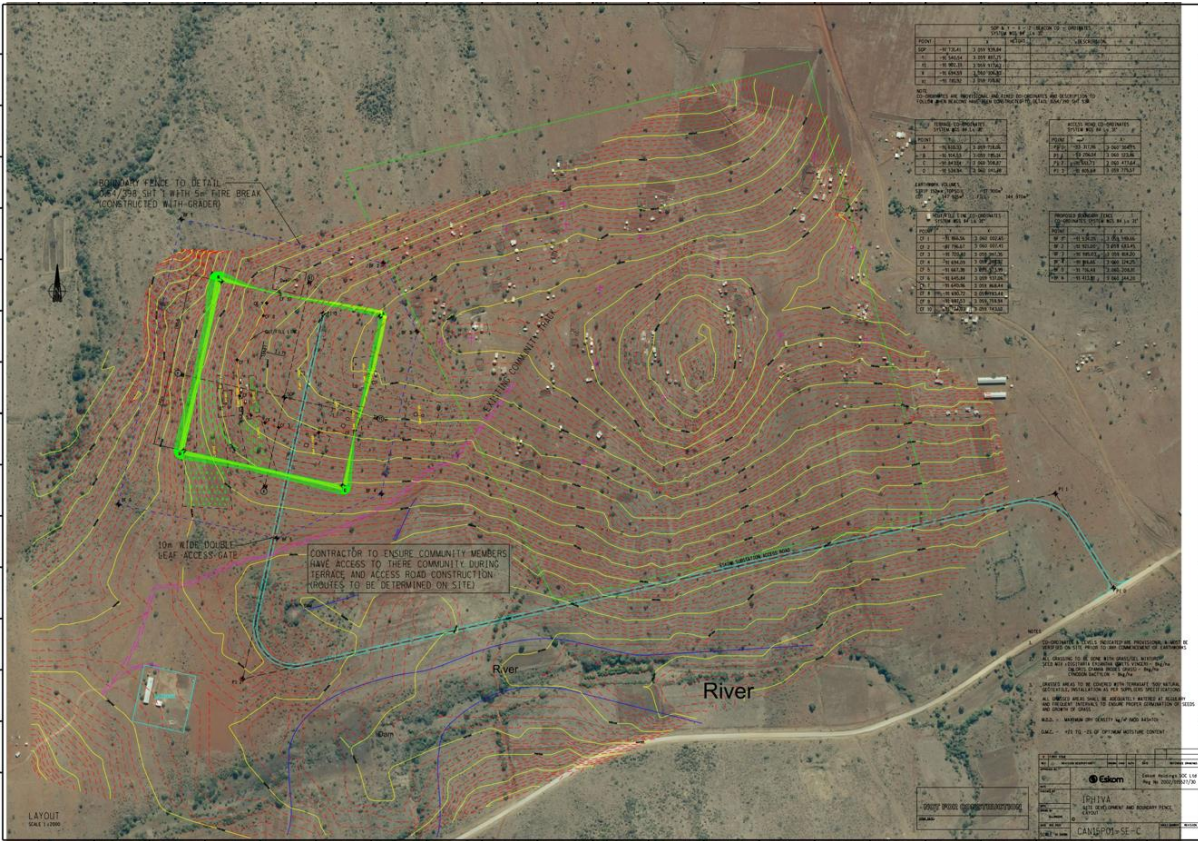


Figure 6: Preliminary layout

6.2 CONCLUDING STATEMENT

Due to the extensive scoping and assessment process followed by NAKO ILISO in 2017 in the selection process of the Iphiva 400/132 kV Substation site, no further alternative sites have been considered. The proposed layout of the development footprint will be assessed

7. PUBLIC PARTICIPATION PROCESS

GN 982 Appendix 2:

- (ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;

The public participation process has been initiated and will continue until the Competent Authority gives the decision on the application for environmental authorization. Public Participation is an integral requirement of the National Environmental Management Act (Act 107 of 1998) and the Environment Conservation Act (Act 73 of 1989). For this project, the process to be followed will take into account all aspects of public participation as stipulated in the legislation.

The consultation process will endeavour to involve as many I&APs as possible. The comments that will be received and issues that will be raised during the consultation process will be collated into the Final Scoping Report and will be used to assist the environmental consultant to determine the aspects of the project that will require detailed investigation during the EIAR Phase of the study process. Details of the

identified I&APs will be entered into the database of stakeholders and they will receive all project related information during the entire process.

7.1 PUBLIC PARTICIPATION TASK LEADER

The PPP Task Leader, Mr. Moses Mahlangu, has twenty years of experience stakeholder engagement and public participation processes, in support of environmental management and development processes. He has extensive experience in running complex yet successful PPP. Similar projects include:

- Eskom Transmission Medupi Integration Project
- Eskom Distribution - Zamokuhle 132kV Project
- Eskom Distribution – Groblersdal - Kwaggafontein 132kV Project

Moses is fluent in the Nguni languages (IsiZulu; IsiNdebele; IsiSwati; isiXhosa) and competent in SeSotho languages (Setswana; sePedi; South-Sotho). He has facilitated several projects in rural areas and townships in African languages.

7.2 INCEPTION TO THE PUBLIC PARTICIPATION ACTIVITIES

Since the initial site has already been authorised, the Public Participation Team took responsibility to go through the PP report to get to understand all the stakeholders that are potentially affected by the project and those that might be interested in the project. This formed the starting point for compiling a database of I&APs. At this stage the database is composed of categories of stakeholders as follows:

- Directly affected landowner/property owners
 - The Ingonyama Trust Board
 - Mandlakazi Traditional Council (Inkosi EB Zulu)
- Ezemvelo KZN Wildlife (They are responsible for biodiversity conservation and associated activities in the protected areas within KwaZulu-Natal)
- KwaZulu-Natal Amafa and Research Institute (is the provincial heritage resources authority for KwaZulu-Natal).
- National Government Departments
 - Department of Forestry, Fisheries and Environment – the Competent Authority
 - Department of Water and Sanitation – is the custodian of South Africa's water resources, commenting on water related issues such as wetlands, streams and rivers that might be affected by the project
 - Department of Rural Development and Land Reform
 - All other non-commenting departments who might have an interest in the project e.g. roads and transport
- Different Provincial Departments
- District and Local Municipality (Local Governments) – key departments like environment; planning and infrastructure have been identified within each municipality
 - Zululand District Municipality
 - Nongoma Local Municipality
- Different Non-Governmental Organizations have been identified and included in the database

However, to give the general public the opportunity to participate in the consultation process, the project has been announced to the public by advertising in the local newspapers in the study area. Site notices were also placed at identified key points.

The PPP undertaken to date is as outlined in Table 10 below and this process will be ongoing up until the Final EIAR is submitted to the DFFE and an EA is issued.

7.3 ISSUES RAISED DURING THE PREVIOUS STUDY

The key stakeholders that commented extensively on the substation during the previous consultation process are Ingonyama Trust; Amafa AkwaZulu-Natal, Mandlakazi Traditional Council and Mbulungwane Community Trust.

Issues and concerns raised by these structures are captured in the *NAKO ILISO (Terry Calmeyer): 24 July 2018 'EIA for Eskom's Northern KZN Strengthening Project; Comments and Response Report'* and are acknowledged for recognition in this study for the new substation site. Generally, issues and concerns that are raised relating to substation construction are as indicated below. These are included here to act as catalyst for further identification of issues through the public involvement process.

Table 9: Issues raised

Issue / Concern	Remark	General Response
Economic	Job creation & Local opportunities	These kinds of projects involve high expertise that requires specialisation; it will create few jobs like clearing of bushes.
Safety & Well being	Veld Fire. Health and safety, Electromagnetic field,	Strategies and programmes for maintaining servitudes exist within Eskom. There is no conclusive evidence on the impact of EMF from the substation and power lines on living organism
Land Issues & Compensation	Compensation & property value reduction	Market related value is paid based on the recommendation of an independent property valuer.
Aesthetics	Visual impacts, Loss of sense of place	Relevant specialist will undertake impact assessment study and in turn provide recommendations for the mitigation of likely impacts where possible.
Natural Environment & Heritage	Impact on fauna, flora, birds, historical & archaeological sites	Relevant specialists form part of the study team and will give advice on mitigation measures.
Social	Relocation of people & migration of construction workers	Environmental Control Officer (ECO) will liaise with communities to ensure harmonious interaction between local communities & construction workers. Relocation is done only if the substation site cannot be shifted.

Table 10: PPP undertaken to date

Date	Activity	Participants/Target	Products
Initiated in April 2022 and will be ongoing	Identified potentially Affected and/or Interested Parties, Database establishment and maintenance	<ul style="list-style-type: none"> • Consultants and identified leaders/officials as follows: <ul style="list-style-type: none"> ○ Ms Thembeke Ndlovu ○ Inkosi EB Zulu • Dinesree Thambu • Sphelile Masuku (for Dr Dlamuka) • Government departments responsible officials 	<ul style="list-style-type: none"> • Database of stakeholders <ul style="list-style-type: none"> ○ Ingonyama Trust Board ○ Mandlakazi Traditional Council leader, Inkosi EB Zulu contacted to confirm the preferred method of consultation • Ezemvelo KZN Wildlife contacted to agree on who to contact within the organization and was furnished with the study area map • Amafa Institute advised on the line of communication • Contact details of officials and the general public obtained and included in the database
April 2022	Generate Information Dissemination Documents	PP Team, Project Leader and Eskom manager	Background Information Document (BID); Reply Sheet; Site Notice; Advertisement – Appendix B
End April 2022 and is ongoing	Announce the project to the public	PP Team and the public	<ul style="list-style-type: none"> • Advertisements were placed in the local newspapers (Isolezwe and Ilanga) – Appendix B5. • Site notices placed at strategic points in the study area – Appendix B4. • BIDs with Reply Sheets distributed at key points in the study area – Appendix B2 • BIDs with Reply Sheets sent to all stakeholders captured in the database, that is, government officials, commenting authorities and organisations and NGOs – Appendix B3

7.4 THE WAY FORWARD

At the time of releasing the Draft Scoping Report for public review there were no comments or issues received from stakeholders. Comments and issues raised during the initial study process have been included in the BID and will also be highlighted during the presentations in the review meetings with stakeholders. The Comments and Response Report will therefore be generated during the comment period of the Draft Scoping Report.

For now, the way forward is that:

- The Draft Scoping Report will be made available for public review and comment.
- The public will be notified via advertisements in the local newspapers and via emails about the availability of the DSR and where it can be accessed. Emails will also carry the Executive Summary of the Draft Scoping Report.
- A focus group meeting will be held with the Mandlakazi Traditional Council to discuss the findings of the Scoping Report.
- Virtual meetings will be held with key stakeholders.
- Minutes of meetings held will be circulated to attendees before inclusion in the Final Scoping Report.
- Registered stakeholders will be informed about the submission of the Final Scoping Report to the authority and later about the start of the EIAR Phase.

Availability of report for review:

- Report available on SiVESTs website for download.
- Electronic copies can be made available to parties via a secure digital link that will be emailed upon request for the documentation.
- The Draft Scoping Report will be located and available for review at the following locations:
 - Nongoma Public Library, Lot 103 Main Street, Nongoma, Nongoma, KwaZulu Natal, South Africa

8. ENVIRONMENTAL ATTRIBUTES

GN 982 Appendix 2:

(iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

8.1 DESCRIPTION OF THE PHYSICAL ENVIRONMENT

8.1.1 Geographical

The proposed project consists of the new Iphiva 400/132 kV Substation near the town of Mkuze in Nongoma Local Municipality, in the Zululand District Municipality, KZN, which will be integrated into the 400 kV network by one 400 kV lines, namely the approximately 120 km Normandie-Iphiva, and 65 km of

132 kV distribution powerlines that will link into the Iphiva 400/132 kV Substation. The regional context of the proposed application site is shown in Figure 1 above.

8.1.2 Land Use

The majority of the proposed site falls within the woodland land cover classification. The surrounding area's land use consist of:

- Dispersed rural settlement - informal housing settlements (villages) and single isolated homesteads are scattered throughout the study area, coinciding with subsistence agriculture.
- Conservation / game farming – there are large areas in the study area with formal status under NEM:PAA.
- Commercial farming - large sugarcane plantations occur around the R66 towards Nongoma, where the R66 crosses the Mkhuze River. Croplands coincide with the more evenly sloped areas.
- Forestry - forestry areas occur in the high-lying areas
- Existing infrastructure – The presence of infrastructure such as roads, rail and powerlines affect the visual sensitivity of the landscape.

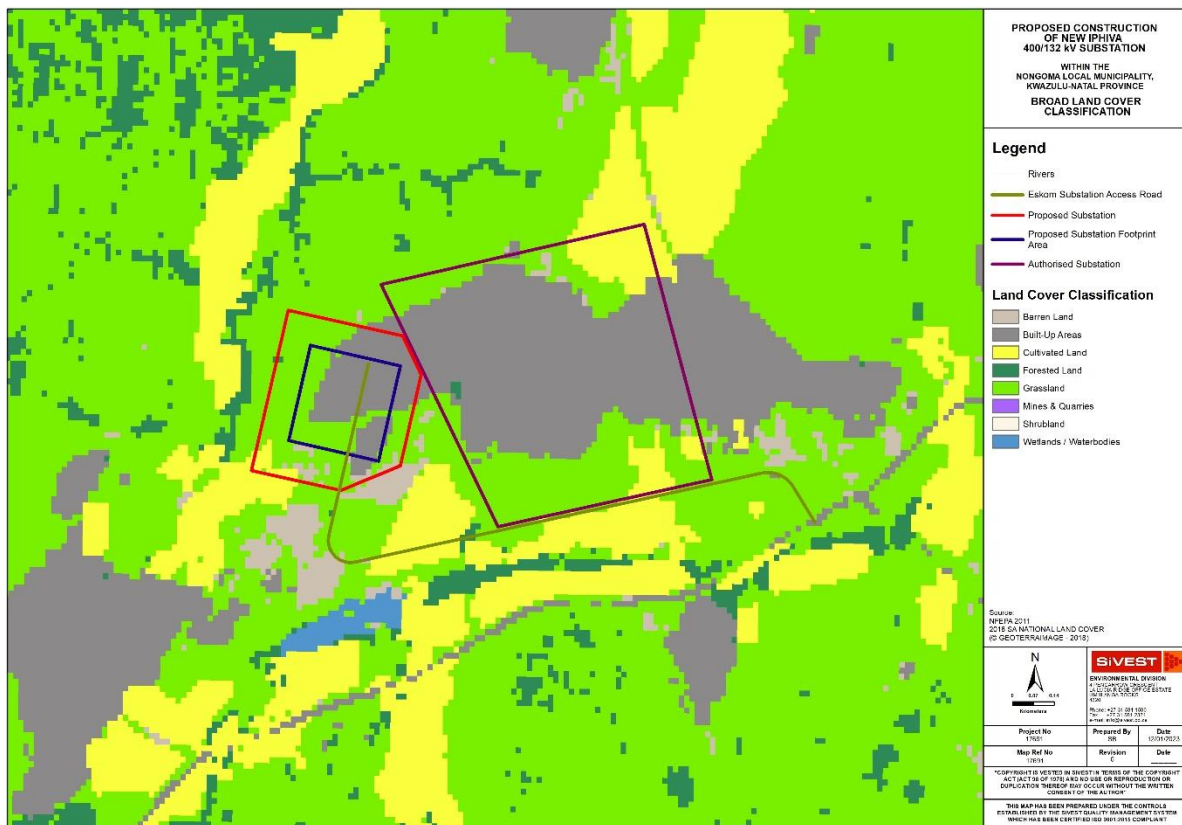


Figure 7: Land Cover Classification

8.1.3 Climate

The area has warm to hot summers, high evaporation and dry warm winters and a mean annual rainfall between 495- and 1 560-mm. Average rainfall is higher in the west and decreases gradually to the east.

8.1.4 Topography

The dominant landscape features are valley slopes to undulating hills and flat plains with a network of trailing rivers and smaller streams. The northern and central parts of the study area are more mountainous and have extreme topographical features. Two extreme areas where topographical features are observed is in the north along the Pongola River and east, close to the N2.

Mean elevation ranges from 0 m above mean sea level (mamsl) to 1 560 mamsl above sea level. The typical height increases as one moves further away from the coast. Eastern areas ranges from 0 – 910 mamsl, while areas in the west ranges from 655 – 1 560 mamsl.

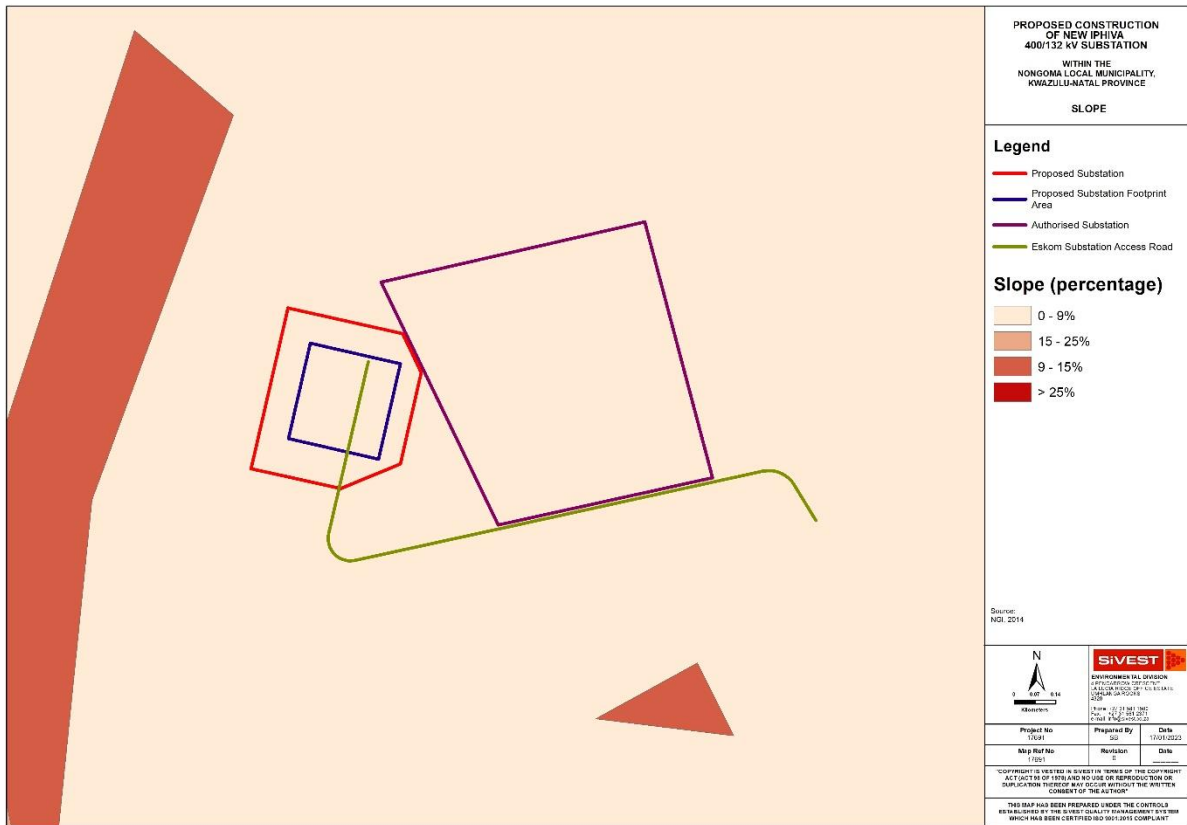


Figure 8: Slopes

8.1.5 Geology and Soils

This region of KZN is underlain by lithostratigraphic units associated with the Karoo Supergroup (Main Karoo Basin), ranging in age from Late Carboniferous to Middle Jurassic. The Karoo Supergroup is famously known for its terrestrial vertebrate fossils, distinctive plant assemblages, thick glacial deposits and extensive dolerite dykes and sills.

The parent material in the eastern parts of the site is arenite. The western part of the site has mudstone and arenite as parent material, which indicates that developing soils may be erosion susceptible.

The site is situated on soil with vertic, melanic or red structured diagnostic horizons. This means that the soil has swelling and shrinking and sticky properties and will have special needs for foundations and planning during construction. These kinds of soils are not high potential agricultural soils.

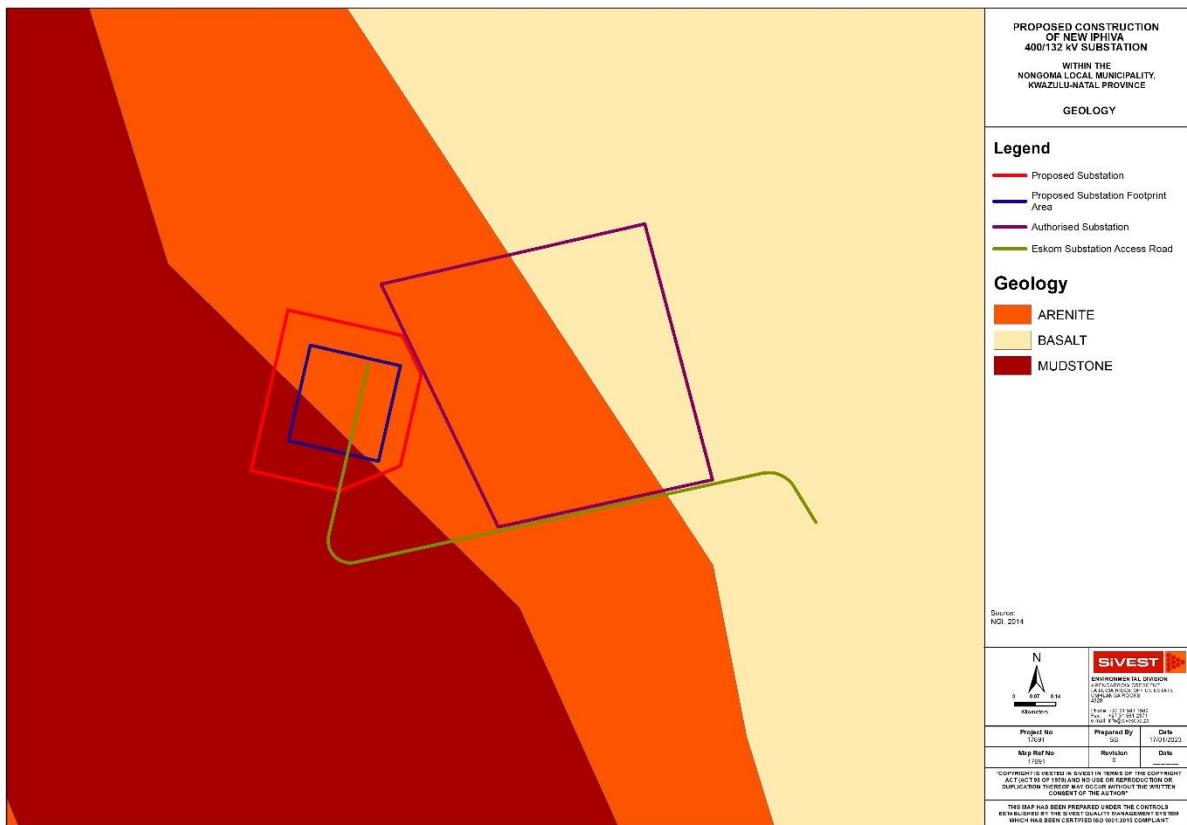


Figure 9: Geology

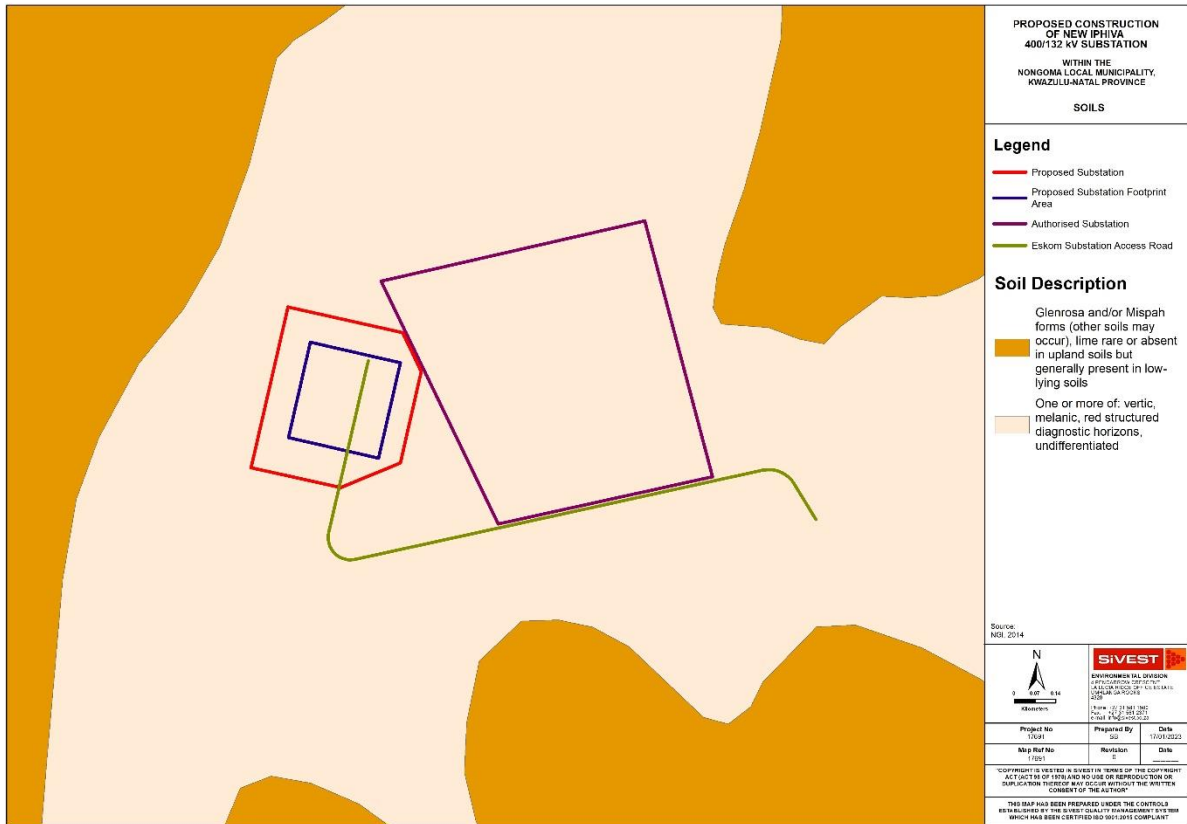


Figure 10: Soils

8.1.6 Wetlands

No wetlands were identified within the direct footprint of the infrastructure (Project Area), however, artificial wetlands (dam and drain) and four wetland Hydrogeomorphic (HGM) units were identified within the 500 m regulatory area of the Project Area (Area of Influence (Aol)). The dam is however not connected to a natural watercourse and fills up via re-directed surface runoff using an artificial drain and precipitation. The dam dries up in the dry season. The dam is an artificial wetland system/watercourse, however, has the same legal status as natural wetland systems/water courses in South Africa. The wetlands were categorised into the following HGM units:

- Two Unchannelled Valley Bottom Wetlands (UVB) with a distinct Riparian Zone.
- Two Channelled Valley Bottom Wetlands (CVB) with a distinct Riparian Zone; and
- Artificial wetlands, including a dam and drain.

The natural wetlands cover approximately 9.96 hectares (ha) of the Aol, and the Artificial wet areas (dam and drain) cover approximately 0.6 ha. The infrastructure is not proposed within any delineated wetland/watercourse, however, falls within the 500 metres (m) regulatory area. The updated layout avoids the artificial dam and drain. The breakdown of the areas is detailed below.

Table 11: Wetland HGM Units of the Project Area

HGM Unit Number	HGM Unit	Area (ha)
1	Riparian/ UVB	6.84
2	Riparian/ UVB	0.23
3	Riparian/ CVB	2.30
4	Riparian/ CVB	0.58
-	Artificial (dam and drain)	0.60
Total Area (ha)		10.57

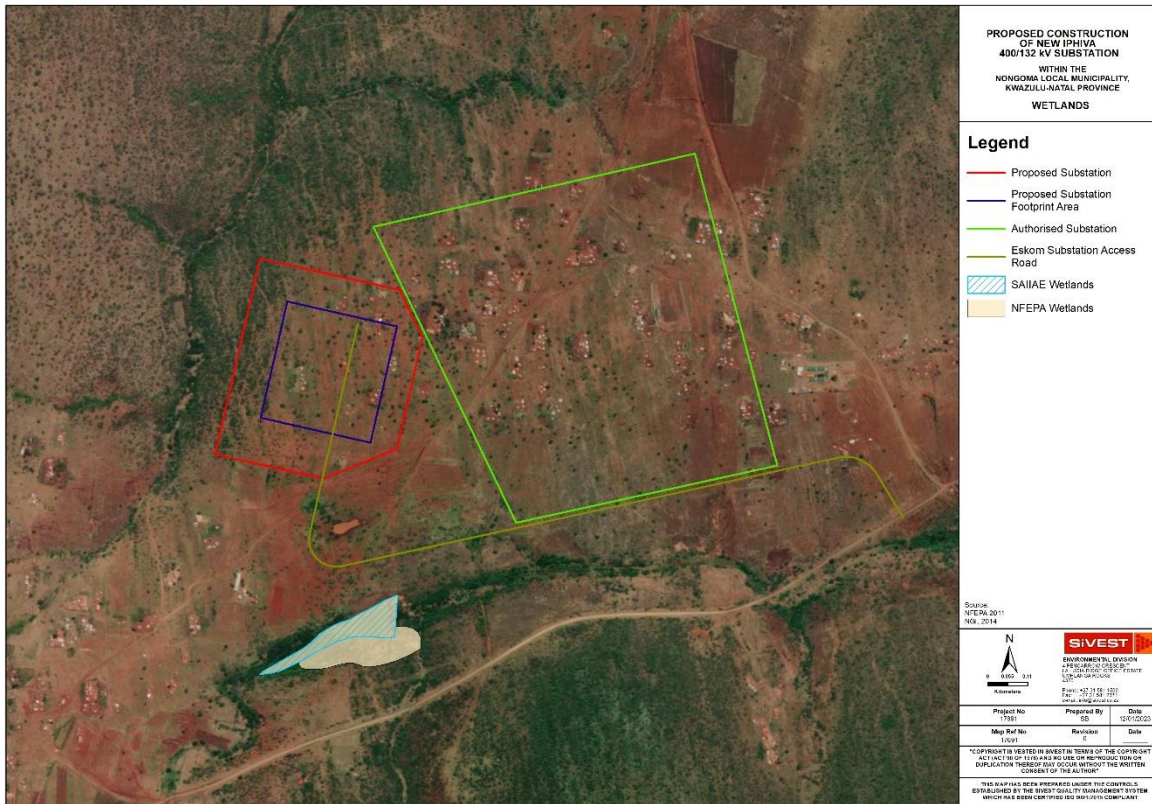


Figure 11: Wetlands

8.2 DESCRIPTION OF THE BIO-PHYSICAL ENVIRONMENT

8.2.1 Vegetation

The proposed project is located west of Mkuze in Umkhanyakude District Municipality in the northern part of KZN. The study area consists of dispersed rural settlements and subsistence farming while surrounding

land use is comprised of formally protected areas and private game farms (including Manyoni Private Game Reserve and the Somkhanda Game Reserve).

The Project Area falls within the Zululand Lowveld of the Savanna Biome. The proposed and authorised locations are not located in any Important Bird Areas (IBA). According to the SAPAD, no protected areas are within the Project boundary. However, the proposed area is within 3 km of the Somkhanda Game Reserve and Zululand Rhino Reserve. These reserves are fenced and sustain a protected species such as Black Rhino, Leopard and Lion.

Three (3) vegetation communities have been identified in the Project Area and in the immediate surrounds:

- Riparian Habitat;
- Tree Savanna (Lowveld Bushveld); and
- Transformed Areas.

The majority of the Project Area is classified as Transformed Habitat and has been defined as Low sensitivity from a fauna and flora perspective. Moderate sensitivity can be observed in the Tree Savanna and Artificial Dam, while high sensitivity has been attributed to the Riparian areas along the boundaries of the Project Area and the peripheries of the woody vegetation found in the Lowveld Bushveld. According to the proposed layout of the substation, no Highly Sensitive areas will be impacted by the proposed development.

Six (6) floral Species of Conservation of Concern (SCC) were identified within the Project boundary or within its immediate surroundings. Four (4) provincially protected species under the KwaZulu-Natal Nature Conservation Management Amendment Act of 1999 (Act No. 5 of 1999), namely *Crinum macowanii*, *Ammocharis coranica*, *Aloe marlothii* and *Aloe parvibracteata* were recorded in various locations. Additionally, two (2) nationally protected tree species under the National Forestry Act of 1998 (Act No. 84 of 1998), namely *Sclerocarya birrea subsp caffra* and *Spirostachys africana* were recorded.



Figure 12: Regional Vegetation Map of the Iphiva Substation Project Area

8.2.2 Fauna

8.2.2.1 Species of Special Concern

The Red Data listed species that have been recorded previously in the relevant 26 QDS grids are listed in Appendix C. Of this list one species is designated as Critically Endangered, 15 species as Declining, seven species as Endangered, 11 species as Near Threatened, five species as Rare, one species as Threatened and 12 species as Vulnerable. No champion trees occur in the study area.

8.2.2.2 Mammals

Mammal species expected to occur in the area of interest include eight Vulnerable species, two Near Threatened, one Critically Endangered species and two Endangered, as indicated Appendix C. The variety of vegetation types occurring in the area of interest ensures an ecologically diverse assemblage of plant species which in turn could support a variety of mammal species, therefore the current expected species list could be more extensive than is currently.

Twenty-one bat species of conservation concern can possibly be present in the area of interest (Appendix C).

8.2.2.3 Reptiles

According to the Animal Demography Unit's virtual museum, a total of 60 species have been recorded in the relevant QDS grids in the past (<http://sarca.adu.org.za/>). Only three protected species are expected to occur in the area of the substation (Appendix C).

8.2.2.4 Amphibians

According to Carruthers (2009), frogs occur throughout southern Africa. A number of factors influence their distribution, and they are generally restricted to the habitat type they prefer, especially in their choice of breeding site. The choices available of these habitats coincide with different biomes, these biomes in turn, are distinguished by means of biotic and abiotic features prevalent within them. Therefore, a collection of amphibians associated with the Grassland and Bushveld biome will all choose to breed under the prevailing biotic and abiotic features present. Further niche differentiation is encountered by means of geographic location within the biome, this differentiation includes banks of pans, open water, inundated grasses, reed beds, trees, rivers and open ground, all of which are present within the area of interest. Amphibians expected to occur on site are listed in the Appendix C (<http://sarca.adu.org.za/>). No protected amphibian species are expected to occur on site as per this information, no NEMBA protected species are expected to occur.

8.2.2.5 Avifauna

The proposed substation falls within the Maputaland-Pondoland Centre of Endemism, which is a biodiversity hotspot. There are two Important Bird Areas (IBAs) in close proximity to the proposed substation namely, Pongola Nature Reserve and the Mkuze Game Reserve which forms part of the Isimangaliso Wetland Park. Collectively these IBAs would constitute some of the most avifaunal rich and diverse areas in South Africa. Many of the areas outside these IBAs will have similar habitat and species will not be restricted to the protected areas.

The Pongola Nature Reserve IBA is located 30 km south-east of Pongola town. The Pongola River flows in from the north-west and only a small section of the river lies inside the reserve. The vegetation predominantly consists of Zululand Lowveld (Mucina and Rutherford 2006). The associated wetlands are important for wetland-dependent birds such as the Pink-backed Pelican (*Pelecanus rufescens*) which has bred in the past, making this one of only two sites in South Africa where it does so.

Globally threatened species include the endangered vulture species such as Lappet-faced Vulture (*Torgos tracheliotos*), White-headed Vulture (*Trionoceph occipitalis*), White-backed Vulture (*Gyps africanus*) and Martial Eagle (*Polemaetus bellicosus*). Regionally threatened species are Marabou Stork (*Leptoptilos crumeniferus*), African Marsh Harrier (*Circus ranivorus*), African Grass Owl (*Tyto capensis*) and Tawny Eagle (*Aquila rapax*).

There are two privately protected game reserves in close proximity to the proposed substation, namely the Manyoni Private Game Reserve and the Somkhanda Game Reserve. The Somkhanda Game Reserve is

a community-owned game reserve that is run and managed in partnership by the Gumbi Community Wildlands Conservation Trust, Africa for Africa, Africa4 Wild and Pamco. Other partners involved in the reserve's conservation projects are Wildlife Act Fund, KZN Wildlife and WWF. The Somkhanda Game Reserve also became the first community owned land to become a partner in the WWF/Ezemvelo Black Rhino Range Expansion Programme, and a population of endangered Black Rhino were introduced in 2007. Furthermore, Manyoni Private Game Reserve was formally proclaimed by the government as a Nature Reserve under the Protected Areas Act. Since the establishment of the reserve, we have seen the reintroduction of Lions, making Manyoni a Big 5 Reserve, and the reintroduction of endangered Cheetahs and African Wild Dogs. In addition to endangered species conservation, Manyoni Private Game Reserve has a strong focus on conserving biodiversity, this includes the landscapes, ecosystems and processes upon which this biodiversity depends.

Not only do the reserves play host to globally listed Big 5 species, but they also sustain viable populations of listed birds of prey such as Lappet-faced Vulture (*Torgos tracheliotos*), White-headed Vulture (*Trigonoceps occipitalis*), White-backed Vulture (*Gyps africanus*) Martial Eagle (*Polemaetus bellicosus*), Bateluer (*Terathopius ecaudatus*), Tawny Eagle (*Aquila rapax*), Crowned Eagle (*Lophaetus occipitalis*), Secretarybird (*Sagittarius serpentarius*) and Marabou Stork (*Leptoptilos crumeniferus*). Congruently, the vicinity of the said protected areas in the relation to the proposed substation provide corridors and important habitat for restricted range and biome restricted species.

Four (4) major bird habitats have been identified in the Project Area and in the immediate surrounds:

- Riparian Habitat;
- Artificial Dam with Woody Periphery;
- Tree Savanna (Lowveld Bushveld); and
- Transformed Areas.

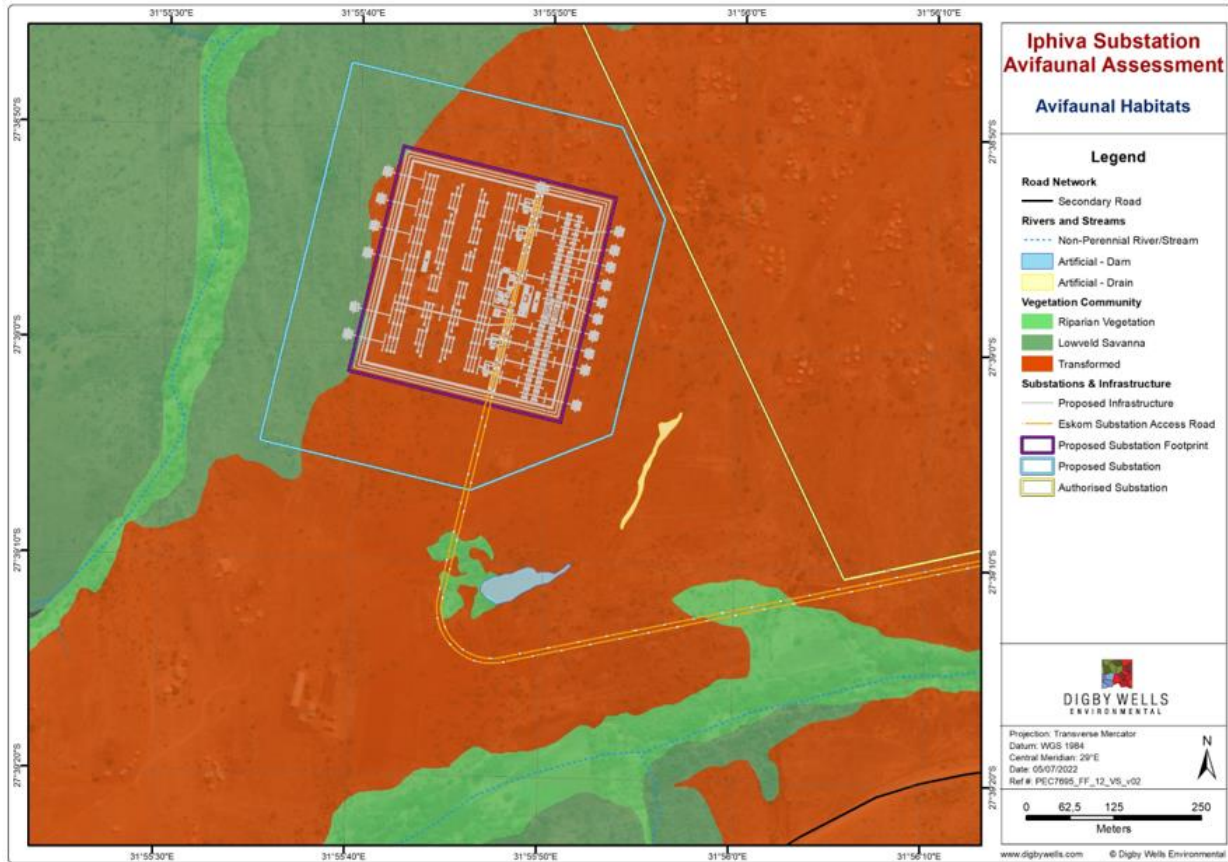


Figure 13: Avian Habitats within the Project Area

The Project Area supports a relatively low diversity and abundance of avifauna, which is to be expected in an area that is predominantly transformed. A total of 78 species were recorded in 2022 survey. The 2018 survey, which covered a much larger range of area recorded 170 avifaunal species. The low species count may be attributed to the extensive land transformation seen within the proposed substation area and the smaller area of interest in comparison to the 2018 survey. Highest avian diversity was recorded within the Riparian Habitat, followed by the Tree Savanna. The unique vegetative structural composition of the Riparian Habitat provides habitat for an array of avifaunal species. It must be noted that stochastic high rainfall events and other atypical prevailing influences (persistent cold) may have influenced the local avifaunal assemblages.

According to the South African Bird Atlas Project 2 (SABAP2), 218 species have been identified in the area. Of these, twelve (12) species have been assigned an IUCN Red List Category and SANBI Red List Category (Taylor, Peacock and Wanless 2015). The proposed substation is situated in close proximity to protected areas (namely the Manyoni Private Game Reserve and Somkhanda Game Reserve). Subsequently, 12km south of the Project Area, several White-backed Vultures and a Tawny Eagle were seen perched among dead *Vachellia xanthophloea* and numerous sightings of Bateleur scanning the area. This showcases the sensitivity of the entire area in relation to the Projects locality. Although recorded outside of the Project Area, their transient nature may bring them into contact with the future development.

The most commonly recorded species within the Project Area during the 2022 assessment included passerine species such as Southern Grey-headed Sparrow, Fork-tailed Drongo, Blue Waxbill, Croaking Cisticola and Yellow-fronted Canary. Common non-passerine species included Common Myna, Sabota Lark, Cape Turtle Dove, Crowned Lapwing and Cape Glossy Starling. Raptors were not common within the Project Area, although few Dark Chanting Goshawk, Black-winged Kites were sighted perching on the telephone poles along the main road and an African Harrier Hawk was encountered with the Project Area.

No avian SCC species were recorded within the Project Area, however, as mentioned above three avian SCC were recorded in close proximity to the Project Area. The 2018 assessment recorded eleven (11) avian SCC for the entire development footprint, and the 2022 assessment recorded three (3) of the previously identified SCC for the substation alone.

On the basis of the observations recorded during the 2022 site visit, and with due consideration of previously recorded avifauna information of the Project Area, twelve (12) priority species should be considered in this avifaunal impact study. These threatened species are known to occur or could occur in the Project Area and the broader impact zone of the development and which may be negatively impacted by the Project.

8.3 DESCRIPTION OF THE SOCIO ECONOMIC CHARACTERISTICS

All the land that was owned or belonged to the KwaZulu Natal Government, is held by the Ingonyama Trust (www.ingonyamatrust.co.za) since 1994. The mandate of the trust is to hold the land for “the benefit, material welfare and social well-being of the members of the tribes and communities” living on the land. The Zulu King is the sole trustee of the land. The Ingonyama Trust Board administers the affairs of the Trust and the Trust land. Most, if not all, the land in KZN that is under traditional authority belongs to the Ingonyama Trust.

Settlement patterns in the study area are scattered and dwellings consist mostly of brick structures or traditional structures. Most people have isiZulu as home language.

Basic and social infrastructure is limited and does not meet the needs of the entire population in the area. Municipalities in the area are faced with challenges that urban municipalities do not have. The settlement patterns make it extremely challenging to provide infrastructure such as piped water and sanitation. Road infrastructure in general needs some upgrading and the conditions of the roads make it challenging to reach the communities that need to be served. In some areas relationships with traditional leadership provides an additional challenge. As there are few employment opportunities in these areas, many males have migrated to urban areas in search of employment, resulting in a community that stays behind with more females than males, as well as a very young population group. Other challenges include poverty, unemployment, illiteracy and skills levels and crime. Most of the municipal areas have shown an increase both in the number of people as well as the number of households. In most areas the household sizes have decreased. This can be due to children leaving their parents’ house to stay on their own and start families of their own.

The area is characterised by high levels of poverty as well as deprivation on a number of dimensions which mostly related to access to basic services. Education levels are low and there are very few employment opportunities. In areas under traditional leadership, subsistence farming is a very important livelihood strategy and informal trading plays a much greater role in survival than in urban areas.

The detailed description of the area highlights the following important aspects for Eskom:

- Documentation used for communicating about the project should be available in English and isiZulu;
- High levels of illiteracy means that written word will not in all cases be the best way to communicate with some of the communities. Additional ways to communicate with the communities that are culturally appropriate must be found;
- Traditional leadership and the Ingonyama Trust are key stakeholders that need to be consulted. Sufficient time should be allowed for doing this in the correct way, meeting the cultural requirements;
- Basic infrastructure in the area varies and Eskom should take into consideration the characteristics of the specific area when planning the project, as there might, for example not be water available in the area;
- Areas where there is a low incidence of access to electricity may have expectations in terms of getting access to electricity as one of the benefits of the project;
- Finding the required skills in the area might be a challenge and using local labour might be a challenge. This must be taken into consideration when planning the project and it may be necessary to include a skills development component;
- There might be greater expectations in terms of job opportunities in poorer, more deprived areas and there is also greater potential for social unrest in these areas as there might be greater competition for a scarce resource like a job;
- Opportunistic theft of materials might be a challenge, and the safety of materials and stock must be considered in planning;

8.3.1 Zululand District Municipality

Zululand District Municipality is one of the ten district municipalities in the province, making up a third of its geographical area and covering an area of 39 073.1 km² in 2016. It is located to the north-west of the province approximately 250 kilometres north of the eThekweni Metropolitan Municipality along the border with the Kingdom of Eswatini. The ZDM shares a border the Gert Sibande District Municipality (in the Mpumalanga Province) to the north-west; Amajuba and Umzinyathi District Municipalities to the west; King Cetshwayo District Municipality to the south and the uMkhanyakude District Municipality to the north, respectively.

The District Municipality is comprised of the following five local municipalities:

- Nongoma Local Municipality
- Ulundi Local Municipality
- eDumbe Local Municipality
- uPhongolo Local Municipality
- Abaqulusi Local Municipality

The following cities/towns are also located within the Zululand district.

- Vryheid
- Ulundi
- Nongoma
- Babanango
- Paulpietersburg

The main economic sectors of the district are:

- Community services (32.5%)
- Trade (15.9%)
- Finance and business services (14.9%)
- Agriculture (8.4%)

With a population of approximately 892 310 people, the Zululand district has a population density of 0.6/km². The district is characterised by a largely rural population (77%) with high levels of unemployment (56%) and low levels of education.

8.3.2 Nongoma Local Municipality

The Nongoma Local Municipality covers a geographical area of 2,185.5/km² making it the second largest of the five municipalities in the district. The following towns and areas are within the municipal area:

- Nongoma
- Maduma
- Thokazi and
- Mahlombe.

With a population of approximately 211 892 people, the Nongoma LM has a population density of 89/km². According to StatSa, Community Survey 2016, the area has a youthful population with 42,5% of the population being under 15 years; 38.5% being between 15 and 34 years; 12,8% being between 35 and 64 years and 6,2% being over 65 years of age.

8.4 DESCRIPTION OF THE CULTURAL AND HERITAGE CHARACTERISTICS

8.4.1 Cultural / Historical Environment

According to the Cultural Landscape Assessment undertaken by Digby Wells Environmental (December 2017), the cultural landscape is a composition of a series of natural layers that have both informed and been formed by the patterns of human use and habitation on that place over time. The nature and shape of the landscape has informed the way in which it has been used, in turn ascribing cultural values to these

place-specific features. Through unpacking the layers, landscape character units can be identified which need to be carefully considered in proposed alterations to the landscape.

Cultural landscapes are a significant factor in the evaluation of the impact of proposed development on cultural heritage resources, tangible (e.g. Historic settlements, landscapes, technological) and intangible (e.g. language, indigenous knowledge systems, oral traditions). The area investigated for the proposed Iphiva 400/132 kV Substation is considered as having a high cultural landscape heritage significance.

The Iphiva 400/132 kV Substation site can be divided into landscape character areas with cultural heritage resource types. These include Palaeontological, Archaeological – MSA, Archaeological – LFC, Archaeological – Undefined, Battlefield, Burial Grounds & Graves, Monuments & Memorials, Historical Built Environment, Intangible/Living, Place and Natural. These units were determined by taking the larger landscape context into consideration in order to understand the character and cultural heritage values that underpin the proposed development site.

8.4.2 Visual Character

The study area is characterised by a rolling topography with mountains located to the south and the west of the study site and smaller koppies to the east of the study site. The vegetation is a combination of grassland and bushveld trees with a medium height. In some sections the vegetation cover is dense but the vegetation cover surrounding the site is not as dense and is more a combination of grassland with a few trees. This could mainly be due to the small villages surrounding the study site. The non-perennial Ubani River flows along the southern boundary of the study site.

8.5 NATIONAL WEB-BASED SCREENING TOOL

The National Web based Environmental Screening Tool is a geographically based web-enabled application which allows a proponent intending to submit an application for environmental authorisation in terms of the Environmental Impact Assessment (EIA) Regulations 2014, as amended to screen their proposed site for any environmental sensitivity.

According to the DFFE Screening Tool Report (attached in Appendix E), the following themes described in Table 12 below are applicable to the proposed development:

Table 12: DFFE Screening Tool Environmental Sensitivity

Theme	Sensitivity	Comment
Agriculture Theme	High	The Agricultural Potential Impact Assessment undertaken by ECO SOIL in June 2018 is still applicable to the proposed site. The soils of the proposed site are marginal and disturbed.
Animal Species Theme	High	The Fauna and Flora Screening Assessment, as prepared by Digby Wells Environmental (March 2018) was verified and updated.

Theme	Sensitivity	Comment
		<p>Based on findings of a desktop and in-field survey the site is disturbed by rural housing, bush clearing or informal roads, with little natural habitat remaining.</p> <p>No faunal Species of Conservation of Concern (SCC) were recorded during the field investigations, however the Avifauna Impact Assessment (Digby Wells Environmental 2022) has recorded a IUCN and Red Listed avifaunal species (namely White-backed Vulture (CR), Bateleur (EN) and Tawny Eagle (VU)) approximately 12 km south of the site resulting into the high sensitivity rating.</p>
Aquatic Biodiversity Theme	Low	<p>The Fauna and Flora Screening Assessment (March 2018) and the Wetland Assessment (July 2018), as prepared by Digby Wells Environmental was verified and updated.</p> <p>Based on findings of a desktop and in-field survey the site is already heavily degraded and the wetland functionality, ecosystem service and importance and sensitivities are low.</p>
Archaeological and Cultural Heritage Theme	Low	<p>The Heritage Screening Assessment as prepared by Digby Wells Environmental (December 2017) was verified and updated.</p> <p>Digby Wells assessed the proposed 1 km by 1 km study area within which the proposed substation will be located through a pre-disturbance survey. During this survey, ten additional heritage resources were identified. These include five burial grounds and graves and five archaeological findspots. The proposed study area has now been shifted to include a more suitable area for the proposed infrastructure. The portion of the study area not assessed to date will be subject to a pre-disturbance survey in the HIA phase.</p>
Civil Aviation Theme	Medium	The Mkuze Airport is located approximately 12 km from the site.
Defence Theme	Low	The entire site has a low sensitivity in terms of the defence theme. No further specialist study is required.
Palaeontology Theme	Very High	The Heritage Screening Assessment as prepared by Digby Wells Environmental (December 2017) was verified and updated.

Theme	Sensitivity	Comment
		<p>Digby Wells assessed the proposed 1 km by 1 km study area within which the proposed substation will be located through a pre-disturbance survey. During this survey, ten additional heritage resources were identified. These include five burial grounds and graves and five archaeological findspots. The proposed study area has now been shifted to include a more suitable area for the proposed infrastructure. The portion of the study area not assessed to date will be subject to a pre-disturbance survey in the HIA phase.</p>
Plant Species Theme	Medium	<p>The Fauna and Flora Screening Assessment (March 2018) and the Wetland Assessment (July 2018), as prepared by Digby Wells Environmental was verified and updated.</p> <p>Six (6) floral Species of Conservation of Concern (SCC) were identified within the Project boundary or within its immediate surroundings. Four (4) provincially protected species under the KwaZulu-Natal Nature Conservation Management Amendment Act of 1999 (Act No. 5 of 1999), namely <i>Crinum macowanii</i>, <i>Ammocharis coranica</i>, <i>Aloe marlothii</i> and <i>Aloe parvibracteata</i> were recorded in various locations. Additionally, two (2) nationally protected tree species under the National Forestry Act of 1998 (Act No. 84 of 1998), namely <i>Sclerocarya birrea</i> subsp <i>caffra</i> and <i>Spirostachys africana</i> were recorded.</p>
Terrestrial Biodiversity Theme	Very High	<p>The Fauna and Flora Screening Assessment (March 2018) and the Wetland Assessment (July 2018), as prepared by Digby Wells Environmental was verified and updated.</p> <p>Six (6) floral Species of Conservation of Concern (SCC) were identified within the Project boundary or within its immediate surroundings. Four (4) provincially protected species under the KwaZulu-Natal Nature Conservation Management Amendment Act of 1999 (Act No. 5 of 1999), namely <i>Crinum macowanii</i>, <i>Ammocharis coranica</i>, <i>Aloe marlothii</i> and <i>Aloe parvibracteata</i> were recorded in various locations. Additionally, two (2) nationally protected tree species under the National Forestry Act of 1998</p>

Theme	Sensitivity	Comment
		(Act No. 84 of 1998), namely <i>Sclerocarya birrea</i> subsp <i>caffra</i> and <i>Spirostachys africana</i> were recorded.

8.6 IMPACT ASSESSMENT

The potential impacts for the identified environmental aspects have been assessed and mitigation measures identified below.

Table 13: Potential Impacts identified for the Iphiva 400/132 kV Substation

Environmental Aspect	Project Activity	Potential Impact	Project Phase	Proposed Mitigation Type	Potential for Residual Risk
Heritage	Access roads for the construction and operation of the substation will be required.	Direct impact – damage and / or destruction of <i>in situ</i> heritage resources that results in a change in status quo and cultural significance (CS).	Construction and Operation	Conduct an HIA to: Identify heritage resources in relation to the Project. Determine the actual CS of heritage resources. Assess impacts on heritage resources based on development activities and CS. Develop mitigation and management measures the CS	Possible public resistance. Additional requirements from the HRA's. Negative RoD from HRAs for the development.
	The proposed substation for the transmission of electricity with a capacity of 400kV outside an urban area or industrial complex.				
	The proposed substation for the transmission of electricity with a capacity of 400kV outside an urban area or industrial complex.	Indirect impact – alteration of the sense-of place that compromise the integrity of and CS of heritage landscapes	Operation		
Flora and Fauna	The footprint of the substation site will be cleared)	During the construction phase habitat destruction takes place. Possible destruction of Red Data plant species.	Construction	Removal of vegetation during construction and operation must be minimised and strictly kept to the designated project site to reduce	Alien invasive plants spreading. Potential impacts and displacement of Red Data / protected fauna and flora species;

Environmental Aspect	Project Activity	Potential Impact	Project Phase	Proposed Mitigation Type	Potential for Residual Risk
				<p>the risk of open areas occurring;</p> <p>Protected plant species encountered may not be disturbed without permits;</p> <p>(avoidance as far as practical possible, if not possible relocation of red data flora species</p> <p>Protected animal species encountered may not be disturbed without applicable permits (avoidance as far as practically possible, if not possible relocation of red data faunal species or rehabilitated areas is recommended.</p> <p>The footprint of the area disturbed by the operation must have natural vegetation restored through rehabilitation.</p>	<p>Loss of threatened Ecosystems</p> <p>Erosion occurring in open areas</p>
	Vehicular movement and access during construction and operation	Uncontrolled vehicle access can result in unnecessary loss of indigenous and	Construction and Operation	Adhere to designated paths and roads; and Do not drive in sensitive areas.	Impacts of sensitive areas; Poaching if access is not controlled;

Environmental Aspect	Project Activity	Potential Impact	Project Phase	Proposed Mitigation Type	Potential for Residual Risk
		riparian vegetation and preferred habitat for nesting bird species.			Veld fires;
	Site clearing for infrastructure placement including the increased traffic to complete the activity.	Creation of open areas that promote alien vegetation establishment	Construction and Operation	Alien invasive and weed species management plan must be in place;	Alien Invasive Plants (AIP) establishment in disturbed areas if not rehabilitated properly
Avifaunal	The substation will have a foot print of approximately 350 m x 350 m.	During the construction phase some habitat destruction and alteration takes place.	Construction	Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff. It is difficult to mitigate properly for this as some habitat destruction is inevitable. It is important to ensure that the construction Environmental Management Plan incorporates guidelines as to how best to minimize this impact.	Strict control should be maintained over all activities during construction. It is difficult to mitigate properly for this as some disturbance is inevitable. During Construction, if any of the Species of Conservation Concern (SSC) are observed to be roosting and/or breeding in the vicinity (within 1km of the site), the Avifaunal Specialist is to be contacted for further instruction.
	Vehicular movement and access	Uncontrolled vehicle access can result in unnecessary loss of indigenous and	Construction and maintenance	Ensure access routes are planned, clearly demarcated and suitable for the	No nests may be removed, without consulting the specialist.

Environmental Aspect	Project Activity	Potential Impact	Project Phase	Proposed Mitigation Type	Potential for Residual Risk
		riparian vegetation and preferred habitat for nesting bird species.		vehicles that will be using them. Ensure drivers are sensitised and disciplined. Vehicle access through riparian or wetland system to be limited to existing formal access only	During maintenance, if any of the SSC identified in the EIA report are observed to be roosting and/or breeding in the vicinity, the avifaunal specialist is to be contacted for further instruction.
	Site clearing for substation	Loss of habitat	Construction	A buffer of 100m at least should be placed around all wetland areas associated with the proposed substation footprint areas. The extent of the buffer zone around wetlands should be clearly demarcated with wooden stakes in the ground during construction.	
Wetlands	Site clearing for access roads	Loss of habitat	Construction	A buffer of 100m at least should be placed around all wetland areas associated with the proposed access routes and routes should be realigned to avoid wetlands.	

Environmental Aspect	Project Activity	Potential Impact	Project Phase	Proposed Mitigation Type	Potential for Residual Risk
				Where wetlands cannot be avoided, suitable erosion control structures should be put in place.	
Social	The proposed substation for the transmission of electricity with a capacity of 400kV outside an urban area or industrial complex.	Security impacts	Construction and Operation	Contractors should wear some form of identification that will make them easily recognizable as representatives from Eskom. Eskom should liaise with the communities to draft an action plan against potential crime.	High if impacts are not managed, especially access control
		Loss of sense of place	Construction and Operation	It is mostly not possible to mitigate impacts on the sense of place. Doing a Visual Impact Assessment and implementing its recommendations can assist in lessening the impact on the sense of place. Input should be obtained from current landowners. Social change is a natural process that will occur over time regardless of whether	

Environmental Aspect	Project Activity	Potential Impact	Project Phase	Proposed Mitigation Type	Potential for Residual Risk
				the substation is built or not and the presence of the substation will just accelerate this process.	
		Impact on livelihoods – economic impacts	Construction	<p>Contractors should be required to make use of a certain proportion of local labour – it is acknowledged that not all skills will be available locally. Jobs should be advertised in a way that is accessible to all members of society and labour desks should be established in accessible areas.</p> <p>If relocation of people is necessary, this impact should be dealt with according to international good practise.</p>	
Visual	Construction of a substation in close proximity of tourist attractions	Negative impact due to high visibility and poor aesthetic quality	Construction and Operation	The alignment should avoid natural features such as elevated ridges, koppies that could be considered as visual assets and	

Environmental Aspect	Project Activity	Potential Impact	Project Phase	Proposed Mitigation Type	Potential for Residual Risk
				that therefore have the potential to be utilised for passive tourist related activities	
	Vegetation clearing for the substation, construction camps and access roads	Negative impact on sense of place, visual quality and landscape character May reduce the landscape's ability to absorb the proposed development	Construction and Operation	Servitudes should be kept at the absolute minimum required width Do not locate camp site in area where it would be necessary to remove trees and shrubs or large areas of well-established vegetation	

9. PLAN OF STUDY FOR EIA

GN 982 Appendix 2 item 2:

- (i) a plan of study for undertaking the environmental impact assessment process to be undertaken, including-
 - (i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;
 - (ii) a description of the aspects to be assessed as part of the environmental impact assessment process;
 - (iii) aspects to be assessed by specialists;
 - (iv) a description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists;
 - (v) a description of the proposed method of assessing duration and significance;
 - (vi) an indication of the stages at which the competent authority will be consulted;
 - (vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and
 - (viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process;
 - (ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

This Plan of Study, which explains the approach to be adopted to conduct the EIA for the proposed Iphiva 400/132 kV Substation Project was prepared in accordance with Appendix 2 of GN No. 326 (7 April 2017).

The purpose of the EIA Phase is to:

- Determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
- Describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted scoping report;
- Identify the location of the development footprint within the approved site as contemplated in the accepted scoping report based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- Determine the—
 - (i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and
 - (ii) degree to which these impacts—
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources, and
 - (cc) can be avoided, managed or mitigated;

- Identify the most ideal location for the activity within the development footprint of the approved site as contemplated in the accepted scoping report based on the lowest level of environmental sensitivity identified during the assessment;
- Identify, assess, and rank the impacts the activity will impose on the development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity;
- Identify suitable measures to avoid, manage or mitigate identified impacts; and
- Identify residual risks that need to be managed and monitored.

The EIA Phase consists of the following processes:

- Undertaking of specialist studies that provide additional information / assessments required to address the issues raised in the Scoping Phase.
- Undertaking of a PPP process where findings of the EIA Phase are communicated and discussed with I&APs and responses are documented.
- An assessment process whereby inputs are presented in an EIA Report that is submitted for approval to DFFE and other authorities.

9.1 TASKS TO BE UNDERTAKEN

The EIA report will be informed by the scoping phase. The following steps will be undertaken as part of the EIA phase:

- The proposed final layout will be further investigated in order to avoid or minimize negative impacts and maximize potential benefits;
- Environmental impact statements regarding the potential significance of residual impacts of the proposed project, taking into account proposed mitigation measures will be provided in the EIA;
- Generic Environmental Management Programmes (EMPRs) covering construction, operation and decommissioning phases of the proposed development will be prepared. The EMPRs will include input from specialists and will incorporate recommendations for mitigation and monitoring.
- Public notification of the report will be advertised in a local newspaper, as required according to Regulation 41(2) (c) of the EIA Regulations (2014), as amended. Proof to be included in the Final Report.

9.2 DESCRIPTION OF ALTERNATIVES TO BE CONSIDERED AND ASSESSED

The EIA phase will include a detailed analysis of the proposed layout for the project which will include environmental (with specialist input) and technical evaluations. Any additional alternatives identified through this process will be reported on in the EIA report.

9.2.1 Location Alternatives

As mentioned in Section 6.1.2, no location alternatives are being considered as an extensive site selection process was undertaken during the Environmental Authorisation process in 2018. The authorised site is now shifting 80m westward.

9.2.2 Layout Alternatives

The preliminary layout that was prepared for the Iphiva 400/132 kV Substation (Section Figure 6) has been assessed by specialists to identify potential impacts that may arise from the development. Based on the findings of the specialists and the potential impacts identified, the preliminary layout will be updated to include constraints. This layout will be further refined based on the outcomes of the public participation process of the Scoping phase. The final layout will then be assessed by all specialists in the EIA Phase.

9.2.3 Technology Alternatives

No technology alternatives will be considered.

9.2.4 No-go Alternatives

The option of not implementing the activity, or the “no-go” alternative and associated potential impacts, have been discussed in Section 6.1.1. If the project does not go ahead, then the existing electricity supply to the area as well as future economic development will be limited and compromised. Eskom will then not be fulfilling its mandate, making it an unacceptable scenario. As such, the no-go alternative will not be taken forward to the EIA phase for further assessment.

9.3 SPECIALIST STUDIES

The following specialist studies were undertaken as part of the Scoping and EIA process in 2018.

- Social Assessment;
- Economic Assessment;
- Soils and Agricultural Potential Impact Assessment
- Fauna and Flora Screening Assessment
- Heritage Screening Assessment
- Visual Assessment
- Avifaunal Assessment
- Wetlands Impact Assessment
- Geotechnical Assessment

The content of the following four specialist reports is being verified and updated during the assessment of the new proposed Iphiva 400/132 kV Substation:

- Fauna and Flora Screening Assessment
- Heritage Screening Assessment
- Visual Assessment
- Wetlands Impact Assessment

The findings of the specialist studies have been included in the Scoping Phase of this project. The significant environmental aspects identified will be further assessed in the EIA Phase.

Should the need for additional specialist studies be identified through the consultation process, these studies will be commissioned in the EIA Phase to further advise on the potential impacts that may arise from the proposed development. The specialist studies may identify opportunities and constraints as associated with the site and the proposed sub-station.

The specialists have undertaken the following scope of work:

Table 14: Specialist Scope of Work

Scope of Work
<p>Specialists are requested to provide one (1) scoping phase report and / or compliance statement that provides an assessment of the proposed Iphiva 400/132 kV Substation and associated infrastructure.</p> <p>During the EIA phase, specialists will be required to update the scoping phase specialist report to provide a review of their findings in accordance with revised site layouts and to address any comments or concerns arising from the public participation process.</p> <p>The specialist report must include an explanation of the terms of reference (TOR) applicable to the specialist study. The gazetted Environmental Assessment Protocols of the NEMA EIA Regulations (2014, as amended), prescribes Procedures for the Assessment and Minimum Criteria for Reporting on the Identified Environmental Themes in terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998. These procedures must be considered.</p> <p>Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations; and any relevant legislation and guidelines deemed necessary.</p> <p>Where relevant, a table must be provided at the beginning of the specialist report, listing the requirements for specialist reports in accordance with Appendix 6 of the EIA Regulations, 2014 (as amended) and cross referencing these requirements with the relevant sections in the report. An MS Word version of this table will be provided by SiVEST.</p>

9.4 EIA METHODOLOGY

The EIA Methodology assists in evaluating the overall effect of a proposed activity on the environment. Determining of the significance of an environmental impact on an environmental parameter is determined through a systematic analysis. Refer to Appendix D for the EIA methodology to be adopted.

9.5 CONSULTATION WITH COMPETENT AUTHORITY

SiVEST has consulted with DFFE as follows:

- Pre-application meeting request was submitted to DFFE on the 15th of March 2022. The intention of this meeting was to discuss the option of applying for a Part 2 amendment to the Environmental Authorisation obtained following the initial EIA application process of 2018 (DFFE Reference Number:

14/12/16/3/3/2/1037). Following a telephonic consultation with Mr. Jay-Jay Mpelane, DFFE advised that a new application process was to be followed as the new site had not been assessed previously.

- Submission of application form to obtain EIA reference number (submitted in January 2023).
- The Draft Scoping report is made available for comment to I&APs, key stakeholders and the authorizing authority for a 30-day comment period.

The following items will still be undertaken:

- The Draft EIA report will be made available for comment to I&APs, key stakeholders and the authorizing authority.
- Notify I&APs and key stakeholders of acceptance of Final Scoping Report
- After the Draft EIA report has been made available for comment within the public domain, comments will be incorporated into the Comments and Response Report and Final EIA Report for submission to DFFE.
- Notify I&APs in writing of the decision of the application.
- Apart from the above-mentioned occasions, further consultation with authorities will occur whenever necessary.

9.6 PUBLIC PARTICIPATION PROCESS TO BE UNDERTAKEN FOR THE EIA PHASE

Public participation forms a critical component of the EIA process, as it provides all interested and affected parties with an opportunity to learn about a project, but more importantly to understand how a project will impact on them. The following will be undertaken during the EIA Phase.

9.6.1 Updating of I&AP Database

The I&AP database will be updated as and when necessary, during the execution of the EIA.

9.6.2 Review of Draft EIA Report

A 30-day period will be provided to I&APs to review the Draft EIA Report. Copies of the Draft EIA Report will be provided to the regulatory and commenting authorities as well. The Draft EIA Report will also be available for download on a link to be provided.

All parties on the I&AP database will be notified via media notifications such as newspaper advert, email, sms or fax of the opportunity to review the Draft EIA Report, the review period and the process for submitting comments on the report.

All comments received from I&APs and the responses thereto will be included in the final EIA Report, which will be submitted to DFFE.

9.6.3 Public Meetings / Consultation

Public meetings will be arranged with interested and affected parties. Virtual meetings will also be held using an appropriate platform agreeable to all parties (such as Zoom, Skype or Microsoft Teams). All registered Interested and/or Affected Parties will receive the link to join the meeting.

9.6.4 Inclusion of comments into the Final EIA

A Comments and Responses Report will be compiled and included in the EIA Report, which will record the date that issues were raised, a summary of each issue, and the response of the team to address the issue. The Final EIA report with all comments included will be submitted to DFFE for review and approval.

9.6.5 Notification of Environmental Authorisation

All I&APs will be notified via media notifications such as email, sms or fax after having received written notice from DFFE on the final decision on the application. These notifications will include the process required to lodge an appeal, as well as the prescribed timeframes in which documentation should be submitted.

10. CONCLUSION

Eskom seeks to strengthen the supply of electricity in northern KZN. To strengthen and alleviate current and future network constraints, it is proposed that the Iphiva 400/132 kV Substation be introduced in the area, which will de-load the main sub-transmission network and improve the voltage regulation in the area. The Iphiva 400/132 kV Substation will be integrated with the existing electricity network by a 400 kV Transmission powerline to the Normandie Substation, and approximately 165 km of 132 kV Distribution powerlines.

In 2018, Eskom contracted NAKO ILISO as the EAP to obtain Environmental Authorisation (EA) to construct the Iphiva 400/132 kV Substation approximately 9km west of the town of Mkuze, within the Nongoma Local Municipality, which falls within the Zululand District Municipality (DFFE Reference Number: 14/12/16/3/3/2/1037). After obtaining the EA, it was determined that the authorised site was not technically feasible due to the cut and fill required for the construction of the substation and that the site should rather be located approximately 80m to the west of the previously authorised site. Eskom had hoped to apply for a Part 2 Amendment to the existing authorisation, due to the proximity of the new site to the authorised site and the specialist studies were undertaken less than 5 years ago.

DFFE instructed Eskom to proceed with a new application as the new site had not specifically been assessed. This EIA is therefore based on the original process and does not reconsider site location alternatives. The specialist studies that are still relevant to the new site (such as the economic and social study) have not been updated. A new PPP is underway.

The following key issues have been identified in the Scoping Phase of the EIA:

- Impacts on protected areas resulting in loss of plants and animals of conservation value and a loss in the income from and value of the facilities, primarily due to visual impacts;
- Impacts on the rich and diverse fauna and flora (specifically large birds);

- Impacts on Heritage Resources'
- Social impacts;
- Economic Impacts;
- Construction Impacts; and
- Cumulative impacts.

The EIA phase will build on the Scoping report and will focus on assessing the key impacts, determining their significance, and recommending appropriate measures to mitigate negative impacts and enhance benefits. Where required, this will involve specialist input. The contents of the EIR will be as prescribed in the EIA Regulations, 2014, as amended.

This Scoping Report has covered activities and findings related to the scoping process for the proposed Iphiva 400/132 kV Substation and associated infrastructure Project. Professional experience, specialist knowledge, relevant literature and local knowledge of the area have all been used to identify the potential issues associated with the proposed project. There is no guarantee that all the potential impacts arising from the proposed Substation project have been identified within the scoping phase, however the report provides an outline of the established measures that were taken to best identify all the potential impacts. Based on the findings of the specialists and the potential impacts identified, the preliminary layout will be updated to include constraints. This layout will be further refined based on the outcomes of the public participation process of the Scoping phase. The final layout will then be assessed by all specialists in the EIA Phase.

11. WAY FORWARD

The Draft Scoping Report is currently being circulated for public participation for a period of 30 days (excluding public holidays) from **20th January 2023** until **19th February 2023**.

All comments received will be responded to in a C&RR, which will be included prior to submission of the Final Scoping Report to the decision-making authority, namely the DFFE. Comments received on the report will be taken into consideration, incorporated into the report (where applicable) and will be used when compiling the Final Scoping and the Draft EIA Report.

All I&APs and key stakeholders are invited to register as I&APs in order to be kept informed throughout the process. To register as an I&AP / stakeholder and/or to obtain additional information, please submit your name, contact details (telephone number, postal address and email address) and the interest which you have in the application to Margen Industrial Services, as per the details below:

Contact: Moses Mahlangu:

□ PO Box 12822, Leraatsfontein, 1038

□ Phone: (013) 656 1212

□ E-mail: delno@telkomsa.net

Website: <https://www.sivest.com/za/download/>

Please reference '*Iphiva Substation*' in your correspondence, should your comments be project specific. Margen Industrial Services shall keep all registered I&APs / key stakeholders informed of the Scoping & EIA process.



**APPENDIX A:
EAP CV AND DECLARATION**



APPENDIX B: PROOF OF PUBLIC PARTICIPATION



**APPENDIX C:
SPECIALIST STUDIES**



APPENDIX D: SIVEST IMPACT RATING SYSTEM



APPENDIX E:

MAPS



APPENDIX F: PHOTOGRAPHS



APPENDIX G: ADDITIONAL INFORMATION



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